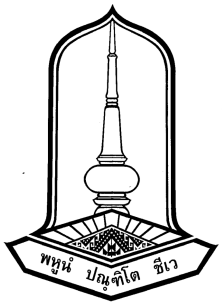


AN EMPIRICAL INVESTIGATION OF THE MAISC-ORGANIZATIONAL SURVIVAL RELATIONSHIPS: EVIDENCE FROM BEVERAGE BUSINESSES IN THAILAND

BY

SUPAPAN SAITHONG-IN

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

February 2018

AN EMPIRICAL INVESTIGATION OF THE MAISC-ORGANIZATIONAL SURVIVAL RELATIONSHIPS: EVIDENCE FROM BEVERAGE BUSINESSES IN THAILAND

BY

SUPAPAN SAITHONG-IN

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

February 2018

The examining committee has unanimously approved this dissertation, submitted by Miss Supapan Saithong-in, as a partial fulfillment of the requirements for the degree of the Doctor of Philosophy in Accounting at Mahasarakham University.

Examining Committee

Panarat Panmanee (Assoc. Prof. Dr. Panarat Panmanee)	Chairman (External expert)
(Assoc. Prof. Dr. Kornchai Phornlaphatrachakorn)	Committee (Advisor)
(Asst. Prof. Dr. Saranya Raksong)	Committee (Co-advisor)
(Assoc. Prof. Dr. Nuttavong Poonpool)	Committee (Faculty graduate committee)
(Dr. Utis Bhongchirawattana)	Committee (Faculty graduate committee)

Mahasarakham University has granted approval to accept this dissertation as a partial fulfillment of the requirements for the degree of the Doctor of Philosophy in Accounting.

N. Songsrirote	
(Asst. Prof. Dr. Nitiphong Songsrirote)	(Prof. Dr. Pradit Terdtoon)
Dean of Mahasarakham Business School	Dean of Graduate School
	February 28, 2018

This dissertation was funded by Mahasarakham Business School,
Mahasarakham University,
Academic Year 2017.

ACKNOWLEDGEMENTS

Many people have contributed to this journey through my doctoral study. I would like to acknowledge and extend my heartfelt gratitude to those people who have made it all possible.

First and foremost, this dissertation would not have been possible without the encouragement from Chandrakasem Rajabhat University, for supporting my scholarships under the Ph.D. program and allowing me full-time study.

I would like to express my sincere gratitude to my advisor, Associate Professor Dr. Kornchai Phornlaphatrachakorn, for accepting me as his student. He has been a source of unwavering support, knowledge, thoughtful discussion and critique of my work. Thank you for giving me the opportunity to turn my dream into reality and for supporting me from day one until the very end. My gratitude also goes to my co-advisor, Assistant Professor Dr. Saranya Raksong, for sharing her vast knowledge of statistics, valuable comments, guidelines, and suggestions to develop the dissertation.

I wish to express my deepest gratitude to my beloved parents, for encouraging me to undertake this doctoral degree. You have always believed in my abilities and encouraged me to walk my chosen path without fear of mistakes. You continually give love, care and support, which is the driving force behind me until the day of success. Finally, I thank my younger brother for supporting me throughout all my studies. He is always supporting me and encouraging me with his best wishes. Thank you for being patient while I was busy working when I should have been there with you during the difficult times.

To the many other people who have contributed positively to my life, I am appreciative of your encouragement and strongly express my gratitude to each one of you.

Supapan Saithong-in

TITLE An Empirical Investigation of the MAISC-Organizational Survival Relationships: Evidence from Beverage Businesses in Thailand.
AUTHOR Miss Supapan Saithong-in
ADVISORS Assoc. Prof. Dr. Kornchai Phornlaphatrachakorn and Asst. Prof. Dr. Saranya Raksong
DEGREE Ph.D. **MAJOR** Accounting
UNIVERSITY Mahasarakham University **DATE** 2018

ABSTRACT

This research extends the information processing capabilities perspective into the study of management accounting information system capability (MAISC) which reflects the adequacy of management accounting information used in the organization. Drawing from both the organizational information processing theory and the contingency theory view, the objective of this research is to investigate the relationships among five dimensions of MAISC: operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus. These affect strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival. In addition, this research examines the impact of five antecedents: business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality on MAISC. Furthermore, technology growth is expected to be a moderator of the relationships between antecedents and MAISC.

The beverage businesses in Thailand were selected as a sample. A mail survey was used for collecting the data form 141 accounting executives. The results, analyzed through multiple regression analysis, show a partially positive effect of operational information integration orientation, accounting information technology linkage, and management information reporting competency on cost management efficiency, operational process excellence, firm success, and organizational survival. Especially, business management intelligence focus has a strongly positive effect on all consequences. Cost management efficiency and operational process excellence have

a positive effect on firm success. Moreover, firm success has a positive effect on organizational survival. All antecedents have a partially positive effect on MAISC. Further, technology growth moderates the relationships of employee technology learning and management information reporting competency, and business management intelligence focus.

The research findings contribute to a better understanding of the importance of MAISC that affect organizational survival, and also provides guidance for managers to understand how to support the factors that influence MAISC. The limitations of this research are outlined and opportunities for future research are suggested, particularly the consideration of sample subjects in the study by classifying alcoholic and non-alcoholic beverages.

TABLE OF CONTENTS

Chapter **Page**

Chapter **Page**

LIST OF TABLES

Table **Page**

Table **Page**

LIST OF FIGURES

Figure **Page**

CHAPTER I

INTRODUCTION

Overview

At present, organizations face a situation of fierce competition, both nationally and globally. The business environment has changed dramatically in social, economic, and customer demands, particularly in technology (Agbim, 2013; Strumickas and Valanciene, 2010). As a consequence, the commercial activity is complex and its mechanism is more diverse. To succeed and survive in businesses, organizations must adapt to a rapidly changing environment, such as modifying the organizational structure, management style, or strategy, which makes the operating system highly efficient to analyze the situation comprehensively and to properly deal with the situation. Therefore, organizations must have an effective management process. In order to be effective in the management, managers must rely on information from several divisions for planning, controlling, and making a decision.

The need for accounting information is the basis for management decision-making. Accounting information is not only essential for the evaluation of past performance and present conditions, but it is useful in planning the future of the organization (Nnenna, 2012). Reviews of accounting and information system research show that accounting information has been widely accepted as this information plays an extremely important role in the decision-making process. Managers require accounting information for planning, evaluating and controlling an operation. In addition, it also helps managers understand their tasks more clearly and reduce uncertainty before they make decisions (Siyanbola, 2012; Ullah, Khonadakar, and Fahim, 2014). Accounting information supports cost control efficiency, and improves production and operational processes within the organization (Buhaisi, 2011; Wall and Greiling, 2011). The role of accounting information is the knowledge development that has focused on supporting information for decisions on specific matters and period reporting forms (Horngren et al., 2005; Sprinkle, 2003).

In 1966, the Statement of Basic Accounting Theory published by the American Accounting Association stated that, “Accounting actually is an information system and,

if we are more precise, accounting is the practice of general theories of information in the field of effective economic activity and consists of a major part of the information which is presented in quantitative form." As mentioned, accounting is part of a general information system of an economic entity. Thus, accounting information system could be described as the system used to record financial transactions of business. This system combines accounting techniques, methods, and controls with the information technology to track transactions and to provide operational data, financial reports, and trend analysis capabilities to have an effect on organizational performance (Grande, Estebanez, and Colomian, 2011). Accounting information system is defined as a computer-based system that processes financial information and supports decision tasks in the context of coordinating and controlling the activities of the organization (Nicolaou, 2000). The accounting information system of an organization consists of two main subsystems. There are financial accounting information systems and management accounting information systems. Both sub-systems have different objectives, preparations, and presentations (Hansen and Mowen, 2007). The financial accounting information system serves to collect and process data in order to present financial information to external users. Management accounting information system is the process that prepares information related to the operation for presentation to the managers or internal users.

Management accounting information system is an information system that produces information to assist managers in planning, controlling and making decisions to achieve strategic goals. Such a system focuses on offering information that might happen in the future. In addition, it also provides information in both the short and long-term to support the decision. Therefore, management accounting information system includes information on the costs of an organization's products and services. For example, managers can use product costs to guide the setting of selling prices. Budgets and performance reports often consist of comparisons of budgets with actual results. Other information assists managers in their planning and controlling activities, such as information on revenues of an organization's products and services, unit quantities and demands on capacity resources (Atkinson, Kaplan, and Young, 2005; Horngren, Foster, and Datar, 2007).

The literature reviews showed that previous accounting information system research focuses on the design and implementation of accounting information system as well as the relationship between accounting information system choice and organization performance (Mauldin and Ruchala, 1999). An analysis of accounting information system articles was published in 18 leading accounting, management information systems, and computer science journals from 1999 to 2009. The results found that the scope of accounting information system includes the organization and management of an information system, internal control and auditing, judgment and decision-making, databases, expert systems, artificial intelligence and decision aids for general accounting information system frameworks, accounting and consulting professions, educational issues, and capital markets. The most studied issue is organization and management of an information system, which is related to the various stages of the systems development cycle. Examples include top management involvement in planning, the use of chargeback systems, and evaluating system effectiveness (Ferguson and Seow, 2011). At present, there is very little knowledge and empirical research which focuses on management accounting information system. This study attempts to fill this gap by empirically examining management accounting information system capability and organizational survival in the context of beverage businesses in Thailand.

This research focuses on the behavioral and organizational aspects of management accounting information system capability. The term “capability” refers to the ability of organizations to use the internal process for the allocation and use of resources (Amit and Schoemaker, 1993). The duty is to involve a complex social and decision-efficient organization to convert resources into products (Collis, 1994). Moreover, the capability could be seen as the resources needed to cause a particular activity or task. Therefore, in this study, management accounting information system capability refers to the ability of organizations to use the technology to manage operational and financial data, including collecting, processing, storing, analyzing, reporting, and providing information needed to satisfy specific management objectives (Hansen and Mowen, 2007; Napitupulu, 2015). This research examines five newly-purposed dimensions of management accounting information system capability which are: 1) operational information integration orientation, 2) accounting information technology linkage, 3) new accounting technology implementation, 4) management

information reporting competency, and 5) business management intelligence focus. Thus, the relationships among management accounting information system capability, antecedents, consequences, and moderator in this research are explained by the organizational information processing theory and the contingency theory.

Based on the literature reviewed, the organizational information processing theory explained that the difference between the information required and the information available to the organization for decision-making leads to uncertainty. Organizations must implement structural mechanisms and information processing capability to enhance the information flow and thereby reduce uncertainty (Premkumar, Ramamurthy, and Saunders, 2005). Thus, the alignment between information processing needs and information processing capacity leads to better performance. The contingency theory states that the organization's structure is influenced by internal factors and external factors (Anderson and Lanen, 1999). Efficient organizational structures vary with organizational contextual factors. These factors may explain the reasons for different systems that suit different organizations differently. Therefore, organizational information processing theory, in this research, is employed to explain management accounting information system capability and consequences. The contingency theory is also applied to describe the antecedents of management accounting information system capability and the moderating effect of the relationships among management accounting information system capability and antecedents.

Beverage businesses in Thailand are continuously growing due to a growing population, purchasing power, and increasing foreign visitors. Hot weather also increased demand for beverages. Moreover, export markets grow from the economies and trade of CLMV (Cambodia, Laos, Myanmar, and Vietnam). Beverages manufacturing registered with the Department of Industrial Works, The Ministry of Industry of Thailand have accumulated 634 firms in the year 2014. Classified by non-alcoholic beverages, are 500 firms and alcoholic beverages are 134 firms. The total investment of 127,035 million baht, employs 32,177 people (Kasikorn Research Center, 2015). However, the beverage business is an intense competition market, since the effect of major beverage multinational business is likely to expand investment in Thailand using preferential taxes under the ASEAN Free Trade Area (AFTA).

In addition, the beverage market is a market where consumers are less loyal to the brand, and they can switch to another vendor if the product is not available in the store. In this highly competitive environment, organizations need to be well-planned and managed, because organizations face the cost of raw materials that may fluctuate in price, which may affect the production process. Management accounting data derived from management accounting information system, especially cost data, is very important to those involved in the decision making process. Having an accurate, up-to-date, and timely information will be beneficial to the decision-making process. Thus, in order to gain competitive advantages, organizations need useful financial and non-financial information such as financial statements, price changes, market trends, and customer behaviors in order to survive and grow.

Purpose of the Research

The key purpose of this research is to investigate the relationships between management accounting information system capability and organizational survival. The specific research purposes are as follows:

1. To investigate the relationships among each of five dimensions of management accounting information system capability (operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, business management intelligence focus) and strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success and organizational survival,

2. To examine the impacts of strategic positioning effectiveness, cost management efficiency and operational process excellence on firm success,

3. To test the influences of firm success and organizational survival,

4. To investigate the effects of business executive support, IT resource, employee technology learning, best accounting system and environmental munificence potentiality on each of the five dimensions of management accounting information system capability, and,

5. To examine the moderating effect of technology growth on the relationships among business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality on each of the five dimensions of management accounting information system capability.

Research Questions

The key research question of this research is framed as: How does management accounting information system capability influence organizational survival? In addition, the specific research questions are presented as follows:

1. How does each dimension of management accounting information System capability (operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, business management intelligence focus) relate to strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success and organizational survival?

2. How do strategic positioning effectiveness, cost management efficiency and operational process excellence have an impact on firm success?

3. How does firm success have an influence on organizational survival?

4. How do business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality have an influence on each of the five dimensions of management accounting information system capability?

5. How does technology growth moderate the influence of business executive support, IT resource, employee technology learning, and best accounting system, environmental munificence potentiality on each of the five dimensions of management accounting information system capability?

Scope of the Research

The main objective of this research is to investigate the relationship between management accounting information system capability and organizational survival. From the conceptual framework, the independent variable is management accounting information system capability which refers to the ability of organizations to use technology to manage operational and financial data, including collecting, processing, storing, analyzing, reporting, and providing information needed to satisfy specific management objectives (Hansen and Mowen, 2007; Napitupulu, 2015). It consists of five dimensions: 1) operational information integration orientation which refers to the ability of a firm to gather whole organizational operations data by linking, merging, transferring and sharing information within and across departments (Chenhall and Morris, 1986; Whyte and Bytheway, 1966); 2) accounting information technology linkage which refers to the ability of a firm to manage and utilize existing information technology to work together efficiently, as well as to connect information systems within the organization to coordinate systematically (Primchard and Cole, 2006; Napitupulu, 2015); 3) new accounting technology implementation which refers to the ability of a firm to apply accounting technology, including learning and understanding of modern technology, and enables the accounting process and accounting practice to be efficient (Reisman, 2006; Napitupulu, 2015); 4) management information reporting competency refers to the ability of a firm to identify and analyze accounting data for reporting on business operations in real-world situations, as well as accurate and timely reporting (Chenhall and Morris, 1986; Nita, 2015); and 5) business management intelligence focus refers to the ability of a firm to analyze all relevant data together and present information that illustrates relationships and predictive information for useful decision-support purposes (Elbashir, Collier, and Davern, 2008; Roodposhti, Nikoomaram, and Mahmoodi., 2012).

The consequences of management accounting information system capability are composed of strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival. Likewise, the antecedents of management accounting information system capability includes business executive support, IT resource, employee technology learning, best accounting

system, and environmental munificence potentiality. Moreover, technology growth is a moderator of the relationships between the dimensions of management accounting information system capability and its antecedence.

In this research, the organizational information processing theory and the contingency theory are used to explain the phenomena and the positive relationships among the dimensions of management accounting information system capability, its antecedents, and its consequential constructs in the conceptual framework. Firstly, the organizational information processing theory explains achieving a fit between the information processing needs and the information processing capability to attain optimal organizational performance Thus, this theory is applied to explain the relationships among management accounting information system capability, strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival. Secondly, the contingency theory is used to describe the relationships among business executive support, IT resource, employee technology learning, best accounting system, environmental munificence potentiality and each dimension of management accounting information system capability. It is also employed to explain the moderating role of technology growth on relationships among antecedents and the five dimensions of management accounting information system capability. Because this theory posits that organizational effectiveness is achieved by matching organizational structure and environment, the proper alignment of internal and external contextual factors and process management lead to superior organizational performance.

The beverage businesses in Thailand are selected as a sample group. The unit of analysis is firm-level, and the accounting executive of each beverage firm is selected as the key informant. The questionnaire is employed as a research instrument for data collection, and multiple regression analyses are processed to test all postulated hypotheses.

Organization of the Dissertation

This research will be organized into five chapters. Chapter one presents an overview of the research, the purposes of the research, research questions, the scope of the research, and the organization of the dissertation. Chapter two explains the theoretical foundation, reviews of the relevant literature, and develops hypotheses for

describing the relationship between the variables in the conceptual model. Chapter three details the research methodology which includes the sample selection, the data collection procedure, a development of data-collection instruments, variable definitions, measurements, and statistical methods in hypothesis testing. Chapter four illustrates the empirical results and discussion. Finally, chapter five proposes the summary of results, the theoretical and managerial contributions, the limitations, and the future research directions.

CHAPTER II

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

The previous chapter provides an overview of management accounting information system capability with the research objectives, the research questions, and the scope of the research. This chapter demonstrates more comprehensively the understanding of management accounting information system capability, the theoretical foundation, the literature review, the conceptual framework, as well as the hypotheses development. Therefore, this chapter is divided into three sections. The first section introduces the theories that backup the conceptual model in this research. These theories include the organizational information processing theory and the contingency theory. The second section provides a literature review and hypotheses developments which are used to formalize the theoretical arguments on the relationships among the constructs of the conceptual model. Finally, the third section illustrates the summary of the hypothesized relationships and their descriptions.

Theoretical Foundations

To clearly understand the relationships among management accounting information system capability, its antecedents, consequences, and moderators, this section describes the theoretical foundation that supports the relationships among variables in the conceptual model. This research applies the organizational information processing theory and the contingency theory to explain the relationships above. The organizational information processing theory is used to explain the relationships between management accounting information system capability and its consequences. The contingency theory is applied to explain the relationships among management accounting information system capability and its antecedents and moderators. Both theoretical perspectives can be described below.

Organizational Information Processing Theory

Information processing in organizations is generally defined as information gathering, the transformation of data into information, and the communication and storage of information in an organization (Egelhoff, 1991). The concepts of organizational information processing theory were originated by Thompson (1967). Then, Galbraith (1973); and Tushman and Nadler (1978) developed them more thoroughly. This theory attempts to explain organizational behavior by examining the information flows occurring in and around organizations (Knight and McDaniel, 1979). Information processing incorporates such concepts as the analysis and transfer of environmental data from the organization boundaries to managers as they try to make meaningful decisions (Smith et al., 1991). Organizations would thus respond to the increasing information demand by increasing or reducing their information processing capacity.

Organizational information processing theory consists of three elements. First, information processing needs refers to the difference between the information required and the information available to the organization for decision-making (Premkumar, Ramamurthy, and Saunders, 2005). The gap of differences causes uncertainty. Uncertainty is defined as a state of limited knowledge in which it is not possible to exactly describe potential future outcomes (Hubbard, 2010). Second, information processing capabilities is defined as the ability of an organization to collect, translate, synthesize, and distribute information to manage uncertainty (Sabherwal and Chan, 2001). In other words, information processing capacity is able to process information with the right amount of information. Finally, the fit between needs and capabilities, and the fit between information processing needs and information processing capacities in an organization are factors of performance (Keller, 1994). Achieving a fit between the information processing needs and the information processing capability to attain optimal organizational performance has been a primary focus of organizational designers. Essentially, two strategies were used to reduce uncertainty and increase information needs: 1) developing buffers to reduce the effect of uncertainty, and 2) implementing structural mechanisms and information processing capability to enhance the information flow and thereby reduce uncertainty (Premkumar, Ramamurthy, and Saunders, 2005).

Accounting information is said to be effective when the information provided by it widely serves the requirements of the system users. Effective information should systematically provide information which has potential effects on the decision-making process. Integration of accounting information leads to coordination in the organization, which in turn, increases the quality of the decision (Hubber, 1990). Some researchers in accounting show that the effectiveness of accounting information system depends upon the quality of the output of the information system that can satisfy the users' needs. In this research, organizational information processing theory provides the foundations for the assertion that management accounting information system capability can serve as an organization's information processing capabilities that influence managing operational and financial information sufficiently for the needs of using that which influences decision-making, and leads to organizational survival. Thus, this theory is applied to explain the congruence among five dimensions of management accounting information system capability (operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus) and the consequences.

Contingency Theory

The concept of contingency was first developed in the organization theory literature in the 1960s. Nevertheless, its application in accounting research began to develop in the 1970s (Otley, 2016). Reviews of the literature on contingency theory indicate that this theory originated by theorists such as Burns and Stalker (1961); Thompson (1967); and Perrow (1970). In the beginning, the contingency theory has been used to examine the impact of the technology and environment on organizational structure. Since then, this theory has been applied and widely used in management and accounting research (Ismail et al., 2010).

The contingency theory explains that the organization's structure is influenced by internal factors, which are organizational factors such as corporate vision, firm resources, organizational climate, firm policy, leadership, experience, information systems; and external factors which are environmental factors, such as in industry competition, business environmental uncertainty, culture, and government regulations

(Anderson and Lanen, 1999). There is no model of organizational structure that is universally appropriate to all organizations in all circumstances. Therefore, organizational effectiveness depends on the proper alignment of internal and external organizational contextual factors. From the literature, the key external factors that have been investigated are external environment (Ax, Greve, and Nilson, 2008; Chong and Rundus, 2004; Patiar and Mia, 2008), and national culture (Henri, 2006; Tsui, 2001). The internal factors that have been investigated are organization structure (Lee and Yang, 2011), technology (Kalagnanam and Lindsay, 1999), organization strategies (Boulianne, 2007; Cadez and Guilding, 2008), and organizational size (Hendricks and Singhal, 2001; Martinez, Sanchez, and Dewhurst, 2004). The design of an accounting information system can be influenced by contingent variables (Choe, 1998). These variables are classified into two groups: organizational variables and individual variables. The organizational variables are related to organizational structure (Gerdin, 2005), task uncertainty (Chong, 1996), organizational strategy (Naranjo-Gil, 2004) and budgetary participation (Tsui, 2001). The individual variables refer to the factors related to some individual characteristics that may have effects on accounting information systems.

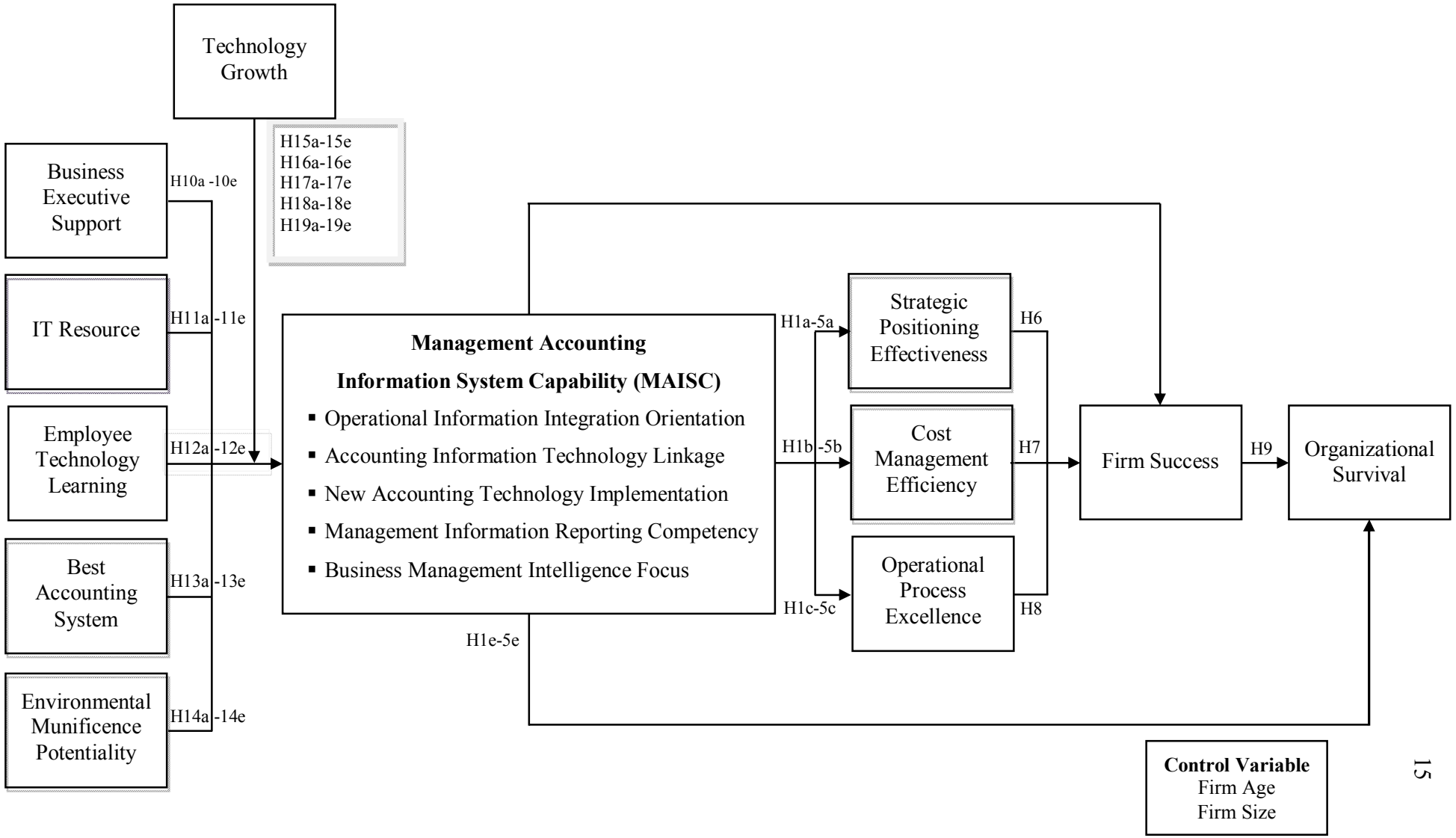
Prior research has found that there are significant relationships between contingency factors, the complexity of the accounting information system and business performance (Holmes and Nichols, 1988). These factors have significant effects on accounting information systems. This research expects that the fruitfulness of management accounting information system capability is instituted by a firm and will vary depending on business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality. Moreover, the moderating approach is illustrated as a contingent variable which depends on the interaction among each of five antecedents and technology growth as well as management accounting information system capability which results in increasing organizational survival.

Relevant Literature Review and Research Hypotheses

The literature review that is relevant to the conceptual framework, and the linkage of the relationship among management accounting information system capability, its antecedents and consequences are presented in this section. In this research, the conceptual model posits management accounting information system capability as the independent variable, while organizational survival is the dependent variable. There are five dimensions of management accounting information system capability consisting of operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus. This research purposes that all dimensions of management accounting information system capability are positively associated with organizational survival. Moreover, the effects of strategic positioning effectiveness, cost management efficiency, operational process excellence, and firm success are tested and are supposed to have a positive relationship with organizational survival.

In addition, there are five antecedents of management accounting information system capability, which comprise business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality, which are investigated and are expected to have a positive effect on management accounting information system capability. Lastly, the moderating variable is technology growth which has a positive effect on the relationships of each dimension of management accounting information system capability and its antecedents. Thus, Figure 1 demonstrates the relationships among management accounting information system capability, antecedents, consequences, and the moderating variables.

Figure 1: Conceptual Model of the Management Accounting Information System Capability - Organizational Survival Relationships

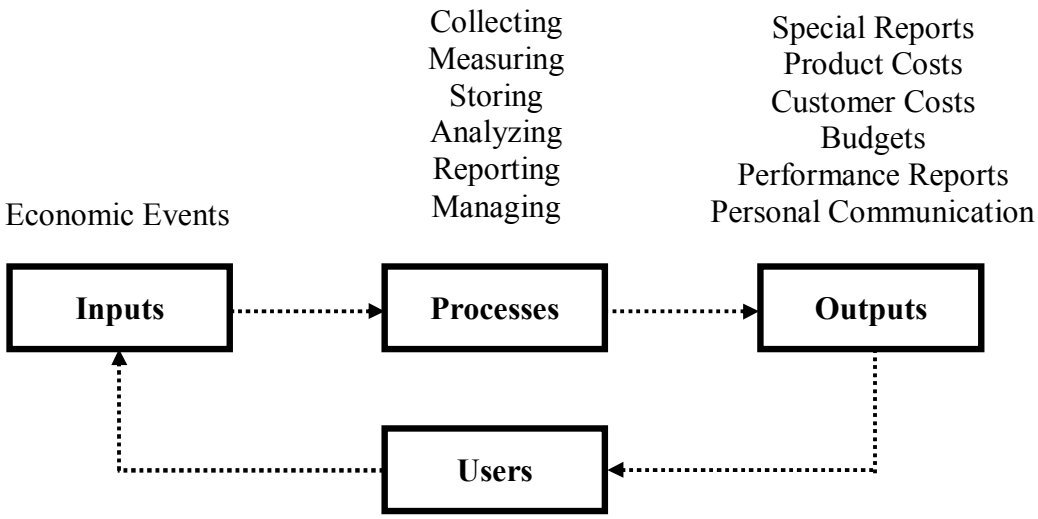


Management Accounting Information System Capability

One of the fundamental objectives of the information system is to provide information to support management in decision-making (Hall, 2011). Accounting information system is built with the main purpose to integrate accounting data from various sources into the accounting information, which is needed by various users to reduce risk in making decisions (Susanto, 2008). It is well known that management accounting information system is the subsystem of an organization's accounting information system. Management accounting information system is a specification that can be used as a framework that is integrated into the organization by utilizing resources for providing relevant information to managers and employees in an organization for both financial information and non-financial information, and for decision-making in achieving objectives specifically in the organization (Napitupulu, Mahyuni, and Sibarani, 2016). Management accounting information system provides information to support managers in planning and controlling (Kaplan and Atkinson, 1998). In details, management accounting information system provides information needed to satisfy specific management objectives. The core of management accounting information system is processes which are described by activities such as collecting, measuring, storing, analyzing, reporting, and managing information. The information is processed into outputs, including special reports, product costs, customer costs, budgets, performance reports, and even personal communication (Hansen and Mowen, 2007). The operational model of a management accounting information system is presented by Hansen and Mowen (2007), and is illustrated in Figure 2.

According to the definitions of management accounting information system that are proposed by Atkinson et al. (2001); Hansen and Mowen (2007); Horngren et al. (2008), and Burns et al. (2013), management accounting information system can be considered as a collection of system components which is associated with and cooperates with one another by utilizing resources to process the data into financial and non-financial information to meet the specific objectives of management.

Figure 2: Operational Model of Management Accounting Information System, Adapted From Hansen and Mowen (2007)



Useful information in the management accounting information system is based on the needs of decision-makers. Management accounting information has been characterized by breadth of scope, timeliness, levels of aggregation, and integrative nature. The characteristics of management accounting information is classified by Chenhall and Morris (1986), which included four dimensions: scope, timeliness, aggregation, and integration. Meanwhile, the dimensions of management accounting information system as integration, flexibility, accessibility, formalization, and media richness, which were found in the study of Heidmann (2008). In addition, empirical studies found that the measurement of management accounting information system using dimensions of decision support and business intelligence (Roodposhit, Nikoomaram, and Mahmoodi 2012). Additionally, the dimensions of the quality of management accounting information system as integration, flexibility, reliability, and efficiency (Napitupulu, 2015). Moreover, the testing of whether management accounting information systems has motivated and helped managers or not in achieving organizational goals, can be viewed as timely, efficient, and effective from the system (Kaplan, 1998).

The purpose of management accounting information system is in providing information to determine basic cost, planning, control, evaluation and continuous improvement for operational activities, decision-making, and for supporting, and

serving the purpose of organizational strategy (Hall, 2011; Hansen and Mowen, 2007; Naranjo and Hartmann, 2007; Wilkinson et al., 2000). Thus, management accounting information system has a broad scope so that it enables managers to obtain information in the decision-making for a successful economy in the long-term. The manager uses management accounting information system to seek more specific information that helps them to strengthen information about strategic issues of formal and informal sources (Heidmann, Schaffier, and Strahringer, 2008). All of this is easily obtained when entities have an integrated concept of the management accounting information system, both physical and non-physical, which is harmoniously interconnected (Susanto, 2008). Thus, it can improve the performance of business units (Chapman and Kihn, 2009). The management accounting information system should consider the nature of the information that corresponds to a particular organization, and the methods used for the transmission of data and information (Napitupulu, 2015).

The effectiveness of management accounting information system depends on the perception of decision-makers and on the usefulness of information generated by the system to satisfy informational needs for operational processes, managerial reports, budgeting and control within the organization. Decision-making will be better if it uses quality information (Romney and Steinbart, 2012). The quality of management accounting information is the processing result of the quality of management accounting information system (Heidmann, 2008). The quality of management accounting information has various characteristics, attributes and dimensions that make management accounting information useful for managers (Bouwens and Abernethy, 2000; Williams et al., 2010).

The supporting research results were done by Gul and Chia (1994), the design of management accounting information system affects the characteristics of useful information for management in decision-making. Moreover, the demand for information and the design of the management accounting information system are associated with management performance. The quality of management accounting information system is an important factor to generate useful information for managers (Rani and Kidane, 2012). Prior research has found that the good management accounting information system is followed by improving the quality of management accounting information (Chitmun and Ussahawanitchakit, 2011; Mia and Winata, 2008). Moreover, previous

study, which investigated the relationship between management accounting information and production performance, and found that there was a positive relationship between management accounting information and production performance (Choe, 2004). Based on the above description, it can be concluded that the quality of management accounting information system affects the quality of management accounting information. The organization will benefit in terms of reduction in labor costs, reduce waste generation, be efficient in using the machine, and lower inventory costs when organizations use quality information.Thus, quality information will lead to better control costs of products and improve the efficiency of the organization (Banker, Kauffman, and Morey, 1990).

The term "capability" refers to the ability of an organization to perform tasks utilizing organizational resources for achieving the goals (Helfat and Peteraf, 2003). Capabilities transform inputs into more valuable outputs (Barney, 1991). Meanwhile, superior capabilities help firms gain competitive advantage (Ray, Barney, and Muhanna, 2004). Indeed, capabilities are key determinants of firm financial performance (Bharadwaj, 2000). Since capabilities are often difficult to copy, having superior capabilities helps create and sustain competitive advantage (Wade and Hulland, 2004). A sustained competitive advantage is crucial for a firm's long-term viability and survival. Thus, management accounting information system and capability are integrated into the definition of management accounting information system capability.

According to the discussion above, this research defines management accounting information system capability as the ability of organizations to use the technology to manage operational and financial data, including collecting, processing, storing, analyzing, and reporting; and provides information needed to satisfy specific management objectives (Hansen and Mowen, 2007; Napitupulu, 2015). Based on a review of the literature mentioned earlier, this research develops the construct of management accounting information system capability and its measurement which are based on the study of Chenhall and Morris (1986); Napitupulu (2015); Roodposhti, Nikoomaram, and Mahmoodi (2012). Five dimensions are used to measure the management accounting information system capability, which include operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency,

and business management intelligence focus. The more detailed discussion of the five dimensions of management accounting information system capability is presented in the next sequence. In addition, this research attempts to define how management accounting information system capability affects organizational survival. Moreover, this research also explains how the antecedents influence management accounting information system capability.

The following Table 1 summarizes the definitions of management accounting information system capability, and Table 2 summarizes key literature reviews on management accounting information system capability, which are presented as below:

Table 1: Summary of Definitions of Management Accounting Information System Capability

Authors	Definitions of MAISC
Bruggeman and Slagmulder (1995)	Management accounting information system that collects, classify, summarize, and report information to managers to assist them in their control of production activities. It is an integral part of an organization which is related to the structure and organization process, for products control of organization including manager control.
Atkinson et al. (2001)	An information system which is collecting operational data and financial, processing, keeping, and reporting to the user.
Chenhall (2003)	A formal system designed for providing information to facilitate decision making and evaluation of the managerial activity.
Hansen and Mowen (2007)	The system provides information needed to satisfy specific management objectives. The processes are the heart of a management accounting information system; they are described by activities such as collecting, measuring, storing, analyzing, reporting, and managing information.

Table 1: Summary of Definitions of Management Accounting Information System Capability (continued)

Authors	Definitions of MAISC
Woldehawariat (2013)	An accounting system that records, processes and reports financial information for internal use in accordance with the preferences of management. The scope of this system is usually broader than that required by GAAP or IFRS.
Al-Dalaien et al. (2016)	An information system that produces the information required by managers to manage resources and to create value. It provides timely and accurate information to facilitate efforts, to control costs, to measure and improve productivity, and to devise improved production processes.

Table 2: Summary of the Key Literature Reviews on Management Accounting Information System Capability

Author(s)	Title	Key issue examine	Main finding
Choe (2002)	The organizational learning effects of management accounting information under advanced manufacturing technology	To examine the organizational learning effects of the nonfinancial performance information provided by management accounting information systems under advanced manufacturing technology.	There are significant positive relationships between the level of advanced manufacturing technology and nonfinancial performance information. Moreover, a high level of advanced manufacturing technology, for the provision of information to result in an increase of performance through organizational learning, a target costing system must be introduced.
Choe (2004)	The relationships among management accounting information, organizational learning and production performance	To investigate the relationship between the levels of advanced manufacturing technology usage and the amount of information provided by management accounting information systems.	There is a positive correlation between the advanced manufacturing technology level and the amount of management accounting information.

Table 2: The Summary of the Key Literature Reviews on Management Accounting Information System Capability (continued)

Author(s)	Title	Key issue examine	Main finding
Roodposhit, Nikoomaram, and Mahmoodi (2012)	Management accounting information system based on decision support and business intelligence on ROI and ROE	To analysis the effect of management accounting information system based on decision support and business intelligence in return on investment and return on equity.	There are significant relationships between management accounting information system based on decision support and business intelligence with ROI and ROE are meaningful in strong and average companies than weak in their management accounting information system.
Woldehawariat (2013)	The role of management accounting information on managerial decisions in printing industry in Ethiopia (The case of medium and large scale printing companies)	To examine the role of management accounting information system on managerial decisions.	There is strong support for the statement that management accounting information system plays a major role in management decisions. The organization has increased confidence in using management accounting information system to support of managerial tasks.

Table 2: The Summary of the Key Literature Reviews on Management Accounting Information System Capability (continued)

Author(s)	Title	Key issue examine	Main finding
Al-Mawali (2013)	Performance consequences of management accounting system information usage in Jordan	To investigate the relationship between MAS information usage and firm performance.	The role of the usage of MAS information enhances the manufacturing firm performance.
Christina (2013)	The mediation effect of management accounting information system on the relationship between knowledge on accounting function, perception of environmental uncertainty and managerial performance	To investigate the mediation effect of management accounting information system on the relationship between knowledge of accounting function, perception environmental uncertainty, and managerial performance.	The management accounting information system mediates the relationship between knowledge of accounting function, and perception of environmental uncertainty on managerial performance.

Table 2: The Summary of the Key Literature Reviews on Management Accounting Information System Capability (continued)

Author(s)	Title	Key issue examine	Main finding
Rasouli, Valipour, and Moradi (2014)	The effect of organizational learning on applying management accounting information and firm producing operation	To examine the relation between the effect of organizational learning on applying management accounting information and firm producing operation.	The information indicates that there isn't a significant relation between interaction organizational learning, management accounting approaches, and techniques firm operation but there is a positive and significant relation between the firm size and operation.
Ramli and Iskandar (2014)	Control authority, business strategy, and the characteristics of management accounting information systems	To test the formal, and informal structures control authority and business strategy influence the characteristics of management accounting information system.	The informal and business strategy have a big effect on the management accounting information system for decision making, while the formal one has less effect very much. The business strategy has a very dominant influence on developing the management accounting information system.

Table 2: The Summary of the Key Literature Reviews on Management Accounting Information System Capability (continued)

Author(s)	Title	Key issue examine	Main finding
Napitupulu (2015)	Antecedence of user satisfaction in management accounting information systems quality: user involvement and user competency	To examine the effect of users involvement, user competency of information systems and quality of management accounting information systems on user's satisfaction.	The users involvement and user competency of information systems affect the quality of management accounting information systems. The quality of management accounting information systems intervenes between the involvement and competence of users against the user's satisfaction.
Astuty (2015)	An analysis of the effects on application of management accounting information systems and quality management accounting information	To test the influence of the business environment, ethics, organizational culture on the application of MAIS and the effect of the application of management accounting information system on the quality of management accounting information.	All variable of the business environment, ethics, organizational culture affect the application of accounting information management system; and the application of management accounting information system affects the quality of information management accounting.

Table 2: The Summary of the Key Literature Reviews on Management Accounting Information System Capability (continued)

Author(s)	Title	Key issue examine	Main finding
Hertati and Zarkasyi (2016)	Effect of competence user information system, the quality of accounting information systems management and implications in satisfaction user information system	To test the effect of the competence of the quality information system users management accounting information system and its implications for user satisfaction information systems to look for more specific information which helps to strengthen the information about strategic issues from informal sources.	Competency information system users have a significant positive effect on the quality of management accounting information system, and the quality of management accounting information system has a positive and significant impact on user satisfaction.
Napitupulu, Mahyuni, and Sibarani (2016)	The impact of internal control effectiveness to the quality of management accounting information system: The survey on state-owned enterprises (SOEs)	To examine the influence of internal control effectiveness to the quality of management accounting information system.	The internal controls have a significant influence on the quality of management accounting information system.

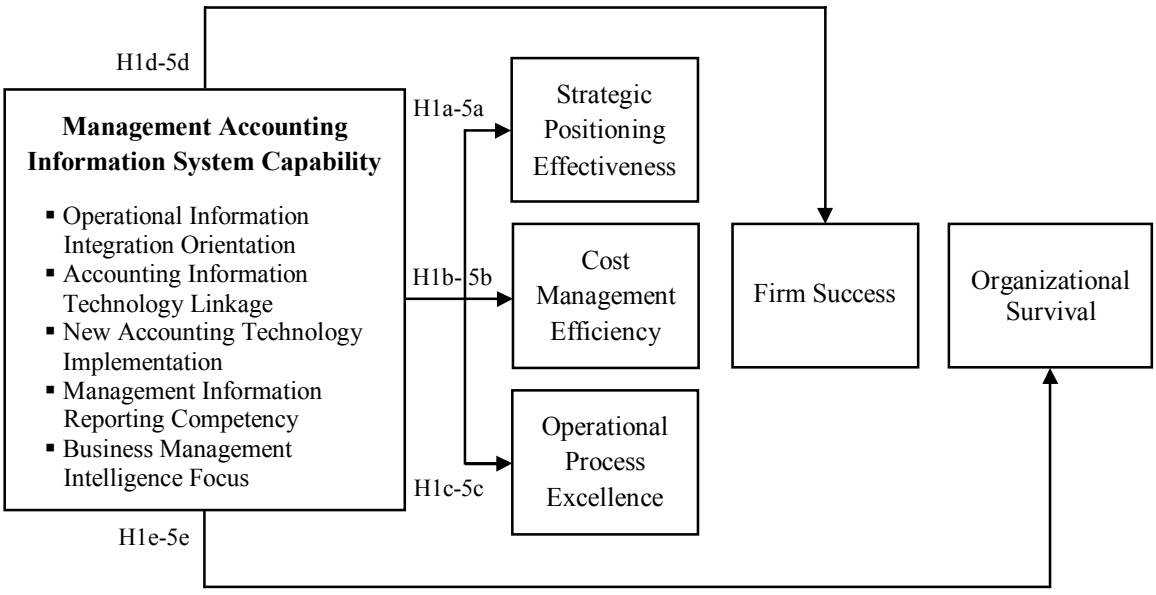
Table 2: The Summary of the Key Literature Reviews on Management Accounting Information System Capability (continued)

Author(s)	Title	Key issue examine	Main finding
Al-Dalaien et al. (2016)	Role of management accounting information systems on managerial decisions in selected Indian companies	To investigate the role of management accounting information systems on managerial decisions.	There is a significant impact of management accounting information systems on managerial decisions.
Chung and Cheng (2016)	The relationships among personality, management accounting information systems, and customer relationship quality	To examine the use of management accounting information system is a variable mediating the relationship between managers with an internal locus of control and customer relationship quality.	Personality has a direct effect on customer relationship quality, and personality can also indirectly affect customer relationship quality through the use of management accounting information system.

The Relationships among Management Accounting Information System Capability and Its Consequences

This section investigates the relationships among five dimensions of management accounting information system capability (operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus), and its consequences (strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival) as presented in Figure 3.

Figure 3: The Relationships among Management Accounting Information System Capability, Strategic Positioning Effectiveness, Cost Management Efficiency, Operational Process Excellence, Firm Success, and Organizational Survival



Operational Information Integration Orientation

The concept of integrated information systems plays an increasingly important role in the business entity, because the integrated information system shows the success of organizational information systems (Nookabadi and Middle, 2006). Information system integrates sub-systems, both physical and nonphysical, that are interconnected, and work together in harmony to achieve a goal of processing data into useful information (O'Brien and Marakas, 2010; Susanto, 2008). An integrated information system enables the process of formulating strategies and improving the complementary relationship in organizational and supervisory activities (Nicolaou, 2011). Integrated information system is built from a variety of components, namely, software purchased or built specifically, hardware, and networks (Whitten and Bentley, 2007).

Information system integration refers to the degree to which different systems are integrated in terms of data, functionality and appearance (Whyte and Bytheway, 1996). Information integration refers to how well the information flows within the segments or sub-unit in organizations, which means allowing information-sharing throughout the sub-unit. Information integration within sub-units will help the managers in different departments in seeking useful information from other departments more easily. Not only the flow of information is important, but the coordination of the various segments within a sub-unit is also an important aspect of organizational control. Integrated information reduces uncertainty relating to cause and effect relations within departments as it encourages learning and the generation of ideas. It enables departmental managers to learn how to adjust products and production methods to be compatible with other departments. It also enables managers to understand better the different objectives that exist within separate decision units, and to make trade-offs among alternative ways to operate within a given set of objectives.

The prior research found that the level of information system integration supports the four design characteristics (repair, internal transparency, global transparency, and flexibility) that create an enabling approach to management control, and each of these is related to both perceived system success and business unit performance (Chapman and Kihn 2009). The lack of information system integration has detrimental effects on business performance, in both income and quality metrics,

because it increases the dynamic complexity of the system under management (Georgantzas and Katsamakas, 2010). However, there are a number of researchers who suggest that, practically, there are many problems within information systems which are not integrated and not efficient for a business entity (Napitupulu, 2015). An appropriate modification is to use process mapping, which focuses on the actual flow of information within an organization. This method is less demanding on resources and contributes to the process with standard protocols for business operations (Winch and Carr, 2001).

As mentioned above, in this research, operational information integration orientation refers to the ability of a firm to gather whole organizational operations data by linking, merging, transferring and sharing information within and across departments (Chenhall and Morris, 1986; Whyte and Bytheway, 1966). To summarize, the hypotheses are proposed as follows:

Hypothesis 1a: Operational information integration orientation is positively related to strategic positioning effectiveness.

Hypothesis 1b: Operational information integration orientation is positively related to cost management efficiency.

Hypothesis 1c: Operational information integration orientation is positively related to operational process excellence.

Hypothesis 1d: Operational information integration orientation is positively related to firm success.

Hypothesis 1e: Operational information integration orientation is positively related to organizational survival.

Accounting Information Technology Linkage

In times of rapid change, organizations are actively looking for methods to improve the efficiency and profitability of their performance (Kloviene and Gimzauskiene, 2014). Information technologies are used to facilitate their business transactions and the process of decision-making for organizations (Melnikas, 2008; Zavadskas, Kaklauskas, and Banaitis, 2010). Information technology can be strategic weapons to support the objectives and strategy in organizations. Some organizations obtain a competitive advantage by equipping new information systems. Information technology function is responsible for designing, implementing and maintaining many of the controls over an organization's business processes (Abu-Musa, 2008; Consoli, 2010). It could be stated that information technology has an impact on all business processes and accounting is one of them (Saban and Efeoglu, 2012). It is usually argued that the accounting field was the first to use information systems, where IT use often involves the firm's main ledger and reporting systems. Generally, information technology is a term that covers the harnessing of electronic technology for the information needs of a business at all levels. It is a computer-based system as well as telecommunications technology for storage, processing, and dissemination of information (Primchard and Cole, 2006).

In view of this fact, it is widely acknowledged that information technology plays an important role in the field of accounting. It has created significant benefits for accounting departments. The biggest impact that information technology has made on accounting is the ability of firms to develop and use computerized systems to track and record financial transactions. Some of the information technology tools that are often used in accounting information system are spreadsheets, relational databases and general ledger systems (Hurt, 2008). Information technology systems cause a change in issues of budgeting and reporting, which are among the managerial accounting applications, and enable the increasing use of advanced managerial accounting techniques (Saban and Efeoglu, 2012; Yeh, Lee, and Pai, 2012). Information technology networks and computer systems have shortened the lead time needed by accountants to prepare and present financial information to management and stakeholders, and it also has improved the overall efficiency and accuracy of the information.

The process improvement is enhanced by the implementation of enterprise resource planning systems (Wier, Hunton, and Hassab, 2007). The enterprise resource planning links business processes and information technologies into a synchronized suite of procedures, applications, and metrics that span intra and inter-firm boundaries. Each business functions in all forms of business entities, and is improved by implementing the appropriate equipment and software applications. One of the most comprehensive quantitative sectors regarding the extent of manual operations is certainly the accounting sector (Lalic et al., 2014). However, failure in the use of technology within the organization is due to the adoption of new technologies that are unsuitable for the organization's strategy and structure, resulting in reduced operational efficiencies (Schroeder, Congden, and Gopinath, 1995). The results of previous research found that the impact of information technology in the banking industry, as banks are intensive information technology users. Using information technology can lead to lower costs, but the bank's profitability has declined due to the adoption and spread of information technology investments, which reflects the negative impact this network has had on the industry (Ho and Mallick, 2010).

As mentioned above, in this research, accounting information technology linkage refers to the ability of a firm to manage and utilize existing information technology to work together efficiently, as well as to connect information systems within the organization to coordinate systematically (Primchard and Cole, 2006; Napitupulu, 2015). To summarize, the hypotheses are proposed as follows:

Hypothesis 2a: Accounting information technology linkage is positively related to strategic positioning effectiveness.

Hypothesis 2b: Accounting information technology linkage is positively related to cost management efficiency.

Hypothesis 2c: Accounting information technology linkage is positively related to operational process excellence.

Hypothesis 2d: Accounting information technology linkage is positively related to firm success.

Hypothesis 2e: Accounting information technology linkage is positively related to organizational survival.

New Accounting Technology Implementation

The introduction of new technologies ends up generating structural changes in organizations and these influence the institutions' costs and the reorganization of their productive processes, always making them more competitive (Mat, 2010). Technology consists of two primary components: 1) the physical component which is comprised of items such as products, tooling, equipment, blueprints, techniques, and processes; and 2) the informational component which consists of know-how in management, marketing, production, quality control, reliability, skilled labor and functional areas (Kumar et al., 1999). The concept of technology where technology is defined as the development and application of tools, machines, materials and processes that help in solving human problems (Reisman, 2006). Moreover, technology is a computer network consisting of a wide range of information processing components that use different types of hardware, software, data management, and information network technology (O'Brien, 2004).

Technological developments changed methods for carrying out tasks within the scope of accounting activities, and transactions related to accounting that started to be carried out through the electronic media (Güney, 2014). The developments in information technologies have caused all or some of the financial transactions in business to be carried out in such different forms in electronic environments as electronic commerce and electronic data exchange. The result caused the financial transactions to be removed from the traditional paper-based activity environment to the electronic environment in the accounting information system. Therefore, it results in changes in all processes such as recording, classification, reporting, and analysis. At the same time, this change has also affected such accounting applications as keeping the books, preparing financial statements and tax statements, auditing activities, and the activities of the members of the accounting profession (Salehi et al., 2010).

Accounting systems that were previously performed manually can now be performed with the help of computers. In manual accounting information systems, processing of data is slow and subject to error. Fortunately, improvements in the technology have enabled firms to collect, process, and retrieve data quickly. In addition, there is less likelihood of error when data are processed with computers. Firms can now capture, process, store, and transmit data with the help of computers. Personal computer-based accounting software allows firms to computerize their manual systems and to provide better and timely information. In addition, personal computers have been connected to other personal computers via networks. This allows firms to process an indefinite number of transactions occurring at different locations simultaneously within several minutes. Accounting software is a base to gather information. Accounting software contains the basic accounting functions such as input, processing, and output; and it is application software that records and processes accounting transactions within functional modules such as accounts payable, accounts receivable, payroll, and trial balance. Thus, these software packages allow the whole accounting system to be run on a computer (Ware, 2015).

Firms usually choose accounting programs based on the size of their operations and the number of users accessing the system. Large firms may choose system-wide software packages, such as an enterprise resource planning system (Yadav, 2016). Previous research found that firms adopt IT involving software, hardware, and communication technology affect labor productivity more than non-IT firm. However, the impact of software was less than hardware and communication technology; but when many information technologies are combined, they will have a positive effect on labor productivity (Pilat, 2004). Similarly, previous studies found that enterprise resource planning systems are vital to organizational performance and survival (Liang and Xue, 2004). On the other hand, some researchers argue that enterprise resource planning systems do not always affect business performance positively (Kang, Park, and Yang, 2008). Moreover, empirical evidence indicate that accounting information technology can bring a contribution to profits, but management error in accounting information technology arises because of technical problems, communication problems, training, and maintenance. Such failures result in low productivity, loss of the

accounting information technology inventory, as well as loss of important and confidential data (Dandago and Rufai, 2014).

As mentioned above, it can be concluded that management accounting information system supported by computers and accounting software can be used to integrate accounting subsystems to provide and respond with quality information for all levels of management functions. Therefore, new accounting technology implementation refers to the ability of a firm to apply accounting technology, including learning and understanding of modern technology, enabling the accounting process and accounting practice to be efficient (Reisman, 2006; Napitupulu, 2015). To summarize, the hypotheses are proposed as follows:

Hypothesis 3a: New accounting technology implementation is positively related to strategic positioning effectiveness.

Hypothesis 3b: New accounting technology implementation is positively related to cost management efficiency.

Hypothesis 3c: New accounting technology implementation is positively related to operational process excellence.

Hypothesis 3d: New accounting technology implementation is positively related to firm success.

Hypothesis 3e: New accounting technology implementation is positively related to organizational survival.

Management Information Reporting Competency

Every organization private or public, profit making or non-profit making, large scale or small scale, uses accounting information to make decisions, and the information needs vary according to information each user requires (Nickels, McHugh, and McHugh, 2002). Managerial emphasis has switched from controlling costs to providing

more relevant information, including non-financial performance measures that can help managers in their daily decision-making. The old emphasis on reporting was on keeping score of operating results, but the new emphasis is on providing information that will increase innovation and flexibility.

Reporting is different from data generation. Reporting is the process of communicating information. Reporting requires the summarization of data in a way that will provide useful information to the user. Management reporting is a system of reporting of information to support decision-making processes at various levels in the organizational hierarchy. Management reporting systems frequently are critical tools for evaluating the performance of organizations. Management reporting is the process of providing information to the management, and an organized method of communicating to each manager all the data required for decisions. Management reporting covers all activities related to the reporting of performance measures, events, analysis, and other information to support decision-making (Axson, 2010). The users of internal reports are always employees of the firm, because some information may be confidential and strategic from the point of view of achieving a competitive advantage in the market (Nita, 2015). However, a number of studies have described the use of reports as part of the decision support. Decision-makers also need to take into account other factors in making decisions. Additionally, decision-makers sometimes do not use data that appears to be rational, but based on past experience, intuition, moral belief, and personal knowledge. So decision-making is not just a quantitative factor, but it is still justified in some situations that cannot be interpreted as only numbers (Drury, 2000).

Reports are vital tools for the communication of information. In modern organizations, information is management's most important resource. The growth of management reporting corresponds with the growth in the size and complexity of the business. When the report is properly designed, it serves as an invaluable management function. It allows managers to make well-informed and timely decisions that help achieve organizational goals. In this research, management information reporting competency refers to the ability of a firm to identify and analyze accounting data for reporting on business operations in real-world situations, as well as for accurate

and timely reporting (Chenhall and Morris, 1986; Nita, 2015). To summarize, the hypotheses are proposed as follows:

Hypothesis 4a: Management information reporting competency is positively related to strategic positioning effectiveness.

Hypothesis 4b: Management information reporting competency is positively related to cost management efficiency.

Hypothesis 4c: Management information reporting competency is positively related to operational process excellence.

Hypothesis 4d: Management information reporting competency is positively related to firm success.

Hypothesis 4e: Management information reporting competency is positively related to organizational survival.

Business Management Intelligence Focus

The main role of management accounting is to use available information in the best possible way to make the best possible decisions. Handling information for the highest possible use increases the efficiency of the management accounting information system that can be achieved through the adoption of business intelligence tools (Al-zubi, Shaban, and Alnaser, 2014). Many firms now deploy business intelligence to obtain timely information about the processes within the organization and the environmental organizations combining information on past circumstances, present events and projected future actions to answer questions or solve problems (Dinter, 2013). Traditionally, organizations have used business intelligence systems to keep track of performance; however, their use has expanded to help managers and employees learn, seek opportunities, and take actions to optimize people, processes, and ultimately organizational performance. Business intelligence is now widely understood as

an umbrella term for technologies, applications, and processes for gathering, storing, accessing and analyzing data to help its users make better decisions (Wixom and Watson, 2010). Moreover, business intelligence is considered to be a process by which an organization systematically gathers, manages, and analyzes information essential for its functions (Vuori, 2006).

The role of business intelligence is to create an informational environment in which operational data gathered from transactional systems and external sources can be analyzed to reveal strategic business dimensions (Petrini and Pozzebon, 2009). This information should help organizations to respond to key business issues, make predictions, and act based on real-time data to improve the quality and speed of decision-making (MacMillan, 2010). Business intelligence system provides the ability to analyze business information and improve management decision-making for business activities (Elbashir, Collier, and Davern, 2008). Firms need to have their data highly integrated and their data sources mutually consistent. This includes proper data management encompassing the identification of users' needs, data unification, data cleansing and the improvement of data quality control during data collection (Popovič, Coelho, and Jaklič, 2009). Most business intelligence initiatives have thus focused on developing a high-quality business intelligence data asset that is used instead of existing reporting systems.

Business intelligence systems utilize the data in enterprise resource planning systems (ERPs) to generate, manipulate, and aggregate information (Chapman and Kihn 2009; Elbashir, Collier, and Davern, 2008). More formally, business intelligence systems integrate numerous internal data sources, thus providing firms with the ability to profile, map, plan, conduct analytics, and report on activities (Beckerle, 2008). Prior research found that business intelligence affects competitive advantage, and performance (Elbashir, Collier, and Sutton, 2011; Elbashir et al., 2013; Peters and Wieder, 2013; Wieder, Ossimitz, and Chamoni, 2012). Moreover, business intelligence has an effect on the profitability of the firms (Roodposhti, Nikoomaram, and Mahmoodi, 2012). Empirical evidence indicate that in business intelligence system implementation perspective that business intelligence assimilation and shared knowledge were critical to

achieving enhanced performance results with the use of business intelligence systems (Elbashir et al., 2013).

As mentioned above, in this research, business management intelligence focus is defined as the ability of a firm to analyze all relevant data together and presenting information that illustrates relationships and predictive information for useful decision-support purposes (Elbashir, Collier, and Davern, 2008; Roodposhti, Nikoomaram, and Mahmoodi., 2012). To summarize, the hypotheses are proposed as follows:

Hypothesis 5a: Business management intelligence focus is positively related to strategic positioning effectiveness.

Hypothesis 5b: Business management intelligence focus is positively related to cost management efficiency.

Hypothesis 5c: Business management intelligence focus is positively related to operational process excellence.

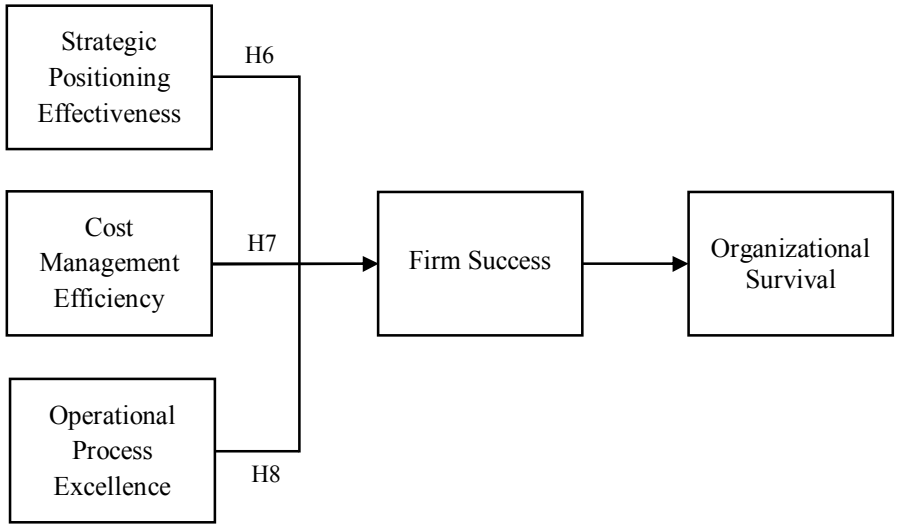
Hypothesis 5d: Business management intelligence focus is positively related to firm success.

Hypothesis 5e: Business management intelligence focus is positively related to organizational survival.

The Relationships among the Consequences of Management Accounting Information System Capability

This section illustrates the investigation of the relationships among the consequences of management accounting information system capability, which consist of strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival. These relationships are presented in Figure 4.

Figure 4: The Relationships among Strategic Positioning Effectiveness, Cost Management Efficiency, Operational Process Excellence, Firm Success, and Organizational Survival



Strategic Positioning Effectiveness

In a competitive business world, the best organization operates and strives to develop faster than the competition (Bigelow, 2002). Organizations with the ability to manage resources in line with best practice strategies are to achieve goals. An organization that uses the strategy of leadership in costs and targeting low prices will have success in competition by reducing costs within the value chain. Differentiation strategy aims at achieving a competitive advantage by providing customers with value in the form of high quality associated with increased costs and, respectively, product prices. However, while implementing new technologies, it is possible for quality to be achieved with a reasonable cost amount. Competitive advantage, based on differentiation, while at the same time, based on acceptable prices, could be achieved only on the basis of cost optimization.

Strategic positioning is a managerial process within the organization to develop the firm level positioning strategy that aims to effectively distinguish the organization from other service providers (Chew, 2003). Positioning may occur at three distinct levels, which are the firm level, product or service level, and brand level (Hooley,

Saunders, and Piercy, 2004). A positioning strategy is a key component of the strategic marketing planning process and is aligned with organizational goals, internal resource capabilities, and external market opportunities (Kotler and Andreasen, 2006). The positioning strategy is comprised of three major inter-related components which consist of the choice of the target audience, the choice of generic positioning strategy, and the choice of positioning dimensions that the organization uses to distinguishing itself and to support its generic positioning strategy (Chew, 2003).

Previous research found that strategic positioning affects organizational performance. Innovative differentiation strategies together with technological resources strongly affect firm performance in the e-business context (Kim, Song, and Koo, 2008). Positioning has a significant impact on profit and that the impact is characterized by a high-quality, high-price positioning strategy rather than by pursuing a low-quality, low-price strategy (Suzuki, 2000). Moreover, superior performance is related to more distinctive and generally high-quality positioning (Hooley et al., 2001). In additions, there is an association between positioning and firm success in the marketplace through the employment of an employee branding positioning strategy (Miles and Mangold 2005). However, successful positioning requires managers to understand the needs of the target customers and to recognize the competitors' offerings in order to make decisions on attributes important to customers (Coffie, 2016). Positioning is not what is done to the product or service, but rather what is done to the mind of the customer. Therefore, in this study, strategic positioning effectiveness refers to the success of creating a unique industry position that aligns with goals when faced with change, resulting in competitive advantage, success, and sustainable growth (Chew, 2003).
To summarize, the hypothesis is proposed as follows:

Hypothesis 6: Strategic positioning effectiveness is positively related to firm success.

Cost Management Efficiency

In a rapidly changing business environment and increasing pressure on cost and profit management, many businesses find that managers need the use of accounting data to make decisions. Managers spend much time focusing on costs. Cost management is also a set of techniques which frame the cost calculation system that functions towards aiding the decision-making process, the achievement of the goal, and the activities of the organization. The cost calculations in organizations take different forms and pass through several stages (Papazov and Mihaylova, 2015). The first stage is connected with the calculation and booking of direct manufacturing costs by type and assigning them to a functional body (by different activities, by sections, by calculation objects or by calculation items). The second stage includes the allocation of indirect technological (manufacturing) costs. The third stage envisages the calculation of costs for future periods typical for a primary production process. The fourth stage appears additional to the primary production costs (the latter are linked with the main activities of an organization), the last element, and the costs of support activities.

Cost management identifies, collects, measures, classifies and reports information that is useful to managers and other internal users in cost ascertainment, planning, controlling and decision-making (Jhamb, 2009). Cost management refers to systems, methods, and practices employed by an organization to reduce costs of products and services without sacrificing quality. In addition, cost management is a management accounting technique for planning and controlling which is one aspect of management control systems for enhanced firm success (Malmi and Brown, 2008).

Previous research found that cost management effectiveness has an effect on corporate competitiveness (Tontiset and Ussahawanitchakit, 2009). The effects of a decision support system model based on rules and costs management through the use of business intelligence tools such as online analytical processing (OLAP) will lead to the effective control of business activities, which will lead to achieve the goals of the organization (Brandas, 2010). Moreover, empirical evidence indicate that cost management efficiency has positive relationships with decision-making success, and superior operational excellence (Ponklang, Pratoom, and Raksong, 2014). Thus, cost management efficiency also plays an important role in explaining and driving

competitive advantage and organizational survival. Therefore, in this research, cost management efficiency refers to the success of planning, cost control, and cost effective management that leads to organizational success (Robert, 2006). To summarize, the hypothesis is proposed as follows:

Hypothesis 7: Cost management efficiency is positively related to firm success.

Operational Process Excellence

Operations in operation management studies are conceptualized as a routine-based approach that are patterns of current practices, activities or work processes (Peng et al., 2008). Continuous improvement means searching for ways to increase the overall efficiency and productivity of activities by reducing waste, increasing quality, and reducing costs. Thus, information is needed to help identify opportunities for improvement and to evaluate the progress made in implementing actions designed to create improvement (Hansen and Mowen, 2007).

Excellence in operations will be instrumental in competition around the world as the best firms perform and strive to develop faster than the competition (Bigelow, 2002). Underlying the relational-based approach, the efficiency of operational excellence is improved efficiency and a rapid response, which emphasizes delivery processes improvement to induce a firm's goods and services. This convinces consumers of satisfaction and responds to consumer needs, which are accomplished by appropriate prices and convinced delivery, by improving employee empowerment, or improving human quality to raise the appreciated interaction of activities with customers (Leong and Jarmoszko, 2010). The interactive process with customers either directly interacts (e.g. face to face) or interfaces with technological devices (e.g. telephone, and internet computer). The firms that have better performance should win with the quality of the organization which leads to efficient organizational operational, financial success, and a sustainable competitive advantage (York and Miree, 2004).

In prior research, operations management has a significant relationship with logistics control, which describes the design and planning systems or processes that

create products or provide services, adequately enhancing logistics competencies and organizations' performance (Mary, Enyinna, and Franca 2015). Process management facilitates stable business processes and creates an environment focused on searching for easy opportunities to gain efficiency (Benner and Tushman, 2003). In this study, operational process excellence refers to the efficiency of operational increases with goals set by successful operations, using resources efficiently, reducing operational procedures, and having timelines for superior coordination and quick response (Intarapanich and Ussahawanitchakit, 2011; Leong and Jarmoszko, 2010). To summarize, the hypothesis is proposed as follows:

Hypothesis 8: Operational process excellence is positively related to firm success.

Firm Success

Firm success is related to strategies, a capability which needs to be managed for firm performance or survival in a highly competitive situation (Mohrman, Finegold, and Mohrman, 2003). To achieve the desired success, organizations will need to plan, control and coordinate the oversight and decisions of many agencies and employees at different levels to survive. Moreover, firm success demonstrates the importance of factors that affect the ability of the organization in the customer retention of existing and new customers. In addition, the dimensions of firm success are the collected data on customer satisfaction and product quality improvement (Cadez and Guilding, 2008).

Management accounting information has begun to encompass also non-financial information such as quality, as well as subjective measurements such as customer satisfaction (Atkinson et al., 2001). Applying non-financial performance measures is an important part of management information system. Non-financial performance is represented by employee satisfaction, service quality and customer satisfaction (Elg and Kollberg, 2009). In prior research, the non-financial performance measurement systems plays an important role in manufacturing and operating environments, especially for enhancing firm performance (Ahmad and Zabri, 2016). Moreover, one of the non-financial performance indicators is customer satisfaction,

which is positively correlated with accounting return on investment (Anderson, Fornell, and Lehmann, 1994). Consistent with the results of previous research, which found that customer satisfaction measures are leading indicators of non-financial performance and accounting (Ittner and Larcker, 1998). The reporting of non-financial measures, such as employee satisfaction and customer satisfaction, is likely to benefit retail chain executives under potentially competitive conditions. Employees and customers' satisfaction help the manager to forecast profitability in the future (Banker and Mashruwala, 2007). Therefore, in this research firm success is defined as the achievement of goals in a non-financial performance perspective. It has the ability to retain customers, attain excellence in operations, and develop great management in the personnel perspective (Mohrman, Finegold, and Mohrman, 2003). To summarize, the hypothesis is proposed as follows:

Hypothesis 9: Firm success is positively related to organizational survival.

Organizational Survival

Organizational survival has been argued to be a primary goal or objective that every organization should have. Furthermore, the concept of survival is an unwritten law of every organization. The goal of organizational survival underpins all other goals. Paying attention to this goal contributes to the satisfaction and execution of other organizational goals. In addition, organizational survival also describes the organizational environment to enhance current performance better than the past, as well as well as anticipate improvements in the future (Gross and Hanken, 2008).

Firm performance can be measured in different ways and using different methods. However, one of the most widely used methods refers to financial analyses that use profitability ratios as key measures of a firm's overall efficiency and performance. Financial performance can be defined as the ability of a firm to make sustainability regarding financial in a certain period of time using capital or assets, either from the creditor or the shareholder their self. This research focuses on explaining organizational survival in the perspective of financial performance. There are several

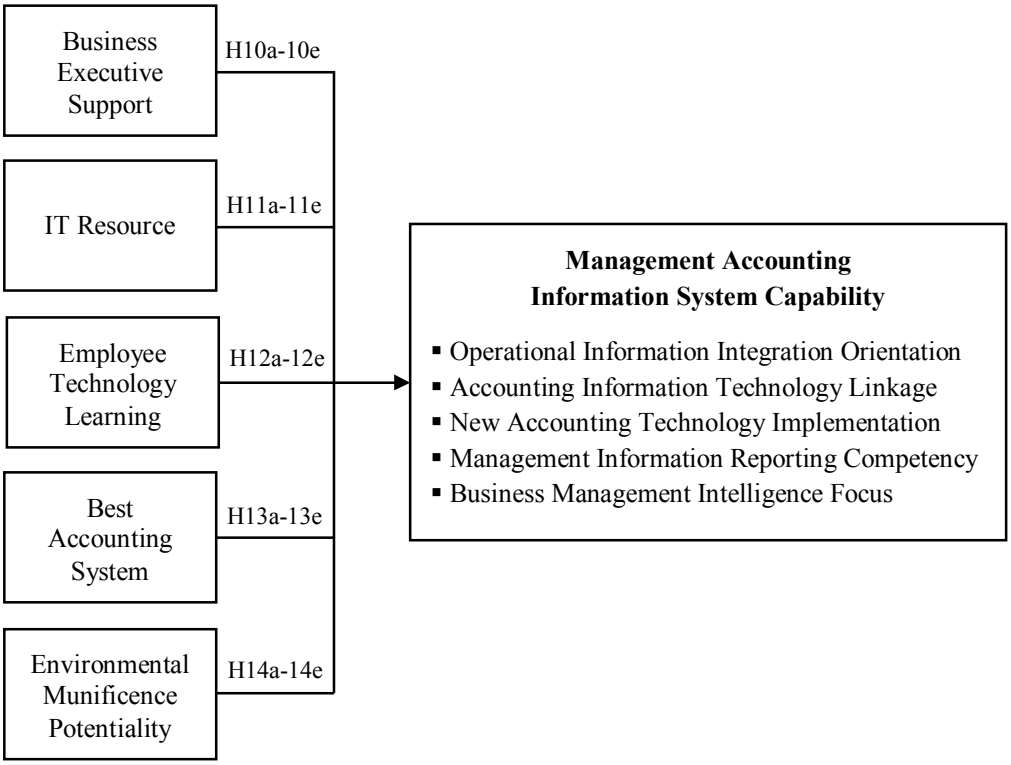
indicators which are useful for evaluating financial performance of an organization, namely: revenue, asset and profit (Yee, Yeung, and Cheng, 2008).

In an era of global competition, the key to an organization's survival is the continuous improvement of its performance. Organizations attempt to maintain the existing state of affairs, but essentially the larger part of their efforts is tilted toward survival (Mindy, 1998). Similar to previous research, accounting information always plays an essential role in the decision-making of the managers related to financial and economic issues. It also affects the survival of an organization (Patel, 2015). Moreover, empirical evidence found that firm success has a significant, positive effect on firm survival (Namwong, Jhundra-indra, and Raksong, 2015). Therefore, in this research, organizational survival is defined as an organizational perception of the success of financial performance with stability and continuous increase (Gross and Hanken, 2008).

The Relationships among Management Accounting Information System Capability and Its Antecedents

This section shows the influence of five antecedents, which includes business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality on all dimensions of management accounting information system capability (operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus) as illustrated in Figure 5.

Figure 5: The Relationships among Business Executive Support, IT Resource, Employee Technology Learning, Best Accounting System, Environmental Munificence Potentiality, and Management Accounting Information System Capability



Business Executive Support

Business executive support is conceptualized as the involvement and participation of top-level management of the organization in information technology or information system activities. The role of top management appears to be crucial in achieving synergy between the activities and operations of the organization, because top management is an important source by which one achieves organizational goals. Top management is responsible for the understanding of the organizational principles and values of its workers, in addition to generating synergy and compatibility between them (Manna, 2012; Turban and Volonino, 2010). In addition, top management support in the development of accounting information systems can be committed to the form of time, money, and resources to support the development of information systems that occur in

long-term partnerships and companies, which can be also ongoing in a stable process (Mark, Cindy, and Jerry, 2012).

Business executive support is defined as the understanding of top managers about computer systems and the level of interest, support, and knowledge about information systems or computerization. In information system literature, business executive support has been identified as a key positive factor that influences information system performance and increases information system effectiveness (Seliem et al., 2003). Moreover, business executive support has facilitated the successful deployment of strategic information system applications. Previous researchers found that business executive support is an essential factor, and significantly affects the quality of accounting information systems (Nwakanma et al., 2013; Young and Jordan, 2008). In addition, business executive support can improve internal communication, as well as more effective and proper collaboration and integration (Loonam and McDonagh, 2005). Similar to previous research, the executive believes that information quality can improve operations and management functions, and they will offer resources for developing an ERP system, thus executive support is positively and significantly related to the success of ERP implementation (Ditkaew and Ussahawanitchakit, 2010).

Although a number of researchers asserted that the support and commitment of top executives is one of the critical factors for an IS successful implementation in the business, their support enables the associated activities of software engineering to attain physical resources, the input of skilled manpower, capital funds, resource allocation, or minimizing the potential resistance caused by the internal structural adjustment (Moss and Atre, 2003; Sabherwal, Jeyaraj, and Chowa, 2006). However, there are still a number of researchers who found that top management support does not directly influence accounting information system competency (Grabski and Leech, 2007; Konthong and Ussahawanitchakit, 2010).

From the above, it can be concluded that business executive support is the involvement of the top management for the provision of guidelines with a commitment in terms of time, cost, and resources to support activities within an organization via information systems in decision-making for the achievement of objectives in an organization (Bhanu et al., 2004; Mark, Cindy, and Jerry, 2012). As a consequence, in

this research, business executive support refers to a business executive focus on supporting technical development, new operating experience, investment and technology development related to operations (Bhanu et al., 2004; Mark et al., 2012). Thus, the hypotheses are proposed as below:

Hypothesis 10a: Business executive support is positively related to operational information integration orientation.

Hypothesis 10b: Business executive support is positively related to accounting information technology linkage.

Hypothesis 10c: Business executive support is positively related to new accounting technology implementation.

Hypothesis 10d: Business executive support is positively related to management information reporting competency.

Hypothesis 10e: Business executive support is positively related to business management intelligence focus.

IT Resource

Today, it is hardly probable that an organization can stay competitive without using technological resources, as the investments in technological infrastructure will support the operation of an organization's current or future business (Byrd and Turner, 2000). Within an information technology context, scholars adopt this view to understand how information technology contributes to a firm's sustainable competitive advantage (Wade and Hulland, 2004). One key view is that IT resources act as a complement to other organizational capabilities in an integrative way proposing an indirect relationship with a firm's performance (Melville, Kraemer, and Gurbaxani, 2004; Ravinchandran and Lertwongsatien, 2005; Stoel and Muhanna, 2009). IT resources have been defined as being comprised of: 1) tangible technical components, 2) human technical and

managerial IT skills, and 3) intangible IT-enabled resources such as knowledge, and customer orientation (Bharadwaj, 2000). Due to the ubiquity of tangible IT resources such as hardware, software, networks, databases, enterprise resource planning systems, and web technologies; only intangible IT resources such as IT human resources, knowledge resources, and relationship resources contribute strategic value to a firm (Kohli and Grover, 2008; Nevo and Wade, 2010).

IT resources must be combined with other organizational resources and capabilities (Wang et al., 2012). A number of researchers have found that IT resources and capabilities create unique opportunities and provide organizations with a competitive advantage (Aral and Weill, 2007; Bhatt and Grover, 2005; Oh and Pinsonneault, 2007). IT resources impact an organization's dynamic capabilities by influencing its agility, and entrepreneurial alertness; and enhancing its knowledge, processes, and richness through digitization (Sambamurthy, Bharadwaj, and Grover, 2003). Moreover, IT resources, such as enterprise resource planning, compromise the knowledge of industries' best practices embedded in the information system by vendors, consultancies, and other implementation partners. This leads to the further exposure of a firm to other organizations' process and routines (Srivardhana and Pawlowski, 2007).

Prior research found that IT resources support an accounting information system to offer information integration, speed, relevance, accuracy, easy understanding, and system competency that is information technology-supported, has information satisfaction of users to improve strategic cost management and decision-making, and increases firm performance (Nada and Robert, 2005). Similarly, previous study that investigated the relationship between IT resources and accounting information system competency. The results showed that IT resources have had a positive, significant relationship with complete information collaboration, compatible information system linkage, and comprehensive accounting information presentation. These results confirm that IT resources are one of the key major forces of the determinants of management accounting information system capability (Konthong and Ussahawanitchakit 2010). Consistent with the study by Bi, Davison, and Smyrnios (2013), IT complementary resources do lead to firm growth through enhancing activity integration and information-sharing processes along the value chains. However, if business goals are

not aligned with the goals that IT projects are trying to accomplish, IT will not work to facilitate the success of the organization's efforts (Neirotti and Paolucci, 2007)

As earlier mentioned, this research focuses on IT resources available for the increasing of management accounting information system capability. Therefore, IT resources refer to existing IT infrastructures and IT investments in any organization's information system budget, in terms of both monetary and intellectual resources, which enable an organization to create new application systems and enhance the competency of implemented information systems (Konthong and Ussahawanitchakit, 2010). Thus, the hypotheses are proposed as below:

Hypothesis 11a: IT resource is positively related to operational information integration orientation.

Hypothesis 11b: IT resource is positively related to accounting information technology linkage.

Hypothesis 11c: IT resource is positively related to new accounting technology implementation.

Hypothesis 11d: IT resource is positively related to management information reporting competency.

Hypothesis 11e: IT resource is positively related to business management intelligence focus.

Employee Technology Learning

Learning is traditionally perceived of as the process or experience through which an individual gains knowledge, skills or attitudes. Learning can be defined as coming to understand things and developing increased capacities to do what one wants or needs to do (Schoenfeld, 1999). A learning orientation is an internal mind-set that motivates an individual to develop his or her competence. Individuals with a learning

orientation seek challenges that provide them with learning opportunities. Research suggests that a learning orientation is conducive to the acquisition of knowledge and skills (Kozlowski et al., 2001).

Employee learning explains the process of acquiring knowledge through curiosity to learn. It is a mindset which has the anxiety to get information. Employee learning will increase the abilities and competency of the employee (Dixon, 1999). The abilities and competencies are helpful in employee performance and productivity. Employees' training and development is a strategic determination to facilitate learning of the job-related knowledge, skills, abilities and behaviors that are crucial for efficient performance that is capable of enhancing organizational effectiveness (Noe et al., 2015). It also increases employees' efficiencies, innovation, invention, capacity to accept new technologies and techniques, and enhances skills to improve employee satisfaction with their jobs and working conditions (Stewart and Brown, 2011). Some of the information technology tools that are often used in accounting information system are spreadsheets, relational databases and general ledger systems (Hurt, 2008). Empirical evidence indicate that a profitable organization, if it has at least one person with high ability in accounting information systems that are used, is a personal presence that can help other users to use information systems properly (Soegiharto, 2001). Employees' skills and fluency in using accounting information systems have a critical impact on whether the desired goals of the adoption of the system can be achieved.

Technological learning has an important role in enabling organizations to generate new knowledge, improvement of capabilities, and skills that can lead to accomplishment. In addition, technology learning capability is defined as an ability of firms to develop new technology knowledge and use the latest technologies to generate information to support management for the enhancement of competitive advantage (Chaikambang, Ussahawanitchakit, and Boonlua, 2012). Previous research identified technology impact on the agility and reliability of information systems, and the firm's performance (Allahyarl and Ramazani, 2011; Aribaba, Asaolut, and Olaopa, 2011; Mat, 2010).

As earlier mentioned, this research expects that the employees can use their ability in technology application to management accounting information system

appropriately to generate accounting information value, accuracy, timeliness, relevance, and understandability. Therefore, employee technology learning refers to the learning of employees to continually develop their knowledge, abilities, and skills of technology through training, leading to effective performance (Chaikambang and Ussahawanitchakit, 2012; Schoenfeld, 1999). Thus, the hypotheses are proposed as below:

Hypothesis 12a: Employee technology learning is positively related to operational information integration orientation.

Hypothesis 12b: Employee technology learning is positively related to accounting information technology linkage.

Hypothesis 12c: Employee technology learning is positively related to new accounting technology implementation.

Hypothesis 12d: Employee technology learning is positively related to management information reporting competency.

Hypothesis 12e: Employee technology learning is positively related to business management intelligence focus.

Best Accounting System

An accounting system can be conceptualized as an organized set of documents, records, reports, and procedures for the preparation and delivery of basic and financial data in a timely manner, with the required accuracy for effective decision-making and identification of whether an organization's objectives have been achieved. Accounting is itself an information system that is a communicative process, which collects, stores, processes, and distributes information to those who need it. An accounting system is one of the most effective decision-making tools of management (Bagranoff et al., 2010). It is very important as to its purpose and functions in the organization, collecting and recording of data and information regarding events that have an economic impact upon

the organizations and their maintenance; that is, the processing and communication of information to internal and external stakeholders (Jovarauskiene and Pilinkiene, 2009; Kundeliene, 2011).

The information produced by the accounting system provides an explanation for the usage of resources and operations, and presents the essential financial information for decision-making, and improves the quality of decisions within the organization (Barth, Beaver, and Landsman, 2001; Kara and Kilic, 2011; Salehi, Rostami, and Mogadam, 2010). Thus, a firm has the best accounting system when it can help evaluate its past performance, present conditions, and future prospects. Prior research has demonstrated that firms with a higher degree of accounting system implementation effectiveness lead to higher degrees of information value (Dechow and Mouritsen, 2005; Ismail and King, 2005). In prior research, best accounting system can provide value-added information for decision making, management and control activities to achieve the objectives (Williams and Seaman, 2002). Additionally, best accounting system has an impact on effective cost control, but on the other hand, previous studies found that best accounting system has no relationship with product cost accuracy, cost information credibility, and cost reporting usefulness (Ponklang, Pratoom, and Raksong, 2014). In addition, the specificity of the accounting system, which is designed to fit the structure, strategy and operations of the organization, limits the ability to work with other information systems.

As earlier mentioned, best accounting system activity provides the information quality that results in efficient data processing. Hence, best accounting system refers to a suitable accounting system with procedures for gathering data from various financial documents as evidence in accounting records and accounting methods, including transaction analysis, recording, classification, analysis, summarization, interpretation, and reporting accurate accounting data (Bagranoff et al (2010). Thus, the hypotheses are proposed as below:

Hypothesis 13a: Best accounting system is positively related to operational information integration orientation.

Hypothesis 13b: Best accounting system is positively related to accounting information technology linkage.

Hypothesis 13c: Best accounting system is positively related to new accounting technology implementation.

Hypothesis 13d: Best accounting system is positively related to management information reporting competency.

Hypothesis 13e: Best accounting system is positively related to business management intelligence focus.

Environmental Munificence Potentiality

The environmental context is a key contingency for organizations, as it creates both opportunities and threats for an organization. The environment enhances and constrains organizational activities. It affects organizational structure, processes, and managerial decision-making. Moreover, the environmental context creates uncertainty for organizational managers, who in turn, influence the information processing needs of the business executive team. The business environment broadly refers to the prevailing conditions in the vicinity of an object or business entity. The business environment is the conditions in a place that affects the behavior or development of somebody or something (Hornby, 2005). Moreover, the business environment acts as an important source of organizations' resources such as personnel, products and services, information, and funds.

Environmental uncertainty has been defined in many different ways. The conceptualization utilized in this analysis is that of Dess and Beard (1984). In their analysis, environmental uncertainty is an umbrella concept that includes munificence, dynamism, and complexity. This research focuses on environmental munificence potentiality that is available for increasing management accounting information system capability. Environmental munificence, in general, refers to an environment's ability to support the sustained growth of an organization (Goll and Rasheed, 2004). There are

three different kinds of munificence: environmental capacity, growth and decline, and opportunity and threat (Castrogiovanni, 1991). Environmental capacity refers to the level of resources available within an environmental context; environmental growth and decline refer to the relative change in capacity; and environmental opportunity and threat is the extent to which capacity is unexploited.

Empirical evidence, accumulated over the last two decades, clearly suggests that environmental munificence has an extensive influence on organizational processes, strategies, and structures. It also has been linked positively to a range of strategy and organizational options available to firms (Sutcliffe, 1994). The more munificence in the environment, the more that firms have choices because of alternative goals, strategies, and organizational structures that are likely to be possible (George, 2005; Su, Xie, and Li, 2009). Firms with a high level of munificence in the environment tend to successfully provide rational decision-making and discretionary social responsibility for promoting and enhancing their outcome, performance, and profitability (Goll and Rasheed, 1997). However, firms change structures to respond to low environmental munificence, they are operating in less munificent environments that are more likely to cause illegal acts. Previous studies found that environmental munificence has no significant relationships with strategic entrepreneurial capability (Kokfai, Pratoom, and Muenthaisong, 2016). This may be possible if business is delayed, and there is a lack of availability of management. Also, inflexibility will not cause the utilization of environmental munificence (Klarner and Raisch, 2013).

As earlier mentioned, in this research, environmental munificence potentiality refers to the ability of an environment to support the sustained growth of an organization, promote easier implementation, and create more convenience (Goll and Rasheed, 2004). In summary, the following hypotheses are proposed:

Hypothesis 14a: Environmental munificence potentiality is positively related to operational information integration orientation.

Hypothesis 14b: Environmental munificence potentiality is positively related to accounting information technology linkage.

Hypothesis 14c: Environmental munificence potentiality is positively related to new accounting technology implementation.

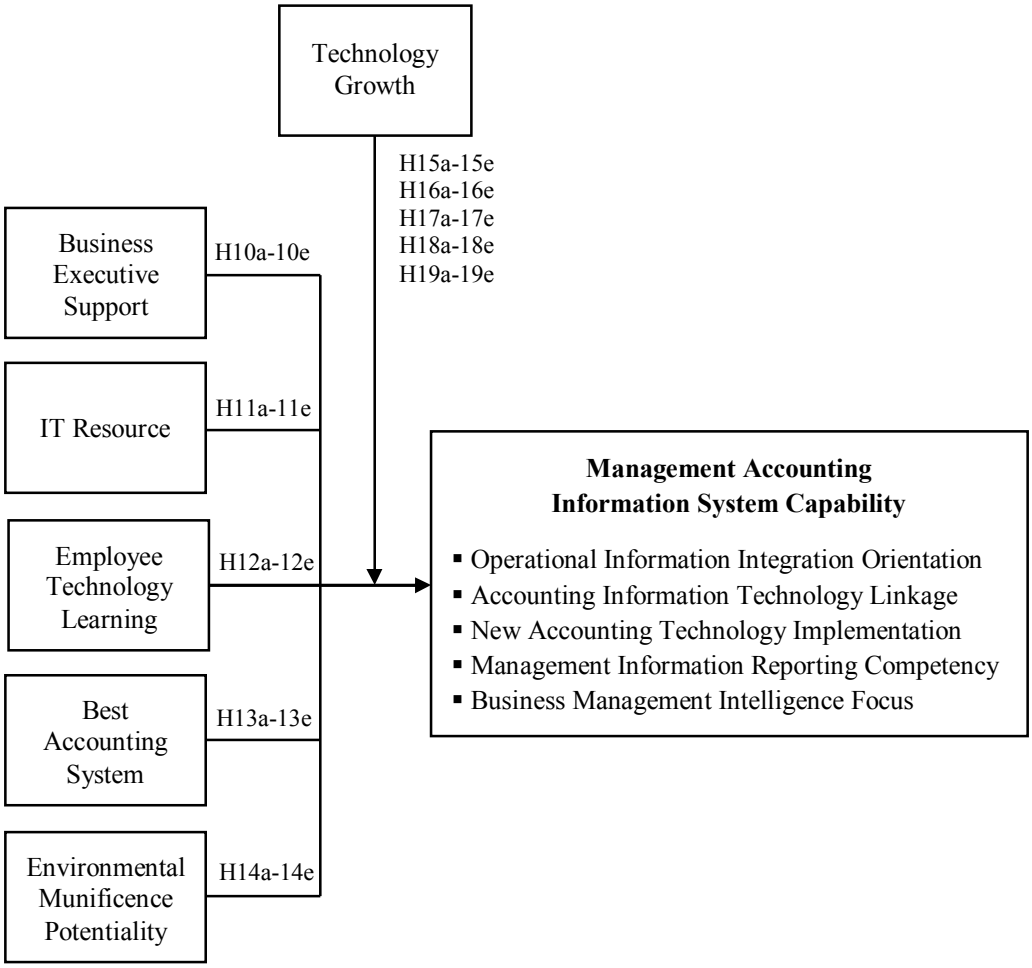
Hypothesis 14d: Environmental munificence potentiality is positively related to management information reporting competency.

Hypothesis 14e: Environmental munificence potentiality is positively related to business management intelligence focus.

The Moderators of Management Accounting Information System Capability

This section has examined technology growth as the moderator of the relationships among five dimensions of management accounting information system capability (operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus) and its antecedents (business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality), as shown in Figure 6.

Figure 6: The Moderating Role of Technology Growth on the Relationships among Business Executive Support, IT Resource, Employee Technology Learning, Best Accounting System, Environmental Munificence Potentiality, and Management Accounting Information System Capability



Technology Growth

Technology actually represents the application of the science to achieving the commercial goals. Technological development has led to a revolution in many fields such as communications, and computer sciences for the monitoring of operations and better organization (Ivanovic, Perman, and Grlj, 2015). Organizations integrate new technologies to deliver superior performance and service advantages. With the help of

technology, there are remarkable changes in processes such as marketing, manufacturing, and human development. Technology is useful in making the right decisions, and saving time and money. It also plays an important role in financial analysis and control (Ahmad, 2014).

Technology is growing rapidly, whether it is to create new equipment or develop a faster system. Organizations recognize these changes and strive to advance their technology by adapting to current and future needs. The result is an increase in the evolution of technology and its application to business, a process, where everyone benefits. The growth of information technology also supports an organization when it decides to choose the best coordinating mechanisms and implement them into organizational systems. To deal with this rapid growth, firms need to continuously modify their processing systems and develop innovation to absorb supreme benefit from technology innovation (Auh and Mengue, 2005). The speed of technological development generates new challenges and the chance for upgrading and developing human capital by investment in employee development as a part of dynamic technology management (Rudez and Mihalic, 2007). Although technology is beneficial, the technology that grows too fast and more complex can be confusing because organizations need to improve their systems or change the type of technology they use. So, organizations must train their employees and understand their customers. In addition, technology also increases the possibility of crime. Technically skilled employees can misappropriate money and make it difficult for organizations to track as well as access personal and financial information.

In this research, technology growth refers to the speed of the forward change of technology associated with new technology products that have an impact on firm operational procedures (Glazer and Weiss, 1993). Technology growth will positively moderate the relationships among management accounting information system capability (operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus), business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality. This research expects that technology growth

will enhance the magnitude of this relationship. Hence, the hypotheses are proposed as follows:

Hypothesis 15a: Technology growth positively moderates the relationships between business executive support and operational information integration orientation.

Hypothesis 15b: Technology growth positively moderates the relationships between business executive support and accounting information technology linkage.

Hypothesis 15c: Technology growth positively moderates the relationships between business executive support and new accounting technology implementation.

Hypothesis 15d: Technology growth positively moderates the relationships between business executive support and management information reporting competency.

Hypothesis 15e: Technology growth positively moderates the relationships between business executive support and business management intelligence focus.

Hypothesis 16a: Technology growth positively moderates the relationships between IT resource and operational information integration orientation.

Hypothesis 16b: Technology growth positively moderates the relationships between IT resource and accounting information technology linkage.

Hypothesis 16c: Technology growth positively moderates the relationships between IT resource and new accounting technology implementation.

Hypothesis 16d: Technology growth positively moderates the relationships between IT resource and management information reporting competency.

Hypothesis 16e: Technology growth positively moderates the relationships between IT resource and business management intelligence focus.

Hypothesis 17a: Technology growth positively moderates the relationships between employee technology learning and operational information integration orientation.

Hypothesis 17b: Technology growth positively moderates the relationships between employee technology learning and accounting information technology linkage.

Hypothesis 17c: Technology growth positively moderates the relationships between employee technology learning and new accounting technology implementation.

Hypothesis 17d: Technology growth positively moderates the relationships between employee technology learning and management information reporting competency.

Hypothesis 17e: Technology growth positively moderates the relationships between employee technology learning and business management intelligence focus.

Hypothesis 18a: Technology growth positively moderates the relationships between best accounting system and operational information integration orientation.

Hypothesis 18b: Technology growth positively moderates the relationships between best accounting system and accounting information technology linkage.

Hypothesis 18c: Technology growth positively moderates the relationships between best accounting system and new accounting technology implementation.

Hypothesis 18d: Technology growth positively moderates the relationships between best accounting system and management information reporting competency.

Hypothesis 18e: Technology growth positively moderates the relationships between best accounting system and business management intelligence focus.

Hypothesis 19a: Technology growth positively moderates the relationships between environmental munificence potentiality and operational information integration orientation.

Hypothesis 19b: Technology growth positively moderates the relationships between environmental munificence potentiality and accounting information technology linkage.

Hypothesis 19c: Technology growth positively moderates the relationships between environmental munificence potentiality and new accounting technology implementation.

Hypothesis 19d: Technology growth positively moderates the relationships between environmental munificence potentiality and management information reporting competency.

Hypothesis 19e: Technology growth positively moderates the relationships between environmental munificence potentiality and business management intelligence focus.

Summary

This chapter presents the theoretical foundation, the relevant literature review, and hypotheses development. The conceptual model of management accounting information system capability and organizational survival is explained by the

organizational information processing theory and contingency theory. The 19 hypotheses are developed to test the relationships among each of five dimensions of management accounting information system capability (operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus), its antecedents (business executive support, IT resource, employee technology learning, best accounting system, environmental munificence potentiality), and its consequents (strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival). Moreover, this research also investigates the moderating role of technology growth on the relationships among five dimensions of management accounting information system capability and its antecedents. Thus, the summary of hypothesized relationships is presented in Table 3.

Table 3: Summary of Hypothesized Relationships

Hypothesis	Description of Hypothesized Relationships
H1a	Operational information integration orientation is positively related to strategic positioning effectiveness.
H1b	Operational information integration orientation is positively related to cost management efficiency.
H1c	Operational information integration orientation is positively related to operational process excellence.
H1d	Operational information integration orientation is positively related to firm success.
H1e	Operational information integration orientation is positively related to organizational survival.
H2a	Accounting information technology linkage is positively related to strategic positioning effectiveness.
H2b	Accounting information technology linkage is positively related to cost management efficiency.

Table 3: Summary of Hypothesized Relationships (continued)

Hypothesis	Description of Hypothesized Relationships
H2c	Accounting information technology linkage is positively related to operational process excellence.
H2d	Accounting information technology linkage is positively related to firm success.
H2e	Accounting information technology linkage is positively related to organizational survival.
H3a	New accounting technology implementation is positively related to strategic positioning effectiveness.
H3b	New accounting technology implementation is positively related to cost management efficiency.
H3c	New accounting technology implementation is positively related to operational process excellence.
H3d	New accounting technology implementation is positively related to firm success.
H3e	New accounting technology implementation is positively related to organizational survival.
H4a	Management information reporting competency is positively related to strategic positioning effectiveness.
H4b	Management information reporting competency is positively related to cost management efficiency.
H4c	Management information reporting competency is positively related to operational process excellence.
H4d	Management information reporting competency is positively related to firm success.
H4e	Management information reporting competency is positively related to organizational survival.

Table 3: Summary of Hypothesized Relationships (continued)

Hypothesis	Description of Hypothesized Relationships
H5a	Business management intelligence focus is positively related to strategic positioning effectiveness.
H5b	Business management intelligence focus is positively related to cost management efficiency.
H5c	Business management intelligence focus is positively related to operational process excellence.
H5d	Business management intelligence focus is positively related to firm success.
H5e	Business management intelligence focus is positively related to organizational survival.
H6	Strategic positioning effectiveness is positively related to firm success.
H7	Cost management efficiency is positively related to firm success.
H8	Operational process excellence is positively related to firm success.
H9	Firm success is positively related to organizational survival.
H10a	Business executive support is positively related to operational information integration orientation.
H10b	Business executive support is positively related to accounting information technology linkage.
H10c	Business executive support is positively related to new accounting technology implementation.
H10d	Business executive support is positively related to management information reporting competency.
H10e	Business executive support is positively related to business management intelligence focus.

Table 3: Summary of Hypothesized Relationships (continued)

Hypothesis	Description of Hypothesized Relationships
H11a	IT resource is positively related to operational information integration orientation.
H11b	IT resource is positively related to accounting information technology linkage.
H11c	IT resource is positively related to new accounting technology implementation.
H11d	IT resource is positively related to management information reporting competency.
H11e	IT resource is positively related to business management intelligence focus.
H12a	Employee technology learning is positively related to operational information integration orientation.
H12b	Employee technology learning is positively related to accounting information technology linkage.
H12c	Employee technology learning is positively related to new accounting technology implementation.
H12d	Employee technology learning is positively related to management information reporting competency.
H12e	Employee technology learning is positively related to business management intelligence focus.
H13a	Best accounting system is positively related to operational information integration orientation.
H13b	Best accounting system is positively related to accounting information technology linkage.
H13c	Best accounting system is positively related to new accounting technology implementation.

Table 3: Summary of Hypothesized Relationships (continued)

Hypothesis	Description of Hypothesized Relationships
H13d	Best accounting system is positively related to management information reporting competency.
H13e	Best accounting system is positively related to business management intelligence focus.
H14a	Environmental munificence potentiality is positively related to operational information integration orientation.
H14b	Environmental munificence potentiality is positively related to accounting information technology linkage.
H14c	Environmental munificence potentiality is positively related to new accounting technology implementation.
H14d	Environmental munificence potentiality is positively related to management information reporting competency.
H14e	Environmental munificence potentiality is positively related to business management intelligence focus.
H15a	Technology growth positively moderates the relationship between business executive support and operational information integration orientation.
H15b	Technology growth positively moderates the relationships between business executive support and accounting information technology linkage.
H15c	Technology growth positively moderates the relationships between business executive support and new accounting technology implementation.
H15d	Technology growth positively moderates the relationships between business executive support and management information reporting competency.

Table 3: Summary of Hypothesized Relationships (continued)

Hypothesis	Description of Hypothesized Relationships
H15e	Technology growth positively moderates the relationships between business executive support and business management intelligence focus.
H16a	Technology growth positively moderates the relationships between IT resource and operational information integration orientation.
H16b	Technology growth positively moderates the relationships between IT resource and accounting information technology linkage.
H16c	Technology growth positively moderates the relationships between IT resource and new accounting technology implementation.
H16d	Technology growth positively moderates the relationships between IT resource and management information reporting competency.
H16e	Technology growth positively moderates the relationships between IT resource and business management intelligence focus.
H17a	Technology growth positively moderates the relationships between employee technology learning and operational information integration orientation.
H17b	Technology growth positively moderates the relationships between employee technology learning and accounting information technology linkage.
H17c	Technology growth positively moderates the relationships between employee technology learning and new accounting technology implementation.
H17d	Technology growth positively moderates the relationships between employee technology learning and management information reporting competency.
H17e	Technology growth positively moderates the relationships between employee technology learning and business management intelligence focus.

Table 3: Summary of Hypothesized Relationships (continued)

Hypothesis	Description of Hypothesized Relationships
H18a	Technology growth positively moderates the relationships between best accounting system and operational information integration orientation.
H18b	Technology growth positively moderates the relationships between best accounting system and accounting information technology linkage.
H18c	Technology growth positively moderates the relationships between best accounting system and new accounting technology implementation.
H18d	Technology growth positively moderates the relationships between best accounting system and management information reporting competency.
H18e	Technology growth positively moderates the relationships between best accounting system and business management intelligence focus.
H19a	Technology growth positively moderates the relationships between environmental munificence potentiality and operational information integration orientation.
H19b	Technology growth positively moderates the relationships between environmental munificence potentiality and accounting information technology linkage.
H19c	Technology growth positively moderates the relationships between environmental munificence potentiality and new accounting technology implementation.
H19d	Technology growth positively moderates the relationships between environmental munificence potentiality and management information reporting competency.
H19e	Technology growth positively moderates the relationships between environmental munificence potentiality and business management intelligence focus.

CHAPTER III

RESEARCH METHODS

The previous chapter demonstrates comprehensively the understanding of management accounting information system capability, the theoretical foundation, the literature review, and the conceptual framework, as well as the hypotheses development. This chapter describes the research methods, which are divided into four parts. Firstly, the sample selection and data collection procedures, including the population and sample, the data collection, and the test of non-response bias are detailed. Secondly, the variable measurements are developed. Thirdly, the method of this research, including the tests of validity, reliability, and the statistical techniques are presented. Finally, a table summarizing the variable definitions and operational definitions are included.

Sample Selection and Data Collection Procedure

Population and Sample

The population of this research is the beverage businesses in Thailand. The beverage businesses were selected as the unit of analysis for the reason that this industry plays an important role in stimulating Thailand's economic development. The beverage market in Thailand is highly valued due to its many supporting factors, including the number of people and purchasing power in the country that is high, and the tourism and services sectors of Thailand are continuously growing, which has led to a large number of foreign tourists. In addition, the demand for quality, safe and healthy beverages, such as herbal drinks, has increased the overall production and distribution of beverages in the country. Moreover, export markets have grown from the economies and trade of Cambodia, Laos, Myanmar, and Vietnam (CLMV) countries, which has continued to grow, resulting in increased demand for consumer goods. As a result, imports from Thailand must be increased. However, most beverage markets are fiercely competitive as consumers are less loyal to the brand. Changing the mind to buy other brands is easy if the desired brand is not available in the store. In addition, the consumption of

substitute products has given the beverage market a complex competition between products and cross products that can be substituted (GSB Research, 2017). Under this highly competitive environment, the organization needs good planning and management that will enable it to face the cost of raw materials that may be subject to price fluctuations, and that affect the production process. Management accounting information, especially cost data, is very important for decision-making. Accurate and timely information leads to effective decision-making and leads to organizational success. Considering the above reasoning, the beverage businesses in Thailand are suitable to be the population of this research.

The beverage business in Thailand is divided into two major groups, including alcoholic beverages (such as liquor, fruit liquor, and wine), and non-alcoholic beverages (such as water, mineral water, soft drinks, and juice drinks). The Department of Industrial Works, Ministry of Industry of the Thai government, is the database for the population. Based on this database, there were 675 beverage businesses firms on June 1, 2017.
A suitable sample size, with 95% confidence, is 251 firms (Yamane, 1973). The sample size calculation by Yamane's method is a close estimate in accordance with the population. The calculation of the sample sizes are as follows:

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

Where;

n = Sample size

N = Number of population

E = Acceptable error = 0.05

$$n = \frac{675}{1 + [675*(0.05)^{2]}}$$

$$= 251$$

The response rate for a mail survey, without an appropriate follow-up procedure, and if greater than 20%, is deemed sufficient (Aaker, Kumer and Day,

2001). Therefore, the formula was used to calculate the sample size to send questionnaires by using the acceptable response rate for a population as follows:

$$n = 251 \times \frac{100}{20}$$

$$n = 1{,}255$$

The sample of this research should be 1,255 firms. However, there are only 675 firms, using this population for sampling. Therefore, the questionnaires were mailed directly to 675 firms. The key informants in this research were the accounting executives of each beverage firm. They were chosen because this research investigated the relationships between the management accounting information system capability, which is responsible for collecting, processing, storing, analyzing, reporting, and providing information needed to satisfy specific management objectives, and for organizational survival. Accordingly, they have the knowledge and experience to provide true information, a real understanding of the system, and additional relevant feedback.

Data Collection

A questionnaire is used as the research instrument for collecting data, adapted by reviewing the related literature, definitions, and instruments used in previous research. A questionnaire is defined as a set of questions which are cautiously designed and tested to elicit reliable responses from a particular group of participants (Sekaran and Bougie, 2010). Given the nature of the research population, namely the beverage businesses in Thailand, the self-administered questionnaire was considered appropriate to attain the research objectives because this is a widely-used method for large-scale data collection in geographical areas (Neuman, 2006). In this research, the questionnaire consists of seven parts. Part one asks for personal information such as gender, age, marital status, level of education, working experience, income, and current position. Part two asks for business information such as business owner type, type of business, period of time in business operation, operating capital, total assets of the firm, number of full time employees, and average annual revenues. Parts three through five are related to evaluating each of the constructs in the conceptual model. In part three, all questions deal with the measurement of management accounting information system capability.

In part four, all questions deal with the measurement of business outcomes. In part five, all questions ask about the internal factor affecting management accounting information system. Part six asks about an external factor affecting management accounting information system. Finally, an open-ended question for the key informant's suggestions and opinions is included in part seven. The questionnaire has a total of 64 items. This questionnaire is attached in the Appendix F (Thai version) and Appendix G (English version).

A package containing a cover letter, a questionnaire, and a postage-paid reply envelope was sent directly to the accounting executives of each beverage business firm in Thailand. Afterwards, the completed questionnaires were returned directly to the researcher. According to the questionnaire mailing, 28 surveys were undeliverable because some of these firms had moved to unknown locations. The undeliverable were deducted from the original 675 mailed, and the valid mailing was 647 surveys. Finally, a collection of 147 responses was received. However, only 141 complete questionnaires were usable for further analysis. The effective response rate was 21.79 % (Aaker, Kumer and Day, 2001), as shown in Table 4, as being the results of the questionnaire mailing to be analyzed in this research.

Table 4: Details of Questionnaire Mailing

Details	**Numbers**
Mailed Questionnaires	675
Undelivered Questionnaires	28
Valid Questionnaire Mailed	647
Received Questionnaires	147
Unusable Questionnaires	6
Usable Questionnaires	141
Response Rate (141/647) x 100	21.79%

Test of Non-Response Bias

Non-response bias was criticized when using the mail survey method. Ignoring the non-respondents in this study may affect the survey results (Kervin, 1999). The

analysis of the non-respondents was conducted to identify the shared or different characteristics between respondents and non-respondents. These characteristics may lead to the discovery of biases existing within the dataset. Thus, non-response bias was tested by comparing the early and late respondents using the extrapolation method, which is based on the assumption that the late respondents to a survey can be viewed as a sample from the non-response group (Armstrong and Overton, 1977). In this research, the independent sample t-test was applied to compare the differences in means between the early response group and the late response group. If there are no statistically significant differences between early and late respondents, then there is no non-response bias between respondents and non-respondents (Lewis, Hardy and Snaith, 2013).

The results of the non-response bias testing are shown in Appendix C. All 141 received questionnaires were split into two equal groups. The 71 early respondents are the first group and the 70 late respondents are the second group. The two groups were compared on the basis of their firm characteristics, including operational period ($t = -1.332$, $p > 0.05$), operating capital ($t = -.008$, $p > 0.05$), total firm asset ($t = -.248$, $p > 0.05$), number of full time employees ($t = -.139$, $p > 0.05$), and average annual revenues ($t = -.139$, $p > 0.05$). The results show that there were no statistically significant differences between the two groups, at a 95% confidence level. Therefore, a non-response bias is not a serious issue in this study.

Measurements

All constructs in the conceptual model are abstractions that cannot be directly measured or observed. This research uses a measurement with multiple-items. These constructs are transformed into operational variables for precise measuring. To measure each construct in the conceptual model, all variables derived from the survey are measured by a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Table 5 shows the definition of each construct, the operational variables and the scale source. The original items in scales are presented in Appendix A. Therefore, the variable measurements of the dependent variable, independent variables and control variables of this research are described as follows.

Dependent Variable

Organizational survival is measured by the degree of organizational ability to maintain growth, secure business operations, and maintain financial stability. A four-item scale is adapted from Namwong, Jhundra-indra, and Raksong (2015).

Independent Variables

The independent variable of this research is management accounting information system capability. It refers to the ability of organizations to use technology to manage operational and financial data, including collecting, processing, storing, analyzing, reporting, and providing information needed to satisfy specific management objectives (Hansen and Mowen, 2007; Napitupulu, 2015). This variable is developed as a new scale and is measured by using five dimensions, including operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus. The measure of each dimension depends on its definition, which is also detailed below.

Operational information integration orientation is measured by the degree of linking, merging, transferring, and sharing of information within and between departments. This construct is developed as a new four-item scale from the definition and literature.

Accounting information technology linkage is measured by the degree of management and utilization of information technology, and the linking of other information systems within an organization. This construct is developed as a new four-item scale from the definition and literature.

New accounting technology implementation is measured by the degree of application of emerging technologies, which relates accounting, learning, and understanding of modern technologies. This construct is developed as a new four-item scale from the definition and literature.

Management information reporting competency is measured by the degree of presentation of information according to actuality, accuracy, speed and timeliness of use. This construct is developed as a new four-item scale from the definition and literature.

Business management intelligence focus is measured by the degree of data analysis focuses on presenting reports for use in decision-making for specific management purposes. This construct is developed as a new four-item scale from the definition and literature.

Consequent Variables

In this research, the consequences of management accounting information system capability are strategic positioning effectiveness, cost management efficiency, and operational process excellence. The measure of each consequential variable conforms to its definition and relative literature, and are discussed as follows.

Strategic positioning effectiveness is measured by the degree of the organizational ability in management which is successful in setting management strategies and determining competitive positions. This construct is developed as a new four-item scale from the definition and literature.

Cost management efficiency is measured by the degree of organizational ability in management that is successful in decision-making, planning, controlling in costing systems, as well as saving and lowering operating costs. A four-item scale is adapted from Ponklang, Pratoom, and Raksong (2014).

Operational process excellence is measured by the degree of the organizational ability in management that is successful in terms of improving operational activity, reducing operational time and procedures, optimizing resource utilization, and reducing operational errors. This construct is developed as a new four-item scale from the definition and literature.

Firm success is measured by the achievement of goals, such as retaining customers and new customers, and greater management in the personnel perspective. A four-item scale is adapted from Mohrman, Finegold, and Mohrman (2003).

Antecedent Variables

In this research, the internal and external factors are treated as the antecedents of management accounting information system capability. These variables are measured using four factors of the internal factor, including business executive support, IT resource,

employee technology learning, and best accounting system. In addition, one factor of the external factor is environmental munificence potentiality.

Business executive support is measured by the degree of organizational support for employee development, information technology investment and development, as well as related equipment. A four-item scale is adapted from Ditkaew and Ussahawanitchakit (2010).

IT resource is measured by the degree of organizational support for investment and development of information technology that is up-to-date and flexible, and providing adequate facilities. A four-item scale is adapted from Konthong and Ussahawanitchakit (2010).

Employee technology learning is measured by the degree of organizational support for employee learning, such as the promotion of education and understanding of technological change, as well as the enhancement of skills and experience in the use of technology. This construct is measured using a four-item scale developed as a new scale based on its definition.

Best accounting system is measured by the degree of organizational support for the development of accounting systems that is up-to-date and aligns with corporate strategy. A four-item scale is adapted from Ponklang, Pratoom, and Raksong (2014).

Environmental munificence potentiality is measured by the degree of organizational awareness about the support of the environment, such as technology, government policies, customers, and marketing, which affects the organization's operations. A four-item scale is adapted from Kokfai, Pratoom, and Muenthaisong (2016).

Moderating Variables

This research determines technology growth as the moderator of relationships between the antecedents and management accounting information system capability. The measurements of this variable use a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Technology growth is measured by the degree of organizational awareness about the rapid change of technology that affects the operation of the organization. A four-item scale is adapted from Konthong and Ussahawanitchakit (2010).

Control Variables

Based on the accounting information system literature, some variables may affect the dependent variables in this research. The inclusion of the control variable reduces spurious relationships (Shian and Vo, 2010). Two variables are needed to be controlled: firm size and firm age (Konthong and Ussahawanitchakit, 2010; Prempree and Ussahawanitchakit, 2013). Therefore, the control variables of this research include firm size and firm age, which may affect the relationships between management accounting information system capability and organizational survival, and the antecedent variables. The measurement of each control variable is detailed as follows.

Firm age is a proxy of the firm's experience measured by the number of years a firm has been in operation. Previous research indicates that firm age strongly impacts resources and firm performance because firms with a long time in operations have more experience, skill, and knowledge than emergent firms which affects firm success (Brush and Chaganti, 1998; Mosakowski, 1993). Moreover, there is a clear relationship between firm age and growth (Capelleras and Rabetino, 2008). However, empirical evidence indicate that obsolescence occurs due to firms' inability to fit well in the changing business environment while senescence occurs due to their inflexible rules, routines and organizational structures (Kipesha, 2013). Thus, firm age may affect management accounting information system capability. In this research, firm age is represented by a dummy variable of which 0 means the firm has been in business less than or equal to 15 years, and 1 means the firm has been in business more than 15 years (Prempree and Ussahawanitchakit, 2012).

Firm size is measured by the total assets of the firm. Firm size is recognized as one of the factors that influences IT complexity. Generally, larger firms tend to adopt or make extensive use of IT (Winston and Dologite, 1999). Prior research indicates that computer projects are less likely to succeed in small firms compared to large firms due to their limited resources and lack of formally structured data structures (Thong, 2001). Additionally, most small firms do not have the funds to invest in IT and do not have the support to help them choose the right technology. Thus, larger firms tend to use technology to support the management accounting information system capability at a higher level than small firms. Moreover, firm size may affect firm performance due to the large size and greater operational experience that may be able to accomplish better

performance (Prempree and Ussahwanitchakit, 2012). In this research, firm size is represented by a dummy variable in which 0 means a firm has a total firm assets less than or equal to 50 million baht, and 1 means a firm has total assets more than 50 million baht (Prempree and Ussahawanitchakit, 2012).

Methods

The method illustrates the test of appropriateness for the data collection instrument and the credibility of the developed constructs. Validity and reliability are considerably important to assess the goodness of the measures developed to ensure that the developed instrument accurately measures the concept (Sekaran and Bougie, 2010). The method also presents the statistical techniques used in the analysis.

Validity and Reliability

Validity expresses the degree to which a measurement measures what it purports to measure. Validity is concerned with the integrity and application of the methods undertaken and the precision in which the findings accurately reflect the study intention (Golafshani, 2003). Validity tests are used to measure the content contained in the questionnaire. Content is valid if the content is capable of measuring what is to be measured. In this research, the validity tests are used to test the goodness of measures, including content and construct validities of the questionnaire.

Firstly, content validity is related to the degree to which the instrument fully assesses or measures the construct of interest, and ensures that the instrument tapped the concept by covering an adequate and representative set of items (Sekaran and Bougie, 2010). In addition, content validity is the rational judgments by academics or other professionals evaluating the adequacy of the measurements. To achieve the content validity of the research instrument, in this research, two professionals in academic research are requested to review and provide necessary recommendations to review the instrument in order to ensure that all constructs are sufficient to cover the contents of variables (see also Appendix H).

Secondly, construct validity refers to the degree to which an instrument measures the trait or theoretical construct that it is intended to measure. It testifies to how well are

the findings obtained from the use of appropriate measurements for the theories around which the test is designed (Sekaran and Bougie, 2010). Construct validity can be achieved through pre-testing procedures. In this research, the first thirty sets of questionnaires were returned and used in the pre-test, in order to verify the validity and reliability of each of the measures used in the questionnaire. The pre-test of thirty representative informants is the power of the test with enough to identify problems with a questionnaire (Perneger et al., 2015). Construct validity is utilized to assess the underlying relationships of a large number of items and to determine whether they can be reduced to a smaller set of factors. Factor analysis is employed to examine the construct validity. Any item that has a factor loading score lower than 0.4 was eliminated from the analysis (Nunnally and Bernstein, 1994) (see also Appendix B).

Reliability refers to the degree to which the results obtained by a measurement and procedure can be replicated. The reliability of a measure indicates the extent to which it is free of error and consequently ensures measurement consistency over time and across the different items in the instrument (Sekaran and Bougie, 2010). The reliability test shows the extent of the measuring instrument which can be trusted or can be reliable. It is to be stable and reliable when the use of such measuring instruments repeatedly give similar values. In this research, Cronbach's alpha was adopted to determine the overall reliability of the measurement scale for each construct because Cronbach's alpha coefficient was commonly used as a measure of the internal consistency or reliability of the constructs (Hair et al., 2010). The Cronbach's alpha coefficient is recommended in that its value should be equal to or greater than 0.70, as widely accepted (Nunnally and Bernstein, 1994). Moreover, item total correlation was adopted to determine the relationship between a single item score and a summary score that is used to measure the construct. This approach assesses the consistency between multi-item measurements in the same construct in that high value points out a more reliable scale (Hair et al., 2010). Generally, the scale of item total correlation should exceed 0.3 to indicate acceptance of item reliability (Thoumrungroje, 2013) (see also Appendix B).

Table 5: Results of Validity and Reliability Testing

Constructs	Factor Loadings	Item total correlation	Cronbach's Alpha
Operational Information Integration Orientation (OIIO)	.876 - .959	.793 - .920	.944
Accounting Information Technology Linkage (AITL)	.888 - .960	.803 - .922	.933
New Accounting Technology Implementation (NATI)	.894 - .935	.812 - .881	.937
Management Information Reporting Competency (MIRC)	.913 - .939	.848 - .889	.947
Business Management Intelligence Focus (BMIF)	.926 - .951	.870 - .912	.955
Strategic Positioning Effectiveness (SPE)	.844 - .886	.727 - .790	.896
Cost Management Efficiency (CME)	.775 - .891	.618 - .787	.860
Operational process excellence (OIE)	.803 - .929	.673 - .846	.887
Firm Success (FSC)	.607 - .884	.420 - .751	.811
Organizational Survival (OS)	.917 - .964	.854 - .934	.945
Business Executive Support (BES)	.716 - .918	.546 - .812	.823
IT Resource (ITR)	.874 - .879	.763 - .792	.896
Employee Technology Learning (ETL)	.881 - .954	.792 - .913	.937
Best Accounting System (BAS)	.847 - .960	.741 - .916	.910
Environmental Munificence Potentiality (EMP)	.707 - .836	.515 - .611	.766
Technology Growth (TG)	.867 - .950	.773 - .908	.933

Note: N = 30

The results of factor loading and the Cronbach's alpha coefficient of all constructs from thirty beverage businesses are shown in Table 5. The factor loadings are ranged .607 – .964. The lowest factor loading is firm success and the highest factor loading is organizational survival. All factor loadings are greater than the 0.40 cut-off score, and are statistically significant according to the rule-of-thumb (Nunnally and Bernstein, 1994). Thus, the construct validity of this research is tapped by the items in the measure as theorized. Moreover, the Cronbach's alpha coefficients are in the range of .766 – .955, which is greater than 0.70. The lowest coefficient is environmental munificence potentiality and the highest coefficient is business management intelligence focus. The reliability scale of all measures appeared to confirm the internal consistency of the measures which were used in this research. Thus, these measures are deemed appropriate for further analysis because they express an accepted validity and reliability.

Additionally, the item total correlations were scaled from 0.420 to 0.934 in that all scales exceed 0.3; thus, this study indicates that item reliability is acceptable.

Statistical Techniques

An explanation of the data analysis and the statistical methods used for analyzing the data are explained as follows.

Correlation analysis

Correlation analysis is used to investigate a relationship between variables, and the strength as well as the direction of this relationship (Pallant, 2007). Although this test is useful in providing insight to the association between variables, it does not identify which variable causes the other. This technique is closely related to linear regression used to measure the degree of linear association between two observations because the Pearson correlation coefficient assumes that two variables are approximately and normally distributed, and that they are linearly related. The value of the Pearson correlation coefficients lies between -1 and +1, indicating a perfect correlation. The coefficient values between independent variables should be smaller than 0.80 and should not be significantly associated (Berry and Feldman, 1985). However, if the coefficient values between independent variables is greater than 0.80, the multicollinearity problem will be identified by a variance inflation factor (VIF). In this research, correlation analysis is employed to explore the relationships among independent variables and to check for the multicollinearity problem, which occur when any single independent variable is highly correlated with a set of other independent variables. The results of an examination of the correlation matrix for all constructs are shown in Table 7 (Chapter four).

Multiple regression analysis

Multiple regression analysis was used to analyze all proposed hypotheses in this study. The objective of multiple regression analysis is to use the independent variables where each of them is weighted by the regression analysis procedure to predict the single dependent variable. Multiple regression provides information related to the variance in the dependent variable that could be explained by the independent variables

when they are included in the model at the same time. The application of multiple regression is appropriate for two broad areas of research problems. Firstly, for prediction: one or more independent variables can predict the dependent variable. Secondly for explanation: to explain the reasons for the effects of the independent variables (Hair et al., 2010). This research aims to investigate the relationships among management accounting information system capability, its antecedents and consequences. Thus, multiple regression analysis is appropriately used for the main objective of this study.

Before hypotheses testing, all of the raw data was checked. The basic assumptions of checking all the raw data for regression analysis are the outlier, normality, linearity, autocorrelation, and homoscedasticity. These assumptions were tested and the results were acceptable. The basic assumptions were tested by the plotting of data including scatterplot, histogram, and normal P-P plot of regression standardized residual. All of these plots presented the evidence to support the appropriateness of the regression model for the data. Moreover, the statistical testing was the Durbin-Watson test which was also used to test the autocorrelation. The Durbin-Watson values are in a range of 1.513 – 2.307. The results of basic assumptions testing are shown in Appendix E.

Variance inflation factor (VIF)

In a multiple regression test, multicollinearity is another important assumption that should be checked. It refers to the degree of correlation between the independent variables. If a strong correlation exists between two variables, this will cause problems when assessing the individual importance of each independent variable in the success of the model. Variance Inflation Factor (VIF) is applied to test for the severity of multicollinearity among the independent variables and Pearson's correlation. It provides an indication that measures how much the variance of an estimated regression coefficient is increased as a result of collinearity. Large VIF values indicate a high degree of multicollinearity among the independent variables. All VIF values should be smaller than 10 to be considered that the associations among the independent variables are not problematic (Hair et al., 2010). Multicollinearity greatly poses a problem for multiple regression such as increasing variances of the regression coefficients, signs that the correlation was not correct, limiting the size of the correlation, and that results show more

statistical significance or less statistical significance than fact. However, in this research the results of regression analysis provide evidence that the VIF values of each regression model are in the range of 1.081 – 6.522, well below the cut-off value of 10 (Hair et al., 2010). Therefore, these VIF values imply that there are no substantial multicollinearity problems encountered in this research.

The first section contains statistical equations examining the relationships among management accounting information system capability, strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success and organizational survival. In addition, the tests for the moderating effects by technology growth are also included as shown below.

The investigation of the relationships between the five dimensions composed of management accounting information system capability and strategic positioning effectiveness is presented in Equation 1 as shown:

Equation 1: $SPE = \alpha_1 + \beta_1 OIIO + \beta_2 AITL + \beta_3 NATI + \beta_4 MIRC + \beta_5 BMIF + \beta_6 FA + \beta_7 FS + \varepsilon$

The investigation of the relationships between the five dimensions composed of management accounting information system capability and cost management efficiency is presented in Equation 2 as shown:

Equation 2: $CME = \alpha_2 + \beta_8 OIIO + \beta_9 AITL + \beta_{10} NATI + \beta_{11} MIRC + \beta_{12} BMIF + \beta_{13} FA + \beta_{14} FS + \varepsilon$

The investigation of the relationships between the five dimensions composed of management accounting information system capability and operational process excellence is presented in Equation 3 as shown:

Equation 3: $OPE = \alpha_3 + \beta_{15} OIIO + \beta_{16} AITL + \beta_{17} NATI + \beta_{18} MIRC + \beta_{19} BMIF + \beta_{20} FA + \beta_{21} FS + \varepsilon$

The investigation of the relationships between the five dimensions composed of management accounting information system capability and firm success is presented in Equation 4 as shown:

Equation 4: $FSC = \alpha_4 + \beta_{22}OIIO + \beta_{23}AITL + \beta_{24}NATI + \beta_{25}MIRC + \beta_{26}BMIF + \beta_{27}FA + \beta_{28}FS + \varepsilon$

The investigation of the relationships between the five dimensions composed of management accounting information system capability and organizational survival is presented in Equation 5 as shown:

Equation 5: $OS = \alpha_5 + \beta_{29}OIIO + \beta_{30}AITL + \beta_{31}NATI + \beta_{32}MIRC + \beta_{33}BMIF + \beta_{34}FA + \beta_{35}FS + \varepsilon$

The investigation of the relationships among strategic positioning effectiveness, cost management efficiency, operational process excellence and firm success are presented in Equation 6 as shown:

Equation 6: $FSC = \alpha_6 + \beta_{36}SPE + \beta_{37}CME + \beta_{38}OPE + \beta_{39}FA + \beta_{40}FS + \varepsilon$

The investigation of the relationships between firm success and organizational survival is presented in Equation 7 as shown:

Equation 7: $OS = \alpha_7 + \beta_{41}FSC + \beta_{42}FA + \beta_{43}FS + \varepsilon$

The investigation of the relationships among five antecedents and operational information integration orientation is presented in Equation 8 as shown:

Equation 8: $OIIO = \alpha_8 + \beta_{44}BES + \beta_{45}ITR + \beta_{46}ETL + \beta_{47}BAS + \beta_{48}EMP + \beta_{49}FA + \beta_{50}FS + \varepsilon$

The investigation of the relationships among five antecedents and accounting information technology linkage is presented in Equation 9 as shown:

Equation 9: $AITL = \alpha_9 + \beta_{51}BES + \beta_{52}ITR + \beta_{53}ETL + \beta_{54}BAS + \beta_{55}EMP + \beta_{56}FA + \beta_{57}FS + \varepsilon$

The investigation of the relationships among five antecedents and new accounting technology implementation is presented in Equation 10 as shown:

Equation 10: $NATI = \alpha_{10} + \beta_{58}BES + \beta_{59}ITR + \beta_{60}ETL + \beta_{61}BAS + \beta_{62}EMP + \beta_{63}FA + \beta_{64}FS + \varepsilon$

The investigation of the relationships among five antecedents and management information reporting competency is presented in Equation 11 as shown:

Equation 11: $MIRC = \alpha_{11} + \beta_{65}BES + \beta_{66}ITR + \beta_{67}ETL + \beta_{68}BAS + \beta_{69}EMP + \beta_{70}FA + \beta_{71}FS + \varepsilon$

The investigation of the relationships among five antecedents and business management intelligence focus is presented in Equation 12 as shown:

Equation 12: $BMIF = \alpha_{12} + \beta_{72}BES + \beta_{73}ITR + \beta_{74}ETL + \beta_{75}BAS + \beta_{76}EMP + \beta_{77}FA + \beta_{78}FS + \varepsilon$

The investigation of the role of the moderator; namely, technology growth, which moderates five antecedents and operation information integration orientation is presented in Equation 13 as shown:

Equation 13: $OIIO = \alpha_{13} + \beta_{79}BES + \beta_{80}ITR + \beta_{81}ETL + \beta_{82}BAS + \beta_{83}EMP + \beta_{84}TG + \beta_{85}(BES* TG) + \beta_{86}(ITR* TG) + \beta_{87}(ETL* TG) + \beta_{88}(BAS* TG) + \beta_{89}(EMP* TG) + \beta_{90}FA + \beta_{91}FS + \varepsilon$

The investigation of the role of the moderator; namely, technology growth, which moderates five antecedents and accounting information technology linkage is presented in Equation 14 as shown:

Equation 14: $AITL = \alpha_{14} + \beta_{92}BES + \beta_{93}ITR + \beta_{94}ETL + \beta_{95}BAS + \beta_{96}EMP + \beta_{97}TG + \beta_{98}(BES^* TG) + \beta_{99}(ITR^* TG) + \beta_{100}(ETL^* TG) + \beta_{101}(BAS^* TG) + \beta_{102}(EMP^* TG) + \beta_{103}FA + \beta_{104}FS + \varepsilon$

The investigation of the role of the moderator; namely, technology growth, which moderates five antecedents and new accounting technology implementation is presented in Equation 15 as shown:

Equation 15: $NATI = \alpha_{15} + \beta_{105}BES + \beta_{106}ITR + \beta_{107}ETL + \beta_{108}BAS + \beta_{109}EMP + \beta_{110}TG + \beta_{111}(BES^* TG) + \beta_{112}(ITR^* TG) + \beta_{113}(ETL^* TG) + \beta_{114}(BAS^* TG) + \beta_{115}(EMP^* TG) + \beta_{116}FA + \beta_{117}FS + \varepsilon$

The investigation of the role of the moderator; namely, technology growth, which moderates five antecedents and management information reporting competency is presented in Equation 16 as shown:

Equation 16: $MIRC = \alpha_{16} + \beta_{118}BES + \beta_{119}ITR + \beta_{120}ETL + \beta_{121}BAS + \beta_{122}EMP + \beta_{123}TG + \beta_{124}(BES^* TG) + \beta_{125}(ITR^* TG) + \beta_{126}(ETL^* TG) + \beta_{127}(BAS^* TG) + \beta_{128}(EMP^* TG) + \beta_{129}FA + \beta_{130}FS + \varepsilon$

The investigation of the role of the moderator; namely, technology growth, which moderates five antecedents and operation information integration orientation is presented in Equation 17 as shown:

Equation 17: $BMIF = \alpha_{17} + \beta_{131}BES + \beta_{132}ITR + \beta_{133}ETL + \beta_{134}BAS + \beta_{135}EMP + \beta_{136}TG + \beta_{137}(BES^* TG) + \beta_{138}(ITR^* TG) + \beta_{139}(ETL^* TG) + \beta_{140}(BAS^* TG) + \beta_{141}(EMP^* TG) + \beta_{142}FA + \beta_{143}FS + \varepsilon$

Where;

OIIO = Operational Information Integration Orientation
AITL = Accounting Information Technology Linkage
NATI = New Accounting Technology Implementation
MIRC = Management Information Reporting Competency
BMIF = Business Management Intelligence Focus
SPE = Strategic Positioning Effectiveness
CME = Cost Management Efficiency
OPE = Operational Process Excellence
FSC = Firm Success
OS = Organizational Survival
BES = Business Executive Support
ITR = IT Resource
ETL = Employee Technology Learning
BAS = Best Accounting System
EMP = Environmental Munificence Potentiality
TG = Technology Growth
FA = Firm Age
FS = Firm Size
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 instruments, and 4) statistical techniques. A total list is 675 beverage firms from the database of Department of Industrial Works, The Ministry of Industry of Thailand. The key informants completing the questionnaires are the accounting executives. Moreover, a valid and reliable questionnaire is the primary instrument of data collection. This chapter also provides the measurements of each construct in the model, which are based on the existing literature. For multiple regression analysis, testable seventeen statistical equations are formulated. Finally, a summary of the constructs' definitions and the operational explanation is given in Table 6.

Table 6: Definitions and Operational Variables of Constructs

Construct	Definition	Operational Variables	Scale Source
Dependent variable			
Organizational survival (OS)	The organizational perception of the success of financial performance with stability and continuous increase (Gross and Hanken, 2008).	The degree of organization ability to maintain growth, secure business operations, and financial stability.	Namwong, Jhundra-indra, and Raksong (2015)
Independent variables			
Operational information integration orientation (OIIO)	Focusing on gathering all organizational operations data by linking, merging, transferring and sharing information within and across departments.	The degree of linking, merging, transferring, and sharing of information within and between departments.	New Scale
Accounting information technology linkage (AITL)	The ability to manage and utilize existing information technology to work together efficiently, as well as to connect information systems within the organization to coordinate systematically	The degree of management and utilization of information technology, the linking of other information systems within an organization.	New Scale

Table 6: Definitions and Operational Variables of Constructs (continued)

Construct	Definition	Operational Variables	Scale Source
Independent variables			
New accounting technology implementation (NATI)	The application of accounting technology, including learning and understanding of modern technology, enables the accounting process and accounting practice to be efficient.	The degree of application of emerging technologies, which relates accounting, learning, and understanding of modern technologies.	New Scale
Management information reporting competency (MIRC)	The ability to identify and analyze accounting data for reporting on business operations in real-world situations, as well as accurate and timely reporting.	The degree of presentation of information according to actuality, accuracy, speed and timeliness of use.	New Scale
Business management intelligence focus (BMIF)	Focusing on analyzing all relevant data together and presenting information that illustrates relationships and predictive information for useful decision-support purposes.	The degree of data analysis focuses on presenting reports for use in decision-making for specific management purposes.	New Scale

Table 6: Definitions and Operational Variables of Constructs (continued)

Construct	Definition	Operational Variables	Scale Source
Mediating variables			
Strategic positioning effectiveness (SPE)	The success of creating a unique industry position that aligns with goals when faced with change, resulting in competitive advantage, success, and sustainable growth	The degree of the organizational ability in management is successful in setting management strategies and determining competitive positions.	New Scale
Cost management efficiency (CME)	The success of planning, cost control, and cost effective management leads to an organizational success.	The degree of organizational ability in management is successful in decision making, planning, controlling in costing systems, as well as saving and lowering operating costs.	Ponklang, Pratoom, and Raksong (2014)
Operational process excellence (OPE)	The efficiency of the operation increases with the goals set by successful operations, using resources efficiently, and reducing operational procedures and timelines with superior coordination and quick response.	The degree of the organizational ability in management is successful in terms of improving operational activity, reducing operational time and procedures, optimizing resource utilization, reducing operational errors.	New Scale

Table 6: Definitions and Operational Variables of Constructs (continued)

Construct	Definition	Operational Variables	Scale Source
Mediating variables			
Firm success (FSC)	The achievement of goals in a non-financial performance perspective. It has the ability to retain customers, and attain excellence in operations, and great management in the personnel perspective.	The achievement of goals, such as retain customers and new customers, and great management in the personnel perspective.	Mohrman, Finegold, and Mohrman (2003)
Antecedent variables			
Business executive support (BES)	Business executive focuses on supporting technical development, new operating experience, investment and technology development related to operations.	The degree of organizational support for employee development, information technology investment and development, as well as related equipment.	Ditkaew and Ussahawanitchakit (2010)

Table 6: Definitions and Operational Variables of Constructs (continued)

Construct	Definition	Operational Variables	Scale Source
Antecedent variables			
IT Resource (ITR)	IT infrastructures and IT investment in any organization's information system budget, in terms of both monetary and intellectual resources, that enable organization to create new application systems and enhance the competency of implemented information system	The degree of organizational support for investment and development of information technology is up-to-date and flexible, as well as providing adequate facilities.	Konthong and Ussahawanitchakit (2010)
Employee technology learning (ETL)	The learning of employees to continually develop their knowledge, abilities, and skills of technology through training, leads to effective performance.	The degree of organizational support for employee learning, such as the promotion of education and understanding of technological change, as well as the enhancement of skills and experience in the use of technology.	New scale

Table 6: Definitions and Operational Variables of Constructs (continued)

Construct	Definition	Operational Variables	Scale Source
Antecedent variables			
Best accounting system (BAS)	A suitable accounting system process, technology and an organized set of manual and computerized accounting methods, procedures, and controls established to gather, record, classify, analyze, summarize, interpret, and present accurate and timely accounting information for management decisions.	The degree of organizational support for the development of accounting systems is up-to-date and aligns with corporate strategy.	Ponklang, Pratoom, and Raksong (2014)
Environmental munificence potentiality (EMP)	The ability of environment to support sustained growth of an organization and promote the implementation easier and more convenient.	The degree of organizational awareness about the support of the environment, such as technology, government policies, customers, and marketing, affects the organization's operations.	Kokfai, Pratoom, and Muenthaisong (2016)

Table 6: Definitions and Operational Variables of Constructs (continued)

Construct	Definition	Operational Variables	Scale Source
Moderating variables			
Technology growth (TG)	The speed of forwarding change of technology associated with new technology products that impact on firm operation procedures	The degree of organizational awareness about the rapid change of technology that affects the operation of the organization.	Konthong and Ussahawanitchakit (2010)
Control variables			
Firm age (FA)	The firm's experience measured by the number of years a firm has been in operation.	Dummy variable 0 = below and equal 15 years, 1 = higher than 15 years	Prempree and Ussahawanitchakit (2013)
Firm size (FS)	The value of firm measured by the total assets of the firm	Dummy variable 0 = a firm has total assets less than or equal to 50,000,000 baht, 1 = a firm has total assets more than 50,000,000 baht.	Prempree and Ussahawanitchakit (2013)

CHAPTER IV

RESULTS AND DISCUSSION

The previous chapter described the research methods, which help to understand the approaches used in data analysis and hypothesis testing. This chapter presents statistical analyses and results of hypotheses testing, which are divided into three parts. Firstly, this chapter shows the respondent characteristics, the sample characteristics, and descriptive statistics. Secondly, the results of correlation analysis and hypotheses testing by using multiple regression analysis are described. Finally, the summary of all hypotheses testing and conclusions is also provided.

Respondent Characteristics and Descriptive Statistics

Respondent Characteristics

The unit of analysis in this research is the beverage businesses in Thailand. The key informant is an accounting executive. Key informants characteristics are described by the demographic data including gender, age, marital status, level of education, working experience, income, and current position. Moreover, firm characteristics are also described by business owner type, type of business, period of time in business operation, operating capital, total assets of the firm, number of full time employees, and average annual revenue. Table D1 in Appendix D presents demographic characteristics of 141 key informants who returned questionnaires. Key informants, most are female (78.02 percent). The age of most key informants is more than 45 years old (34.76 percent). The marital status of most key informants is married (49.65 percent). The education level of most key informants is a bachelor's degree (69.51 percent). The working experience of most key informants is more than 15 years (44.68 percent). In addition, 53.90 percent of most key informants earn less than 50,000 baht a month. Finally, the current position of most key informants is an accounting manager, at 48.23 percent.

Firm Characteristics

The firm characteristics of 141 beverage businesses in Thailand are shown in Table D1 in Appendix D. The demographic data presents that the most business owner types are limited company (85.11 percent). For the type of business, most are non-alcoholic beverage businesses (84.39 percent). The operational period is mostly more than 15 years (50.36 percent). The most operational capital is less than 25 million baht (56.74 percent). In addition, the total assets of a firm are mostly less than 50 million baht (56.74 percent). The number of full-time employees in the organization for most is less than 50 persons (48.94 percent). Finally, the average annual income is mostly less than 20 million baht (47.52 percent).

Descriptive Statistics

Descriptive statistics are used to explain the general characteristics of the data, including mean and standard deviation. Table 7 presents the descriptive statistics of all variables. Overall, the mean of all constructs has a range of 3.959-4.153. The independent variable, operational information integration orientation, has the highest mean (4.153); and the dependent variable, operational process excellence, has the lowest mean (3.959). The results show that the mean of main constructs, management accounting information system capability, including operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus are 4.153, 4.061, 4.136, 4.152, and 4.082, respectively. The results indicate that the accounting executives of the beverage businesses in Thailand show a high degree of management accounting information system capability. The standard deviation value of management accounting information system capability is .657 - .633. Additionally, the results also indicate that the mean score of the consequence variables consisting of strategic positioning effectiveness (3.959), cost management efficiency (4.125), operational process excellence (3.968), firm success (4.113), and organizational survival (4.132) are rather high. These results also show that accounting executives of the beverage businesses in Thailand recognize the significance of management accounting information system capability consequences. The consequences have a standard deviation value at .512 - .373. Moreover, five antecedent variables (business executive support,

IT resource, employee technology learning, best accounting system, and environmental munificence potentiality) have the mean value of 4.071, 4.068, 4.043, 4.132, and 3.984, respectively. The results indicate that accounting executives of the beverage businesses in Thailand have a high degree of business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality. Five antecedents have a standard deviation value of .536 - .476. For the moderating variables, technology growth has the mean value of 4.092. Finally, the moderating effects of technology growth has a standard deviation value at .674.

Results of Correlation Analysis and Hypotheses Testing

Results of Correlation Analysis

Correlation analysis is used to determine whether there is a relationship between two or more variables, and the strength, as well as the direction of this relationship (Pallant, 2007, Field, 2009). The Pearson correlation for bivariate analysis is conducted in this research for two purposes. The first purpose is to check the multicollinearity problem, and the second purpose is to explore the relationships among variables. The bivariate correlation procedure is subject to a two-tailed test of statistical significance at $p < 0.05, 0.01$.

The results of the correlation analysis of all variables in Table 7 shows that there are significant relationships among five dimensions of management accounting information system capability between .736 - .818, $p < 0.01$. The correlation matrix presents a correlation between the five dimensions of management accounting information system capability and the consequence variables, including strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival that are significant and positively correlated between .343 - .676, $p < 0.01$. In addition, the antecedent variables, including business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality in relation to the five dimensions of management accounting information system capability are significant and positively correlated in the range of .368 - .670, $p < 0.01$. Finally, the moderating effect of

technology growth has correlations with the five dimensions of management accounting information system capability and five antecedent variables between .242 - .392, $p < 0.01$.

As a result, the correlation between operational information integration orientation and accounting information technology linkage (r = .802), accounting information technology linkage and new accounting technology implementation (r = .803), new accounting technology implementation and management information reporting competency (r = .818), management information reporting competency and business management intelligence focus (r = .813) are quite high. Multicollinearity problems may occur in this research. However, most of the correlations are less than 0.80 (Berry and Feldman, 1985).

With regard to potential problems relating to multicollinearity, variance inflation factors (VIFs) are used to test intercorrelations among the five dimensions of management accounting information system capability. In this case, the maximum value of VIF is 6.522, well below the cut-off value of 10 (Hair et al., 2010), meaning that the dimensions of management accounting information system capability are not seriously correlated with each other. Consequently, there are no significant multicollinearity problems confronted.

Table 7: Descriptive Statistics and Correlation Matrix of Management Accounting Information System Capability and All Construct

Variables	OIIO	AITL	NATI	MIRC	BMIF	SPE	CME	OPE	FSC	OS	BES	ITR	ETL	BAS	EMP	TG	FA	FS
Mean	4.153	4.061	4.136	4.152	4.082	3.959	4.125	3.968	4.113	4.132	4.071	4.068	4.043	4.132	3.984	4.092	n/a	n/a
S.D.	.641	.651	.642	.657	.633	.487	.377	.512	.373	.460	.476	.536	.536	.521	.548	.674	n/a	n/a
AITL	.802***																	
NATI	.741***	.803***																
MIRC	.772***	.783***	.818***															
BMIF	.746***	.736***	.796***	.813***														
SPE	.528***	.524***	.521***	.522***	.571***													
CME	.583***	.517***	.565***	.672***	.676***	.594***												
OPE	.523***	.597***	.581***	.591***	.617***	.625***	.644***											
FSC	.587***	.521***	.543***	.570***	.570***	.514***	.579***	.637***										
OS	.465***	.359***	.343***	.400***	.445***	.490***	.437***	.354***	.486***									
BES	.580***	.497***	.506***	.521***	.549***	.431***	.463***	.688***	.632***	.427***								
ITR	.619***	.584***	.644***	.639***	.670***	.552***	.541***	.660***	.600***	.437***	.765***							
ETL	.568***	.557***	.635***	.599***	.630***	.552***	.477***	.698***	.535***	.384***	.748***	.768***						
BAS	.547***	.482***	.544***	.575***	.591***	.504***	.457***	.573***	.564***	.340***	.742***	.682***	.750***					
EMP	.463***	.368***	.505***	.424***	.542***	.353***	.370***	.428***	.476***	.303***	.535***	.545***	.649***	.610***				
TG	.313***	.300***	.391***	.392***	.345***	.167**	.276***	.214**	.196**	.080	.242***	.260***	.285***	.312***	.280***			
FA	.106	.090	.139	.102	.104	.099	.144	.045	-.002	-.112	.059	.067	.089	.080	.113	.035		
FS	.393***	.201**	.314***	.362***	.294***	.306***	.339***	.094	.203**	.199**	.149	.331***	.175**	.255***	.225***	.151	.161	

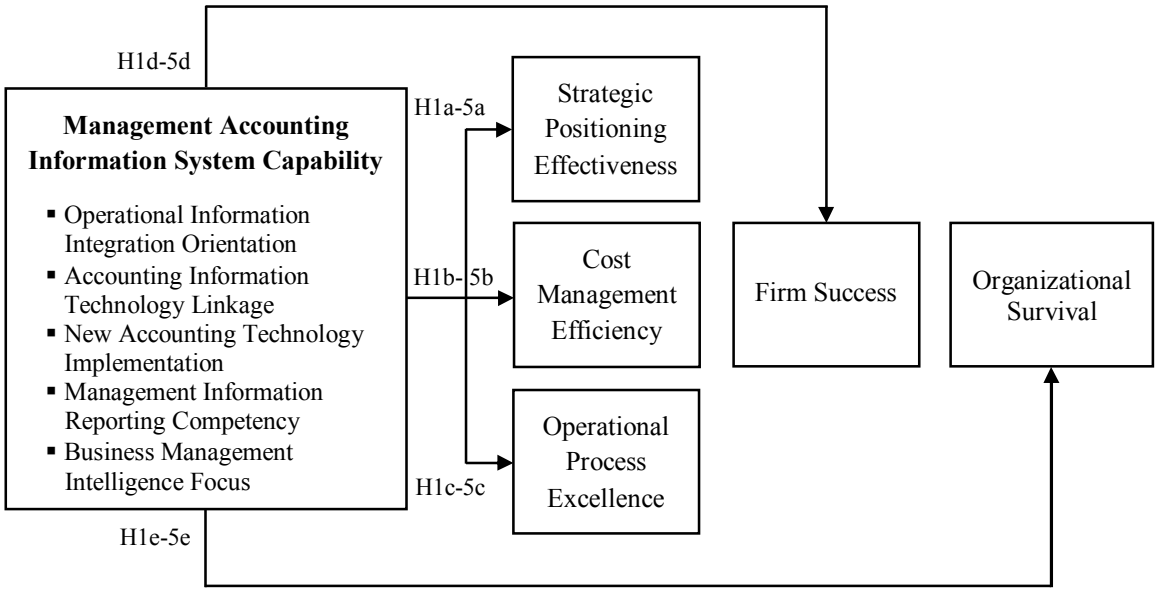
Note: *** Correlation is significant at the 0.01 level (2-tailed)
** Correlation is significant at the 0.05 level (2-tailed)

Results of Hypotheses Testing

This research employs multiple regression to investigate the hypothesized relationships. The regression equation generated is a linear combination of the independent variables that best explains and predicts the dependent variable (Aulakh et al., 2000). In this research, all hypotheses are transformed into 19 equations. Furthermore, two dummy variables of firm age and firm size are also included in the equation. The results of descriptive statistics and hypotheses testing are discussed according to regression equations as follows:

The Relationships among Management Accounting Information System Capability and Its Consequences

Figure 7: The Relationships among Each Dimension of Management Accounting Information System Capability and Its Consequences



This research proposes that the five dimensions of management accounting information system capability are positively related to strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival as shown in hypotheses 1 - 5. These hypotheses can be transformed into the regression equation in models 1, 2, 3, 4, and 5. The relationships

among the five dimensions of management accounting information system capability and its consequences are illustrated in Figure 7.

Table 8: Descriptive Statistics and Correlation Matrix of Management Accounting Information System Capability and Its Consequences

Variables	OIIO	AITL	NATI	MIRC	BMIF	SPE	CME	OPE	FSC	OS	FA	FS
Mean	4.153	4.061	4.136	4.152	4.082	3.959	4.125	3.968	4.113	4.132	n/a	n/a
S.D.	.641	.651	.642	.657	.633	.487	.377	.512	.373	.460	n/a	n/a
AITL	.802***											
NATI	.741***	.803***										
MIRC	.772***	.783***	.818***									
BMIF	.746***	.736***	.796***	.813***								
SPE	.528***	.524***	.521***	.522***	.571***							
CME	.583***	.517***	.565***	.672***	.676***	.594***						
OPE	.523***	.597***	.581***	.591***	.617***	.625***	.644***					
FSC	.587***	.521***	.543***	.570***	.570***	.514***	.579***	.637***				
OS	.465***	.359***	.343***	.400***	.445***	.490***	.437***	.354***	.486***			
FA	.106	.090	.139	.102	.104	.099	.144	.045	-.002	-.112		
FS	.393***	.201**	.314***	.362***	.294***	.306***	.339***	.094	.203**	.199**	.161	

Note: *** Correlation is significant at the 0.01 level (2-tailed)
** Correlation is significant at the 0.05 level (2-tailed)

Table 8 shows the correlation among independent and dependent variables. The results indicate that each dimension of management accounting information system capability consists of operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus which are significantly and positively correlated with consequential variables. Firstly, operational information integration orientation is significantly and positively correlated with strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival ($r = .528$, $p < .01$; $r = .583$, $p < .01$; $r = .523$, $p < .01$; $r = .587$, $p < .01$; $r = .465$, $p < .01$, respectively). Secondly, accounting information technology linkage is significantly and positively correlated with strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival ($r = .524$, $p < .01$; $r = .517$, $p < .01$; $r = .597$, $p < .01$; $r = .521$, $p < .01$; $r = .539$, $p < .01$, respectively). Thirdly, new

accounting technology implementation is significantly and positively correlated with strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival ($r = .521$, $p < .01$; $r = .565$, $p < .01$; $r = .581$, $p < .01$; $r = .543$, $p < .01$; $r = .343$, $p < .01$, respectively). Fourthly, management information reporting competency is significantly and positively correlated with strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival ($r = .522$, $p < .01$; $r = .672$, $p < .01$; $r = .591$, $p < .01$; $r = .570$, $p < .01$; $r = .400$, $p < .01$, respectively). Finally, business management intelligence focus is significantly and positively correlated with strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival ($r = .571$, $p < .01$; $r = .676$, $p < .01$; $r = .617$, $p < .01$; $r = .570$, $p < .01$; $r = .445$, $p < .01$, respectively).

For the correlation between independent variables, the results from Table 8 also show that operational information integration orientation is significantly and positively correlated with accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus ($r = .802$, $p < .01$; $r = .741$, $p < .01$; $r = .722$, $p < .01$; $r = .746$, $p < .01$, respectively). Accounting information technology linkage is significantly and positively correlated with new accounting technology implementation, management information reporting competency, and business management intelligence focus ($r = .803$, $p < .01$; $r = .783$, $p < .01$; $r = .736$, $p < .01$, respectively). New accounting technology implementation is significantly and positively correlated with management information reporting competency, and business management intelligence focus ($r = .818$, $p < .01$; $r = .796$, $p < .01$, respectively). Also, management information reporting competency is significantly and positively correlated with business management intelligence focus ($r = .813$, $p < .01$), although there are some correlations that are more than 0.80, as suggested by Berry and Feldman (1985). Variance Inflation Factors (VIFs) are used to test the correlation among the independent variables (see Table 9), which is well below the cutoff value of 10 (Hair et al., 2010). In this case, the maximum value of VIF is 6.522, and multicollinearity problems should not be of concern.

Table 9: Results of Regression Analysis for the Effects of Each Dimension of Management Accounting Information System Capability on Its Consequences

Independent Variables	Dependent Variables				
	SPE (Strategic Positioning Effectiveness)	**CME** (Cost Management Efficiency)	**OPE** (Operational process excellence)	**FSC** (Firm Success)	**OS** (Organizational Survival)
	H1-5a	**H1-5b**	**H1-5c**	**H1-5d**	**H1-5e**
	Eq.1	**Eq.2**	**Eq.3**	**Eq.4**	**Eq.5**
OIIO (Operational Information Integration Orientation)	.058 (.144)	.134 (.126)	-.038 (.132)	**.387*** (.138)**	**.419*** (.155)**
AITL (Accounting Information Technology Linkage)	.227 (.161)	-.068 (.142)	**.321** (.149)**	-.105 (.155)	-.132 (.174)
NATI (New Accounting Technology Implementation)	.049 (.162)	-.135 (.143)	.054 (.150)	.126 (.156)	-.079 (.175)
MIRC (Management Information Reporting Competency)	-.117 (.176)	**.407** (.155)**	.098 (.162)	.064 (.169)	-.014 (.190)
BMIF (Business Management Intelligence Focus)	**.374** (.147)**	**.355*** (.129)**	**.323** (.135)**	**.244* (.141)**	**.316** (.158)**
FA (Firm Age)	.013 (.140)	.100 (.124)	-.085 (.130)	-.174 (.153)	**-.342** (.151)**
FS (Firm Size)	**.321* (.162)**	.190 (.143)	-.141 (.149)	-.074 (.156)	.056 (.175)
Adjusted R^2	.341	.494	.439	.387	.237
Maximum VIF	6.522	6.522	6.522	6.522	6.522
Beta coefficients with standard errors in parenthesis, *** p < 0.01, **. p < 0.05, * p < 0.10					

In table 9, the results of the multiple regression analysis of the impact of each dimension of management accounting information system capability (operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus) on its consequences (strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival) are followed by hypotheses 1 to 5.

Firstly, as to operational information integration orientation (Hypotheses 1a – 1e), the results show that operational information integration orientation has a significant, positive relationship to firm success (β_{22} = .387, p < .01) and organizational survival (β_{29} = .419, p < .01). The results indicate that the long-term financial and non-

financial success of the firm is a consequence of a firm's ability to gather whole organizational operations data by linking, merging, transferring and sharing information within and across departments. This results are consistent with previous study, the level of information systems integration promoted repair, internal transparency, global transparency, and flexibility, which are a guideline for management control; and each of these pertains to both perceived system success and business unit performance (Chapman and Kihn, 2009). Similarly, the result of prior research found that the lack of information system integration has destructive effects on business performance (Georgantzas and Katsamakas, 2010). As mentioned above, operational information integration orientation is positively related to firm success and organizational survival. ***Thus, hypotheses 1d and 1e are supported.***

However, operational information integration orientation has no significant effects on strategic positioning effectiveness ($\beta_1 = .058$, $p > .10$), cost management efficiency ($\beta_8 = .134$, $p > .10$), and operational process excellence ($\beta_{15} = -.038$, $p > .10$). The results indicate that collecting all organizational operations data by linking, merging, transferring and sharing information within and across departments is not related to the success in corporate competitive positioning, planning and cost control, and improving operational processes. This is consistent with many researchers who suggest that in practice, there are many problems of information systems which are not integrated and not efficient in a business entity (Napitupulu, 2015). Empirical evidence indicate that the appropriate modification is to use process mapping, which focuses on the actual flow of information within an organization. This method is less demanding of resources and contributes to the process with standard protocols for business operations (Winch and Carr, 2001). Hence, operational information integration orientation has no relationship with strategic positioning effectiveness, cost management efficiency, and operational process excellence. ***Thus, hypotheses 1a - 1c are not supported.***

Secondly, as to accounting information technology linkage (Hypotheses 2a – 2e), the results show that accounting information technology linkage has a significant, positive relationship to operational process excellence ($\beta_{16} = .321$, $p < .05$). The results indicate that organizations that manage and utilize existing technology are able to work together effectively, and manage information systems within the organization systematically, thereby encouraging efficiency in resource utilization, reducing

operational procedures. It signifies that the operational process is efficient which leads to stable operating performance. This is consistent with the results of previous research, the enterprise resource planning systems, which link business processes and information technology together, provide comprehensive data integration, thus enhancing the organization's operational capabilities (Wier, Hunton, and Hassab, 2007). Each business function in the organization should improve the use of appropriate software and hardware applications. Hence, accounting information technology linkage has an impact on operational process excellence. ***Therefore, hypotheses 2c is supported.***

Nevertheless, accounting information technology linkage has no significant effects on strategic positioning effectiveness ($\beta_2 = .227$, $p > .10$), cost management efficiency ($\beta_9 = -.068$, $p > .10$), firm success ($\beta_{23} = -.105$, $p > .10$), and organizational survival ($\beta_{30} = -.132$, $p > .10$). The results indicate that management and use of existing technology can work together, and systematic information management within the organization has no influence on the success of the organization's industry positioning, planning, cost control, nor the success and survival of the organization. Similar to previous research, the impact of information technology on the banking industry, as banks are intensive IT users. Using IT can lead to lower costs, but the bank's profitability has declined due to the adoption and spread of IT investments, which reflects the negative impact this network has had on the industry (Ho and Mallick, 2010). Moreover, the use of technology in organizations has failed because of the adoption of new technologies that are not appropriate for the organization's strategy and structure, resulting in reduced operational efficiencies (Schroeder, Congden, and Gopinath, 1995). From the reason above, accounting information technology linkage does not play a significant role in strategic positioning effectiveness, cost management efficiency, firm success, and organizational survival. ***Thus, hypotheses 2a, 2b, 2d, and 2e are not supported.***

Thirdly, as to new accounting technology implementation (Hypotheses 3a – 3e), the results show that new accounting technology implementation has no significant effects on strategic positioning effectiveness ($\beta_3 = .049$, $p > .10$), cost management efficiency ($\beta_{10} = -.135$, $p > .10$), operational process excellence ($\beta_{17} = .054$, $p > .10$), firm success ($\beta_{24} = .126$, $p > .10$), and organizational survival ($\beta_{31} = -.079$, $p > .10$). The results indicate that the application of new accounting technology has no

relationship with the success of the organization's industrial placement, planning and cost control, and improving operational processes, nor the success and survival of the organization. There is a possibility that the installation of an enterprise system is not just a computer project, but it is an expensive and risky investment that affects the firm's primary and support processes, organizational structure and procedures, the existing legacy systems, and the personnel's roles and tasks. Therefore, organizations need to be prepared in many ways to accommodate changes in the use of such technology, which must be consistent. In line with past research, it has been found that firms adopt IT involving software, hardware, and communication technology that affect labor productivity more than non-IT firms. However, the impact of software was less than hardware and communication technology; but when many IT technologies are combined, it was found to generate greater positive effects on labor productivity (Pilat, 2004). Moreover, the enterprise resource planning systems do not always have a positive effect on business performance (Kang, Park and Yang, 2008). Furthermore, in the context of the beverage business, the sample of this research is mostly small. Therefore, the use of accounting technology, for example, accounting software, that is available and supports the current operations, is sufficient, and it may not be as important to deploy new technologies at all times with limited investment. Hence, new accounting technology implementation has no relationship with strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival. ***Therefore, hypotheses 3a - 3e are not supported.***

Fourthly, as to management information reporting competency (Hypotheses 4a – 4e), the results show that management information reporting competency has a significant, positive relationship to cost management efficiency ($\beta_{11} = .407$, $p < .05$). The results indicate that identifying and analyzing data comprehensively enables accurate and timely reporting of what is happening in the operation that supports decision-making and enables organizations to plan, control, and manage their expenditures more effectively. This is consistent with the results of previous research, when a report is properly designed, it has a helpful management function because internal reporters are employees of the firm, and some information may be confidential and strategic, which results in a competitive advantage in the market (Nita, 2015). Moreover, management reporting covers all activities related to reporting on performance measures, events, analyzes, and other information to support decision-

making. Hence, management information reporting competency has an impact on cost management efficiency. ***Therefore, hypotheses 4b is supported.***

In contrast, the finding shows that management information reporting competency has no significant effects on strategic positioning effectiveness (β_4 = -.117, p > .10), operational process excellence (β_{18} = .098, p > .10), firm success (β_{25} = .064, p > .10), and organizational survival (β_{32} = -.014, p > .10). The results indicate that reporting management information that provides a variety of perspectives, accuracy, and timeliness has no bearing on the success of the organization's industrial placement, encouraging better operational processes, as well as the success and survival of the organization. However, previous research explains that properly designed reports have a valuable management function. Quality reports that are correctly and timely support the decision of the manager, leading to the achievement of organizational goals (Axson, 2010). However, empirical evidence indicate that decision-makers sometimes rely on the less rational but often equally valid basis for making decisions: experience, intuition, moral conviction and the more trivial reasons in business politics, power struggles, and personal self-aggrandizement (Drury, 2000). Thus, it shall be emphasized that it is not always possible to base decisions only on quantitative factors. There remain almost in every case some aspects that cannot be translated into numbers and hence, management needs to consider these qualitative elements as well in its decision processes. Additionally, it may be further explained that a report which summarizes historical data that reflects on past events may not be sufficient to cope with the current situation. Moreover, in the context of the beverage business in Thailand, there are alcoholic and non-alcoholic business. The differences in business types make organizations use different strategies, which may necessitate the use of different management information. From the reason above, management information reporting competency does not play a significant role in strategic positioning effectiveness, operational process excellence, firm success, and organizational survival. ***Thus, hypotheses 4a, 4c, 4d, and 4e are not supported.***

Finally, as to business management intelligence focus (Hypotheses 5a – 5e), the results indicate that business management intelligence focus has a significant, positive relationship with strategic positioning effectiveness (β_5 = .347, p < .05), cost management efficiency (β_{12} = .355, p < .01), operational process excellence (β_{19} = .323, p < .05), firm success (β_{26} = .244, p < .10), and organizational survival (β_{33} = .316,

$p < .05$). The results indicate that the creation of an informational environment in which operational data is collected from the transactional system and external sources, can be analyzed and presented in a comprehensive business report (Petrini and Pozzebon, 2009). These reports assist the organization in responding to critical business issues, enabling timely action to improve the quality and speed of decision-making, as well as predictions in the right direction (MacMillan, 2010). It implies that organizations can effectively manage their strategy, cost, and operational management, resulting in organizational success and survival. The result is consistent with past research, which found that business intelligence has an effect on performance and competitive advantage (Elbashir et al., 2011; Peters and Wieder, 2013; Wieder, Ossimitz, and Chamoni, 2012). Moreover, business intelligence and shared knowledge are critical to achieving better performance (Elbashir et al., 2013). Hence, business management intelligence focus has an impact on strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival. ***Therefore, hypotheses 5a – 5e are supported.***

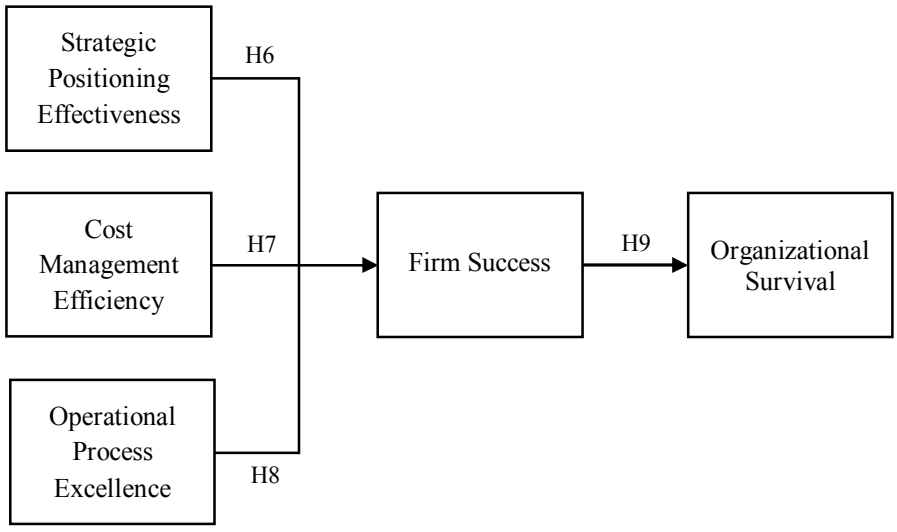
For the control variables, firm age has a significant negative relationship with organizational survival ($\beta_{34} = -.342$, $p < .05$). This means that a firm that has been operating for more than 15 years will be able to survive less than a firm that has been operating for less than 15 years. It is possible that firms with long experience or operation have inertia and perceive that a constant operation responds to change slowly. Meanwhile, firms with short experience or operation are keen to learn to develop themselves to be competitive, thus responding to rapid change and enabling them to survive. Similar to previous research, obsolescence occurs due to firms' inability to fit well in the changing business environment while senescence occurs due to their inflexible rules, routines and organizational structures (Kipesha, 2013). Moreover, a new business always involves innovation, and it is easy to welcome innovation and accept new ideas (Ciabuschi et al., 2012). However, firm age has no significant relationship with strategic positioning effectiveness ($\beta_6 = .013$, $p > .10$), cost management efficiency ($\beta_{13} = .100$, $p > .10$), operational process excellence ($\beta_{20} = -.085$, $p > .10$), firm success ($\beta_{27} = -.174$, $p > .10$). It may imply that firm age does not impact strategic positioning effectiveness, cost management efficiency, operational process excellence, and firm success. Moreover, firm size has a significant, positive relationship

with strategic positioning effectiveness (β_7 = .321, p < .10). This means that larger firms have significantly more strategic positioning effectiveness than smaller firms. However, the findings show that firm size has no significant effect on cost management efficiency (β_{14} = .190, p > .10), operational process excellence (β_{21} = -.141, p > .10), firm success (β_{28} = -.074, p > .10), and organizational survival (β_{35} = .056, p > .10). This means that firm size does not impact cost management efficiency, operational process excellence, firm success, and organizational survival.

In conclusion, these findings illustrate that the four dimensions of management accounting information system capability (operational information integration orientation, accounting information technology linkage, management information reporting competency, and business management intelligence focus) have influenced theirs consequence variables. Thus, all of hypotheses 1, 2, and 4 are partially supported while hypothesis 5 is strongly supported. Nevertheless, new accounting technology implementation in hypotheses 3 is not supported.

The Relationships among the Consequences of Management Accounting Information System Capability

Figure 8: The Relationships among Strategic Positioning Effectiveness, Cost Management Efficiency, Operational Process Excellence, Firm Success, and Organizational Survival



This research proposes that strategic positioning effectiveness, cost management efficiency, and operational process excellence are positively related to firm success as shown in hypotheses 6 - 8. Also, firm success is positively related to organizational survival as shown in hypothesis 9. These hypotheses can be transformed into the regression equation in models 6 and 7. All such relationships are shown in Figure 8.

Table 10 shows the correlation among strategic positioning effectiveness, cost management efficiency, and operational process excellence, firm success, and organizational survival. The results indicate that strategic positioning effectiveness, cost management efficiency, and operational process excellence are significantly and positively correlated with firm success ($r = .514$, $p < .01$; $r = .579$, $p < .01$; $r = .637$, $p < .01$, respectively). Furthermore, firm success excellence is significantly and positively correlated with organizational survival ($r = .486$, $p < .01$)

Table 10: Descriptive Statistics and Correlation Matrix of the Consequences of Management Accounting Information System Capability

Variables	SPE	CME	OPE	FSC	OS	FA	FS
Mean	3.959	4.125	3.968	4.113	4.132	n/a	n/a
S.D.	.487	.377	.512	.373	.460	n/a	n/a
CME	.594***						
OPE	.625***	.644***					
FSC	.514***	.579***	.637***				
OS	.490***	.437***	.354***	.486***			
FA	.099	.144	.045	-.002	-.112		
FS	.306***	.339***	.094	.203**	.199**	.161	

Note: Note: *** Correlation is significant at the 0.01 level (2-tailed)
** Correlation is significant at the 0.05 level (2-tailed)

For the correlation between independent variables, the results from Table 10 also show that strategic positioning effectiveness has a significant and positive correlation with cost management efficiency ($r = .594$, $p < .01$), and operational process excellence ($r = .625$, $p < .01$). Then, cost management efficiency has a significant and positive correlation with operational process excellence ($r = .644$, $p < .01$), although, these correlations are less than 0.80, as suggested by Berry and Feldman (1985). Variance Inflation Factors (VIFs) are used to test the correlation among the independent

variables (see Table 11), which is well below the cutoff value of 10 (Hair et al., 2010). In this case, since the maximum value of VIF is 2.193, multicollinearity problems should not be of concern.

In table 11, the results of the multiple regression analysis of the impact of strategic positioning effectiveness, cost management efficiency, and operational process excellence on firm success are followed by hypotheses 6 to 8. Also, the impact of firm success on organizational survival is followed by hypothesis 9.

Table 11: Results of Regression Analysis for the Effects among Strategic Positioning Effectiveness, Cost Management Efficiency, Operational Process Excellence on Firm Success, and Firm Success on Organizational Survival

Independent Variables	**Dependent Variables**	
	FSC (Firm Success)	**OS** (Organizational Survival)
	H6, H7, H8	**H9**
	Eq.6	**Eq.7**
SPE (Strategic Positioning Effectiveness)	.115 (.086)	
CME (Cost Management Efficiency)	**.249*** (.089)**	
OPE (Operational process excellence)	**.407*** (.091)**	
FSC (Firm Success)		**.473*** (.075)**
FA (Firm Age)	-.144 (.126)	**-.253* (.149)**
FS (Firm Size)	.106 (.138)	.241 (.154)
Adjusted R^2	.465	.253
Maximum VIF	2.193	1.081
Beta coefficients with standard errors in parenthesis, *** p < 0.01, *. p < 0.10		

The evidence in Table 11 indicates that strategic positioning effectiveness has no significant effects on firm success (β36 = .115, p > .10). The results indicate that success in creating competitive positions in the industry is not correlated with achieving organizational goals. Previous studies found that strategic positioning has impact on organizational performance, and in the e-business context, innovative differentiation strategies together with technological resources strongly affect firm performance (Kim et al., 2008). However, it is possible that the beverage business in Thailand has a wide

consumer base covering all ages. As a result, there are many different types of products available in the market to accommodate different consumption behaviors, whether alcoholic or non-alcoholic beverages. This diversity has resulted in the substitution of products among manufacturers, which are owners of brands, suppliers, and importers. As a result, the beverage industry has had fierce competition among entrepreneurs to snatch up market share and launch new products to maintain their competitiveness (Kasikorn Research Center, 2015). Therefore, the beverage business has to adapt in many ways in order to maintain its existing customer base without changing the consumption behavior from various environmental factors affecting its performance. From the reason above, success in strategic positioning may not be achieved by the organization. Hence, strategic positioning effectiveness does not play a significant role in firm success. ***Thus, hypotheses 6 is not supported.***

In addition, the result shows that cost management efficiency has a significant positive relationship to firm success ($\beta_{37} = .249$, $p < .01$). The results indicate that identifying, measuring, categorizing, and reporting information on cost effectively helps managers and other internal users in cost ascertainment, planning, controlling and decision-making; and leads to the achievement of an organization's goals. It implies that firms with efficient planning, forecasting, cost management result in a better performance than competitors. Similarly, prior evidence shows cost management effectiveness has a positive relationship to corporate competitiveness, decision-making success, and superior operational excellence (Ponklang, Pratoom, and Raksong, 2014; Tontiset and Ussahawanitchakit, 2009). The impact of decision-support systems is based on cost management through the use of business intelligence tools that will drive effective control, which lead to achieve organizational goals (Brandas, 2010). Hence, the result of this research shows that cost management efficiency has a potential effect on firm success. ***Therefore, hypothesis 7 is supported***.

Moreover, the results indicate that operational process excellence has a significant positive relationship to firm success ($\beta_{3}8 = .407$, $p < .01$). The results indicate that using resources efficiently, reducing work processes, timelines with superior coordination, and rapid response affect firms in achieving financial performance. Superior operating quality results in a successful operational organization that will lead to financial success. The results are consistent with past research, which found that

operations management has a significant relationship with logistics control, which describes the design and planning systems or processes that create products and provide services sufficiently, which also enhances logistics competencies and an organization's performance (Mary, Enyinna, and Franca, 2015). Hence, the result of this research shows that operational process excellence has an impact on firm success. ***Therefore, hypotheses 8 is supported.***

Finally, the result indicates that firm success has a significant, positive relationship to organizational survival (β_{41} = .473, p < .01). The results indicate that success in the non-financial performance perspective has resulted in the achievement of financial performance. The results of previous research found that firm success is correlated with strategies that are a capability which needs to be managed for firm performance or survival in a highly competitive situation (Mohrman, Finegold, and Mohrman, 2003). Empirical evidence indicate that non-financial performance measurement systems play an important role in manufacturing and operating environments, especially for enhancing firm performance (Ahmad and Zabri, 2016). Customer satisfaction is one of non-financial performance, which is positively correlated with accounting return on investment (Anderson et al., 1994). Similar to previous study, which found that employees' and customers' satisfaction help the manager to forecast profitability in the future (Banker and Mashruwala, 2007). Moreover, firm success has a significant, positive effect on firm survival (Namwong, Jhundra-indra, and Raksong, 2015). From the reason above, firm success has an impact on organizational survival. ***Therefore, hypotheses 9 is supported.***

For the control variables, firm age has no significant relationship with firm success (β_{39} = -.144, p > .10). It may imply that firm age does not impact firm success. Meanwhile, firm age has a significant, negative relationship with organizational survival (β_{42} = -.253, p < .10). This means that a firm that has been operating for more than 15 years has been less successful than a company that has been operating for a short period of time. This has caused firms with long experience or operation to experience inertia and perceive that a constant operation responds to change slowly. While firms with short experience or operation are enthusiastic to learn to develop themselves to be competitive, they thus respond to rapid change and it enables them to succeed. Moreover, the results show that firm size has no significant effect on firm

success (β_{40} = .106, p > .10) and organizational survival (β_{43} = .241, p > .10). This means that firm size does not impact firm success and organizational survival. Similar to previous research, firm size does not significantly impact performance by using information technology (Subriadi et al., 2013).

In conclusion, these findings demonstrate that cost management efficiency, and operational process excellence have directly influenced firm success. Also, firm success has directly influenced organizational survival. Thus, hypotheses 7, 8, and 9 are supported. Nevertheless, strategic positioning effectiveness in hypothesis 6 is not supported.

The Relationships among Management Accounting Information System Capability, Its Antecedents and Moderating Role of Technology Growth

This research proposes that five antecedent variables are positively related to each of five dimensions of management accounting information system capability as shown in hypotheses 10 - 14. These hypotheses can be transformed into the regression equation in models 8 - 12. Moreover, the moderating role of technology growth is proposed to positively moderate the relationships among five antecedent variables and each of five dimensions of management accounting information system capability. The aforementioned relationships are presented in hypotheses 15 - 19. These hypotheses can be transformed into the regression equation in models 13 - 17. All relationships are presented in Figure 9.

Figure 9: The Relationships among Management Accounting Information System Capability, Its Antecedents and Moderating Role of Technology Growth

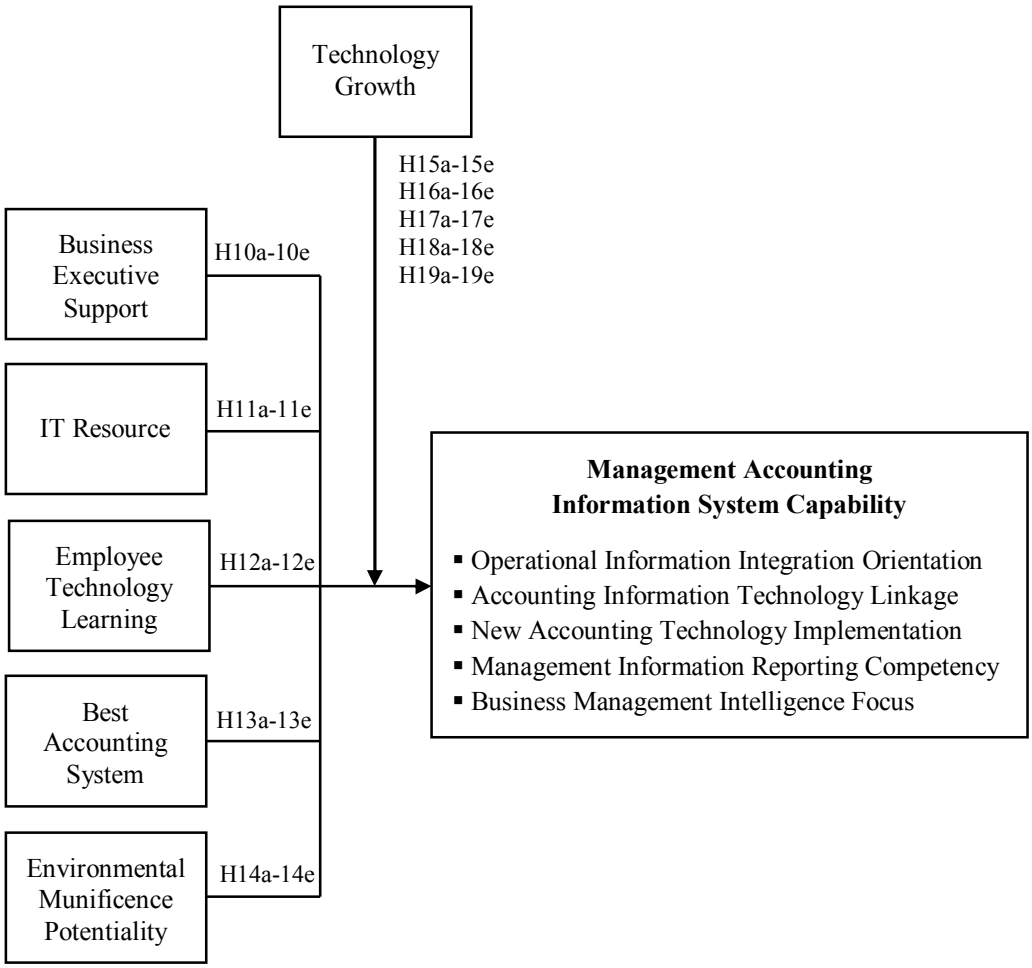


Table 12 shows the correlation among independent and dependent variables. The results indicate that five antecedent variables consist of business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality which are significantly and positively correlated with each dimension of management accounting information system capability and which consists of operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus.

Table 12: Descriptive Statistics and Correlation Matrix of Each Dimension of Management Accounting Information System Capability, Its Antecedents, and Technology Growth

Variables	OIIO	AITL	NATI	MIRC	BMIF	BES	ITR	ETL	BAS	EMP	TG	FA	FS
Mean	4.153	4.061	4.136	4.152	4.082	4.071	4.068	4.043	4.132	3.984	4.092	n/a	n/a
S.D.	.641	.651	.642	.657	.633	.476	.536	.536	.521	.548	.674	n/a	n/a
AITL	.802***												
NATI	.741***	.803***											
MIRC	.772***	.783***	.818***										
BMIF	.746***	.736***	.796***	.813***									
BES	.580***	.497***	.506***	.521***	.549***								
ITR	.619***	.584***	.644***	.639***	.670***	.765***							
ETL	.568***	.557***	.635***	.599***	.630***	.748***	.768***						
BAS	.547***	.482***	.544***	.575***	.591***	.742***	.682***	.750***					
EMP	.463***	.368***	.505***	.424***	.542***	.535***	.545***	.649***	.610***				
TG	.313***	.300***	.391***	.392***	.345***	.242***	.260***	.285***	.312***	.280***			
FA	.106	.090	.139	.102	.104	.059	.067	.089	.080	.113	.035		
FS	.393***	.201**	.314***	.362***	.294***	.149	.331***	.175**	.255***	.225***	.151	.161	

Note: Note: *** Correlation is significant at the 0.01 level (2-tailed)
** Correlation is significant at the 0.05 level (2-tailed)

Firstly, business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality are significantly and positively correlated with operational information integration orientation ($r = .580$, $p < .01$; $r = .619$, $p < .01$; $r = .568$, $p < .01$; $r = .547$, $p < .01$; $r = .463$, $p < .01$, respectively). Secondly, business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality are significantly and positively correlated with accounting information technology linkage ($r = .497$, $p < .01$; $r = .584$, $p < .01$; $r = .557$, $p < .01$; $r = .482$, $p < .01$; $r = .368$, $p < .01$, respectively). Thirdly, business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality are significantly and positively correlated with new accounting technology implementation ($r = .506$, $p < .01$; $r = .644$, $p < .01$; $r = .635$, $p < .01$; $r = .544$, $p < .01$; $r = .505$, $p < .01$, respectively). Fourthly, business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality are significantly and positively correlated with management information reporting

competency ($r = .521$, $p < .01$; $r = .639$, $p < .01$; $r = .599$, $p < .01$; $r = .575$, $p < .01$; $r = .424$, $p < .01$, respectively). Finally, business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality are significantly and positively correlated with business management intelligence focus ($r = .549$, $p < .01$; $r = .670$, $p < .01$; $r = .630$, $p < .01$; $r = .591$, $p < .01$; $r = .542$, $p < .01$, respectively). Additionally, technology growth, as a moderator, has a significant and positive correlation with business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality ($r = .242$, $p < .01$; $r = .260$, $p < .01$; $r = .285$, $p < .01$; $r = .312$, $p < .01$; $r = .280$, $p < .01$, respectively), and each dimension of management accounting information system capability ($r = .313$, $p < .01$; $r = .300$, $p < .01$; $r = .391$, $p < .01$; $r = .392$, $p < .01$; $r = .345$, $p < .01$, respectively)

For the correlation between independent variables, the results from table 12 also show that business executive support is significantly and positively correlated with IT resource, employee technology learning, best accounting system, and environmental munificence potentiality ($r = .765$, $p < .01$; $r = .748$, $p < .01$; $r = .742$, $p < .01$; $r = .535$, $p < .01$, respectively). IT resource is significantly and positively correlated with employee technology learning, best accounting system, and environmental munificence potentiality ($r = .768$, $p < .01$; $r = .682$, $p < .01$; $r = .545$, $p < .01$, respectively). Employee technology learning is significantly and positively correlated with best accounting system, and environmental munificence potentiality ($r = .750$, $p < .01$; $r = .649$, $p < .01$, respectively). Also, best accounting system is significantly and positively correlated with environmental munificence potentiality ($r = .610$, $p < .01$), although these correlations are less than 0.80, as suggested by Berry and Feldman (1985). Variance Inflation Factors (VIFs) are used to test the correlation among the independent variables (see table 13), which is well below the cutoff value of 10 (Hair et al., 2010). In this case, the maximum value of VIF is 5.794, and multicollinearity problems should not be a concern.

Next, table 9 presents the results of the multiple regression analysis of five antecedent variables (business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality) on each dimension of management accounting information system capability (operational

information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus) which are followed by hypotheses 10 to 14.

Firstly, for business executive support (hypotheses 10a – 10e), the results show that business executive support has a significant, positive relationship to operational information integration orientation ($\beta_{44} = .225$, $p < .05$). The results indicate that the business executive is a key factor for supporting technical development, new operating experience, investment, and technology development related to operations. This result is consistent with many researchers who found that business executive support is an essential factor, and significantly affects the quality of accounting information systems (Nwakanma et al., 2013; Young and Jordan, 2008). Moreover, business executive support can improve internal communication and create more effective, proper collaboration and integration (Loonam and McDonagh, 2005). Previous studies found that the support of the business executive is one of the key factors for successful information technology operations, as their support enables the associated activities of software to attain physical resources, including the input of skilled manpower and capital funds, the allocation of resources, or the reduction of resistance that may arise from the internal restructuring (Moss and Atre, 2003; Sabherwal et al., 2006). Therefore, operational information integration orientation requires support from business executives in developing a management accounting information system for gathering all operational data, and sharing information within and across departments. Hence, business executive support has an impact on operational information integration orientation. ***Thus, hypothesis 10a is supported.***

However, business executive support has no significant effects on accounting information technology linkage ($\beta_{51} = .005$, $p > .10$), new accounting technology implementation ($\beta_{58} = -.125$, $p > .10$), management information reporting competency ($\beta_{65} = -.063$, $p > .10$), and business management intelligence focus ($\beta_{72} = -.079$, $p > .10$). However, prior research has found that the business executive support is an important factor and significantly affects the quality of accounting information systems and information system successful implementation (Moss and Atre, 2003; Nwakanma et al., 2013; Sabherwal et al., 2006; Young and Jordan, 2008). However, there are a number of

researchers who found that top management support does not directly influence accounting information system competency. For example, previous studies found that top management support has no direct influence on the competency of accounting information system (Grabski and Leech, 2007). Similar to prior research, which investigated the relationship between top management support and accounting information system competency and found that there are no significant relationships between top management support and accounting information system competency (Konthong and Ussahawanitchakit, 2010). The possible reason for this is that the business executive is involved with supporting the skills and experience of users in technology, but is not involved in solving problems at all stages of the development implementation process of information system that is enhancing management accounting information system capability. Hence, business executive support has no relationship with accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus. ***Therefore, hypotheses 10b – 10e are not supported.***

Secondly, as to IT resource (Hypotheses 11a – 11e), the results shows that IT resource has a significant, positive relationship to accounting information technology linkage ($\beta_{52} = .323$, $p < .05$), new accounting technology implementation ($\beta_{59} = .339$, $p < .01$), management information reporting competency ($\beta_{66} = .318$, $p < .01$), and business management intelligence focus ($\beta_{73} = .373$, $p < .01$). On the basis of the literature reviewed, IT resources support accounting information system to offer information integration, speed, relevance, accuracy, easy understanding, and information satisfaction of users to improve strategic cost management and decision-making (Nada and Robert, 2005). Some scholars who investigated the relationship between IT resources and accounting information system competency found that IT resources has a positive, significant relationship with complete information collaboration, compatible information system linkage, and comprehensive accounting information presentation (Konthong and Ussahawanitchakit, 2010). The results of this research confirm that IT resources are one of the key major forces of the determinants of management accounting information system capability. Hence, IT resource has an impact on accounting information technology linkage, new accounting technology

implementation, management information reporting competency, and business management intelligence focus. ***Thus, hypotheses 11b – 11e are supported.***

Nevertheless, IT resource has no significant effects on operational information integration orientation (β_{45} = .179, p > .10). The results indicate that infrastructure investment technology has no relation to the firm's ability to integrate operational data. Although, prior research has found that IT resource is an important factor and significantly affect accounting information system competency. However, it is possible that technology investment is not just a computer or a software package, but an organization that must implement a project that requires high capital investment and risk. Therefore, if the organization fails to complete the project with in certain constraints, it will not be able to fully utilize its investment in technology. This is consistent with past research, which found that if business goals are not aligned with the goals IT projects are trying to accomplish, IT will not work to facilitate the success of the organization's efforts (Neirotti and Paolucci, 2007). Hence, IT resource has no relationship with operational information integration orientation. ***Thus, hypotheses 11a is not supported.***

Thirdly, as to employee technology learning (hypotheses 12a – 12e), the results shows that employee technology learning has a significant and positive relationship to accounting information technology linkage (β_{53} = .283, p < .05), new accounting technology implementation (β_{60} = .343, p < .01), and management information reporting competency (β_{67} = .256, p < .05). From the prior study, technology learning plays an important role in helping organizations to build new knowledge, and to develop skills that can lead to success. Information technology plays an important role in the accounting information system and information technology tools, such as spreadsheets, relational databases and general ledger systems that are used. Thus, employee technology learning enables them to use their own technological abilities, appropriately applying them to management accounting information system to generate accounting information value, accuracy, timeliness, relevance, and understandability. Empirical evidence indicate that if the organization has at least one employee who has high ability in using an accounting information system, it will allow other employees to use the information system correctly (Soegiharto, 2001). Moreover, the skills and expertise in using accounting information systems have a great impact on the success of such

systems (Chaikambang, Ussahawanitchakit, and Boonlua, 2012). Hence, employee technology learning has an impact on accounting information technology linkage, new accounting technology implementation, and management information reporting competency. ***Therefore, hypotheses 12b – 12d are supported.***

However, employee technology learning has no significant effects on operational information integration orientation (β_{46} = .143, p > .10), and business management intelligence focus (β_{74} = .166, p > .10). The results indicate that learning and enhancing the technology skills of employees is not correlated with operational data integration and analytical reporting. One possible reason is that operational data integration is the result of a system that is constantly being designed and developed, which results in automated system operation. So, if the system can work as planned, then the employees work according to the system. Similarly, for analytical reports, organizations often use programs such as enterprise resource planning programs to analyze and produce reports; and if employees learn and use them, they can use the program efficiently (Hurt, 2008). The need for technology learning occurs only when the organization has upgraded the program. In the context of the beverage businesses in Thailand, the sample of this research is mostly small-scale. Therefore, organizations may not need to upgrade programs often because the organization is not complicated in commercial activities and has limitations for investments in resources. Thus, organizations may not realize the importance of technological learning of employees. Hence, employee technology learning has no relationship with operational information integration orientation and business management intelligence focus. ***Therefore, hypotheses 12a and 12e are not supported.***

Fourthly, as to best accounting system (hypotheses 13a – 13e), the results show that best accounting system has a significant, and positive relationship to management information reporting competency (β_{68} = .198, p < .10), and business management intelligence focus (β_{75} = .175, p < .10). The results indicate that accurate accounting data is generated by best accounting system that supports the presentation of accurate and timely management reports. It also ensures that the analytical reports are based on management objectives. Empirical evidence indicate that firms with higher levels of accounting system implementation effectiveness lead to higher degrees of information value (Ismail and King, 2005). The information produced by the accounting system

provides an explanation for the usage of resources and operations, as well as the financial information needed to make the decision (Kara and Kilic, 2011; Salehi, Rostami, and Mogadam, 2010). Similar to previous research, best accounting system has a positive, significant relationship with effective cost control (Ponklang, Pratoom, and Raksong, 2014). Hence, best accounting system has an impact on management information reporting competency and business management intelligence focus. ***Therefore, hypotheses 13d and 13e are supported.***

In contrast, the finding shows best accounting system has no significant effects on operational information integration orientation (β_{47} = .059, p > .10) accounting information technology linkage (β_{54} = .078, p > .10), and new accounting technology implementation (β_{61} = .063, p > .10). The results indicate that accurate and complete data obtained from the best accounting system does not relate to the firm's ability to gather and share information, to link technology, and to use new technology. It is possible that the accounting system is designed to suit the business conditions and business operations, which must follow the procedures and accounting practices. Therefore, the accounting system is not flexible, which affects the integration of information, linking accounting technology to other information systems, and may cause operational barriers. This is consistent with previous research, which found that best accounting systems are not very successful to achieve the goals of decision-making, planning, and improving information systems within an organization (Hussain, Gunaskearn, and Laitiner, 1998). Hence, best accounting system has no relationship with operational information integration orientation, accounting information technology linkage, and new accounting technology implementation. ***Thus, hypotheses 13a, 13b, and 13c are not supported.***

Finally, as to environmental munificence potentiality (hypotheses 14a – 14e), the results indicate that environmental munificence potentiality has a significant and positive relationship to business management intelligence focus (β_{76} = .148, p < .10). The results indicate that environmental munificence potentiality positively influences the operating procedures in the organization's information systems, in particular, the focus on data analysis and reporting for decision-making. The result is consistent with past research, which found that firms with a high level of munificence in the environment tend to be successful in making rational decisions and reinforcing their

own performance and profits. Moreover, environmental munificence has a great influence on the organization's processes and strategies, and is also positively linked to the range of corporate strategies and options available to the firm (Sutcliffe, 1994). In addition, the more environment munificence, the more that organizations have choices because of alternative goals, strategies, and organizational structures that are likely to be possible (Su, Xie, and Li, 2009). Hence, the result of this research shows that environmental munificence potentiality has an impact on business management intelligence focus. ***Therefore, hypothesis 14e is supported.***

Nevertheless, environmental munificence potentiality has no significant effects on operational information integration orientation (β_{48} = .065, p > .10), accounting information technology linkage (β_{55} = -.043, p > .10), new accounting technology implementation (β_{62} = .102, p > .10), and management information reporting competency (β_{69} = -.039, p > .10). The results indicate that environmental munificence does not affect work processes related to managing operational and financial data. However, prior research suggests that environmental munificence greatly influences the process, strategy, and structure of the organization, as well as the strategic linkage with the organization's alternatives. In addition, more munificence in the environment also supports the organization with more choices (Sutcliffe, 1994; George, 2005; Su et al., 2009). In contrast, there are a number of researchers who found that environmental munificence does not directly impact strategic entrepreneurial capability (Kokfai, Pratoom, and Muenthaisong, 2016). Additionally, firms may adjust strategies or change organizational structures to respond to low environmental munificence, and firms operating in less munificent environments are more likely to commit illegal acts (Goll and Rasheed, 1997). From the reason above, environmental munificence potentiality does not play a significant role in explaining operational information integration orientation, new accounting technology implementation, new accounting technology implementation, and management information reporting competency. ***Thus, hypotheses 14a – 1d are not supported.***

For the control variables, firm age has no significant relationship with operational information integration orientation (β_{49} = .075, p > .10), accounting information technology linkage (β_{56} = .129, p > .10), new accounting technology implementation (β_{63} = .160, p > .10), management information reporting competency

(β_{70} = .081, p > .10), and business management intelligence focus (β_{77} = .076, p > .10). It may imply that firm age does not impact operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus. Moreover, firm size has a significant and positive relationship with operational information integration orientation (β_{50} = .441, p < .01), and management information reporting competency (β_{71} = .314, p < .01). This means that firm size has an impact on operational information integration orientation and management information reporting competency. However, the findings show that firm size has no significant effect on accounting information technology linkage (β_{57} = -.005, p > .10), new accounting technology implementation (β_{64} = .177, p > .10), business management intelligence focus (β_{28} = -.074, p > .10), and organizational survival (β_{78} = .118, p > .10). This means that firm size does not impact accounting information technology linkage, new accounting technology implementation, business management intelligence focus, and organizational survival.

In conclusion, these findings illustrate that five antecedent variables (business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality) have influenced operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus. Thus, all of hypotheses 10 – 14 are partially supported.

Table 13: Results of Regression Analysis for the Effects of the Antecedent and Moderator on Management Accounting Information System Capability

Independent Variables	Dependent Variables									
	OIIO		AITL		NATI		MIRC		BMIF	
	H10-14a	H15-19a	H10-14b	H15-19b	H10-14c	H15-19c	H10-14d	H15-19d	H10-14e	H15-19e
	Eq.8	Eq.13	Eq.9	Eq.14	Eq.10	Eq.15	Eq.11	Eq.16	Eq.12	Eq.17
BES (Business Executive Support)	**.225**** **(.112)**	**.264**** **(.115)**	.005 (.122)	.040 (.124)	-.125 (.110)	-.113 (.109)	-.063 (.112)	-.051 (.109)	-.079 (.109)	-.075 (.108)
ITR (IT Resource)	.179 (.115)	.148 (.118)	**.323**** **(.125)**	**.298**** **(.127)**	**.339***** **(.113)**	**.343***** **(.111)**	**.318***** **(.115)**	**.312***** **(.112)**	**.373***** **(.111)**	**.362***** **(.111)**
ETL (Employee Technology Learning)	.143 (.119)	.150 (.121)	**.283**** **(.130)**	**.283**** **(.131)**	**.343***** **(.117)**	**.327***** **(.115)**	**.256**** **(.119)**	**.246**** **(.115)**	.166 (.115)	.139 (.114)
BAS (Best Accounting System)	.059 (.108)	.035 (.110)	.078 (.117)	.050 (.119)	.063 (.106)	.017 (.104)	**.198*** **(.108)**	.134 (.104)	**.175*** **(.104)**	.146 (.103)
EMP (Environmental Munificence Potentiality)	.065 (.084)	.042 (.085)	-.043 (.091)	-.066 (.092)	.102 (.082)	.087 (.081)	-.039 (.084)	-.042 (.081)	**.148*** **(.081)**	**.151*** **(.080)**
TG (Technology Growth)		.086 (.067)		.111 (.073)		**.185***** **(.063)**		**.204***** **(.064)**		**.154**** **(.063)**
BES x TG		-.019 (.117)		-.058 (.126)		-.167 (.111)		-.168 (.111)		-.129 (.110)
ITR x TG		-.148 (.134)		-.113 (.145)		-.031 (.127)		-.041 (.128)		.088 (.126)
ETL x TG		.148 (.126)		.154 (.136)		.149 (.119)		**.276**** **(.119)**		**.222*** **(.118)**
BAS x TG		.108 (.121)		.094 (.130)		.007 (.114)		-.185 (.114)		-.172 (.113)
EMP x TG		-.139 (.084)		**-.171*** **(.091)**		-.101 (.080)		-.019 (.080)		-.120 (.079)
FA (Firm Age)	.075 .126	.078 (.126)	.129 (.137)	.131 (.137)	.160 (.123)	.149 (.119)	.081 (.126)	.076 (.120)	.076 (.122)	.083 (.119)
FS (Firm Size)	**.441***** **.139**	**.453***** **(.140)**	-.005 (.151)	-.004 (.152)	.177 (.136)	.147 (.133)	**.314**** **(.139)**	**.250*** **(.133)**	.118 (.134)	.058 (.132)
Adjusted R^2	.459	.462	.358	.368	.483	.523	.463	.520	.498	.531
Maximum VIF	3.761	5.794	3.761	5.794	3.761	5.794	3.761	5.794	3.761	5.794

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

The Moderating Role of Technology Growth

The results in table 13 present the moderating effects of technology growth on the relationships among five antecedent variables (business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality) and each dimension of management accounting information system capability (operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus). The result and discussion on hypotheses 15 – 19 testing are as follows.

The findings indicate that technology growth significantly and positively moderates the relationships between employee technology learning and management information reporting competency ($\beta_{126} = .276$, $p < .05$), as well as business management intelligence focus ($\beta_{139} = .222$, $p < .10$). The results indicate that the rapid change of technology encourages employees to continually learn and develop their technology skills, enabling them to effectively utilize the technology involved in the organization's information management and reporting. Similar to previous research, the speed of technological development generates a new challenge and the chance for upgrading and developing human capital by investment in employee development into dynamic technology management (Rudez and Mihalic, 2007). ***Therefore, hypotheses 17d and 17e are supported.***

In contrast, the results reveal that technology growth does not significantly moderate the relationships between business executive support and among operational information integration orientation ($\beta_{85} = -.019$, $p > .10$), accounting information technology linkage ($\beta_{98} = -.058$, $p > .10$), new accounting technology implementation ($\beta_{111} = -.167$, $p > .10$), management information reporting competency ($\beta_{124} = -.168$, $p > .10$), and business management intelligence focus ($\beta_{137} = -.129$, $p > .10$). The results indicate that the rapid change of technology does not affect the support of executives in focusing on data integration and sharing, linking technology, using new technology, and providing accurate management and analytical reports. Additionally, technology growth does not significantly moderate the relationships between IT resource and among operational information integration orientation ($\beta_{86} = -.148$, $p > .10$), accounting information technology linkage ($\beta_{99} = -.113$, $p > .10$), new accounting technology

implementation (β_{112} = -.031, p > .10), management information reporting competency (β_{125} = -.041, p > .10), and business management intelligence focus (β_{138} = .088, p > .10). The results indicate that the rapid change of technology does not affect technology investments to support data integration and sharing, linking technology, using new technology, and providing accurate management and analytical reports. Furthermore, technology growth does not significantly moderate the relationships between employee technology learning and among operational information integration orientation (β_{87} = .148, p > .10), accounting information technology linkage (β_{100} = .154, p > .10), and new accounting technology implementation (β_{113} = .149, p > .10.) The results indicate that the rapid change of technology has no effect on learning, nor enhances employee technological skills in utilizing capabilities to support data integration and sharing, linking technology, and using new technology. In addition, technology growth does not significantly moderate the relationships between best accounting system and among operational information integration orientation (β_{88} = .108, p > .10), accounting information technology linkage (β_{101} = .094, p > .10), new accounting technology implementation (β_{114} = .007, p > .10), management information reporting competency (β_{127} = -.185, p > .10), and business management intelligence focus (β_{140} = -.172, p > .10). The results indicate that the rapid change of technology does not have the effect of creating accurate accounting information for supporting data integration and sharing, linking technology, using new technology, producing accurate management reports, and creating analytical reports. Moreover, technology growth does not significantly moderate the relationships between environmental munificence potentiality and among operational information integration orientation (β_{89} = -.139, p > .10), accounting information technology linkage (β_{102} = -.171, p > .10), new accounting technology implementation (β_{115} = -.101, p > .10), management information reporting competency (β_{128} = -.019, p > .10), and business management intelligence focus (β_{141} = -.120, p > .10). The results indicate that the rapid change of technology does not affect the environment that supports the organization's operations, enabling data integration and sharing, linking technology, using new technology, producing accurate management reports, and analytical reports. From the results above, it is possible that, if the organization has sufficient and appropriate technology resources, even with advanced technologies that may have multiple capabilities, the organization may not be aware of

its importance, especially when comparing the costs and benefits of deploying new technologies. In addition, the growth of technology, which is an external factor, if it is not technology related to the technology that the organization needs today, it may result in the organization not recognizing the importance and benefits of the new technologies. ***Thus hypotheses 15a – 15e, 16a – 16e, 17a – 17c, 18a – 18e, and 19a – 19e are not supported.***

For the control variables, firm age has no significant relationship with operational information integration orientation (β_{90} = .078, p > .10), accounting information technology linkage (β_{103} = .131, p > .10), new accounting technology implementation (β_{116} = .149, p > .10), management information reporting competency (β_{129} = .076, p > .10), and business management intelligence focus (β_{142} = .083, p > .10). It may imply that firm age does not impact operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus. Moreover, firm size has a significant, positive relationship with operational information integration orientation (β_{91} = .453, p < .01), and management information reporting competency (β_{130} = .250, p < .01). However, the findings show that firm size has no significant effect on accounting information technology linkage (β_{104} = -.004, p > .10), new accounting technology implementation (β_{117} = .147, p > .10), business management intelligence focus (β_{28} = -.074, p > .10), and organizational survival (β_{143} = .058, p > .10). Thus, firm size does not impact accounting information technology linkage, new accounting technology implementation, business management intelligence focus, and organizational survival.

Summary

This chapter presents the results of this research. The first part shows key participant characteristics, and demographic information of the firm that are explained by using descriptive statistics such as mean, standard deviation and percentage. Subsequently, it presents the hypotheses testing and discussion which show the result of descriptive statistics, correlation analysis, and multiple regression analysis, including a discussion of critical points. The results reveal that operational information integration

orientation, accounting information technology linkage, and management information reporting competency have a partially positive effect on cost management efficiency, operational process excellence, firm success, and organizational survival. Additionally, business management intelligence focus has a strongly positive effect on strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival. Furthermore, cost management efficiency, and operational process excellence have a positive effect on firm success. Moreover, firm success has a positive effect on organizational survival. Five antecedents of management accounting information system (business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality) have a partially positive effect on operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus. Besides, technology growth moderates the relationships between employee technology learning and management information reporting competency, and business management intelligence focus. In conclusion, Hypotheses 5, 7, 8, and 9 are supported; hypotheses 1, 2, 4, 10, 11, 12, 13, 14, and 17 are partially supported; and hypotheses 3, 6, 15, 16, 18, and 19 are not supported. Finally, the summary of the results of hypotheses testing is presented in table 14.

The next chapter shows the conclusions of the research. It provides an overall view of research and summarizes the main point of this research. Additionally, it provides the limitation of this research and future research suggestions.

Table 14: Summary of the Results of Hypothesis Testing

Hypothesis	Description of Hypothesized Relationships	Results
H1a	Operational information integration orientation is positively related to strategic positioning effectiveness.	Not Supported
H1b	Operational information integration orientation is positively related to cost management efficiency.	Not Supported
H1c	Operational information integration orientation is positively related to operational process excellence.	Not Supported

Table 14: Summary of the Results of Hypothesis Testing (continued)

Hypothesis	Description of Hypothesized Relationships	Results
H1d	Operational information integration orientation is positively related to firm success.	Supported
H1e	Operational information integration orientation is positively related to organizational survival.	Supported
H2a	Accounting information technology linkage is positively related to strategic positioning effectiveness.	Not Supported
H2b	Accounting information technology linkage is positively related to cost management efficiency.	Not Supported
H2c	Accounting information technology linkage is positively related to operational process excellence.	Supported
H2d	Accounting information technology linkage is positively related to firm success.	Not Supported
H2e	Accounting information technology linkage is positively related to organizational survival.	Not Supported
H3a	New accounting technology implementation is positively related to strategic positioning effectiveness.	Not Supported
H3b	New accounting technology implementation is positively related to cost management efficiency.	Not Supported
H3c	New accounting technology implementation is positively related to operational process excellence.	Not Supported
H3d	New accounting technology implementation is positively related to firm success.	Not Supported
H3e	New accounting technology implementation is positively related to organizational survival.	Not Supported
H4a	Management information reporting competency is positively related to strategic positioning effectiveness.	Not Supported
H4b	Management information reporting competency is positively related to cost management efficiency.	Supported

Table 14: Summary of the Results of Hypothesis Testing (continued)

Hypothesis	Description of Hypothesized Relationships	Results
H4c	Management information reporting competency is positively related to operational process excellence.	Not Supported
H4d	Management information reporting competency is positively related to firm success.	Not Supported
H4e	Management information reporting competency is positively related to organizational survival.	Not Supported
H5a	Business management intelligence focus is positively related to strategic positioning effectiveness.	Supported
H5b	Business management intelligence focus is positively related to cost management efficiency.	Supported
H5c	Business management intelligence focus is positively related to operational process excellence.	Supported
H5d	Business management intelligence focus is positively related to firm success.	Supported
H5e	Business management intelligence focus is positively related to organizational survival.	Supported
H6	Strategic positioning effectiveness is positively related to firm success.	Not Supported
H7	Cost management efficiency is positively related to firm success.	Supported
H8	Operational process excellence is positively related to firm success.	Supported
H9	Firm success is positively related to organizational survival.	Supported
H10a	Business executive support is positively related to operational information integration orientation.	Supported
H10b	Business executive support is positively related to accounting information technology linkage.	Not Supported

Table 14: Summary of the Results of Hypothesis Testing (continued)

Hypothesis	Description of Hypothesized Relationships	Results
H10c	Business executive support is positively related to new accounting technology implementation.	Not Supported
H10d	Business executive support is positively related to management information reporting competency.	Not Supported
H10e	Business executive support is positively related to business management intelligence focus.	Not Supported
H11a	IT resource is positively related to operational information integration orientation.	Not Supported
H11b	IT resource is positively related to accounting information technology linkage.	Supported
H11c	IT resource is positively related to new accounting technology implementation.	Supported
H11d	IT resource is positively related to management information reporting competency.	Supported
H11e	IT resource is positively related to business management intelligence focus.	Supported
H12a	Employee technology learning is positively related to operational information integration orientation.	Not Supported
H12b	Employee technology learning is positively related to accounting information technology linkage.	Supported
H12c	Employee technology learning is positively related to new accounting technology implementation.	Supported
H12d	Employee technology learning is positively related to management information reporting competency.	Supported
H12e	Employee technology learning is positively related to business management intelligence focus.	Not Supported
H13a	Best accounting system is positively related to operational information integration orientation.	Not Supported

Table 14: Summary of the Results of Hypothesis Testing (continued)

Hypothesis	Description of Hypothesized Relationships	Results
H13b	Best accounting system is positively related to accounting information technology linkage.	Not Supported
H13c	Best accounting system is positively related to new accounting technology implementation.	Not Supported
H13d	Best accounting system is positively related to management information reporting competency.	Supported
H13e	Best accounting system is positively related to business management intelligence focus.	Supported
H14a	Environmental munificence potentiality is positively related to operational information integration orientation.	Not Supported
H14b	Environmental munificence potentiality is positively related to accounting information technology linkage.	Not Supported
H14c	Environmental munificence potentiality is positively related to new accounting technology implementation.	Not Supported
H14d	Environmental munificence potentiality is positively related to management information reporting competency.	Not Supported
H14e	Environmental munificence potentiality is positively related to business management intelligence focus.	Supported
H15a	Technology growth positively moderates the relationship between business executive support and operational information integration orientation.	Not Supported
H15b	Technology growth positively moderates the relationships between business executive support and accounting information technology linkage.	Not Supported
H15c	Technology growth positively moderates the relationships between business executive support and new accounting technology implementation.	Not Supported

Table 14: Summary of the Results of Hypothesis Testing (continued)

Hypothesis	Description of Hypothesized Relationships	Results
H15d	Technology growth positively moderates the relationships between business executive support and management information reporting competency.	Not Supported
H15e	Technology growth positively moderates the relationships between business executive support and business management intelligence focus.	Not Supported
H16a	Technology growth positively moderates the relationships between IT resource and operational information integration orientation.	Not Supported
H16b	Technology growth positively moderates the relationships between IT resource and accounting information technology linkage.	Not Supported
H16c	Technology growth positively moderates the relationships between IT resource and new accounting technology implementation.	Not Supported
H16d	Technology growth positively moderates the relationships between IT resource and management information reporting competency.	Not Supported
H16e	Technology growth positively moderates the relationships between IT resource and business management intelligence focus.	Not Supported
H17a	Technology growth positively moderates the relationships between employee technology learning and operational information integration orientation.	Not Supported
H17b	Technology growth positively moderates the relationships between employee technology learning and accounting information technology linkage.	Not Supported

Table 14: Summary of the Results of Hypothesis Testing (continued)

Hypothesis	Description of Hypothesized Relationships	Results
H17c	Technology growth positively moderates the relationships between employee technology learning and new accounting technology implementation.	Not Supported
H17d	Technology growth positively moderates the relationships between employee technology learning and management information reporting competency.	Supported
H17e	Technology growth positively moderates the relationships between employee technology learning and business management intelligence focus.	Supported
H18a	Technology growth positively moderates the relationships between best accounting system and operational information integration orientation.	Not Supported
H18b	Technology growth positively moderates the relationships between best accounting system and accounting information technology linkage.	Not Supported
H18c	Technology growth positively moderates the relationships between best accounting system and new accounting technology implementation.	Not Supported
H18d	Technology growth positively moderates the relationships between best accounting system and management information reporting competency.	Not Supported
H18e	Technology growth positively moderates the relationships between best accounting system and business management intelligence focus.	Not Supported
H19a	Technology growth positively moderates the relationships between environmental munificence potentiality and operational information integration orientation.	Not Supported

Table 14: Summary of the Results of Hypothesis Testing (continued)

Hypothesis	Description of Hypothesized Relationships	Results
H19b	Technology growth positively moderates the relationships between environmental munificence potentiality and accounting information technology linkage.	Not Supported
H19c	Technology growth positively moderates the relationships between environmental munificence potentiality and new accounting technology implementation.	Not Supported
H19d	Technology growth positively moderates the relationships between environmental munificence potentiality and management information reporting competency.	Not Supported
H19e	Technology growth positively moderates the relationships between environmental munificence potentiality and business management intelligence focus.	Not Supported

CHAPTER V

CONCLUSION

The overall aim of this research is to attempt a detailed and comprehensive view of the relationships among management accounting information system capability, its antecedents and its consequents. The key purpose is to investigate the relationship between management accounting information system capability and organizational survival. In addition, the specific research purposes are: 1) to examine the relationships among five dimensions of management accounting information system capability, strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival; and, 2) to examine the influences of business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality on the management accounting information system capability. Also, the moderating effect of technology growth is examined.

The main research question of this research is "How does management accounting information system capability influence organizational survival?"
In addition, the specific research questions are: 1) How does each dimension of management accounting information system capability relate to strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success and organizational survival? 2) How do strategic positioning effectiveness, cost management efficiency and operational process excellence have an impact on firm success? 3) How does firm success have an influence on organizational survival? 4) How do business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality have an influence on each of five dimensions of management accounting information system capability? 5) How does technology growth moderate the influence of business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality on each of five dimensions of management accounting information system capability?

In trying to provide a better understanding of management accounting information system capability in line with these objectives, this research has adopted two theoretical perspectives to draw the conceptual framework; namely, the organizational information processing theory and the contingency theory. The organizational information processing theory is applied to explain the relationship between the dimensions of management accounting information system capability and its consequence. The contingency theory is applied to describe the relationship between five antecedents of management accounting information system capability, the dimensions of management accounting information system capability, and the moderator. Additionally, this research proposes the theory of interaction to explain the relationships of each variable and to answer the research questions and objectives.

According to the conceptual framework, management accounting information system capability is the dependent variable, which consists of five dimensions, namely, operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus. There are five antecedents of management accounting information system capability, which comprise business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality. In addition, the consequences of management accounting information system capability are strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success, and organizational survival. All variables in the conceptual framework are proposed to have positive relationships. Furthermore, the moderating variable is technology growth, which is proposed to have a positive effect on the relationships of the five antecedents and the five dimensions of management accounting information system capability.

For research methodology, the population of this research is the beverage businesses in Thailand. The Department of Industrial Works, Ministry of Industry of the Thai government, is utilized as a database. A survey questionnaire was developed and administered to collect data. There were 675 questionnaires that were directly distributed to the accounting executives of each beverage business firm in Thailand. The valid mailing was 647 surveys, from which 28 responses were returned, but only

141 were used. The effective response rate was approximately 21.79%. The usable data is analyzed by the multiple regressions.

Summary of Results

The overall results demonstrate that operational information integration orientation positively impacts firm success and organizational survival. Accounting information technology linkage positively impacts operational process excellence. Moreover, management information reporting competency has a positive effect on cost management efficiency. Especially, business management intelligence focus is a key element of management accounting information system capability that positively impacts all of the consequences. Additionally, cost management efficiency and operational process excellence have a positive effect on firm success. Also firm success positively impacts organizational survival.

For the influences of the antecedents, this research found that business executive support positively influences operational information integration orientation. Best accounting system positively influences management information reporting competency, and business management intelligence focus. Additionally, environmental munificence potentiality positively influences business management intelligence focus. Moreover, employee technology learning positively influences accounting information technology linkage, new accounting technology implementation, and management information reporting competency. Especially, IT resource is the key factor positively affecting accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus.

For the moderating effect, technology growth is the important factor to encourage relationships between employee technology learning, management information reporting competency, and business management intelligence focus. The summary of all research questions and results are presented in table 15, and a model summary of the results of all hypotheses testing is presented in figure 10.

Table 15: Summary of the Results and Conclusions of All Hypotheses Testing

Research Questions	Hypothesis	Results	Conclusions
Specific Research Questions:			
1) How does each dimension of management accounting information system capability (operational information integration orientation, accounting information technology linkage, new accounting technology implementation, management information reporting competency, business management intelligence focus) relate to strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success and organizational survival	H1a-e	- Operational information integration orientation is significantly and positively related to firm success, and organizational survival.	Partially Supported (H1d, e)
	H2a-e	- Accounting information technology linkage is significantly and positively related to operational process excellence.	Partially Supported (H2c)
	H3a-e	- New accounting technology implementation has no significant effects all consequences.	Not supported
	H4a-e	- Management information reporting competency is significantly and positively related to cost management efficiency.	Partially Supported (H4b)
	H5a-e	- Business management intelligence focus is significantly and positively related to strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success and organizational survival.	Strongly supported (H5a – e)

Table 15: Summary of the Results and Conclusions of All Hypotheses Testing (continued)

Research Questions	Hypothesis	Results	Conclusions
2) How do strategic positioning effectiveness, cost management efficiency and operational process excellence have an impact on firm success	H6 H7 H8	- Strategic positioning effectiveness has no significant effects firm success. - Cost management efficiency is significantly and positively related to effects firm success. - Operational process excellence is significantly and positively related to effects firm success.	Not supported Strongly supported (H7) Strongly supported (H8)
3) How does firm success have an influence on organizational survival	H9	- Firm success is significantly and positively related to organizational survival	Strongly supported (H9)
4) How do business executive support, IT resource, employee technology learning, best accounting system, and environmental munificence potentiality have an influence on each of five dimensions of management accounting information system capability	H10a-e H11a-e	- Business executive support is significantly and positively related to operational information integration orientation. - IT resource is significantly and positively related to accounting information technology linkage, new accounting technology implementation, management information reporting competency, and business management intelligence focus.	Partially Supported (H10a) Partially Supported (H11b – e)

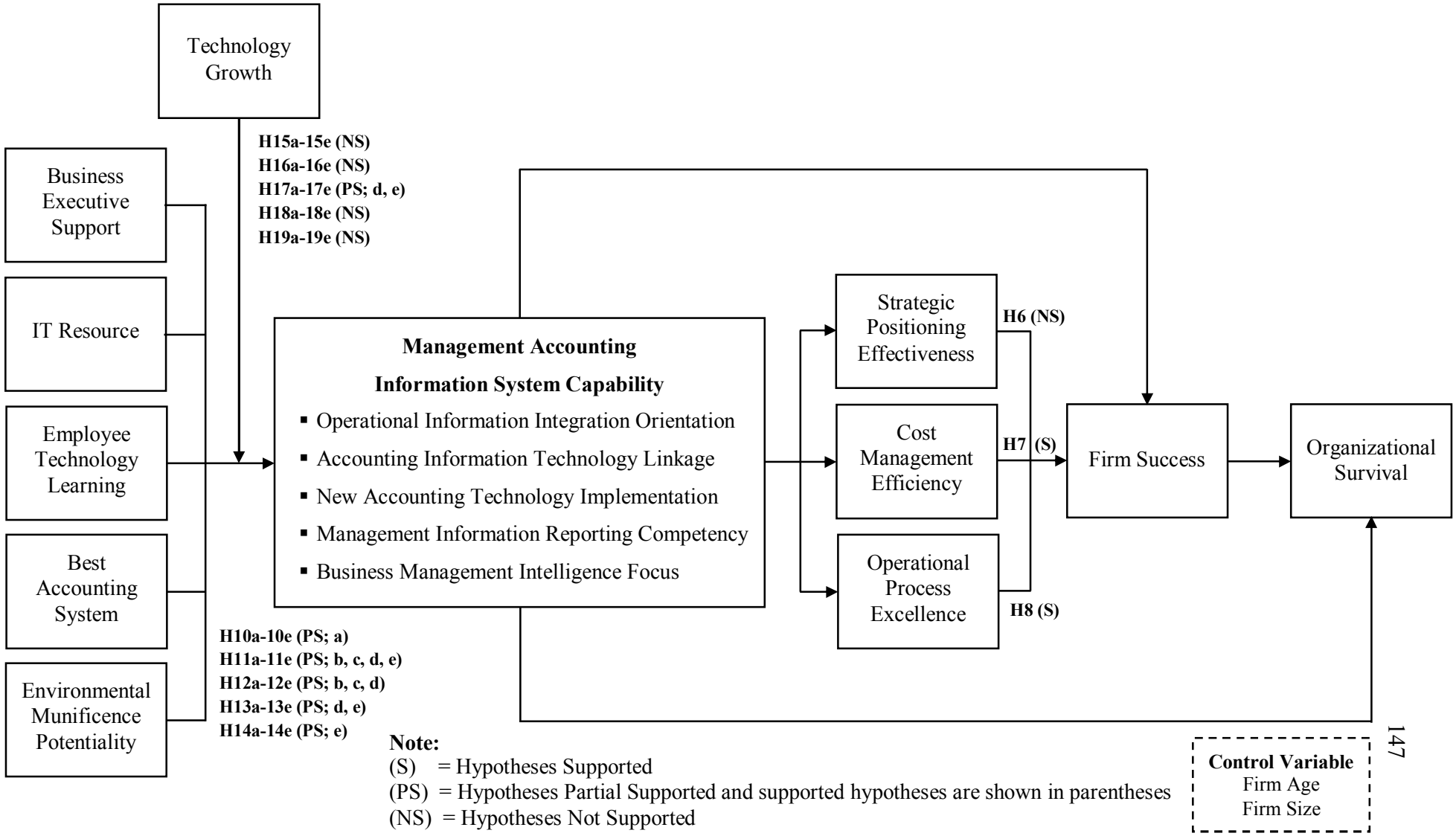
Table 15: Summary of the Results and Conclusions of All Hypotheses Testing (continued)

Research Questions	Hypothesis	Results	Conclusions
	H12a-e	- Employee technology learning is significantly and positively related to accounting information technology linkage, new accounting technology implementation, and management information reporting competency.	Partially Supported (H12b – d)
	H13a-e	- Best accounting system is significantly and positively related to management information reporting competency, and business management intelligence focus.	Partially Supported (H13d, e)
	H14a-e	- Environmental munificence potentiality is significantly and positively related to business management intelligence focus.	Partially Supported (H14e)

Table 15: Summary of the Results and Conclusions of All Hypotheses Testing (continued)

Research Questions	Hypothesis	Results	Conclusions
5) How does technology growth moderate the influence of business executive support, IT resource, employee technology learning, best accounting system, environmental munificence potentiality on each of five dimensions of management accounting information system capability	H15a-e H16a-e H17a-e H18a-e H19a-e	- Technology growth moderates the positive relationships among employee technology learning and management information reporting competency, and business management intelligence focus.	Partially Supported (H17d, e)

Figure 10: Summary of Hypothesis Testing Results



Theoretical and Managerial Contributions

This research has several contributions to the knowledge related to management accounting information system capability as well as implications for researchers and practitioners. These are summarized as follows:

Theoretical Contribution

This research expands the knowledge of organizational information processing theory in management accounting information systems research. Using a perspective on information processing capabilities, one can describe the management accounting information system capability to manage operational and financial information sufficiently for the needs of using that influence on decision-making, and leading to organizational survival. A comprehensive research framework is drawn to represent the association between the five dimensions of management accounting information system capability and strategic positioning effectiveness, cost management efficiency, operational process excellence, firm success and organizational survival. As a result, this research suggests that business management intelligence focus is a key element of management accounting information system capability, which has a positive impact on all consequences. This is an extension of the theory that has been described in a broader perspective.

Most previous studies on management accounting information systems have paid attention to either the scope dimension of management accounting information system solely, or with two, or four dimensions (Al-Dalaien et al., 2016; Al-Mawali, 2013; Astuty, 2015; Chenhall and Morris, 1986; Christina, 2013; Chung and Cheng, 2016; Napitupulu, Mahyuni, and Sibarani, 2016; Ramli and Iskandar, 2014; Rasouli, Valipour, and Moradi, 2014; Roodposhit, Nikoomaram, and Mahmoodi, 2012; Woldehawariat, 2013). This research develops the new dimensions of management accounting information system capability by examining the five dimensions of management accounting information system capability, which were integrated from the study of Chenhall and Morris (1986); Roodposhit, Nikoomaram, and Mahmoodi (2012) ; and Napitupulu (2015). Considering five dimensions offered a better opportunity to capture a holistic view of management accounting information system capability.

Managerial Contribution

The results have beneficial contribution for practitioners. This study attempts to expand the knowledge of management accounting information systems capability by examining the relationship between the five dimensions of management accounting information systems capability and its consequences. The highlight findings in this research indicate that business management intelligence focus as a key component of management accounting information system capability, which influences strategic positioning effectiveness, cost management efficiency, and operational process excellence; and leads to the success of both financial and non-financial performance. Therefore, managers should focus on the use of the business intelligence system which promotes appropriate use in the context of the organization, such as investment in the use of such systems, as well as the development of knowledge and abilities of employees.

In addition, operational information integration orientation, accounting information technology linkage, and management information reporting competency are also elements that affect the organization as well. The findings suggest that the integration of operational data and the linkage between information systems within the organization enables each department to share information effectively. Further the result also show that management information reporting competency has an impact on effective cost management. Managers should focus on setting policies that encourage work practices and collaboration. For example, to set up a proper operating system, to follow rules and procedures, or to create a collaborative environment. Moreover, managers should support the use of technology across all departments, as well as monitoring and evaluating performance.

Moreover, this research provides a better understanding of how the firm can encourage management accounting information system capability. The resulting analysis indicates which factors have more impact on management accounting information system capability. The findings suggest that both internal and external factors influence management accounting information system capability, which helps managers to identify the factors supporting the potential of management accounting information system capability. The results found that IT resources and employee

technology learning are important internal factors in supporting the potential of management accounting information system capability. Therefore, managers should allocate funds for investment in information technology resources that are needed, and encourag technology learning for employees.

Limitations and Future Research Directions

Limitations

Although the results of this research find some interesting information about the influence of management accounting information systems capability on organizational survival, there are some limitations that need to be addressed.

The population of this research is scoped as only beverage business firms. Thus, the generalization of the findings is limited to only explain a private sector. These findings may have been varied if a broader range of firms had been selected. Hence, the results of this research may be narrow as lacking a generalization concept of other industries and countries. Moreover, the population also consists of two types of businesses: alcoholic and non-alcoholic, both of which may have different strategies and operating procedures, resulting in different views on management accounting information system. Researchers should be concerned with the interpretation of the analyzed results.

Future Research Directions

According to the results and limitations, this research uses only one industry sample. Thus, it would be interesting to conduct further studies examining the effect of management accounting information systems capability in other industry sectors to see if differences exist. Future research should attempt to be analyzed by using other populations. Additionally, data analysis should distinguish between alcohol and non-alcoholic businesses.

Several hypotheses are not statistically significant. For this reason, further research is recommended to re-investigate them. This may be due to the fact that the measurements of all constructs in this research are newly developed with some

modifications, based on the literature reviews and related theories. Also, the measurements are developed using the content validation with business experts.
To modify the constructs, researchers should develop and modify them with mixed methods, such as using in-depth interviews and face validation with real practitioners, along with the development from literature reviews and content validation with business experts. Further research should modify some question items of such constructs.

BIBLIOGRAPHY

BIBLIOGRAPHY

Aaker, D.A., Kumar, V. and Day, G.S. (2001). *Marketing research*. 7th ed. New York: John Wiley and Sons.

Abu-Musa, A.A. (2008). Information technology and its implications for internal auditing: An empirical study of Saudi organizations. *Managerial Auditing Journal*, 23(5), 438-466.

Agbim, K.C. (2013). The relative contribution of management skills to entrepreneurial success: A survey of small and medium enterprises (SMEs) in the trade sector. *International Organization of Scientific Research Journal of Business and Management*, 7(1), 08-16.

Ahmad, K. and Zabri, M. (2016). The effect of non-financial performance measurement system on firm Performance. *International Journal of Economics and Financial Issues*, 6(6), 50-54.

Ahmad, S. (2014). Technology in organizations. *International Journal of Research in Business Management*, 2(7), 73-80.

Al-Dalaien, B.O.A., Khan, N.A., Albashabsheh, A.A.N. and Irbihat, B.E.H. (2016). Role of management accounting information systems on managerial decisions in selected Indian companies. *International Research Journal of India*, 2(3), 1-7.

Allahyari, A. and Ramazani, M. (2011). Firm technological change and its effects on management accounting change: case study of Iranian manufacturing firms. *Global Journal of Management and Business Research*, 11(9), 56-62.

Al-mawali, H. (2013). Performance consequences of management accounting system information usage in Jordan. *Business and Economic Horizons*, 9(1), 22-31.

Al-Zubi, Z., Shaban, O.S. and Alnaser, N. (2014). The effect of business intelligence tools on raising the efficiency of modern management accounting. *International Review of Management and Business Research*, 3(1), 68-77.

Amit, R. and Schoemaker, P.J.H. (1993). Strategic assets and organizational rent. *Strategic Management Journal*, 14, 33-46.

Anderson, W.E., Fornell, C. and Lehmann, D. (1994). Customer satisfaction, market share, and profitability: Findings from Sweden. *Journal of Marketing*, 58(3), 53-66.

Anderson, S.W. and Lanen, W.N. (1999). Economic transition, strategy and the evolution of management accounting practices: The case of India. *Accounting, Organizations and Society*, 24, 379-412.

Aral, S. and Weill, P. (2007). IT assets, organizational capabilities, and firm performance: How resource allocations and organizational differences explain performance variation. *Organization Science*, 18(5), 763-780.

Aribaba, F., Asaolut, O. and Olaopa, O. (2011). An evaluation of the impact of technological innovative entrepreneurial development programmers on the performance of small scale business in Nigeria. *Global Journal of Business, Management and Accounting*, 1(1), 1-9.

Armstrong, J.S. and Overton, T.S. (1977). Estimating non-response bias in mail surveys. *Journal of Marketing Research*, 14(3), 396-402.

Astuty, W. (2015). An analysis of the effects on application of management accounting information systems and quality management accounting information. *Information Management and Business Review*, 7(3), 80-92.

Atkinson, A.A., Banker, R.D., Kaplan, R.S. and Young, S.M., (2001). *Management Accounting.* 3rd ed. New Jersey: Prentice-Hall.

Atkinson, A.A., Kaplan, R.S. and Young, S.M., (2005). *Management Accounting: a Custom Edition.* Boston: Pearson Prentice Hall.

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

Ax, C., Greve, J. and Nilson, U. (2008). The impact of competition and uncertainty on the adoption of target costing. *International Journal of Production Economics*, 115, 92-103.

Axson, D. (2010). *Best Practices in Planning and Performance Management, Radically Rethinking Management for a Volatile World*. 3rd ed. New Jersey: John Wiley and Sons.

Bagranoff, N., Simkin, M. and Norman, C. (2010). *Core Concepts of Accounting Information Systems*. 11th ed, New Jersey: John Wiley.

Banker, R., Kauffman, R. and Morey, R. (1990). Measuring gains in operational efficiency from information technology: A case study of the positran deployment at Hardee's, Inc. *Journal of Management Information Systems*, 6(4), 29-54.

Banker, R.V. and Mashruwala, R. (2007). The moderating role of competition in the relationship between nonfinancial measures and future financial performance. *Contemporary Accounting Research*, 24(3), 763-793.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management,* 17(1), 99-119.

Barth, M.E., Beaver, W.H. and Landsman, W.R. (2001). The relevance of value relevance literature for financial accounting standard setter: Another view. *Journal of Accounting and Economics,* 31(1), 77-104.

Beckerle, M. (2008). How business intelligence systems deliver value-Interview with Mike Beckerle of Oco, Inc. *Journal of Digital Asset Management*, 4, 277-290.

Benner, M.J. and Tushman, M.L. (2003). Exploitation, exploration, and process management: the productivity dilemma revisited. *Academy of Management Review*, 28(2), 238-256.

Berry, W.D. and Feldman, S. (1985). *Multiple Regressions in Practice*. Newbury Park (CA): Sage Publications.

Bhanu, N., Ragu, S., Apigiah, C.H., Ragu-Nathan, T.S. and Qiang, T. (2004). A path analytic study of the effect of top management support for information system performance. *The International Journal of Management Science*, 32(2).

Bharadwaj, A. (2000). A resource-based perspective on information technology capability and firm performance: an empirical investigation. *MIS Quarterly,* 24(1), 169-196.

Bhatt, G.D. and Grover, V. (2005). Types of information technology capabilities and their role in competitive advantage: An empirical study. *Journal of Management Information Systems*, 22(2), 253-277.

Bi, R., Davison, R.M. and Smyrnios, K.X. (2013). The effect of IT complementary resources on fast growth small-to-medium enterprise performance: A Resource-based View. *The Pacific Asia Conference on Information Systems 2013 Proceedings*. 112.

Bigelow, M. (2002). How to achieve operational excellence. *Quality Progress*, 35(10), 70-75.

Boulianne, E. (2007). Revisiting fit between AIS design and performance with the analyzer strategic type. *International Journal of Accounting Information Systems*, 8, 1-16.

Bouwens, J. and Abernethy, M.A. (2000). The consequences of customization on management accounting system design. *Accounting, Organizations and Society*, 25(3), 221-241.

Brandas L. (2010). Decision support system model based on rules and OLAP for costs management, *Annals of DAAAM International*, 21(1).

Bruggeman, W. and Slagmulder, R. (1995). The impact of technological change on management accounting. *Management Accounting Research*, 6(3), 241-252.

Brush, C.G. and Chaganti, R. (1998). Businesses without glamour? An analysis of resources on performance by size and age in small service and retail firms. *Journal of Business Venturing*, 14, 233-257.

Buhaisi, I.M.I. (2011) Accounting information and business decisions in developing countries: the case of palestinian managers. *Advances in Management*, 4(1), 58-65.

Burns, J.M., Quinn, M., Warren, L and Oliveira J. (2013). *Management Accounting*, 1st ed. United Kingdom: McGraw-Hill.

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

Byrd, T.A. and Turner, D.E. (2000). Measuring the flexibility of information technology infrastructure: exploratory analysis of a construct. *Journal of Management Information Systems*, 17(1), 167-208.

Castrogiovanni, G.J. (1991). Environmental munificence: A theoretical assessment. *Academy of Management Review*, 16, 542-565.

Cadez, S. and Guilding, C. (2008). An exploratory investigation of an integrated contingency model of strategic management accounting. *Accounting, Organizations and Society*, 33(7-8), 836-863.

Chaikambang, C., Ussahawanitchakit, P. and Boonlua, S. (2012). Strategic cost management and goal achievement: evidence from food businesses in Thailand. *International Journal of Business Strategy*, 12(4), 1-30.

Chapman, C.C. and Kihn, L.A. (2009). Information system integration, enabling control and performance. *Accounting, Organizations and Society*, 34, 151-169.

Chenhall, R.H. (2003). Management control systems design within its organizational context: findings from contingency-based research and directions for the future. *Accounting, Organizations and Society*, 28(2-3), 27-168.

Chenhall, R.H. and Morris, D. (1986). The impact of structure, environment, and interdpendence on the perceived usefulness of management accounting systems. *The Accounting Review*, 61, 16-35.

Chew, C. (2003). What factors influence the positioning strategies in Voluntary Non-Profit Organizations? Towards a conceptual framework. *Local Governance*, 29(4), 288-323.

Chitmun, S and Ussahawanitchakit, P. (2011). Management accounting systems sophistication and decision making performance. *Journal of Academy of Business and Economics*, 11(3).

Choe, J.M. (1998). The effects of user participation on the design of accounting information systems. *Information and Management*, 34(3), 185-198.

———. (2002). The organizational learning effects of management accounting information under advanced manufacturing technology. *European Journal of Information Systems*, 11, 142-158.

———. (2004a). Impact of management accounting information and AMT on organizational performance. *Journal of Information Technology*, 19, 203-214.

———. (2004b). The relationships among management accounting information, organizational learning and production performance. *The Journal of Strategic Information Systems*, 13(1), 61-85.

Chong, V.K. (1996). Management accounting systems, task uncertainty and managerial performance: a research note. *Accounting, Organizations and Society*, 21(5), 415-421.

Chong, V.K. and Rundus, M.J. (2004). Total quality management, market competition and organizational performance. *The British Accounting Review*, 36, 155-172.

Christina, V. (2013). The mediation effect of management accounting information system on the relationship between knowledge of accounting function, perception of environmental uncertainty and managerial performance. *Proceedings of the 6th International Conference of the Asian Academy of Applied Business (AAAB)*. Bandung, Indonesia.

Chung, S.H. and Cheng, K.C, (2016). The relationships among personality, management accounting information systems, and customer relationship quality. *5th IIAI International Congress on Advanced Applied Informatics (IIAI-AAI)*. Kumamoto, Japan, 759-763.

Ciabuschi, F., Perna A. and Snehota I. (2012). Assembling resources when forming a new business. *Journal of Business Research*, 65, 220-229.

Coffie, S. (2016). An exploration of managerial views on positioning services in Ghana. *Journal of African Business*, 17(3), 360-376.

Collis, D.J. (1994). Research note: how valuable are organizational capabilities. *Strategic Management Journal*, 15(8), 143-52.

Consoli, D. (2010). Analysis of use Web 2.0 technology in small and medium companies to implement enterprise 2.0 model. *Economy and Management: Issues and Perspectives*, 4(20), 13-20.

Dandago, K.I. and Rufai, A.S. (2014). Information technology and accounting information system in the Nigerian banking industry. *Asian Economic and Financial Review*, 4(5), 655-670.

Dechow, N. and Mouritsen, J. (2005). Enterprise resource planning system, management control and quest for integration. *Accounting, Organization and Society*, 30, 691-733.

Dess, G.G. and Beard, D.W. (1984). Dimensions of organizational task environments. *Administrative Science Quarterly*, 29, 52-73.

Dinter, B. (2013). Success factors for information logistics strategy - An empirical investigation. *Decision Support Systems*, 54(3), 1207-1218.

Ditkaew, N. and Ussahawanitchakit, P. (2010). Success of ERP implementation in Thai industrial firms: an empirical research of its antecedents and consequences. *Journal of Academy of Business and Economics*, 10(1).

Dixon, N.M. (1999). *The Organizational Learning Cycle: How we can Learn Collectively*. 2nd ed. Gower.

Drury, C. (2000). *Management and Cost Accounting*, 5th ed. London: Thompson Business Press.

Egelhoff, W. G. (1991). Information-processing theory and the multinational enterprise. *Journal of International Business Studies*, 22, 341-368.

Elbashir, M.Z., Collier, P.A. and Davern, M.J. (2008). Measuring the effects of business intelligence systems: The relationship between business process and organizational performance. *International Journal of Accounting Information Systems*, 9(3), 135-153.

Elbashir, M.Z., Collier, P.A. and Sutton, S.G. (2011). The role of organizational absorptive capacity in strategic use of business intelligence to support integrated management control systems. *Accounting Review*, 86(1), 155-184.

Elbashir, M.Z., Collier, P.A., Sutton, S.G., Davern, M.J. and Leech, S.A. (2013). Enhancing the business value of business intelligence: The role of shared knowledge and assimilation. *Journal of Information Systems*, 27(2), 87-105.

Elg, M. and Kollberg, B. (2009). Alternative arguments and directions for studying performance measurement. *Total Quality Management*, 20(4), 409-421.

Ferguson, C. and Seow, P.S. (2011). Accounting information systems research over the past decade: Past and future trends. *Accounting and Finance*, 51(1), 235.

Field, A.P. (2009) *Discovering Statistics Using SPSS: (and sex and drugs and rock 'n' roll)*, Los Angeles, London: SAGE.

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

Georgantzas, N.C. and Katsamakas, E.G. (2010). Performance effects of information systems integration: A system dynamics study in a media firm. *Business Process Management Journal*, 16(5), 822-846.

George, G. (2005). Organizational slack and the performance of privately held firms. *Academy of Management Journal*, 48(4), 661-676.

Gerdin, J. (2005). Management accounting system design in manufacturing departments: an empirical investigation using a multiple contingencies approach. *Accounting, Organizations and Society*, 30, 99-126.

Glazer, R. and Weiss, A. (1993). Marketing in turbulent environments: decision processes and the time-sensitivity of information. *Journal of Marketing Research*, 15, 509-21.

Golafshani, N. (2003). Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report*, 8(4), 597-607.

Goll, I. and Rasheed A.M.A. (1997). Rational decision-making and firm performance: the moderating role of environment. *Strategic Management Journal*, 18(7), 37-53.

Goll, I. and Rasheed, A.A. (2004). The moderating effect of business environmental munificence and dynamism on the relationship between discretionary social responsibility and firm performance. *Journal of Business Ethics*, 49, 41-54.

Grabski, S.V. and Leech, S.A. (2007). Complementary controls and ERP implementation success. *International Journal of Accounting Information Systems*, 8(1), 17-39.

Grande, E.U., Estebanez, R.P. and Colomina, C.M. (2011). The impact of Accounting Information Systems (AIS) on performance measures: empirical evidence in Spanish SMEs. *The International Journal of Digital Accounting Research*, 11(1), 25-43.

Gross, J.B. and Hanken, J. (2008). Review of fate-mapping studies of osteogenic cranial neural crest in vertebrates. *Developmental Biology*, 317, 389-400.

Gul, F. and Chia, Y.M. (1994). The effects of management accounting systems, perceived environmental uncertainty and decentralization on managerial performance: A test of three-way interaction. *Accounting, Organizations and Society*, 19, 413-426.

Güney, A. (2014). Role of technology in accounting and e-accounting. *Procedia - Social and Behavioral Sciences*, 152, 852-855.

Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010). *Multivariate Data Analysis*. 7th ed. Upper Saddle River, New Jersey: Pearson Education International.

Hall, J.A. (2011). *Accounting Information Systems*. 7th ed. Mason, USA: South-Western Cangage Learning.

Hansen, D.R. and Mowen, M.M. (2007). *Managerial Accounting*. 8th ed. USA: Thomson.

Heidmann, M. (2008). *The Role of Management Accounting Systems in Strategic Sensemaking*. Germany: Deutscher Universitats-Verlag.

Heidmann, M., Schaffier, U. and Strahringer, S. (2008). Exploring the Role of management accounting system in strategic sensemeking. *Information System Management*, 25, 81-99.

Helfat, C.E. and Peterraf, M.A. (2003). The dynamic resource-based view: Capability lifecycles. *Strategic Management Journal*, 24, 997-1010.

Hendricks, K. B. and Singhal. V. R. (2001). Firm characteristics, total quality management, and firm performance. *Journal of Operations Management*, 19, 269-285.

Henri, J.F. (2006). Organizational culture and performance measurement systems. *Accounting, Organizations and Society*, 31, 77-103.

Hertati, L. and Zarkasyi, W. (2016). Effect of competence user information system, the quality of accounting information systems management and implications in satisfaction user information system (State owner in Sumatera Selatan). *European Journal of Accounting, Auditing and Finance Research*, 3(2), 35-60.

Ho, S.J. and Mallick, S.K. (2010). The impact of information technology on the banking industry. *Journal of the Operational Research Society,* 61(2), 211-221.

Holmes, S. and Nichlos, D. (1988). An analysis of the use of accounting information by Australian small business. *Journal of Small Business Management*, 26(2), 57-68.

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

Hooley, G.J., Saunders, J.A. and Piercy, N.F. (2004). *Marketing Strategy and Competitive Positioning.* 3rd ed. Harlow: Prentice-Hall.

Hornby, A.S. (2005). *Oxford Advanced Learner's Dictionary of Current English. International Students*. 7th ed. India: Oxford University Press.

Horngren, C.T., Bhimani, A., Datar, S.M. and Foster, G. (2005). *Management and Cost Accounting.* Harlow: Prentice Hall.

Horngren, C.T, Foster, G. and Datar, S.M. (2007). *Cost Accounting: A Managerial Emphasis*. 4th ed. Toronto: Pearson Prentice Hall.

Horngren, C.T., Sundem, G.L., Stratton, W.O., Burgstahler, D. and Schatzberg, J. (2008). *Introduction to Management Accounting*. 14th ed. USA: Pearson Prentice Hall.

Hubbard, D. (2010). *How to Measure Anything: Finding the Value of Intangibles in Business*. Hoboken, NJ: John Wiley and Sons.

Hubber, G. (1990). A theory of the effects of advanced information technologies on organizational design, intelligence and decision making. *Academy Management Review*, 15, 47-71.

Hurt, R. L. (2008). *Accounting Information System: Basic Concepts and Current Issues*. Boston: McGraw-Hill,

Hussain, M., Gunasekaran, A. and Latinen, E.K. (1998). Management accounting systems in Finnish service firms. *Technovation*, 18(1), 57-67.

Inc Statement of Accounting Standard No.10. (1990). *International Accounting Standard Board*. n.p.: n.p.

Ismail, N.A. and King, M. (2005). Firm performance and AIS alignment in Malaysian SMEs. *International Journal of Accounting Information Systems*, 6, 241-259.

Ismail, K., Zainuddin, S. and Sapiei, N.S. (2010). The use of contingency theory in management and accounting research. *Journal of Accounting Perspectives*, 3, 22-37.

Ittner, C. and D. Larcker, (1998). Are nonfinancial measures leading indicators of financial performance? An analysis of customer satisfaction. *Journal of Accounting Research*, 36, 1-35.

Ivanovic, S., Perman, L. and Grlj, I. (2015). Impact of technological development on business efficiency in the food and beverage department. *UTMS Journal of Economics*, 6(2), 321-330.

Jhamb, H.V. (2009). *Fundamentals of Management Accounting*. 2nd ed. New Delhi: Anne books pvt.ltd.

Jovarauskiene, D. and Pilinkiene, V. (2009). E-Business or E-Technology?. *Engineering Economics*, 1(61), 83-89.

Kalagnanam, S.S. and Lindsay, R.M. (1999). The use of organic models of control in JIT firms: generalizing Woodward's findings to modern manufacturing practices. *Accounting, Organizations and Society*, 24, 1-30.

Kang, S., Park, J.H. and Yang, H.D. (2008). ERP alignment for positive business performance: evidence from Korea's ERP market. *Journal of Computer Information Systems*, 48(4), 25-38.

Kaplan, R.S. and Atkinson, A.A. (1998). *Advanced Management Accounting*. 3rd ed. Prentice Hall International.

Kara, E. and Y. Kilic (2011). Accounting recording system on accrual basis at local authorities in Turkey: An application in Gaziantep Local Municipality. *International Journal of Business and Social Science*, 2(15), 244-250.

Kasikorn Research Center. (2015). Foods and Beverages. *KResearch*, 1-23.

Keller, R.T. (1994). Technology-information processing fit and the performance of R&D project groups: A test of contingency theory. *The Academy of Management Journal*, 37(1), 167-179.

Kervin, J. (1999). *Methods for Business Research*, 2nd ed. Massachusetts: Addison-Wesley, Reading.

Kim, Y.J., Song, J. and Koo, C. (2008). Exploring the effect of strategic positioning on firm performance in the e-business context. *International Journal of Information Management*, 28, 203-214.

Kipesha, E.F. (2013). Impact of size and age on firm performance: Evidences from Microfinance Institutions in Tanzania. *Research Journal of Finance and Accounting*, 4(5), 105-116.

Klarner, P. and Raisch, S. (2013). Move to the Beat-Rhythms of Change and Firm Performance. *Academy of Management Journal*, 56(1), 160-184.

Klovienė, L. and Gimžauskienė, E.D. (2014). Development of accounting system according to an information technology. *Review of Economic Studies and Research Virgil Madgearu*, 2, 59-74.

Knight, K. E. and McDaniel, R.R. (1979). *Organizations: An information Systems Perspective Belmont*, CA: Wadsworth Publishing Co.

Kohli, R. and Grover, V. (2008). Business value of IT: An essay on expanding research directions to keep up with the times. *Journal of the Association for Information Systems*, 9(1), 23–39.

Kokfai, S., Pratoom, K. and Muenthaisong, K. (2016). *Strategic Entrepreneurial Capability and Service success: An Empirical Investigation of Spa Businesses in Thailand*. Ph.D. Dissertation, Mahasarakham Business School, Mahasarakham University. Thailand.

Konthong, A. and Ussahawanitchakit, P. (2010). AIS competency, accounting outcomes, and firm performance: An empirical study of Thai-List firms. *JIMS*, 10(4).

Kotler, P. and Andreasen, A.R. (2006). *Strategic Marketing for Non-profit Organizations.* 5th ed. New Jersey: Pearson Education/Prentice-Hall, Upper Saddle River,.

Kozlowski, S.W.J., Gully, S.M., Brown, K.G., Salas, E., Smith, E. M. and Nason, E.R. (2001). Effects of training goals and goal orientation traits on multidimensional training outcomes and performance adaptability. *Organizational Behavior and Human Decision Processes*, 85, 1-31.

Kundeliene, K. (2011). Business processes accounting quality attributes assessment: Empirical research in Lithuanian organizations. *Economics and Management*, 16, 66-72.

Lee, C.L. and Yang, H.J. (2011). Organization structure, competition and performance measurement systems and their joint effects on performance. *Management Accounting Research*, 22(2), 84-104.

Leong, L. and Jarmoszko, A.T. (2010). Analyzing capabilities and enterprises Strategy: a value proposition framework. *International Journal of Management and Information Systems*, 14, 53-59.

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.

Liang, H. and Xue, Y. (2004). Coping with ERP-related contextual issues in SMEs: a vendor's perspective. *The Journal of Strategic Information Systems*, 13(4), 399-415.

Loonam, J.A and McDonagh, J. (2005). Exploring top management support for the introduction of enterprise information system: a literature review. *Irish Journal of Management*, 26(1), 163.

MacMillan, L. (2010). Six keys to real-time analytics: how to maximize analytics initiatives. *Business Information Review,* 27(3), 141-143.

Malmi, T. and Brown, D.A. (2008). Management control systems as a package opportunities, challenges and research directions. *Management Accounting Research*, 19, 287-300.

Manna, A.Q. (2012). *Evaluation of the Role of Top Management in Achieving Synergy between Organizational Structure and Information Technology in Communications and Banking Sectors*. Doctoral theses, Amman Arab University, Jordan.

Mark, H.I., Cindy, T.L. and Jerry, W.L. (2012). Organizational factors for successful implementation of information system: *Disentangling the Effect of Top Management Support and Training. Proceeding of The Southern Association for Information System Conference*. USA.

Martinez, L.A.R., Sanchez R.C. and Dewhurst, F.W. (2004). The effect of information technologies on TQM: An initial analysis. *International Journal of Production Economics*, 89(1), 77-93.

Mary, O.E., Enyinna, U.K. and Franca, N.C. (2015). Evaluation of operations management and its impact on improved logistics control. *International Journal of Economics, Commerce and Management*, 3(5), 590-604.

Mat, T.Z.T. (2010). *Management Accounting and Organizational Change: Impact of Alignment of Management Accounting System, Structure and Strategy on Performance*. Ph.D. Dissertation. Philosophy School of Accounting, Finance and Economics Faculty of Business and Law Edith Cowan University. Perth Western Australia.

Mauldin, E.G. and Ruchala, L.V. (1999). Towards a meta-theory of accounting information systems. *Accounting, Organizations and Society*, 24, 317-331.

Melnikas, B. (2008). The knowledge-based economy in the European Union: Innovations, networking and transformation strategies. *Transformations in Business and Economics*, 7(3), 170-192.

Melville, N., Kraemer, K. and Gurbaxani, V. (2004). Review: information technology and organizational performance: an integrative model of it business value. *MIS Quarterly*, 28(2), 283-322.

Mia, L and Winata, L. (2008). Manufacturing strategy, broad scope MAS information and information communication technology. *The British Accounting Review*, 40(2), 182-192.

Mindy, W.T. (1998). Paradigm Lost. *Human Resource Executive*, (July 1998), 52.

Mohrman, S.A., Finegold, D. and Mohrman, A.M. (2003). An empirical model of the organization knowledge system in new product development firms. *Journal of Engineering and Technology Management*, 20(1-2), 7-38.

Mosakowski, E. (1993). A resource-based perspective on the dynamic strategy performance relationship: An empirical examination of the focus and differentiation strategies in entrepreneurial firms. *Journal of Management*, 19(4), 819-839.

Moss, L.T. and Atre, S. (2003). *Business Intelligence Roadmap: the Complete Project Lifecycle for Decision-support Applications*. Addison-Wesley Professional.

Nada, R.S. and Robert, P. (2005). Modeling the relationship between firm IT capability, collaboration, and performance, *Journal of Business Logistics*, 26(1), 1-23.

Namwong, K., Jhundra-indra, P., and Raksong, S. (2015). Dynamic organizational learning strategy and firm survival: An empirical study of instant foods and convenience foods businesses in Thailand. *AU-GSB e-JOURNAL*, 8(2).

Napitupulu, I.H. (2015). Antecedence of user satisfaction in management accounting information systems quality: user involvement and user competency (survey of Indonesia manufacture company managers). *International Journal of Applied Business and Economic Research*, 13(2), 561-577.

Napitupulu, I.H. and Dalimunthe, A.R. (2015). The influence of information system user competency and the quality of management accounting information systems on user satisfaction. *Australian Journal of Basic and Applied Sciences*, 9(31), 660-667.

Napitupulu, I.H., Mahyuni, S. and Sibarani, J.L. (2016). The impact of internal control effectiveness to the quality of management accounting information system: the survey on state-owned enterprises (SOEs). *Journal of Theoretical and Applied Information Technology*, 88(2), 358-366.

Naranjo-Gil, D. (2004). The role of sophisticated accounting system in strategy management. *International Journal of Digital Accounting Research*, 4(8), 125-144.

Naranjo-Gil, D. and Hartmann, F. (2007). Management accounting system, top management team heterogenetty and strategic Change. *Accounting, Organizations and Society*, 32, 735-756.

Neirotti, P. and Paolucci, E. (2007). Assessing the strategic value of information technology: An analysis on the insurance sector. *Information and Management*, 44(6), 568-582.

Neuman, W.L. (2006). *Social Research Methods: Qualitative and Quantitative Approaches*. Toronto: Pearson.

Nevo, S. and Wade, M.R. (2010). The formation and value of IT-enabled resources: Antecedents and consequences of synergistic relationships. *MIS Quarterly*, 34(1), 163-183.

Nickels, W.G., McHugh, J. and McHugh. S. (2002). *Understanding Business*. 6th ed. Boston: McGraw-Hill, Inc.

Nicolaou, A.I. (2000). A contingency model of perceived effectiveness in accounting information system: Organizational coordination and control effects. *International Journal of Accounting Information Systems*, 1, 91-105.

Nicolaou, A.I. (2011). Integrated information systems and interorganizational performance: the role of management accounting systems design. *Advances in Accounting Behavioral Research*, 14, 117-141.

Nita, B. (2015). Methodological issues of management reporting systems design. *Quantitative Methods in Accounting and Finance*, 105-116.

Nnenna, O.M., (2012). The Use accounting information as an aid to management in decision making. *British Journal of Science*, 5(1), 52-62.

Noe, R., Hollenbeck, J., Gerhart, B. and Wright, P.H. (2015). *Resource Management: Gaining Competitive Advantage*. 9th ed. Boston: McGraw-Hill.

Nookabadi, A.S. and Middle, J.E. (2006). An integrated quality assurance information system for the design-to-order manufacturing environment, *The TQM Journal*, 18(2), 174-189.

Nunnally, J.C. and Bernstein, I.H. (1994). *Theory*. 3rd ed. New York: McGraw-Hill.

Nwakanma, C.I.N., Asiegbu, B.C., Ogbonna, C.A. and Njoku, P.P.C. (2013). Factors affecting successful implementation of information technology projects: experts' perception. *European Scientific Journal*, 9(27), 128-137.

O'Brien, J.A. (2004). *Management Information System: Managing Information Technology in the Business Enterprise*. 6th ed. New York. Mc: Graw-Hill.

O'Brien, J.A. and Marakas G.M. (2010). *Management Information Systems: Managing Information Technology in the Business Enterprise*. 15th ed. New York: McGraw-Hill.

Oh, W. and Pinsonneault, A. (2007). On the assessment of the strategic value of information technologies: Conceptual and analytical approaches. *MIS Quarterly*, 31(2), 239-265.

Otley, D.T. (2016). The contingency theory of management accounting and control: 1980-2014. *Management Accounting Research*, 31, 45-62.

Pallant, J. (2007). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS for Windows*. Maidenhead: Open University Press.

Papazov, E. and Mihaylova, L. (2015). Organization of management accounting information in the context of corporate strategy. *Procedia - Social and Behavioral Sciences*, 213, 309-313.

Patel, S.B.P. (2015). Effects of accounting information system on organizational profitability. *International Journal of Research and Analytical Reviews*, *2*(1), 72-76.

Patiar, A. and Mia, L. (2008). The interactive effect of market competition and use of MAS information on performance: Evidence from the upscale hotels. *Journal of Hospitality and Tourism Research*, 32(2), 209-234.

Perneger, T.V., Courvoisier, D.S., Hudelson, P.M. and Gayet-Ageron, A. (2015). Sample size for pre-tests of questionnaires. *Quality of Life Research*, 24(1), 147-151.

Perrow, C. (1970). *Organizational Analysis: A Sociological View*. California: Wadsworth Publishing Company.

Peters, M. and Wieder, B. (2013). Business intelligence systems for competitively advantageous performance management capabilities: Theory and empirics, *AFAANZ Conference, Perth, Australia.*

Petrini M. and Pozzebon, M. (2009). Managing sustainability with the support of business intelligence: Integrating socio-environmental, indicators and organizational context, *Journal of Strategic Information Systems*, 18, 178-191.

Pilat, D. (2004). The ICT productivity paradox: Insights from micro data. *OECD Economic Studies*, 38, 37-65.

Ponklang, P., Pratoom, K. and Raksong, S. (2014). *Cost Allocation Effectiveness and Organizational Survival: An Empirical Assessment of Textile Manufacturing Businesses in Thailand.* Ph.D. Dissertation, Mahasarakham Business School, Mahasarakham University. Thailand.

Popovič, A., Coelho, P. and Jaklič, J. (2009). The impact of business intelligence system maturity on information quality. *Information Research*, 14(4), 417.

Powell, T.C. and Dent-Micallef, A. (1997). Information technology as competitive advantage: The role of human, business, and technology resources. *Strategic Management Journal*, 18(5), 375-405.

Premkumar, G., Ramamurthy, K. and Saunders, C.S. (2005). Information processing view of organizations: an exploratory examination of fit in the context of interorganizational relationships. *Journal of Management Information Systems*, 22(1), 257-294.

Prempree, K. and Ussahawanitchakit, P. (2012). Modern cost management strategy implementation and firm performance: evidence from chemical manufacturing businesses in Thailand. *International Journal of Strategic Management*, 12(3), 1-13.

Primchard, J. and G. Cole. (2006). Standardization, compatibility and innovations. *RAND Journal of Economics*, 16(1).

Ramli, I. and Iskandar, D. (2014). Control authority, business strategy, and the characteristics of management accounting information systems. *Procedia - Social and Behavioral Sciences*, 164, 384-390.

Rani, D.L. and Kidane, F. (2012). Characteristics and important quality factors of management accounting information system. *Radix International Journal of Banking, Finance and Accounting (RIJBFA)*, 1(7).

Rasouli, F., Valipour, H. and Moradi, J. (2014). The effect of organizational learning on applying management accounting information and firm producing operation. *Interdisciplinary Journal of Contemporary Research in Business*, 5(9), 391-402

Ravinchandran, T. and Lertwongsatien C. (2005). Effect of information systems resources and capabilities on firm performance: A resource-based perspective. *Journal of Management Information Systems*, 21(4), 237-276.

Ray, G., Barney, J.B. and Muhanna, W.A. (2004). Capabilities, business process, and competitive advantage: Choosing the dependent variable in empirical tests of the resource-based view. *Strategic Management Journal*, 25(1), 23-27.

Reisman, A. (2006). Transfer of technologies: A cross-disciplinary taxonomy. *The International Journal of Management Science*, 33, 189-202.

Robert, T.L. (2006). Effective cost management: Back to basics. *Cost Engineering*, 48(3), 27-33.

Romney, M.B. and Steinbart, P.J. (2012). *Accounting Information Systems*. 12th ed. USA: Pearson.

Roodposhit, F.R., Nikoomaram, H. and Mahmoodi, M. (2012). Management accounting information system based on decision support and business intelligence on ROI and ROE. *International Journal of Asian Social Science*, 2(5), 730-738.

Rudez, H.N. and Mihalic, T. (2007). Intellectual capital in the hotel industry: A Case Study from Sloveniam, *Hospitality Management*, 26, 188-189.

Saban M. and Efeoglu Z. (2012). An examination of the effects of information technology on managerial accounting in the Turkish Iron and Steel Industry. *International Journal of Business and Social Science*, 3(12), 105-117.

Sabherwal, R. and Chan, Y.E. (2001). Alignment between business and IS strategies: A study of prospectors, analyzers, and defenders. *Information Systems. Research*, 12(1), 11-33.

Sabherwal, R., Jeyaraj, A. and Chowa, C. (2006). Information system success: Individual and organizational determinants. *Management Science*, 52(12), 1849-1864.

Salehi M., Rostami V. and Mogadam, A. (2010). A usefulness of accounting information system in emerging economy: Empirical evidence of Iran. *International Journal of Economics and Finance*, 2(2), 186-195.

Sambamurthy, V., Bharadwaj, A.S. and Grover, V. (2003). Shaping agility through digital options: Reconceptualizing the role of information technology in contemporary firms. *MIS Quarterly*, 27(2), 237-263.

Schoenfeld, A.H. (1999). Looking toward the 21st century: Challenges of educational theory and practice. *Educational Researcher*, 28(7), 4-14.

Schroeder, D.M., Congden, S.W. and Gopinath, C. (1995). Linking Competitive Strategy and Manufacturing Process Technology. *Journal of Management Studies*, 32(29), 163-189.

Sealehi, M. and Abdipour, A. (2011). A study of the barrier of implementation of accounting information systems. *Journal of Economic and Behavioral Studies*, 2(2), 76-85.

Sekaran, U. and Bougie, R. (2010) *Research Methods for Business: A skill-building approach*. Chichester: Wiley.

Seliem, A.M., Ashour, A.S., Khalil, O.M. and Millar, S.J. (2003). The relationship of some organizational factors to information systems effectiveness; A contingency analysis of Egyptian data. *Journal of Global Information Management*, 11(1), 40-72.

Siyanbola, T. (2012). Accounting information as an aid to management decision making. *International Journal of Management and Social Sciences Research*, 1(3), 29-30.

Smith, K.G., Grimm, C.M., Gannon, M.J. and Chen, M. (1991). Organizational information processing, competitive responses, and performance in the U.S. domestic airline industry. *The Academy of Management Journal*, 34(1), 60-85.

Soegiharto. (2001). Influence factors affecting the performance of accounting information system. *Gajah Mada International Journal of Business*, 3(2), 177-202.

Sprinkle, G.B. (2003). Perspective on experimental research in managerial accounting. *Accounting, Organizations and Society*, 28(2-3), 287-318.

Srivardhana, T. and Pawlowski S.D. (2007). ERP systems as an enabler of sustained business process innovation: A knowledge-based view. *The Journal of Strategic Information Systems*, 16(1), 51-69.

Stewart, G.L. and Brown, K.G. (2011), *Human Resource Management - linking Strategy to Practice*. John Wiley and Sons, Inc.

Stoel, D.M. and Muhanna, W.A. (2009). IT capabilities and firm performance: A contingency analysis of the role of industry and IT capability type. *Information and Management*, 46(3), 181-189.

Strumickas, M. and Valanciene, L. (2010). Development of modern management accounting system. *Engineering Economics*, 21(4), 377-386.

Su, Z., Xie, E. and Li, Y. (2009) .Organizational slack and firm performance during institutional transitions. *Asia Pacific Journal of Management*, 26(1), 75-91.

Subriadi, A.P., Hadiwidjojo, D., Djumahir, Rahayu, M. and Sarno, R. (2013). Firm age, firm size and information technology intencity industry factors in influencing information technology contribution to improve performance. *Journal of Theoretical and Applied Information Technology*, 54(3), 487-496.

Susanto, A. (2008). *Sistem Informasi Akuntansi; Struktur Pengendalian Resiko Pengembangan*. Edisi Perdana, Bandung: Lingga Jaya.

Sutcliffe, K.M. (1994). What executives notice: Accurate perceptions in top management teams. *Academy of Management Journal*, 37, 1360-1378.

The Excise Department. (2015). *Product Beverages Excise Department with Tax Collection*. [Online]. Available from: http://www.excise.go.th. (Accessed March 15, 2015).

Thompson, J.D. (1967). *Organizations in Action*. New York: McGraw Hill.

Thong, J.Y.L. (2001). Resource constraints and information systems implementation in Singaporean small business. *OMEGA International Journal of Management Science*, 29, 143-156.

Thoumrungroje, A. (2013). *Handbook of Research Methodology in International Business*. Thailand: Triple Education.

Tontiset, N. and Ussahawanitchakit, P. (2009). Effects of cost management effectiveness on cost information usefulness, corporate competitiveness, and firm success: An empirical study of Thai manufacturing firms. *Journal of Academy of Business and Economics*, 9(2), 91-102.

Tsui, J.S.L. (2001). The impact of culture on the relationship between budgetary participation, management accounting systems, and managerial performance: An analysis of Chinese and Western managers. *The International Journal of Accounting*, 36, 125-146.

Turban, E. and Volonino, L. (2010). *Information Technology for Management Transforming Organizations in the Digital Economy*. 7th ed. Hoboken, NJ: Jon Wiley and Son, Inc.

Tushman, M.L. and Nadler, D.A. (1978). Information processing as an integrating concept in organizational design. *Academy of Management Review*, 3(3), 613-624

Ullah, M.H., Khonadakar J.A. and Fahim, S.T. (2014). Role of accounting information in strategic decision making in manufacturing industries in Bangladesh. *Global Journal of Management and Business Research, Accounting and Auditing*, 14(1), 8-22.

Vuori V. (2006). *Methods of Defining Business Information Needs. Frontiers of e-Business Research Conference.* Tampere University of Technology, Tampere, Finland.

Wade, M. and Hulland, J. (2004). The resource-based view and information systems research: review, extension, and suggestions for future research, *MIS Quarterly*, 28(1), 107-142.

Wall, F. and Greiling, D. (2011). Accounting information for managerial decision-making in shareholder management versus stakeholder management. *Review of Management Science*, 5(2-3), 91-135.

Wang, N., Liang, H., Zhong, W., Xue, Y. and Xiao, J. (2012). Resource structuring or capability building? An empirical study of the business value of information technology. *Journal of Management Information Systems*, 29(2), 325-367.

Ware, E.O. (2015). Computerized accounting system an effective means of keeping accounting records in Ghanaian banks: a case study of the Ga Rural bank. *International Journal of Research in Business Studies and Management*, 2(11), 111-141.

Whitten, J.L. and Bentley, L.D., (2007), *Systems Analysis and Design Methods*. 7th ed. Irwin: McGrow-Hill.

Whyte, G. and Bytheway, A. (1996). Factors affecting information systems' success. *International Journal of Service Industry Management*, 7(1), 74-93.

Wieder, B., Ossimitz, M.L. and Chamoni, P. (2012). The impact of business intelligence tools on performance: A user satisfaction paradox?. *International Journal of Economic Sciences and Applied Research*, 5(3), 7-32.

Wier, B., Hunton, J. and Hassab, E.H.R. (2007). Enterprise resource planning systems and non-financial performance incentives: The joint impact on corporate performance. *International Journal of Accounting Information Systems*, 8(3), 165-90.

Wilkinson, J.W., Cerullo, M.J., Raval, V. and Wong-on-wing, B. (2000). *Accounting Information Systems – Essential Concepts and Applications*. 4th ed. USA: John Wiley.

Williams, J.R., Haka S.F., Bettner M.S. and Carcello J.V. (2010). *Financial and Managerial Accounting: The Basis for Business Decisions*, 15th ed. New York: McGraw-Hill.

Williams, J.J. and Seaman, A.E. (2002). Management accounting systems change and departmental performance: the influence of managerial information and task uncertainty. *Management Accounting Research*, 13, 419-445.

Winch, G. and Carr, B. (2001). Process, maps and protocols: Understanding the shape of the construction process. *Journal of Construction Management and Economics*, 19, 519-531.

Winston, E.R. and Dologite, D.G. (1999). Achieving IT infusion: A conceptual model for small business. *Information Resources Management Journal*, 12(1), 26-38.

Wixom, B.H. and Watson, H.J. (2010). The BI-based organization. *International Journal of Business Intelligence Research*, 1(1), 13-28.

Woldehawariat, F. (2013). *The Role of Management Accounting Information Systems on Managerial Decisions in Printing Industry in Ethiopia (Thee of medium and large scale printing)*. The Degree of Doctor of Philosophy in Commerce and Management Studies. College of Arts and Commerce Andhra University.

Yadav, M.S. (2016). The impact of information technology on modern accounting systems with reference to Pune Region. *International Journal of Research in IT and Management (IJRIM)*, 6(8), 87-94.

Yamane, T. (1973). *Statistics: an Introductory Analysis*. New York: Harper and Row.

Yee, R.W.Y., Yeung, A.C.L. and Cheng, T.C. (2008). The impact of employee satisfaction on quality and profitability in high-contact service industries. *Journal of Operations Management*, 26(5), 651-886.

Yeh, C.H., Lee, G.G. and Pai, J.C. (2012). How information system capability affects e-business information technology strategy implementation: An empirical study in Taiwan. *Business Process Management Journal*, 18(2), 197-218.

York, K.M. and Miree, C.E. (2004). Causation or co-variation: An empirical re-examination of the link between TQM and financial performance. *Journal of Operations Management*, 22, 291-311.

Young, R. and Jordan, E. (2008). Top management support: Mantra or necessity?. *International Journal of Project Management*, 26(7), 713-725.

Zavadskas E.K., Kaklauskas A. and Banaitis, A. (2010). Application of e-technologies for regional development: the case of Vilnius City. *Journal of Business Economics and Management*, 11(3), 415-427.

APPENDICES

APPENDIX A

The Original Items

Table A: Original Items in Scales

Constructs	**Item**
Operational Information Integration Orientation (OIIO)	
OIIO1	Management accounting information system help the firm to link the organization's operational information systematically.
OIIO2	Management accounting information systems help the firm to integrate the operational data and guidelines for managing information from different entities.
OIIO3	Management accounting information systems help the firm to transfer information and share information between departments within and between departments in a systematic way.
OIIO4	Management accounting information systems enable the firm to consolidate all information into a single system effectively.
Accounting Information Technology Linkage (AITL)	
AITL1	Management accounting information systems enable the firm to manage the information technology as a whole to work together well.
AITL2	Management accounting information systems enable the firm to leverage existing information technology to work together.
AITL3	Management accounting information systems enable the firm to connect other information systems within a business to effectively coordinate.
AITL4	Management accounting information systems help the firm use information technology in a systematic and coherent way.
New Accounting Technology Implementation (NATI)	
NATI1	Management accounting information systems enable the firm to effectively apply accounting technology.
NATI2	Management accounting information systems enable the firm to be up-to-date in learning and understanding technology related to accounting practices.

Table A: Original Items in Scales (Continued)

Constructs	Item
New Accounting Technology Implementation (NATI)	
NATI3	Management accounting information systems enable firm to effectively use accounting-related storage technology.
NATI4	Management accounting information systems enable the firm to change the accounting process to modern and international standards.
MIRC1	Management accounting information systems enable the firm to report potentially relevant information to business.
MIRC2	Management accounting information systems enable the firm to classify and analyze accounting data that meet user needs in a concrete way.
MIRC3	Management accounting information systems enable the firm to present information in a manner consistent with the actual situation.
MIRC4	Management accounting information systems enable the firm to present accurate, fast, and timely accounting information.
Business Management Intelligence Focus (BMIF)	
BMIF1	Management accounting information systems allow the firm to process transactional data in conjunction with other data and provide reports to support decision making that is appropriate to the situation.
BMIF2	Management accounting information systems enable the firm to analyze and present forecasting data for use in planning operations accurately and precisely.
BMIF3	Management accounting information systems enable the firm to analyze data from both internal and external sources and report on objectives.
BMIF4	Management accounting information systems allow the firm to analyze the operations of a business and provide information for effective management decisions.

Table A: Original Items in Scales (Continued)

Constructs	Item
Strategic Positioning Effectiveness (SPE)	
SPE1	Firm can define strategies and management practices more clearly.
SPE2	Firm can determine the competitive position more concrete.
SPE3	Businesses can create strong competitive positions in the industry compared to competitors.
SPE4	Firm can maintain the competitive position continuously.
Cost Management Efficiency (CME)	
CME1	Firm can make decisions, plan, and control costs effectively.
CME2	Firm can provide accurate and actual cost information related to its operation.
CME3	Firm can save more and reduce operating costs.
CME4	Firm can be managed under the appropriate costs in accordance with the situation faced.
Operational process excellence (OIE)	
OIE1	Firm can reduce the process and time to operate efficiently.
OIE2	Firm can consume resources in operational activities, cost effectively, and significantly reduce resource losses.
OIE3	Firm can reduce operational errors continuously, which is certainly measurable.
OIE4	Firm can use technology to adapt the operations to meet customer needs more conveniently and quickly than competitors.
Firm Success (FSC)	
FSC1	Firm has been recognized by customers as the firm with effective management and quality continuously.
FSC2	Executives and employees recognize that the firm is professionally managed and successful in the operations.
FSC3	Firm has a technology that produces quality products and standards acceptable to consumers.

Table A: Original Items in Scales (Continued)

Constructs	Item
Firm Success (FSC)	
FSC4	Loyal customer continue to purchase products from the company.
Organizational Survival (OS)	
OS1	Firm has continued to profit from its operations as compared to the past.
OS2	Firm has a total asset with continuous growth.
OS3	Firm can consistently increase sales compared to the past.
OS4	Firm has a stable financial status continuously.
Business Executive Support (BES)	
BES1	Firm's executives believes that a systematic management system will make the operation more efficient.
BES2	Firm's executives supports employees in continuing education on issues related to their job duties, which will enable them to work more efficiently and systematically.
BES3	Firm's executives focuses on investing and developing technology that is relevant to its operations, which can be operated under the change.
BES4	Firm's executives emphasizes the allocation of budgets for procurement of replacement devices to replace damaged equipment immediately, resulting in smooth and continuous operation.
IT Resource (ITR)	
ITR1	Firm believes that having a good information technology resource helps to improve management and operations.
ITR2	Firm focuses on the development of information technology to be up-to-date and flexible to use, which effectively accommodates change.
ITR3	Firm focuses on investing in information technology as well as providing adequate facilities to achieve its current and future operational goals.
ITR4	Firm always recognizes that having modern information technology resources will help the management succeed.

Table A: Original Items in Scales (Continued)

Constructs	Item
Employee Technology Learning (ETL)	
ETL1	Firm believes that continuous learning about technology by employees will improve both current and future performance.
ETL2	Firms focus on employees to study and understand the changes that are happening in technology, which will help them apply effectively to their work.
ETL3	Firm encourages the use of information technology experience from the past as a guideline for improving and developing management, which will help the effective use of information technology.
ETL4	Firm encourages employees to continually improve their skills, knowledge, and training in information technology, which will enable them to perform their work effectively, both now and in the future.
Best Accounting System (BAS)	
BAS1	Firm believes that having a good accounting system makes management effective.
BAS2	Firm focuses on developing accounting systems in line with corporate strategy and management, which effectively achieves organizational goals.
BAS3	Firm always recognizes that a good accounting system will support the organization's operations more conveniently and quickly, and make management successful.
BAS4	Firm encourages the modernization of the accounting system, which helps to obtain current and actual information.

Table A: Original Items in Scales (Continued)

Constructs	**Item**
Environmental Munificence Potentiality (EMP)	
EMP1	Technology has grown tremendously, making it possible for firms to apply such technology to improve their operational efficiency.
EMP2	Government policies encourage continued business development, enabling firms to develop their own potential for effective business creation.
EMP3	Customers have a greater demand for their products, enabling firms to offer a variety of products through sales channels that better respond to customer needs.
EMP4	The diversity of products nowadays makes it possible for firms to design and develop new products to better serve customers' needs.
Technology Growth (TG)	
TG1	Many technologies are constantly evolving, enabling firms to learn, understand, and benefit the business.
TG2	The growth of modern technology has enabled firms to have the potential and ability to learn about the changes that have taken place.
TG3	The technology for data communication is progressing and modernizing continuously, allowing firms to have a fast way to communicate information.
TG4	Nowadays, technology has diversified, enabling firms to choose such technology to match the characteristics and condition of the business.

APPENDIX B

Item Factor Loading and Reliability Analyses in Pre-Test

Table B: Item Factor Loadings and Reliability Analyses in Pre-Test

Constructs	N	Items	Factor Loadings	Item total correlation	Cronbach's Alpha
Operational Information Integration Orientation (OIIO)	30	OIIO1	.876	.793	.944
		OIIO2	.942	.893	
		OIIO3	.959	.920	
		OIIO4	.933	.875	
Accounting Information Technology Linkage (AITL)	30	AITL1	.892	.810	.933
		AITL2	.960	.922	
		AITL3	.888	.803	
		AITL4	.917	.848	
New Accounting Technology Implementation (NATI)	30	NATI1	.935	.881	.937
		NATI2	.906	.831	
		NATI3	.933	.878	
		NATI4	.894	.812	
Management Information Reporting Competency (MIRC)	30	MIRC1	.913	.848	.947
		MIRC2	.939	.889	
		MIRC3	.934	.882	
		MIRC4	.930	.873	
Business Management Intelligence Focus (BMIF)	30	BMIF1	.941	.895	.955
		BMIF2	.951	.912	
		BMIF3	.926	.870	
		BMIF4	.941	.894	
Strategic Positioning Effectiveness (SPE)	30	SPE1	.844	.727	.896
		SPE2	.886	.790	
		SPE3	.886	.790	
		SPE4	.885	.787	

Table B: Item Factor Loadings and Reliability Analyses in Pre-Test (continued)

Constructs	N	Items	Factor Loadings	Item total correlation	Cronbach's Alpha
Cost Management Efficiency (CME)	30	CME1	.775	.618	.860
		CME2	.853	.728	
		CME3	.837	.694	
		CME4	.891	.787	
Operational process excellence (OIE)	30	OIE1	.871	.769	.887
		OIE2	.929	.846	
		OIE3	.865	.741	
		OIE4	.803	.673	
Firm Success (FSC)	30	FSC1	.832	.661	.811
		FSC2	.884	.751	
		FSC3	.846	.697	
		FSC4	.607	.420	
Organizational Survival (OS)	30	OS1	.921	.858	.945
		OS2	.917	.854	
		OS3	.964	.934	
		OS4	.934	.882	
Business Executive Support (BES)	30	BES1	.768	.554	.823
		BES2	.918	.812	
		BES3	.861	.738	
		BES4	.716	.546	
IT Resource (ITR)	30	ITR1	.878	.763	.896
		ITR2	.877	.769	
		ITR3	.874	.780	
		ITR4	.879	.792	

Table B: Item Factor Loadings and Reliability Analyses in Pre-Test (continued)

Constructs	N	Items	Factor Loadings	Item total correlation	Cronbach's Alpha
Employee Technology Learning (ETL)	30	ETL1	.954	.913	.937
		ETL2	.946	.900	
		ETL3	.881	.792	
		ETL4	.890	.804	
Best Accounting System (BAS)	30	BAS1	.862	.748	.910
		BAS2	.907	.826	
		BAS3	.960	.916	
		BAS4	.847	.741	
Environmental Munificence Potentiality (EMP)	30	EMP1	.716	.515	.766
		EMP2	.707	.498	
		EMP3	.808	.611	
		EMP4	.836	.655	
Technology Growth (TG)	30	TG1	.900	.822	.933
		TG2	.937	.880	
		TG3	.867	.773	
		TG4	.950	.908	

APPENDIX C

Non-Response Bias Tests

Table C: Non-Response Bias Tests

Comparison	N	Mean	S.D.	t	Sig*
Operational period:					
- First Group	71	2.86	1.175	-1.332	.185
- Second Group	70	3.11	1.097		
Operating capital:					
- First Group	71	2.13	1.362	-.008	.994
- Second Group	70	2.13	1.413		
Total firm asset:					
- First Group	71	2.14	1.397	-.248	.805
- Second Group	70	2.20	1.441		
Number of full time employees:					
- First Group	71	2.14	1.302	-.139	.890
- Second Group	70	2.17	1.318		
Average annual income:					
- First Group	71	2.15	1.305	-.139	.890
- Second Group	70	2.19	1.322		

APPENDIX D

Respondent Characteristic

Table D1: Demographic Characteristics of Respondents

Characteristics	Frequencies	Percent (%)
Gender		
1. Male	31	21.98
2. Female	110	78.02
Total	141	100
Age		
1. Less than 35 years old	33	23.40
2. 35-40 years old	25	17.73
3. 41-45 years old	34	24.11
4. More than 45 years old	49	34.76
Total	141	100
Marital status		
1. Single	56	39.72
2. Married	70	49.65
3. Divorced	15	10.63
Total	141	100
Educational level		
1. Bachelor's degree	98	69.51
2. Higher than Bachelor's degree	43	30.49
Total	141	100
Work experiences		
1. Less than 5 years	22	15.60
2. 5 - 10 years	30	21.28
3. 11 - 15 years	26	18.44
4. More than 15 years	63	44.68
Total	141	100

Table D1: Demographic Characteristics of Respondents (Continued)

Characteristics	Frequencies	Percent (%)
Average revenues per month		
1. Less than 50,000 Baht	76	53.90
2. 50,000 – 75,000 Baht	27	19.15
3. 75,001 – 100,000 Baht	9	6.38
4. More than 100,000 Baht	29	20.57
Total	141	100
Current position		
1. Accounting director	19	13.47
2. Accounting manager	68	48.23
3. Accountant	54	38.30
Total	141	100

Table D2: Demographic Characteristics of Beverages Businesses

Characteristics	Frequencies	Percent (%)
Business owner type		
1. Limited company	120	85.11
2. Partnership	21	14.89
Total	141	100
Type of business		
1. Alcoholic beverages business	22	15.61
2. Non-alcoholic beverages business	119	84.39
Total	141	100

Table D2: Demographic Characteristics of Beverages Businesses (Continued)

Characteristics	Frequencies	Percent (%)
Operational period		
1. Less than 5 years	19	13.47
2. 5 – 10 years	35	24.82
3. 11 – 15 years	16	11.35
4. More than 15 years	71	50.36
Total	141	100
Operating capital		
1. Less than 25,000,000 Baht	80	56.74
2. 25,000,000 – 50,000,000 Baht	9	6.38
3. 50,000,001 – 75,000,000 Baht	6	4.26
4. More than 75,000,000 Baht	46	32.62
Total	141	100
Total firm asset		
1. Less than 50,000,000 Baht	80	56.74
2. 50,000,000 – 100,000,000 Baht	7	4.96
3. 100,000,001 – 150,000,000 Baht	4	2.84
4. More than 150,000,000 Baht	50	35.46
Total	141	100
Number of full time employees		
1. Less than 50 persons	69	48.94
2. 50 - 100 persons	22	15.61
3. 101 – 150 persons	9	6.38
4. More than 150 persons	41	29.07
Total	141	100
Average annual income		
1. Less than 20,000,000 Baht	67	47.52
2. 20,000,000 – 40,000,000 Baht	26	18.44
3. 40,000,001 – 60,000,000 Baht	5	3.55
4. More than 60,000,000 Baht	43	30.49
Total	141	100

APPENDIX E

Testing the Assumption of Regression Analysis

Equation 1: $SPE = \alpha 0_1 + \beta_1 OIIO + \beta_2 AITL + \beta_3 NATI + \beta_4 MIRC + \beta_5 BMIF + \beta_6 FA + \beta_7 FS + \varepsilon$

Interdependence of error term

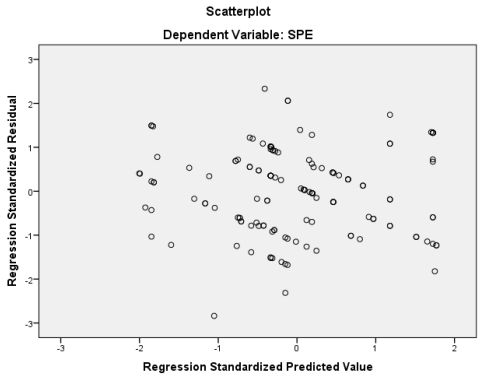
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.612[a]	.374	.341	.81378916	2.047

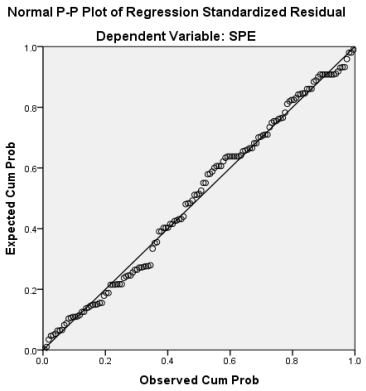
a. Predictors: (Constant), BMIF, Control_AGE, Control_SIZE, AITL, OIIO, NATI, MIRC

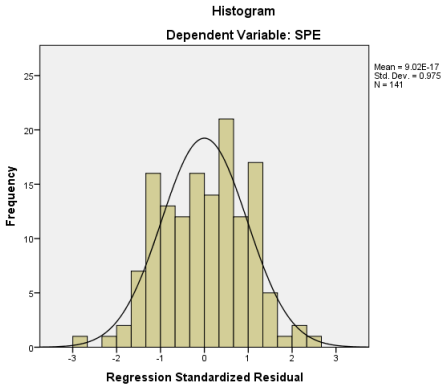
b. Dependent Variable: SPE

Homoscedasticity



Normality





Equation 2: $CME = \alpha 0_2 + \beta_8 OIIO + \beta_9 AITL + \beta_{10} NATI + \beta_{11} MIRC + \beta_{12} BMIF + \beta_{13} FA + \beta_{14} FS + \varepsilon$

Interdependence of error term

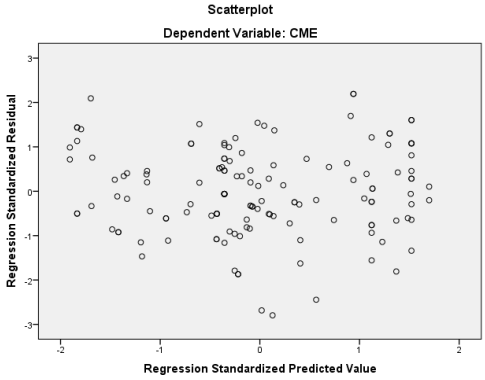
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.721[a]	.519	.494	.71551913	2.036

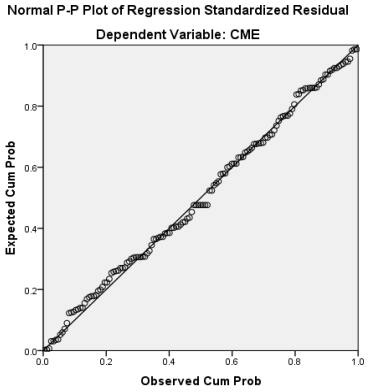
a. Predictors: (Constant), BMIF, Control_AGE, Control_SIZE, AITL, OIIO, NATI, MIRC

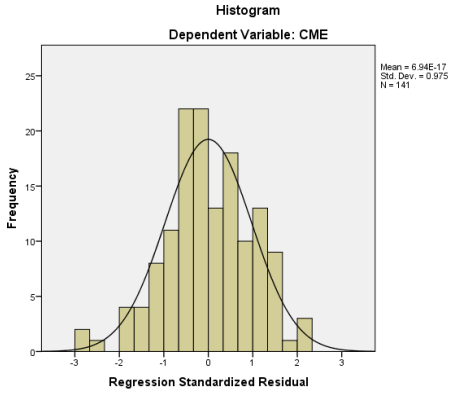
b. Dependent Variable: CME

Homoscedasticity



Normality





Equation 3: $OIE = \alpha 0_3 + \beta_{15}OIIO + \beta_{16}AITL + \beta_{17}NATI + \beta_{18}MIRC + \beta_{19}BMIF + \beta_{20}FA + \beta_{21}FS + \varepsilon$

Interdependence of error term

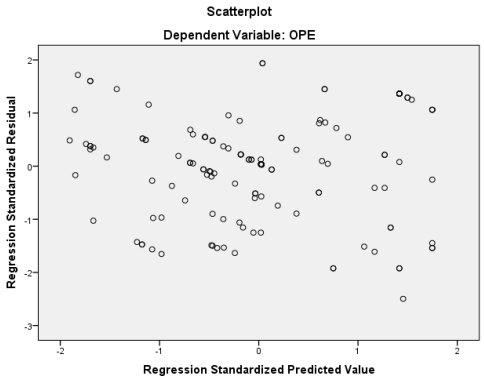
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.683[a]	.467	.439	.75014837	2.350

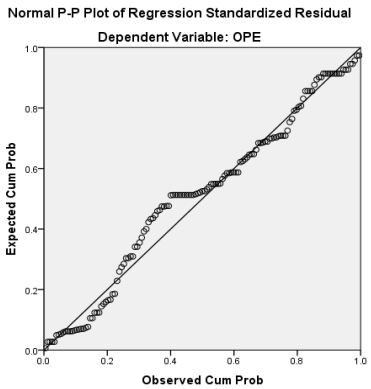
a. Predictors: (Constant), BMIF, Control_AGE, Control_SIZE, AITL, OIIO, NATI, MIRC

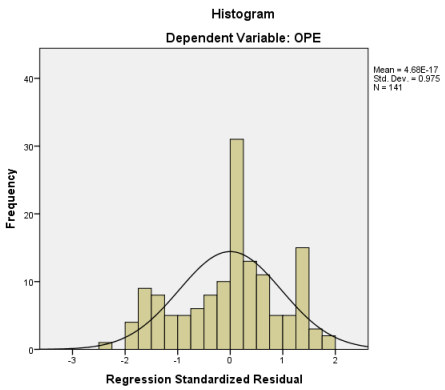
b. Dependent Variable: OPE

Homoscedasticity



Normality





Equation 4: $FSC = \alpha 0_4 + \beta_{22}OIIO + \beta_{23}AITL + \beta_{24}NATI + \beta_{25}MIRC + \beta_{26}BMIF + \beta_{27}FA + \beta_{28}FS + \varepsilon$

Interdependence of error term

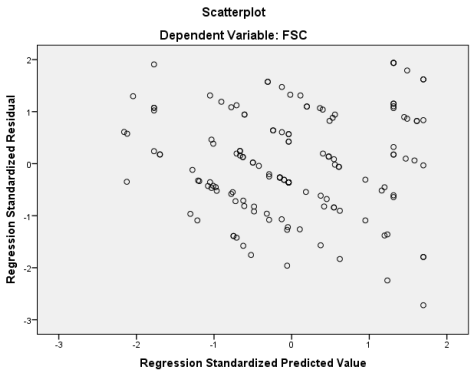
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.647[a]	.418	.387	.78189536	2.398

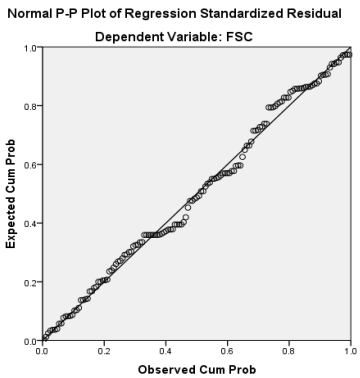
a. Predictors: (Constant), BMIF, Control_AGE, Control_SIZE, AITL, OIIO, NATI, MIRC

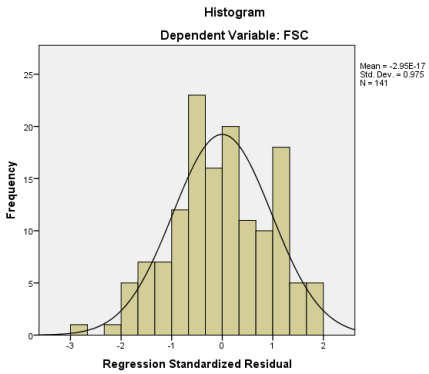
b. Dependent Variable: FSC

Homoscedasticity



Normality





Equation 5: $OS = \alpha 0_5 + \beta_{29}OIIO + \beta_{30}AITL + \beta_{31}NATI + \beta_{32}MIRC + \beta_{33}BMIF + \beta_{34}FA + \beta_{35}FS + \varepsilon$

Interdependence of error term

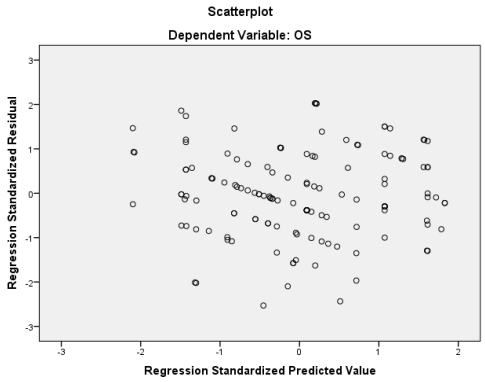
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.525[a]	.276	.237	.87744849	2.201

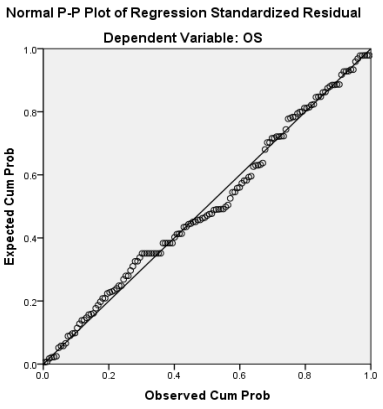
a. Predictors: (Constant), BMIF, Control_AGE, Control_SIZE, AITL, OIIO, NATI, MIRC

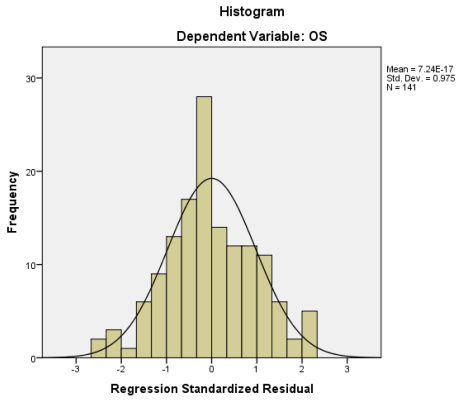
b. Dependent Variable: OS

Homoscedasticity



Normality





Equation 6: $FSC = \alpha 0_6 + \beta_{36}SPE + \beta_{37}CME + \beta_{38}OIE + \beta_{39}FA + \beta_{40}FS + \varepsilon$

Interdependence of error term

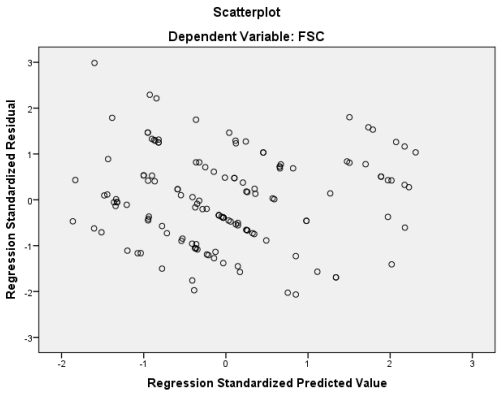
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.695[a]	.484	.465	.73102714	2.124

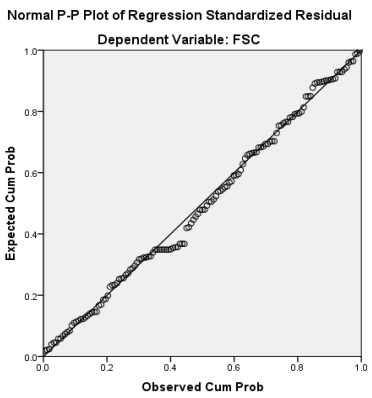
a. Predictors: (Constant), OPE, Control_AGE, Control_SIZE, SPE, CME

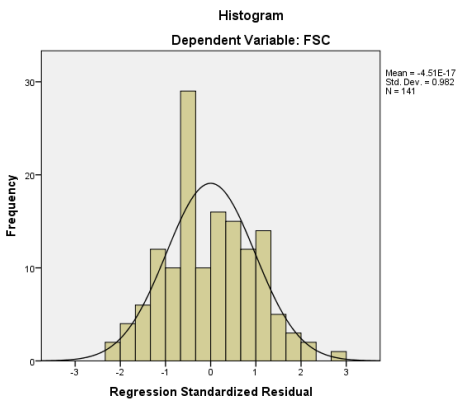
b. Dependent Variable: FSC

Homoscedasticity



Normality





Equation 7: $OS = \alpha 0_7 + \beta_{41}FSC + \beta_{42}FA + \beta_{43}FS + \varepsilon$

Interdependence of error term

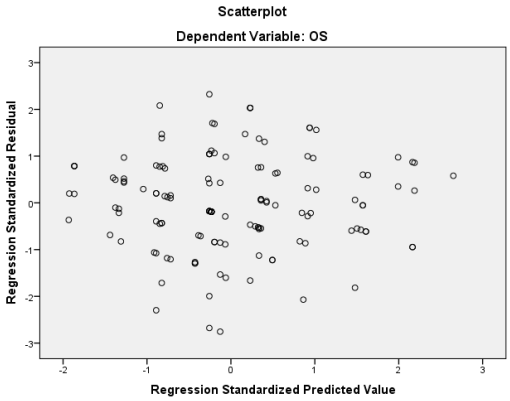
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.518[a]	.269	.253	.86864676	1.989

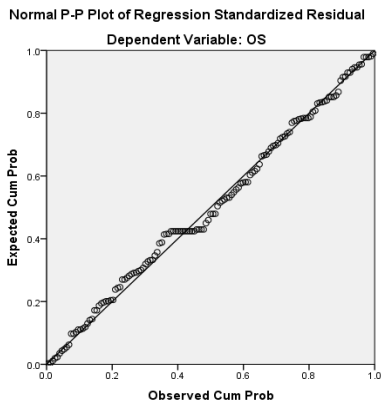
a. Predictors: (Constant), FSC, Control_AGE, Control_SIZE

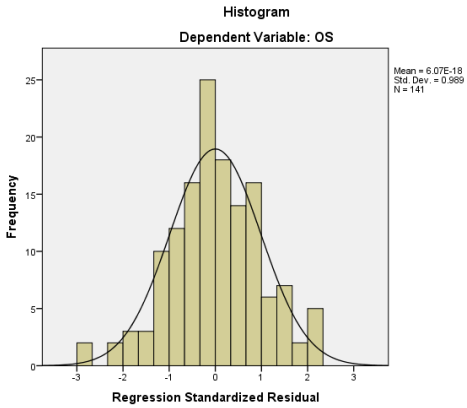
b. Dependent Variable: OS

Homoscedasticity



Normality





Equation 8: $OIIO = \alpha 0_8 + \beta_{44}BES + \beta_{45}ITR + \beta_{46}ETL + \beta_{47}BAS + \beta_{48}EMP + \beta_{49}FA + \beta_{50}FS + \varepsilon$

Interdependence of error term

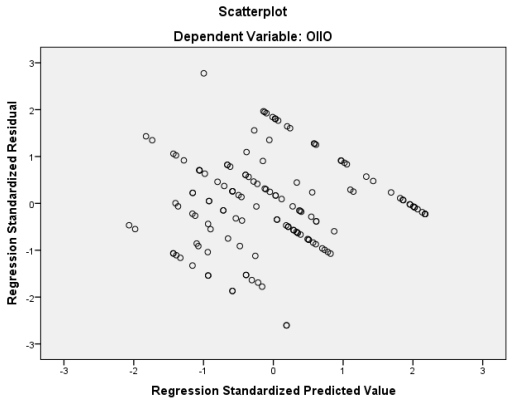
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.697[a]	.486	.459	.73176585	2.147

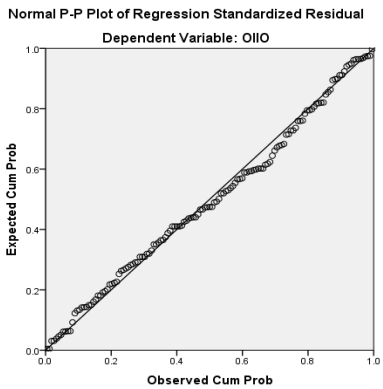
a. Predictors: (Constant), EMP, Control_AGE, Control_SIZE, BES, BAS, ITR, ETL

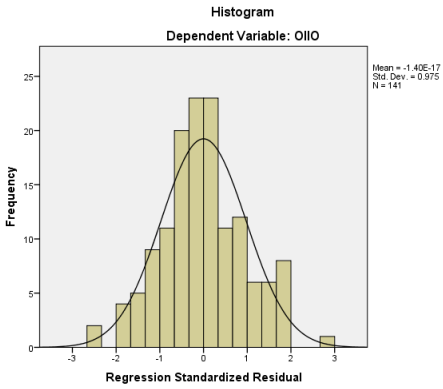
b. Dependent Variable: OIIO

Homoscedasticity



Normality





Equation 9: $AITL = \alpha 0_9 + \beta_{51}BES + \beta_{52}ITR + \beta_{53}ETL + \beta_{54}BAS + \beta_{55}EMP + \beta_{56}FA + \beta_{57}FS + \varepsilon$

Interdependence of error term

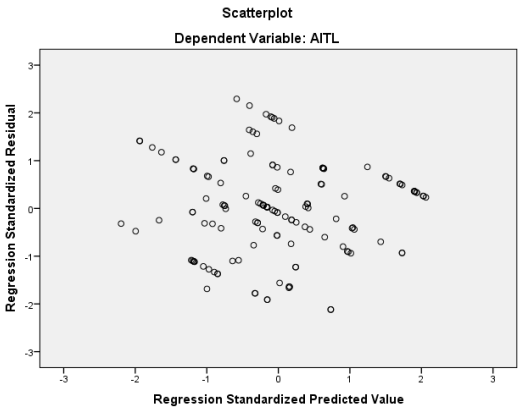
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.624[a]	.390	.358	.79497615	2.047

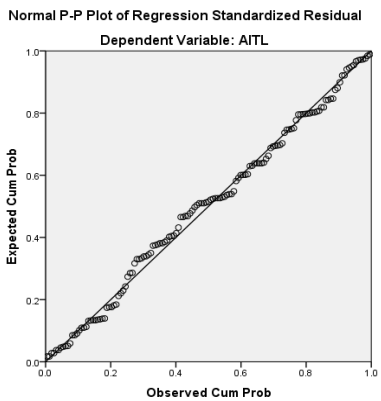
a. Predictors: (Constant), EMP, Control_AGE, Control_SIZE, BES, BAS, ITR, ETL

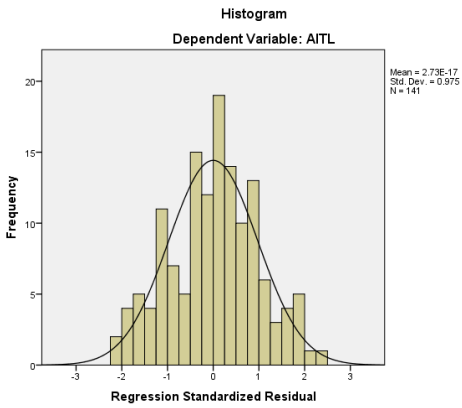
b. Dependent Variable: AITL

Homoscedasticity



Normality





Equation 10: $NATI = \alpha 0_{10} + \beta_{58}BES + \beta_{59}ITR + \beta_{60}ETL + \beta_{61}BAS + \beta_{62}EMP + \beta_{63}FA + \beta_{64}FS + \varepsilon$

Interdependence of error term

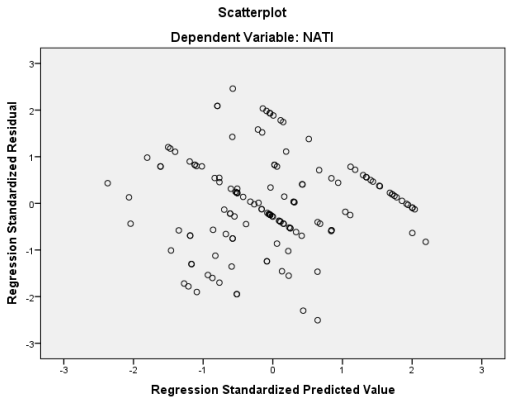
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.713[a]	.508	.483	.71732405	2.535

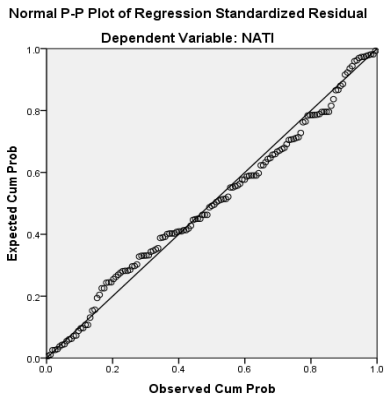
a. Predictors: (Constant), EMP, Control_AGE, Control_SIZE, BES, BAS, ITR, ETL

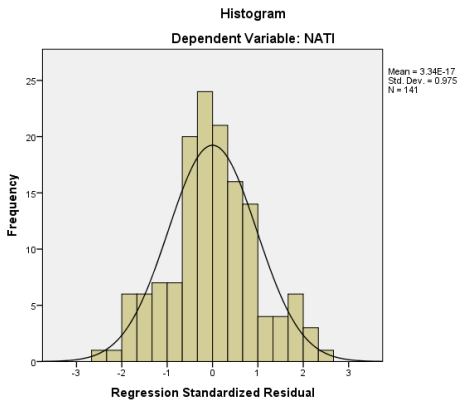
b. Dependent Variable: NATI

Homoscedasticity



Normality





Equation 11: $MIRC = \alpha 0_{11} + \beta_{65}BES + \beta_{66}ITR + \beta_{67}ETL + \beta_{68}BAS + \beta_{69}EMP + \beta_{70}FA + \beta_{71}FS + \varepsilon$

Interdependence of error term

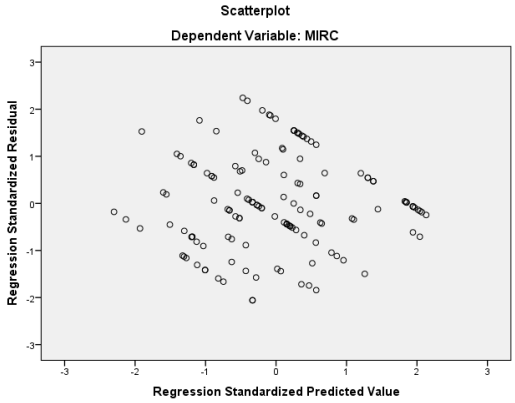
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.700[a]	.490	.463	.73119643	2.256

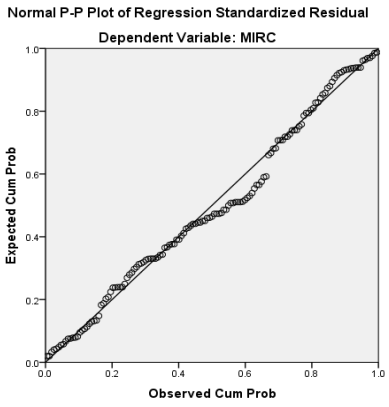
a. Predictors: (Constant), EMP, Control_AGE, Control_SIZE, BES, BAS, ITR, ETL

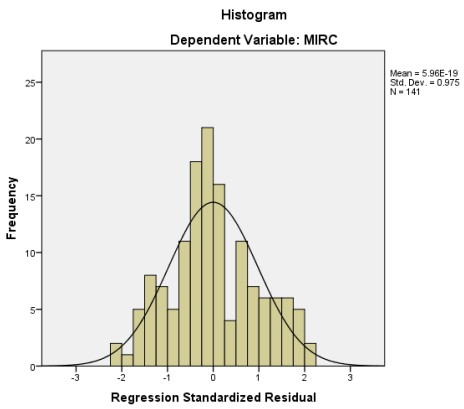
b. Dependent Variable: MIRC

Homoscedasticity



Normality





Equation 12: $BMIF = \alpha 0_{12} + \beta_{72}BES + \beta_{73}ITR + \beta_{74}ETL + \beta_{75}BAS + \beta_{76}EMP + \beta_{77}FA + \beta_{78}FS + \varepsilon$

Interdependence of error term

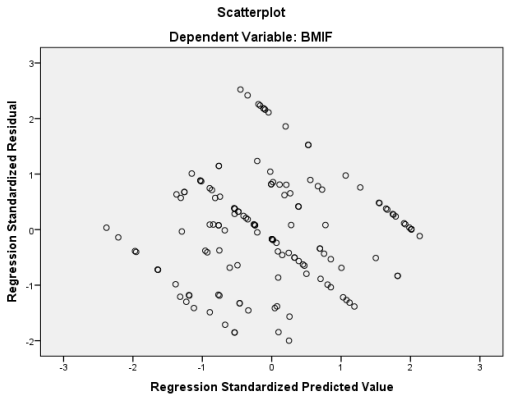
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.724[a]	.523	.498	.70781819	2.102

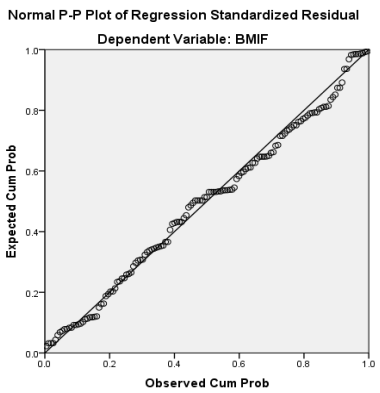
a. Predictors: (Constant), EMP, Control_AGE, Control_SIZE, BES, BAS, ITR, ETL

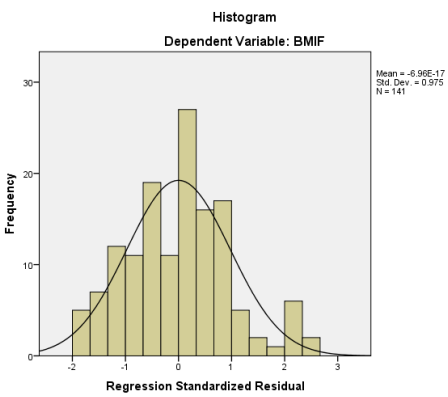
b. Dependent Variable: BMIF

Homoscedasticity



Normality





Equation 13: $OIIO = \alpha_{13} + \beta_{79}BES + \beta_{80}ITR + \beta_{81}ETL + \beta_{82}BAS + \beta_{83}EMP + \beta_{84}TG + \beta_{85}(BES* TG) + \beta_{86}(ITR* TG) + \beta_{87}(ETL* TG) + \beta_{88}(BAS* TG) + \beta_{89}(EMP* TG) + \beta_{90}FA + \beta_{91}FS + \varepsilon$

Interdependence of error term

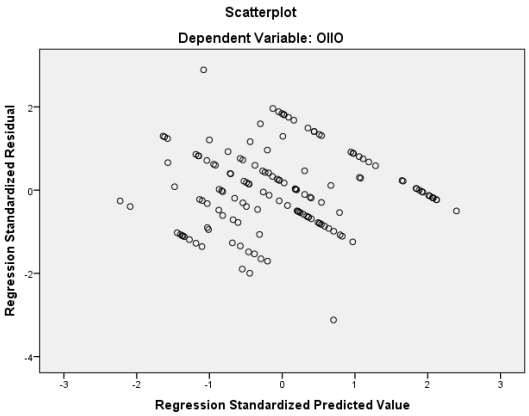
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.715[a]	.512	.462	.72950410	2.173

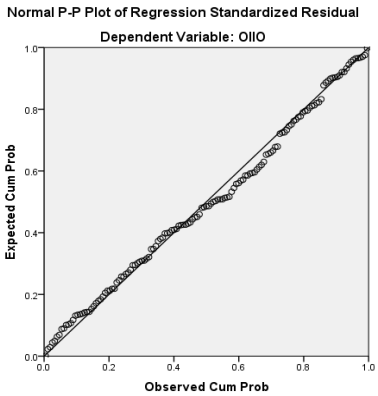
a. Predictors: (Constant), TGxEMP, EMP, Control_AGE, Control_SIZE, TG, BES, TGxBES, BAS, ITR, ETL, TGxBAS, TGxITR, TGxETL

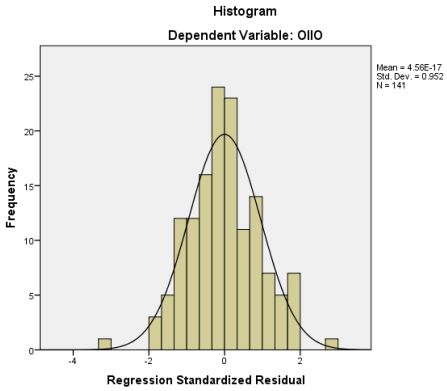
b. Dependent Variable: OIIO

Homoscedasticity



Normality





Equation 14: $AITL = \alpha_{14} + \beta_{92}BES + \beta_{93}ITR + \beta_{94}ETL + \beta_{95}BAS + \beta_{96}EMP + \beta_{97}TG + \beta_{98}(BES^{*} TG) + \beta_{99}(ITR^{*} TG) + \beta_{100}(ETL^{*} TG) + \beta_{101}(BAS^{*} TG) + \beta_{102}(EMP^{*} TG) + \beta_{103}FA + \beta_{104}FS + \varepsilon$

Interdependence of error term

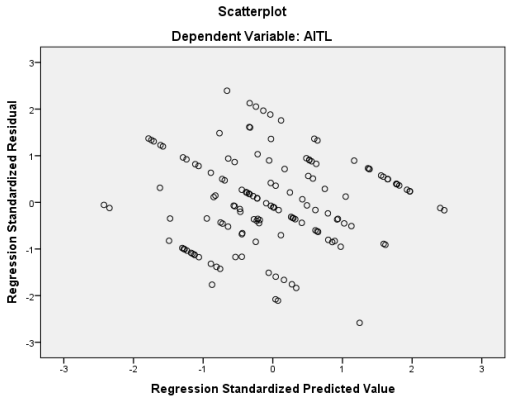
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.653[a]	.427	.368	.78847064	2.023

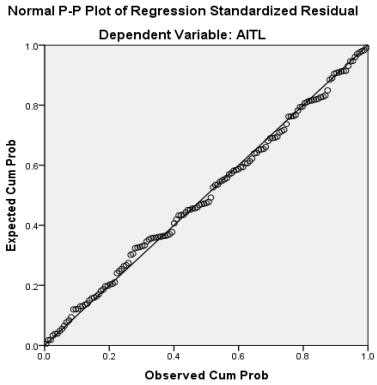
a. Predictors: (Constant), TGxEMP, EMP, Control_AGE, Control_SIZE, TG, BES, TGxBES, BAS, ITR, ETL, TGxBAS, TGxITR, TGxETL

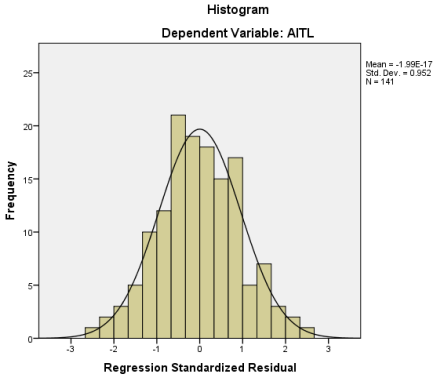
b. Dependent Variable: AITL

Homoscedasticity



Normality





Equation 15: $NATI = \alpha_{15} + \beta_{105}BES + \beta_{106}ITR + \beta_{107}ETL + \beta_{108}BAS + \beta_{109}EMP + \beta_{110}TG + \beta_{111}(BES^* TG) + \beta_{112}(ITR^* TG) + \beta_{113}(ETL^* TG) + \beta_{114}(BAS^* TG) + \beta_{115}(EMP^* TG) + \beta_{116}FA + \beta_{117}FS + \varepsilon$

Interdependence of error term

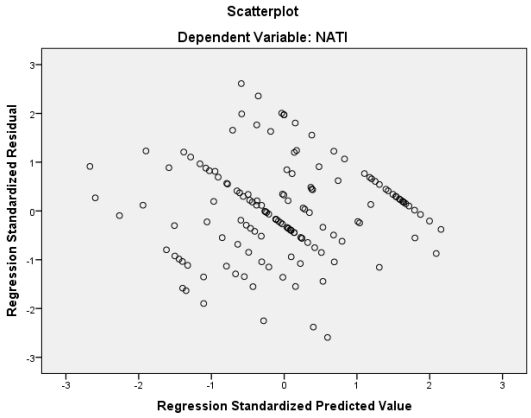
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.753[a]	.567	.523	.68910580	2.382

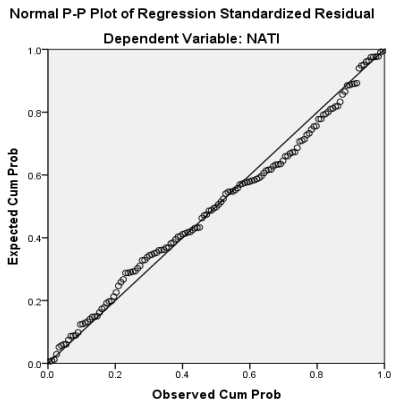
a. Predictors: (Constant), TGxEMP, EMP, Control_AGE, Control_SIZE, TG, BES, TGxBES, BAS, ITR, ETL, TGxBAS, TGxITR, TGxETL

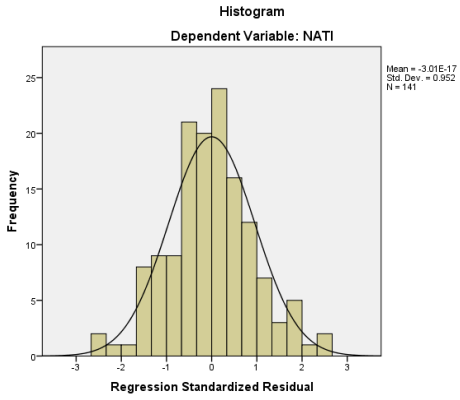
b. Dependent Variable: NATI

Homoscedasticity



Normality





Equation 16: $NATI = \alpha_{16} + \beta_{118}BES + \beta_{119}ITR + \beta_{120}ETL + \beta_{121}BAS + \beta_{122}EMP + \beta_{123}TG + \beta_{124}(BES^* TG) + \beta_{125}(ITR^* TG) + \beta_{126}(ETL^* TG) + \beta_{127}(BAS^* TG) + \beta_{128}(EMP^* TG) + \beta_{129}FA + \beta_{130}FS + \varepsilon$

Interdependence of error term

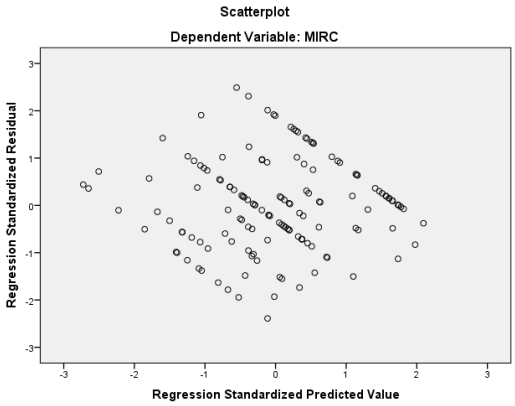
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.751[a]	.564	.520	.69188925	2.028

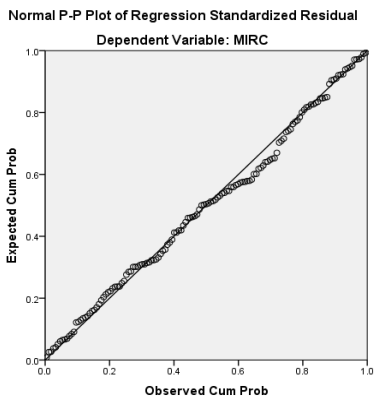
a. Predictors: (Constant), TGxEMP, EMP, Control_AGE, Control_SIZE, TG, BES, TGxBES, BAS, ITR, ETL, TGxBAS, TGxITR, TGxETL

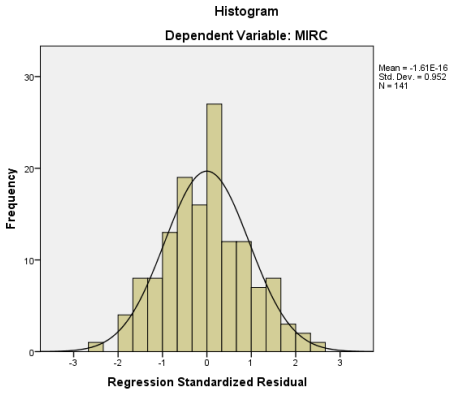
b. Dependent Variable: MIRC

Homoscedasticity



Normality





Equation 17: $BMIF = \alpha_{17} + \beta_{131}BES + \beta_{132}ITR + \beta_{133}ETL + \beta_{134}BAS + \beta_{135}EMP + \beta_{136}TG + \beta_{137}(BES* TG) + \beta_{138}(ITR* TG) + \beta_{139}(ETL* TG) + \beta_{140}(BAS* TG) + \beta_{141}(EMP* TG) + \beta_{142}FA + \beta_{143}FS + \varepsilon$

Interdependence of error term

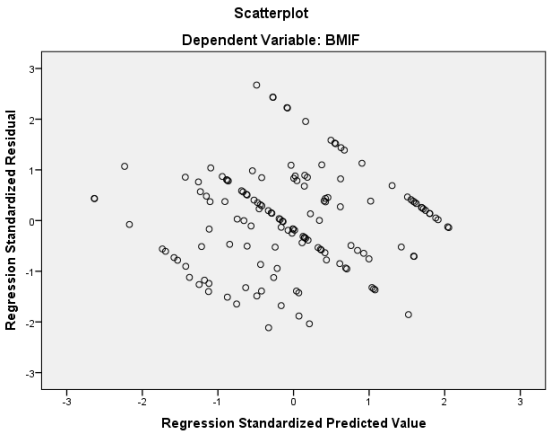
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.758[a]	.574	.531	.68454874	1.869

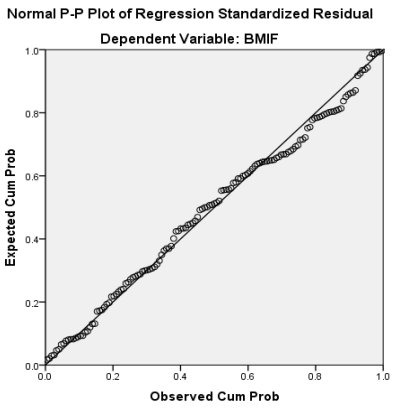
a. Predictors: (Constant), TGxEMP, EMP, Control_AGE, Control_SIZE, TG, BES, TGxBES, BAS, ITR, ETL, TGxBAS, TGxITR, TGxETL

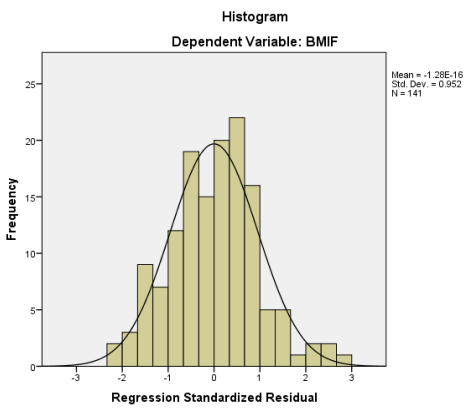
b. Dependent Variable: BMIF

Homoscedasticity



Normality





APPENDIX F

Cover Letter and Questionnaire (Thai Version)

แบบสอบถามเพื่อการวิจัย

เรื่อง ระบบสารสนเทศทางการบัญชีบริหารจากธุรกิจเครื่องดื่มในประเทศไทย

<u>คำชี้แจง</u>

การวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาความสัมพันธ์ระหว่างศักยภาพระบบสารสนเทศทางการบัญชีบริหารกับความอยู่รอดของธุรกิจเครื่องดื่มในประเทศไทย เพื่อประกอบการศึกษาวิทยานิพนธ์ระดับปริญญาเอกของผู้วิจัย ในหลักสูตรปรัชญาดุษฎีบัณฑิต สาขาวิชาการบัญชี คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม จังหวัดมหาสารคาม

ข้าพเจ้าใคร่ขอความอนุเคราะห์จากท่านผู้ตอบแบบสอบถาม ได้โปรดให้ข้อเท็จจริงในการตอบแบบสอบถามชุดนี้ โดยมีรายละเอียดของแบบสอบถาม ประกอบด้วยส่วนคำถาม 7 ตอน ดังนี้

ตอนที่ 1 ข้อมูลทั่วไปของผู้บริหารฝ่ายบัญชีของธุรกิจเครื่องดื่มในประเทศไทย

ตอนที่ 2 ข้อมูลทั่วไปเกี่ยวกับธุรกิจเครื่องดื่มในประเทศไทย

ตอนที่ 3 ความคิดเห็นเกี่ยวกับระบบสารสนเทศทางการบัญชีบริหารของธุรกิจเครื่องดื่มในประเทศไทย

ตอนที่ 4 ความคิดเห็นเกี่ยวกับผลการดำเนินงานของธุรกิจเครื่องดื่มในประเทศไทย

ตอนที่ 5 ความคิดเห็นเกี่ยวกับปัจจัยภายในที่ส่งผลต่อระบบสารสนเทศทางการบัญชีบริหารของธุรกิจเครื่องดื่มในประเทศไทย

ตอนที่ 6 ความคิดเห็นเกี่ยวกับปัจจัยภายนอกที่ส่งผลต่อระบบสารสนเทศทางการบัญชีบริหารของธุรกิจเครื่องดื่มในประเทศไทย

ตอนที่ 7 ข้อคิดเห็นและข้อเสนอแนะเกี่ยวกับระบบสารสนเทศทางการบัญชีบริหารของธุรกิจเครื่องดื่มในประเทศไทย

คำตอบของท่านจะถูกเก็บรักษาไว้เป็นความลับ และไม่มีการใช้ข้อมูลใดๆ ที่เปิดเผยเกี่ยวกับท่านในการรายงานข้อมูล โดยการวิจัยจะสรุปเป็นภาพรวมเท่านั้น รวมทั้งจะไม่มีการร่วมใช้ข้อมูลดังกล่าวกับบุคคลภายนอกอื่นใดโดยไม่ได้รับอนุญาตจากท่าน

ท่านต้องการรายงานสรุปผลการวิจัยหรือไม่ หากท่านต้องการรายงานสรุปผลการวิจัย โปรดระบุ E-mail Address ของท่าน หรือแนบนามบัตรของท่านมากับแบบสอบถามชุดนี้

( ) ต้องการ e-mail: _____ ( ) ไม่ต้องการ

ผู้วิจัยขอขอบพระคุณที่ท่านได้สละเวลาในการตอบแบบสอบถามชุดนี้อย่างถูกต้องครบถ้วน และหวังเป็นอย่างยิ่ง ว่าข้อมูลที่ได้รับจากท่านจะเป็นประโยชน์อย่างยิ่งต่อการวิจัยในครั้งนี้ และขอขอบพระคุณอย่างสูงมา ณ โอกาสนี้ หากท่านมีข้อสงสัยประการใด โปรดติดต่อผู้วิจัย นางสาวสุภาพันธุ์ สายทองอินทร์ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม 44000 โทรศัพท์ 081-7936324 หรือ e-mail: ajpuikok@gmail.com

(นางสาวสุภาพันธุ์ สายทองอินทร์)
นิสิตปริญญาเอก หลักสูตรปรัชญาดุษฎีบัณฑิต สาขาวิชาการบัญชี
คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม

ตอนที่ 1 ข้อมูลทั่วไปของผู้บริหารฝ่ายบัญชีธุรกิจของเครื่องดื่มในประเทศไทย

1. เพศ

❑ ชาย ❑ หญิง

2. อายุ

❑ น้อยกว่า 35 ปี ❑ 35 - 40 ปี

❑ 41 – 45 ปี ❑ มากกว่า 45 ปี

3. สถานภาพ

❑ โสด ❑ สมรส

❑ หม้าย/หย่าร้าง

4. ระดับการศึกษา

❑ ปริญญาตรีหรือเทียบเท่า ❑ สูงกว่าปริญญาตรี

5. ประสบการณ์ในการทำงาน

❑ น้อยกว่า 5 ปี ❑ 5 - 10 ปี

❑ 11 - 15 ปี ❑ มากกว่า 15 ปี

6. รายได้เฉลี่ยต่อเดือน

❑ ต่ำกว่า 50,000 บาท ❑ 50,000 – 75,000 บาท

❑ 75,001 – 100,000 บาท ❑ มากกว่า 100,000 บาท

7. ตำแหน่งงานในปัจจุบัน

❑ ผู้อำนวยการฝ่ายบัญชี ❑ ผู้จัดการฝ่ายบัญชี

❑ สมุห์บัญชี ❑ อื่นๆ (โปรดระบุ).....

ตอนที่ 2 ข้อมูลทั่วไปเกี่ยวกับธุรกิจเครื่องดื่มในประเทศไทย

1. รูปแบบธุรกิจ

❑ บริษัทจำกัด ❑ ห้างหุ้นส่วน

2. ประเภทธุรกิจ (ตอบได้มากกว่า 1 ข้อ)

❑ ธุรกิจเครื่องดื่มมีแอลกอฮอล์ ❑ ธุรกิจเครื่องดื่มไม่มีแอลกอฮอล์

3. ระยะเวลาในการดำเนินธุรกิจ

❑ น้อยกว่า 5 ปี ❑ 5 – 10 ปี

❑ 11 – 15 ปี ❑ มากกว่า 15 ปี

4. 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

5. มูลค่าสินทรัพย์รวมในปัจจุบัน

❑ ต่ำกว่า 50,000,000 บาท ❑ 50,000,000 – 100,000,000 บาท

❑ 100,000,001 – 150,000,000 บาท ❑ มากกว่า 150,000,000 บาท

6. จำนวนพนักงานในปัจจุบัน

❑ น้อยกว่า 50 คน ❑ 50 - 100 คน

❑ 101 – 150 คน ❑ มากกว่า 150 คน

7. รายได้ของธุรกิจเฉลี่ยต่อปี

❑ ต่ำกว่า 20,000,000 บาท ❑ 20,000,000 – 40,000,000 บาท

❑ 40,000,001 – 60,000,000 บาท ❑ มากกว่า 60,000,000 บาท

ตอนที่ 3 ความคิดเห็นเกี่ยวกับระบบสารสนเทศทางการบัญชีบริหารของธุรกิจเครื่องดื่มในประเทศไทย

ระบบสารสนเทศทางบัญชีบริหาร	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
<u>การมุ่งเน้นการบูรณาการข้อมูลในการดำเนินงาน</u> **(Operational Information Integration Orientation)** 1. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถเชื่อมโยงข้อมูลการดำเนินงานในองค์กรเข้าด้วยกันได้อย่างเป็นระบบและเป็นรูปธรรม					
2. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถผสมผสานข้อมูลและแนวทางในการจัดการข้อมูลจากหน่วยงานต่างๆ เข้าด้วยกันได้เป็นอย่างดี					
3. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยสนับสนุนให้กิจการมีการถ่ายโอนข้อมูลและแบ่งปันข้อมูลระหว่างกันทั้งภายในหน่วยงานและระหว่างหน่วยงานได้อย่างเป็นระบบ					
4. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถรวมข้อมูลทั้งหมดไว้ด้วยกันเป็นระบบเดียวได้อย่างมีประสิทธิภาพ					
<u>การเชื่อมโยงเทคโนโลยีสารสนเทศทางการบัญชี</u> **(<u>Accounting Information Technology Linkage</u>)** 5. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถบริหารจัดการเทคโนโลยีสารสนเทศในภาพรวมให้เข้าด้วยกันได้เป็นอย่างดี					
6. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถจัดการวิธีการใช้ประโยชน์จากเทคโนโลยีสารสนเทศที่มีอยู่ในกิจการให้ทำงานร่วมกันได้อย่างเป็นรูปธรรม					
7. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถเชื่อมโยงระบบสารสนเทศอื่นๆ ภายในกิจการให้ประสานกันได้อย่างมีประสิทธิภาพ					
8. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการมีแนวปฏิบัติในการใช้เทคโนโลยีสารสนเทศร่วมกันอย่างเป็นระบบโดยมีความสอดคล้องและเป็นไปในทิศทางเดียวกัน					
<u>การประยุกต์ใช้เทคโนโลยีทางการบัญชี</u> **(<u>New Accounting Technology Implementation</u>)** 9. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถประยุกต์ใช้เทคโนโลยีที่เกิดขึ้นทางการบัญชีได้เป็นอย่างดีและเป็นรูปธรรม					
10. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการมีความทันสมัยในการเรียนรู้และทำความเข้าใจเทคโนโลยีที่เกี่ยวข้องกับการปฏิบัติงานทางการบัญชีได้อย่างมีประสิทธิภาพ					
11. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถใช้เทคโนโลยีการจัดเก็บข้อมูลที่เกี่ยวข้องกับการบัญชีได้อย่างเป็นระบบถูกต้องและรวดเร็ว					

ตอนที่ 3 (ต่อ)

ระบบสารสนเทศทางบัญชีบริหาร	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
12. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการมีการปรับขั้นตอนกระบวนการจัดทำบัญชีให้ทันสมัยเป็นมาตรฐานสากลสอดคล้องกับสถานการณ์ต่างๆ ได้อย่างมีประสิทธิภาพ					
ความสามารถในการรายงานข้อมูลทางการบริหาร (Management Information Reporting Competency) 13. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถนำเสนอรายงานข้อมูลที่เกี่ยวข้องกับกิจการได้อย่างมีศักยภาพมากขึ้น					
14. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถจำแนกและวิเคราะห์ข้อมูลทางการบัญชีที่สอดคล้องกับความต้องการของผู้ใช้ได้อย่างเป็นรูปธรรม					
15. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถนำเสนอข้อมูลได้อย่างตรงไปตรงมาสอดคล้องกับสถานการณ์ความเป็นจริง					
16. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถนำเสนอข้อมูลทางการบัญชีที่มีความถูกต้อง รวดเร็วและทันต่อการใช้งานตามวัตถุประสงค์ของผู้ใช้					
การมุ่งเน้นความเป็นอัจฉริยะทางการบริหารธุรกิจ (Business Management Intelligence Focus) 17. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถประมวลผลข้อมูลรายการค้าร่วมกับข้อมูลอื่นๆ และนำเสนอรายงานที่สนับสนุนการตัดสินใจที่เหมาะสมกับสถานการณ์ที่เกิดขึ้นได้อย่างชัดเจน					
18. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถวิเคราะห์และนำเสนอข้อมูลเชิงพยากรณ์สำหรับนำไปใช้ในการวางแผนการดำเนินงานได้อย่างถูกต้องและแม่นยำ					
19. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถวิเคราะห์ข้อมูลทั้งจากแหล่งข้อมูลภายในและภายนอกร่วมกันและนำเสนอรายงานได้ตรงตามวัตถุประสงค์					
20. ระบบสารสนเทศทางการบัญชีบริหาร ช่วยให้กิจการสามารถวิเคราะห์การดำเนินงานของกิจการและนำเสนอข้อมูลสำหรับการตัดสินใจทางการบริหารได้อย่างมีประสิทธิภาพ					

ตอนที่ 4 ความคิดเห็นเกี่ยวกับผลการดำเนินงานของธุรกิจเครื่องดื่มในประเทศไทย

ผลการดำเนินงาน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
ประสิทธิผลในการวางตำแหน่งเชิงกลยุทธ์ (Strategic Positioning Effectiveness)					
1. กิจการสามารถกำหนดกลยุทธ์ แนวทางในการบริหารงานได้ชัดเจนยิ่งขึ้น					
2. กิจการสามารถกำหนดตำแหน่งทางการแข่งขันได้อย่างเป็นรูปธรรมมากยิ่งขึ้น					
3. กิจการสามารถสร้างตำแหน่งทางการแข่งขันได้อย่างแข็งแกร่งในอุตสาหกรรมเมื่อเทียบกับคู่แข่งขัน					
4. กิจการสามารถรักษาตำแหน่งทางการแข่งขันได้อย่างต่อเนื่อง					
ประสิทธิภาพการบริหารต้นทุน (Cost Management Efficiency)					
5. กิจการสามารถดำเนินการตัดสินใจ วางแผน และควบคุมเกี่ยวกับต้นทุนได้เป็นอย่างดีและมีประสิทธิภาพ					
6. กิจการสามารถนำเสนอข้อมูลต้นทุนที่เกี่ยวข้องกับการดำเนินงานอย่างตรงไปตรงมาและถูกต้อง					
7. กิจการสามารถประหยัดและลดค่าใช้จ่ายในการดำเนินงานได้มากยิ่งขึ้น					
8. กิจการสามารถบริหารงานในสถานการณ์ต่างๆ ภายใต้ต้นทุนที่สมเหตุสมผลและสอดคล้องกับสถานการณ์ที่เกิดขึ้น					
ความเป็นเลิศในการปรับปรุงการการดำเนินงาน (Operational Improvement Excellence)					
9. กิจการสามารถลดขั้นตอนและระยะเวลาในการดำเนินงานและติดต่อประสานงานได้อย่างมีประสิทธิภาพ					
10. กิจการสามารถใช้ทรัพยากรในกิจกรรมการดำเนินงานต่างๆ ได้อย่างเต็มที่และมีความสูญเสียของทรัพยากรลดลงอย่างเห็นได้ชัด					
11. กิจการสามารถลดข้อผิดพลาดในการปฏิบัติงานลงได้อย่างต่อเนื่องซึ่งวัดผลได้อย่างชัดเจน					
12. กิจการสามารถใช้เทคโนโลยีในการปรับวิธีการปฏิบัติงานให้ตอบสนองต่อความต้องการของลูกค้าได้สะดวกและรวดเร็วกว่าคู่แข่งขัน					
ความสำเร็จของกิจการ (Firm Success)					
13. กิจการได้รับการยอมรับจากลูกค้าและตลาดว่าเป็นกิจการที่มีการบริหารงานที่มีประสิทธิภาพและมีคุณภาพอย่างต่อเนื่อง					
14. กิจการได้รับการยอมรับจากผู้บริหารและบุคลากรขององค์กรว่าเป็นกิจการที่มีการบริหารงานอย่างมืออาชีพและประสบความสำเร็จในการดำเนินงานด้วยดีเสมอมา					

ตอนที่ 4 (ต่อ)

ผลการดำเนินงาน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
15. กิจการมีเทคโนโลยีการผลิตสินค้าที่ได้คุณภาพและมาตรฐานเป็นที่ยอมรับของผู้บริโภค					
16. กิจการมีปริมาณการซื้อสินค้าจากลูกค้าประจำอย่างต่อเนื่อง					
ความอยู่รอดของกิจการ (Organizational Survival) 17. กิจการมีผลกำไรจากการดำเนินงานสูงขึ้นอย่างต่อเนื่องเมื่อเทียบกับผลการดำเนินงานในอดีต					
18. กิจการมีสินทรัพย์รวมที่มีอัตราการเติบโตอย่างต่อเนื่องเพิ่มขึ้นทุกปี					
19 กิจการมียอดขายเพิ่มขึ้นอย่างสม่ำเสมอเมื่อเปรียบเทียบกับในอดีต					
20. กิจการมีฐานะทางการเงินที่มีเสถียรภาพและมั่นคงอย่างต่อเนื่อง					

ตอนที่ 5 ความคิดเห็นเกี่ยวกับปัจจัยภายในที่ส่งผลต่อศักยภาพระบบสารสนเทศทางบัญชีบริหารของธุรกิจเครื่องดื่มในประเทศไทย

ปัจจัยภายในที่ส่งผลต่อระบบสารสนเทศทางบัญชีบริหาร	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
การสนับสนุนของผู้บริหาร (Business Executive Support) 1. ผู้บริหารของกิจการเชื่อมั่นว่าการมีระบบการบริหารจัดการที่ดี จะช่วยให้การบริหารงานเป็นไปอย่างมีศักยภาพมากยิ่งขึ้น					
2. ผู้บริหารของกิจการสนับสนุนให้บุคลากรได้ศึกษาหาความรู้เพิ่มเติมในประเด็นที่เกี่ยวข้องอย่างต่อเนื่อง ซึ่งจะทำให้บุคลากรทำงานได้อย่างมีประสิทธิภาพและเป็นระบบ					
3. ผู้บริหารของกิจการให้ความสำคัญกับการลงทุนและพัฒนาเทคโนโลยีต่างๆ ที่เกี่ยวข้องกับการปฏิบัติงานอยู่เสมอ ทำให้การบริหารงานสามารถตอบสนองต่อเปลี่ยนแปลงที่เกิดขึ้นได้เป็นอย่างดี					
4. ผู้บริหารของกิจการมุ่งเน้นให้มีการจัดสรรงบประมาณสำหรับจัดซื้ออุปกรณ์การใช้งานต่างๆ เพื่อทดแทนอุปกรณ์ที่เสียหายได้ทันที ซึ่งส่งผลให้การปฏิบัติงานเป็นไปอย่างราบรื่นและต่อเนื่อง					
ทรัพยากรเทคโนโลยีสารสนเทศ (IT Resource) 5. กิจการเชื่อมั่นว่าการมีทรัพยากรทางด้านเทคโนโลยีสารสนเทศที่ดี จะช่วยให้การบริหารงานและการปฏิบัติงานดีขึ้นอย่างเห็นได้ชัด					

ตอนที่ 5 (ต่อ)

ปัจจัยภายในที่ส่งผลต่อระบบสารสนเทศทางบัญชีบริหาร	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
6. กิจการให้ความสำคัญกับการพัฒนาเทคโนโลยีสารสนเทศที่มีความทันสมัย และยืดหยุ่นต่อการใช้งาน ซึ่งจะทำให้การดำเนินงานสามารถรองรับต่อการเปลี่ยนแปลงต่างๆ ได้อย่างมีประสิทธิภาพ					
7. กิจการมุ่งเน้นให้มีการลงทุนด้านเทคโนโลยีสารสนเทศ ตลอดจนจัดหาสิ่งอำนวยความสะดวกต่างๆ ที่เกี่ยวข้องอย่างเพียงพอ ซึ่งจะทำให้การดำเนินงานบรรลุเป้าหมายเป็นอย่างดี ทั้งในปัจจุบันและอนาคต					
8. กิจการตระหนักเสมอว่าการมีทรัพยากรด้านเทคโนโลยีสารสนเทศที่ทันสมัย และสอดคล้องกับสถานการณ์ จะช่วยให้การบริหารงานประสบความสำเร็จได้ดียิ่งขึ้น					
การเรียนรู้ทางเทคโนโลยีของพนักงาน (Employee Technology Learning) 9. กิจการเชื่อมั่นว่าการเรียนรู้เทคโนโลยีของบุคลากรอย่างต่อเนื่องจะช่วยทำให้สามารถเพิ่มประสิทธิภาพการปฏิบัติงานได้เป็นอย่างดีทั้งในปัจจุบันและอนาคต					
10. กิจการมุ่งเน้นให้บุคลากรได้ศึกษาและทำความเข้าใจกับการเปลี่ยนแปลงต่างๆ ที่เกิดขึ้นกับเทคโนโลยี ซึ่งจะช่วยทำให้สามารถประยุกต์ใช้ในการปฏิบัติงานได้อย่างมีประสิทธิภาพมากยิ่งขึ้น					
11. กิจการสนับสนุนให้มีการนำประสบการณ์ในการใช้เทคโนโลยีสารสนเทศในอดีตมาใช้เป็นแนวทางในการปรับปรุงและพัฒนาการบริหารจัดการ ซึ่งจะช่วยให้การใช้เทคโนโลยีสารสนเทศในปัจจุบันเป็นไปอย่างมีประสิทธิภาพมากยิ่งขึ้น					
12. กิจการส่งเสริมให้บุคลากรได้เพิ่มทักษะ ความรู้ ความสามารถและฝึกอบรมทางด้านเทคโนโลยีสารสนเทศอย่างต่อเนื่อง ซึ่งจะช่วยให้การปฏิบัติงานมีศักยภาพทั้งในปัจจุบันและอนาคต					
ระบบบัญชีที่ดี (Best Accounting System) 13. กิจการเชื่อมั่นว่าการมีระบบบัญชีที่ดี ช่วยทำให้การบริหารงานบรรลุเป้าหมายและวัตถุประสงค์ได้เป็นอย่างดีและมีประสิทธิภาพ					
14. กิจการให้ความสำคัญกับการพัฒนาระบบบัญชีให้สอดคล้องกับกลยุทธ์และแนวทางในการบริหารงานขององค์กรอย่างต่อเนื่อง ซึ่งจะช่วยให้การดำเนินงานประสบความสำเร็จตามเป้าหมายได้ดียิ่งขึ้น					
15. กิจการตระหนักเสมอว่าระบบบัญชีที่ดี จะช่วยสนับสนุนการดำเนินงานขององค์กรให้สะดวกและรวดเร็วยิ่งขึ้น ทำให้การบริหารงานประสบความสำเร็จได้อย่างมีประสิทธิภาพ					

ตอนที่ 5 (ต่อ)

ปัจจัยภายในที่ส่งผลต่อระบบสารสนเทศทางบัญชีบริหาร	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
16. กิจการสนับสนุนให้มีการปรับปรุงระบบบัญชีให้ทันสมัยยิ่งขึ้นซึ่งจะช่วยให้ได้ข้อมูลที่เป็นปัจจุบันและสอดคล้องกับสภาพความเป็นจริงได้อย่างเป็นรูปธรรม					

ตอนที่ 6 ความคิดเห็นเกี่ยวกับปัจจัยภายนอกที่ส่งผลต่อระบบสารสนเทศทางบัญชีบริหารของธุรกิจเครื่องดื่มในประเทศไทย

ปัจจัยภายนอกที่ส่งผลต่อระบบสารสนเทศทางบัญชีบริหาร	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
สภาพแวดล้อมที่เอื้ออำนวย (Environmental Munificence Potentiality)					
1. เทคโนโลยีมีการเติบโตอย่างมากในปัจจุบัน ทำให้กิจการต่างๆ สามารถประยุกต์ใช้เทคโนโลยีเพื่อก่อให้เกิดประสิทธิภาพในการดำเนินงานได้ดียิ่งขึ้น					
2. นโยบายของรัฐบาลสนับสนุนให้เกิดการพัฒนาธุรกิจใหม่อย่างต่อเนื่อง ทำให้กิจการต่างๆ สามารถพัฒนาศักยภาพของตนเองในการสร้างสรรค์ธุรกิจได้อย่างมีประสิทธิภาพมากยิ่งขึ้น					
3. ลูกค้ามีความต้องการในสินค้ามากขึ้น ทำให้กิจการต่างๆ สามารถนำเสนอสินค้าผ่านช่องทางการขายได้หลายรูปแบบ ซึ่งตอบสนองต่อความต้องการของลูกค้าได้ดียิ่งขึ้น					
4. ความหลากหลายของสินค้าเกิดขึ้นอย่างมากมายในปัจจุบัน ทำให้กิจการต่างๆ สามารถออกแบบและพัฒนาการสินค้าใหม่ๆ เพื่อให้สอดคล้องกับความต้องการของลูกค้าได้มากยิ่งขึ้น					
การเติบโตของเทคโนโลยี (Technology Growth)					
5. เทคโนโลยีด้านต่างๆ มีการพัฒนาให้เติบโตอย่างต่อเนื่อง ทำให้กิจการต่างๆ ได้เรียนรู้ ทำความเข้าใจและสามารถนำมาใช้ประโยชน์ในกิจการได้เป็นอย่างดี					
6. การเติบโตของเทคโนโลยีสมัยใหม่ ช่วยผลักดันให้กิจการต่างๆ มีศักยภาพและความสามารถในการเรียนรู้ การเปลี่ยนแปลงที่เกิดขึ้นได้เป็นอย่างดี					
7. เทคโนโลยีในการสื่อสารข้อมูลมีความก้าวหน้าและทันสมัยมากขึ้นอย่างต่อเนื่อง ทำให้กิจการต่างๆ มีช่องทางในการติดต่อสื่อสารข้อมูลได้อย่างรวดเร็วและมีประสิทธิภาพมากยิ่งขึ้น					
8. เทคโนโลยีในปัจจุบันมีความหลากหลาย ส่งผลให้กิจการต่างๆ สามารถเลือกใช้เทคโนโลยีดังกล่าว ให้สอดคล้องกับคุณลักษณะและสภาพของกิจการได้อย่างเต็มที่และมีประสิทธิภาพสูงสุด					

ตอนที่ 7 ข้อคิดเห็นและข้อเสนอแนะเกี่ยวกับระบบสารสนเทศทางบัญชีบริหารของธุรกิจเครื่องดื่มในประเทศไทย

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

ขอขอบพระคุณท่านที่ได้สละเวลาตอบแบบสอบถามทุกข้อ
ได้โปรดพับแบบสอบถามและใส่ซองที่แนบมาพร้อมนี้ส่งคืนตามที่อยู่ที่ระบุไว้

APPENDIX G

Cover Letter and Questionnaire (English Version)

Questionnaire for the Ph. D. Dissertation Research
"An Empirical Investigation of the MAISC-Organizational Survival Relationships: Evidence from Beverage Businesses in Thailand"

Explanations:

This research is a part of the doctoral dissertation of Miss Supapan Saithong-in at the Mahasarakham Business School, Mahasarakham University, Mahasarakham, Thailand. The objective of this research is to investigate the relationships among management accounting information system capability and organizational survival of beverage businesses in Thailand. The questionnaire is divided into 7 sections:

Section 1: Personal information about accounting executives of beverage businesses in Thailand,
Section 2: General information of beverage businesses in Thailand,
Section 3: Opinion on management accounting information system of beverage businesses in Thailand,
Section 4: Opinion on business outcomes of beverage businesses in Thailand,
Section 5: Opinion on the effect of internal factor affecting management accounting information system of beverage businesses in Thailand,
Section 6: Opinion on the effect of external factor affecting management accounting information system of beverage businesses in Thailand,
Section 7: Recommendations and suggestions regarding business administration of beverage businesses in Thailand.

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

Sincerely yours,

(Supapan Saithong-in)
Ph.D. Candidate, Mahasarakham Business School
Mahasarakham University, Thailand

Contact Info:
Cell phone: 081-7936324
E-mail: ajpuikok@gmail.com

Section 1: Personal information about accounting executives of beverage businesses in Thailand

1. Gender

- ❑ Male
- ❑ Female

2. Age

- ❑ Less than 35 old
- ❑ 35 - 40 years old
- ❑ 41 – 45 years old
- ❑ More than 45 years old

3. Marital status

- ❑ Single
- ❑ Married
- ❑ Divorced

4. Level of education

- ❑ Bachelor's degree
- ❑ Higher than Bachelor's degree

5. Working experiences

- ❑ Less than 5 years
- ❑ 5 - 10 years
- ❑ 11 - 15 years
- ❑ More than 15 years

6. Average revenues per month

- ❑ Less than 50,000 Baht
- ❑ 50,000 – 75,000 Baht
- ❑ 75,001 – 100,000 Baht
- ❑ More than 100,000 Baht

7. Current position

- ❑ Accounting director
- ❑ Accounting manager
- ❑ Accountant
- ❑ Other (Please Specify).....

Section 2: General information of beverage businesses in Thailand

1. Business owner type

- ❑ Limited company
- ❑ Partnership

2. Type of business

- ❑ Alcoholic beverages business
- ❑ Non-alcoholic beverages business
- ❑ Alcoholic and Non-alcoholic beverages business

3. Operational period

- ❑ Less than 5 years
- ❑ 5 – 10 years
- ❑ 11 – 15 years
- ❑ More than 15 years

4. Operating 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

5. Total assets of the firm

- ❑ 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

6. Number of full time employees

- ❑ Less than 50 persons
- ❑ 50 - 100 persons
- ❑ 101 – 150 persons
- ❑ More than 150 persons

7. Average annual income

- ❑ Less than 20,000,000 Baht
- ❑ 20,000,000 – 40,000,000 Baht
- ❑ 40,000,001 – 60,000,000 Baht
- ❑ More than 60,000,000 Baht

Section 3: Opinion on management accounting information system of beverage businesses in Thailand

Management Accounting Information System Capability	Levels of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Operational Information Integration Orientation					
1. Management accounting information system help firm to link the organization's operational information systematically.					
2. Management accounting information systems help the firm to integrate the operational data and guidelines for managing information from different entities.					
3. Management accounting information systems help the firm to transfer information and share information between departments within and between departments in a systematic way.					
4. Management accounting information systems enable the firm to effectively consolidate all information into a single system.					
Accounting Information Technology Linkage					
5. Management accounting information systems enable the firm to manage the information technology as a whole to work together well.					
6. Management accounting information systems enable the firm to leverage existing information technology to work together.					
7. Management accounting information systems enable the firm to connect other information systems within a business to effectively coordinate.					

Section3 (Continued)

Management Accounting Information System Capability	Levels of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
8. Management accounting information systems help the firm use information technology in a systematic and coherent way.					
New Accounting Technology Implementation 9. Management accounting information systems enable the firm to effectively apply accounting technology.					
10. Management accounting information systems enable the firm to be up-to-date in learning and understanding technology related to accounting practices.					
11. Management accounting information systems enable firm to effectively use accounting-related storage technology.					
12. Management accounting information systems enable the firm to change the accounting process to modern and international standards.					
Management Information Reporting Competency 13. Management accounting information systems enable the firm to report potentially relevant information to a business.					
14. Management accounting information systems enable the firm to classify and analyze accounting data that meet user needs in a concrete way.					
15. Management accounting information systems enable the firm to present information in a manner consistent with the actual situation.					
16. Management accounting information systems enable the firm to present accurate, fast, and timely accounting information.					

Section3 (Continued)

Management Accounting Information System Capability	Levels of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Business Management Intelligence Focus					
17. Management accounting information systems allow the firm to process transactional data in conjunction with other data and provide reports to support decision making that is appropriate to the situation.					
18. Management accounting information systems enable the firm to analyze and present forecasting data for use in planning operations accurately and precisely.					
19. Management accounting information systems enable the firm to analyze data from both internal and external sources and report on objectives.					
20. Management accounting information systems allow the firm to analyze the operations of a business and provide information for effective management decisions.					

Section 4: Opinion on business outcomes of beverage businesses in Thailand

Business Outcomes	Levels of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Strategic Positioning Effectiveness					
1. Firm can define strategies and management practices more clearly.					
2. Firm can determine the competitive position more concrete.					
3. Businesses can create strong competitive positions in the industry compared to competitors.					
4. Firm can maintain the competitive position continuously.					

Section 4: (Continued)

Business Outcomes	Levels of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Cost Management Efficiency					
5. Firm can make decisions, plan, and control costs effectively.					
6. Firm can provide accurate and actual cost information related to its operation.					
7. Firm can save more and reduce operating costs.					
8. Firm can be managed under the appropriate costs in accordance with the situation faced.					
Operational Improvement Excellence					
9. Firm can reduce the process and time to operate efficiently.					
10. Firm can consume resources in operational activities, cost effectively, and significantly reduce resource losses.					
11. Firm can reduce operational errors continuously, which is certainly measurable.					
12. Firm can use technology to adapt the operations to meet customer needs more conveniently and quickly than competitors.					
Firm Success					
13. Firm has been recognized by customers as the firm with effective management and quality continuously.					
14. Executives and employees recognize that the firm is professionally managed and successful in the operations.					
15. Firm has a technology that produces quality products and standards acceptable to consumers.					
16. Loyal customer continue to purchase products from the company.					

Section 4: (Continued)

Business Outcomes	Levels of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Organizational Survival					
17. Firm has continued to profit from its operations as compared to the past.					
18. Firm has a total asset with continuous growth.					
19. Firm can consistently increase sales compared to the past.					
20. Firm has a stable financial status continuously.					

Section 5: Opinion on the effect of internal factor affecting management accounting information system of beverage businesses in Thailand

Internal Factors Affecting Management Accounting Information System	Levels of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Business Executive Support					
1. Firm's executives believes that a systematic management system will make the operation more efficient.					
2. Firm's executives supports employees in continuing education on issues related to their job duties, which will enable them to work more efficiently and systematically.					
3. Firm's executives focuses on investing and developing technology that is relevant to its operations, which can be operated under the change.					
4. Firm's executives emphasizes the allocation of budgets for procurement of replacement devices to replace damaged equipment immediately, resulting in smooth and continuous operation.					

Section 5: (Continued)

Internal Factors Affecting Management Accounting Information System	Levels of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
IT Resource					
5. Firm believes that having a good information technology resource helps to improve management and operations.					
6. Firm focuses on the development of information technology to be up-to-date and flexible to use, which effectively accommodates change.					
7. Firm focuses on investing in information technology as well as providing adequate facilities to achieve its current and future operational goals.					
8. Firm always recognizes that having modern information technology resources will help the management succeed.					
Employee Technology Learning					
9. Firm believes that continuous learning about technology by employees will improve both current and future performance.					
10. Firms focus on employees to study and understand the changes that are happening in technology, which will help them apply effectively to their work.					
11. Firm encourages the use of information technology experience from the past as a guideline for improving and developing management, which will help the effective use of information technology.					
12. Firm encourages employees to continually improve their skills, knowledge, and training in information technology, which will enable them to perform their work effectively, both now and in the future.					

Section 5: (Continued)

Internal Factors Affecting Management Accounting Information System	Levels of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Best Accounting System					
13. Firm believes that having a good accounting system makes management effective.					
14. Firm focuses on developing accounting systems in line with corporate strategy and management, which effectively achieves organizational goals.					
15. Firm always recognizes that a good accounting system will support the organization's operations more conveniently and quickly, and make management successful.					
16. Firm encourages the modernization of the accounting system, which helps to obtain current and actual information.					

Section 6: Opinion on the effect of external factor affecting management accounting information system of beverage businesses in Thailand

External Factors Affecting Management Accounting Information System	Levels of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Environmental Munificence Potentiality					
1. Technology has grown tremendously, making it possible for firms to apply such technology to improve their operational efficiency.					
2. Government policies encourage continued business development, enabling firms to develop their own potential for effective business creation.					
3. Customers have a greater demand for their products, enabling firms to offer a variety of products through sales channels that better respond to customer needs.					
4. The diversity of products nowadays makes it possible for firms to design and develop new products to better serve customers' needs.					

Section 6: (Continued)

External Factors Affecting Management Accounting Information System	Levels of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Technology Growth					
5. Many technologies are constantly evolving, enabling firms to learn, understand, and benefit the business.					
6. The growth of modern technology has enabled firms to have the potential and ability to learn about the changes that have taken place.					
7. The technology for data communication is progressing and modernizing continuously, allowing firms to have a fast way to communicate information.					
8. Nowadays, technology has diversified, enabling firms to choose such technology to match the characteristics and condition of the business.					

Section 7: Recommendations and suggestions regarding business administration of beverage businesses in Thailand.

……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……

Thank you for your time and attention to this matter

APPENDIX H

Letters to the Experts

บันทึกข้อความ

หน่วยงาน คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม โทรศัพท์ 043-754333-3431 Fax 043- 754422

ที่ ศธ.0530.10/ **วันที่** 23 พฤษภาคม 2560

เรื่อง ขอเรียนเชิญเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัย

เรียน ผู้ช่วยศาสตราจารย์ ดร.เกสินี หมื่นไธสง

ด้วย นางสาวสุภาพันธ์ สายทองอินทร์ นิสิตระดับปริญญาเอก หลักสูตรปรัชญาดุษฎีบัณฑิต (ปร.ด.) สาขาวิชาการบัญชี คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม กำลังศึกษาวิทยานิพนธ์ เรื่อง "การทดสอบเชิงประจักษ์ของความสัมพันธ์ระหว่างศักยภาพระบบสารสนเทศทางการบัญชีบริหารกับความอยู่รอดขององค์กร: หลักฐานจากธุรกิจเครื่องดื่มในประเทศไทย" 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.พลาญ จันทรจตุรภัทร

ด้วย นางสาวสุภาพันธ์ สายทองอินทร์ นิสิตระดับปริญญาเอก หลักสูตรปรัชญาดุษฎีบัณฑิต (ปร.ด.) สาขาวิชาการบัญชี คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม กำลังศึกษาวิทยานิพนธ์ เรื่อง "การทดสอบเชิงประจักษ์ของความสัมพันธ์ระหว่างศักยภาพระบบสารสนเทศทางการบัญชีบริหารกับความอยู่รอดขององค์กร: หลักฐานจากธุรกิจเครื่องดื่มในประเทศไทย" ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปรัชญาดุษฎีบัณฑิต ดังนั้น เพื่อให้การดำเนินการเป็นไปด้วยความเรียบร้อยและบรรลุตามวัตถุประสงค์ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม จึงใคร่ขอความอนุเคราะห์ท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัยและข้อเสนอแนะเพื่อนำข้อมูลที่ได้ไปดำเนินการทำวิทยานิพนธ์ต่อไป ตามเอกสารแนบท้าย

จึงเรียนมาเพื่อโปรดพิจารณา

(รองศาสตราจารย์ ดร.สุวรรณ หวังเจริญเดช)
รองคณบดีฝ่ายกิจการนิสิต รักษาการแทน
คณบดีคณะการบัญชีและการจัดการ

VITA

VITA

NAME	Miss Supapan Saithong-in
DATE OF BIRTH	October 15, 1979
PLACE OF BIRTH	Kamphaengphet Province
ADDRESS	4/119 Sukontasawad Rd., Ladprao, Bangkok 10230, Thailand
POSITION	Lecturer
PLACE OF WORK	Chandrakasem Rajabhat University 39/1 Ratchadaphisek Road, Khwaeng Chantharakasem, Chatuchak District, Bangkok 10900

EDUCATION

2001	Bachelor of Accounting Naresuan University, Phitsanulok, Thailand
2010	Master of Business Administration (Accounting for Planning and Controlling) Kasetsart University, Bangkok, Thailand
2018	Doctor of Philosophy (Accounting) Mahasarakham University, Mahasarakham, Thailand

RESEARCH

2016	Saithong-in, S. and Ussahawanitchakit, P. Psychological capital and job performance: an empirical research of certified public accountants (CPAs) in Thailand. *The Business and Management Review*, 7(5), 499-506.