
CREATIVITY OF THE MODERN ACCOUNTION INFORMATION SYSTEM AND BUSINESS GOAL ACHIEVEMENT: AN EMPIRICAL EVIDENCE FROM AUTO PARTS SMALL AND MEDIUM ENTERPRISE IN THAILAND

Suwan Wangcharoendate

Maharakham Business School, Maharakham University

suwan.w@acc.msu.ac.th

Abstract

This study attempts to investigate the determinants on creativity of the modern accounting information system and business goal achievement through mediating effect of decision-making effectiveness, accounting knowledge advantage and information quality support. Technology acceptance is a moderating variable on the relationship among creativity of the modern accounting information system and consequence variables. Questionnaire is used as an instrument for data collection. Here, 279 the head of the accounting department or accounting executive of each auto parts SMEs businesses in Thailand were selected as key informant. The Ordinary Least Squares (OLS) regression analysis is employed to examine all hypotheses. The results indicate that some dimensions of creativity of the modern accounting information system, namely accounting transaction collaboration, accounting compatible information linkage and accounting information integration capability has a partial significant positive effect on decision making effectiveness, accounting knowledge advantage and information quality support. Moreover, accounting knowledge advantage have significant positive effect on decision making effectiveness and information quality support. Likewise, the moderating shows some partial support for hypotheses derived from the conceptual model. Finally, Managerial contributions lead to enhance the more effectively of firms' performance. Conclusion, suggestions and directions of the future research are highlighted.

Keywords: Creativity of modern accounting information system, Business goal achievement, Technology acceptance

บทคัดย่อ

วัตถุประสงค์ของการวิจัยเพื่อต้องการศึกษาถึงปัจจัยที่มีผลต่อความคิดสร้างสรรค์ระบบสารสนเทศทางบัญชีสมัยใหม่ที่ส่งผลต่อการบรรลุเป้าหมายทางธุรกิจ โดยมีตัวแปรต้นกลางประกอบด้วย ประสิทธิภาพในการตัดสินใจ ความได้เปรียบความรู้ทางการบัญชี และการสนับสนุนคุณภาพข้อมูล ส่วนตัวแปรการยอมรับเทคโนโลยีเป็นตัวแปรแทรก เพื่อศึกษาความสัมพันธ์ระหว่างตัวแปรความคิดสร้างสรรค์ระบบสารสนเทศทางบัญชีสมัยใหม่กับตัวแปรต้นกลาง การวิจัยครั้งนี้ใช้แบบสอบถามเป็นเครื่องมือในการเก็บข้อมูลจากผู้บริหารฝ่ายบัญชีหรือหัวหน้าฝ่ายบัญชีของบริษัทวิสาหกิจขนาดกลางและขนาดย่อมของธุรกิจชิ้นส่วนยานยนต์จำนวน 279 ราย โดยใช้สถิติในการวิเคราะห์การถดถอยและทดสอบสมมติฐาน ผลการศึกษาพบว่า ตัวแปรความร่วมมือด้านการบัญชี การเชื่อมโยงข้อมูล และความสามารถในการบูรณาการข้อมูลทางบัญชี ส่งผลกระทบเชิงบวกบางส่วนต่อประสิทธิภาพในการตัดสินใจ ความได้เปรียบความรู้ทางการบัญชี และการสนับสนุนคุณภาพข้อมูล นอกจากนี้ ตัวแปรต้นกลางทุกตัวมีความสัมพันธ์เชิงบวกต่อการบรรลุเป้าหมายทางธุรกิจ ในทำนองเดียวกัน ตัวแปรความได้เปรียบความรู้ทางการบัญชี ก็มีความสัมพันธ์เชิงบวกกับตัวแปรประสิทธิภาพในการตัดสินใจ และการสนับสนุนคุณภาพข้อมูล ส่วนตัวแปรแทรกส่งผลกระทบเชิงบวกบางส่วนเท่านั้น ท้ายสุด การวิจัยครั้งนี้ก่อให้เกิดแนวคิดใหม่ ๆ ในการนำแนวคิดสร้างสรรค์ระบบสารสนเทศทางบัญชีสมัยใหม่ในการประสิทธิภาพการดำเนินงานของกิจการเพิ่มขึ้น นอกจากนั้นสามารถนำไปต่อยอดในอนาคตได้

คำสำคัญ: ความคิดสร้างสรรค์ระบบสารสนเทศทางบัญชีสมัยใหม่, การบรรลุเป้าหมายทางธุรกิจ, การยอมรับเทคโนโลยี

Introduction

Nowadays, the increasing of products, services and competition has risen and these lead to the more need for flexibility, quality and timeliness in managing in this situation (Marriot and Marriot, 2000). A key resource for attaining these requirements is effective information systems, particularly accounting information systems (AIS) (Mitchell, 2006). An information system is an organized means of collecting, entering, and processing data and storing, managing, controlling, and reporting information so that an organization can achieve its objectives and goals (Van De Ven and Drazin, 1985). On the other hand, an AIS is the whole of the related components that are put together to collect information, raw data or ordinary data and transform them into financial data for the purpose of reporting them to decision makers. These systems were implemented in large industrial and small trade enterprises. Later, implementation of AIS started in other enterprises.

Accounting Information Systems (AIS) are a tool which, when incorporated into the field of Information and Technology systems (IT), were designed to help in the management and control of topics related to firms' economic-financial area. Accounting information system is a central part of the information system of the company, as it combines features of all company's functions in a unique package of measure that is suitable for use by many users. Accounting information is expressed quantitatively, documented and objective, such information is characterized by relevance, reliability, intelligibility, and as such suitable for use by management.

SMEs, especially in auto parts SMEs, are expected to be an important driver factor to address the challenges of job creation, sustainable economic growth, equitable distribution of income and the overall stimulation of economic development in Thailand (www.sme.go.th: search on December 8, 2017). Likewise, Small and Medium-sized Enterprises (SMEs) play a vital role in all economics and are the key drivers of innovation and growth (Harash et al., 2014). In this study, the analysis was based on a sample is the head of the accounting department of each auto parts SMEs in Thailand. Hence, the specific research questions are: (1) How does each dimension of creativity of the modern accounting information system have an effect on firm achievement through mediating the relationship among decision-making effectiveness, accounting knowledge advantage, and information quality support? (2) How does accounting knowledge advantage have an effect on decision making effectiveness? (3) How does accounting knowledge advantage have an effect on information quality support? And (4) How does technology acceptance moderate the relationships among creativity of modern accounting information system and mediating?

Research Objectives

The specific research purposes are as follows: (1) To investigate the effects of each dimension creativity of the modern accounting information system on decision-making effectiveness, accounting knowledge advantage, information quality support and business goal achievement. (2) To examine the effects of accounting knowledge advantage on decision-making effectiveness. (3) To examine the effects of accounting knowledge advantage on information quality support. (4) To scrutinize the moderating effects of technology acceptance on creativity of the modern accounting information system and consequences.

Theoretical Foundation

This study applies the information richness theory and organizational information processing theory explain conceptual framework to support the creativity of modern accounting information system in Thai-Listed Firms.

Literature Review and Research Hypotheses Development

The developed conceptual model in this research is presented as shown in Figure 1 below:

1. Creativity of the Modern Accounting Information System is defined as a computer-based system that operates the functions of collection, storing, linking business transactions. Generating the integrated accounting information, monitoring and auditing activities of organization with the aim of establishing accounting information trust to generate the valuable information for an organization.

1.1 Accounting Transaction Collaboration refers to the information communication, sharing, and transfer among entities is entirely working together toward a common goal. Accounting transaction collaboration provides the integrated information that accuracy, timely and reliable for business management (Ismail and King, 2005) and allows decision maker to access such information from various segments immediately via common database management system (Boritz, 2005). Hence, this study proposed the following hypotheses below:

Hypothesis 1a-1c: The higher the accounting transaction collaboration is, the more likely that business will achieve greater (a) decision making effectiveness; (b) accounting knowledge advantage; and (c) information quality support.

1.2 Accounting Compatible Information Linkage refers to the ability of the system for the collection, classification, clustering information about the accounting information that includes the related business transaction from several function within the organization and the correct record of a financial statement based on generally accepted accounting principles. Hence, this study proposed the following hypotheses below:

Hypothesis 2a-2c: The higher the accounting compatible information linkage is, the more likely that business will achieve greater (a) decision making effectiveness; (b) accounting knowledge advantage; and (c) information quality support.

1.3 Accounting Information Integration Capability refers as the ability of the system to report data covering all business operations of the firm in the both of financial and non-financial information and both of internal and external circumstance to meet all the requirements of the accounting data and the enhancement of understanding of the relevant users. Hence, this study proposed the following hypotheses below:

Hypothesis 3a-3c: The higher the accounting information integration capability is, the more likely that business will achieve greater (a) decision making effectiveness; (b) accounting knowledge advantage; and (c) information quality support.

2. Mediating Effects of Consequences

2.1 Accounting Knowledge Advantage refers to the superior qualitative characteristics of accounting information increasing the quality of decisions to analyze, evaluate, and predict the economic events on-time, accurately and clearly. Hence, this study proposed the following hypotheses below:

Hypothesis 4: The higher accounting knowledge advantage is, the more likely that the businesses will gain greater decision making effectiveness.

Hypothesis 5: The higher accounting knowledge advantage is, the more likely that the businesses will gain greater information quality support.

Hypothesis 7: The higher accounting knowledge advantage is, the more likely that the businesses will gain greater business goal achievement.

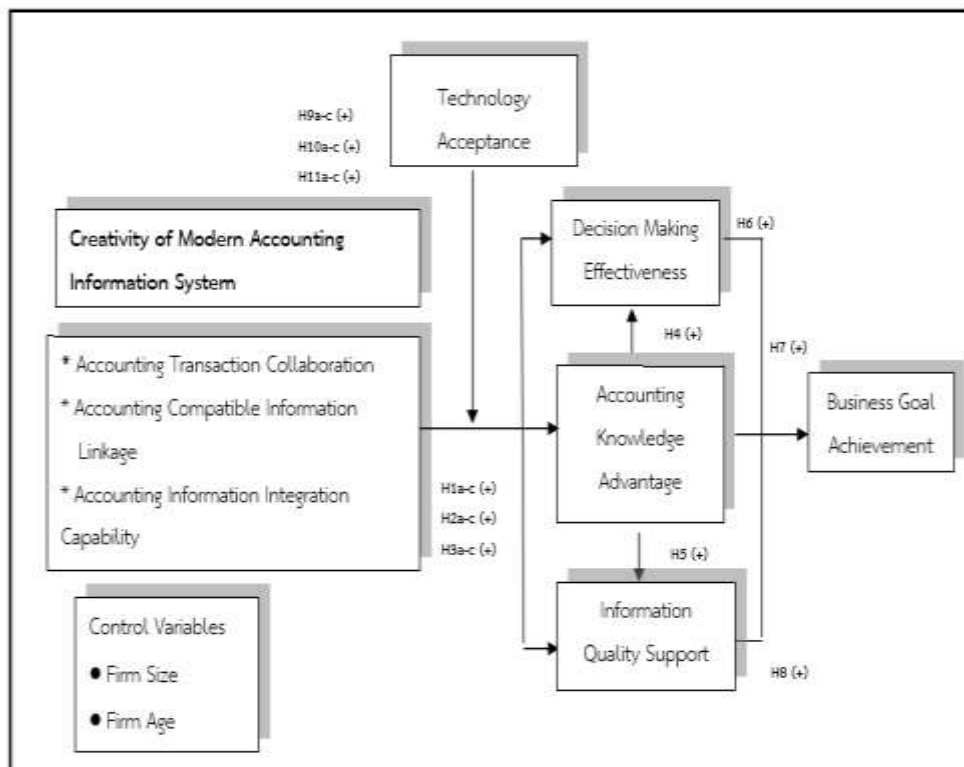


Figure 1: Conceptual Model Creativity of the Modern Accounting Information System and Business Goal Achievement: An Empirical Evidence from Auto Parts SMEs in Thailand, Created by researcher (2018)

2.2 Decision Making Effectiveness is defined as the success of choices between many alternative ways to support the company to achieve its objective or set goals. Hence, this study proposed the following hypothesis below:

Hypothesis 6: The higher decision making effectiveness is, the more likely that the businesses will gain greater business goal achievement.

2.3 Information Quality Support refers to the organizations' inspiring, optimizing, and confidence to state future direction of the organization related to the perception that information quality helps firm gain their business achievements. Hence, this study proposed the following hypothesis below:

Hypothesis 8: The higher information quality is, the more likely that the businesses will gain greater business goal achievement.

3. Moderating Effects of Technology Acceptance refers to the firms proficiency in learning, adopting an adapting the newly technology knowledge and using the latest technological knowledge to enhance competitive advantage. Hence, this study proposed the following hypotheses below:

Hypotheses 9-11: Technology acceptance will positively moderate the relationship between creativity of modern accounting information system and (a) decision making effectiveness, (b) accounting knowledge advantage, and (c) information quality support.

4. Control Variables

Two control variables are included to account for firm characteristics that may influence the hypothesized relationships which are firm size and firm age.

Research Methods

1. Sample Selection and Data Collection Procedure

Auto parts SMEs in this study are 1,159 samples drawn from the database of the Office of SMEs Promotion (OSMEP) in Thailand at <http://www.sme.go.th>, accessed on January 18, 2016. Steps to mail survey questionnaires used to collect data, key participants are the head of the accounting department or accounting executive of each auto parts SMEs businesses. The valid mailing was 1,130 surveys, from which 279 responses were received of the questionnaires completed. The effective response rate was approximately 24.69%.

2. Questionnaire Development

In this study, a questionnaire consists of six parts. Part one asks for personal information. Part two is about general information auto parts SMEs in Thailand. Part three was related evaluating each of constructs in the conceptual model. The questions in the fourth part measure consequence of creativity of modern accounting information system and business goal achievement. In the fifth part, the moderator variable was detailed. Finally, an open-ended question is included in part sixth.

3. Reliability and Validity

With respect to the confirmatory factor analysis, this analysis has a high potential to inflate the component loadings. Thus, a higher rule-of-thumb, a cut-off value of 0.40, was adopted. All factors loading are greater than the 0.40 cut-off and are statistically significant. The reliability of the measurements was secondly evaluated by Cronbach alpha coefficients. In the scale reliability, Cronbach alpha coefficients are greater than 0.70. This scale of all measures appears to produce internally consistent results. Thus, these measures are deemed appropriate for further analysis because they express an accepted validity and reliability in this study.

Table 1: The results of measure validation

Variables	Factor Loadings	Cronbach's Alpha
Accounting Transaction Collaboration (ATC)	.825 - .859	.861
Accounting Compatible Information Linkage (ACIL)	.766 - .781	.836
Accounting Information Integration Capability (AIC)	.758 - .766	.765
Decision Making Effectiveness (DME)	.847 - .864	.882
Accounting Knowledge Advantage (AKA)	.778 - .782	.837
Information Quality Support (IQS)	.732 - .767	.751
Technology Acceptance (TA)	.742 - .769	.808

4. Statistical Techniques

The Ordinary Least Squares (OLS) regression analysis is used to test and examine the hypotheses following the conceptual model. The equation models are shown as follows:

$$\text{Equation 1: } DME = \alpha_1 + \beta_1 ATC + \beta_2 ACIL + \beta_3 AIIC + \beta_4 TA + \beta_5 (ATC*TA) + \beta_6 (ACIL*TA) + \beta_7 (AIIC*TA) + \beta_8 FS + \beta_9 FA + \epsilon$$

$$\text{Equation 2: } AKA = \alpha_2 + \beta_{10} ATC + \beta_{11} ACIL + \beta_{12} AIIC + \beta_{13} TA + \beta_{14} (ATC*TA) + \beta_{15} (ACIL*TA) + \beta_{16} (AIIC*TA) + \beta_{17} FS + \beta_{18} FA + \epsilon$$

$$\text{Equation 3: } IQS = \alpha_3 + \beta_{19} ATC + \beta_{20} ACIL + \beta_{21} AIIC + \beta_{22} TA + \beta_{23} (ATC*TA) + \beta_{24} (ACIL*TA) + \beta_{25} (AIIC*TA) + \beta_{26} FS + \beta_{27} FA + \epsilon$$

$$\text{Equation 4: } DME = \alpha_4 + \beta_{28} AKA + \beta_{29} FS + \beta_{30} FA + \epsilon$$

$$\text{Equation 5: } IQS = \alpha_5 + \beta_{31} AKA + \beta_{32} FS + \beta_{33} FA + \epsilon$$

$$\text{Equation 6: } BGA = \alpha_6 + \beta_{34} AKA + \beta_{35} DME + \beta_{36} IQS + \beta_{37} FS + \beta_{38} FA + \epsilon$$

Results

A bivariate correlation analysis of Pearson's correlation is employed to explore the relationships among variables and detect multicollinearity in multiple regression assumption. Multicollinearity might occur when inter-correlation in each predict variable is more than 0.80, which is a high relationship (Hair et al., 2010). In this study, the bivariate correlation procedure is scaled to a two-tailed test of statistical significance at $p < 0.01$ and $p < 0.05$, of which the result is shown in table 2.

Interestingly, as shown in table 3, variance inflation factors (VIF) were used to provide information on the extent to which non-orthogonality among independent variables inflates standard errors. The VIFs range from 2.591 – 3.725 are well below the cut-off value of 10 meaning the independent variables are not correlated with each other. Therefore, there are no substantial multicollinearity problems encountered in this study.

Table 3 presents the results of OLS regression analysis that affects three dimensions of creativity of modern accounting information system on decision making effectiveness, accounting knowledge advantage and information quality support. The hypotheses predicted positive relationships. The results show that accounting transaction collaboration has significant positive impact on decision making effectiveness ($\beta_1 = 0.246$, $p < 0.05$), accounting knowledge advantage ($\beta_{10} = 0.224$, $p < 0.05$), and information quality support ($\beta_{19} = 0.175$, $p < 0.05$). Ismail and King (2005) indicated that the accounting transaction collaboration allows decision maker to access such information from various segments immediately and monitoring performance of accounting practices. Hence, hypotheses 1a-1c was supported.

Table 2: Descriptive statistics and correlation matrix

Variables	ATC	ACIL	AIIC	DME	AKA	IQS	TA	FS	FA
Mean	4.152	4.138	4.112	4.148	4.116	4.166	4.026		
SD	.427	.415	.492	.443	.478	.426	.431		
ATC	1								

Variables	ATC	ACIL	AIIC	DME	AKA	IQS	TA	FS	FA
ACIL	.541**	1							
AIIC	.436**	.683**	1						
DME	.518**	.561***	.658**	1					
AKA	.434**	.624**	.591**	.716***	1				
IQS	.540**	.551**	.505**	.578**	.593**	1			
TA	.574**	.543**	.515**	.628**	.453**	.443**	1		
FS	.259*	.299*	.203*	.292*	.371*	.607**	.634**	1	
FA	.143*	.355*	.327*	.329*	.508*	.562**	.492**	.307*	1

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

Secondly, accounting compatible information linkage has significant positive impact on accounting knowledge advantage (β_{11} 0.243, $p < 0.05$) and information quality support (β_{20} 0.184, $p < 0.05$). Thus, hypotheses 2b-2c were supported. Assenso-Okofu, Ali and Ahmed (2011) found that the linkage of business transactions into a record, completely and accurately, is an important factors that results in accuracy and leads to accounting information quality.

Consequently, accounting information integration capability has significant positive impact on decision making effectiveness (β_3 = 0.204, $p < 0.05$), accounting knowledge advantage (β_{12} = 0.193, $p < 0.05$), and information quality support (β_{21} = 0.204, $p < 0.05$). Accounting information integration capability is able to aggregate data and represents it in the way that managers can value and use information for their decisions (Blouin, 2012). Thus, hypotheses 3a-3c were supported.

For the hypothesis testing, the results of OLS regression analysis are shown in Table 3. The results indicate that accounting knowledge advantage has significant positive impact on decision making effectiveness (β_{28} = 0.238, $p > 0.05$), information quality support (β_{31} = 0.181, $p > 0.05$), and business goal achievement (β_{34} = 0.257, $p > 0.05$). According to Rodriguez and Lorente (2011) illustrates that the three fundamental objectives of accounting knowledge advantage are common to all organizations (a) to support the stewardship function of management (b) to support management decision-making, and (c) to support the firm's day-to-day operation. Thus, hypotheses 4, 5, 7 were supported.

In addition, the finding shows that information quality support has a positive significant influence on business goal achievement (β_{36} = 0.233, $p > 0.05$). The information quality is crucial for firms to compete successfully in the high competitive markets (Inluang, 2018). Thus, hypothesis 8 was strongly supported. Moreover, the result reveals that decision making effectiveness does not significantly affect business goal achievement (β_{35} = 0.052, $p < 0.05$). Thus, hypothesis 6 was not supported.

Table 3, also tested the moderating effect of technology acceptance on the relationships between creativity of modern accounting information system and its consequences. The findings indicated that the interaction between technology acceptance and accounting transaction collaboration has a positive significant effect on accounting knowledge advantage (β_{14} = 0.127, $p < 0.05$). Hence, hypothesis 9b was supported. Auh and Mengue (2005) stated that to deal with the technology acceptance, firms need to continuously modify their processing systems and develop innovation to absorb supreme benefit from technology innovation.

The interaction between technology acceptance and accounting compatible information linkage has a positive significant effect on decision making effectiveness (β_6 = 0.198, $p < 0.05$), and information quality support (β_{24} = 0.172

$p < 0.05$). Hence, hypotheses 10a and 10c were supported. Zarrage and Alvarez (2016) found that companies that are aware of the importance of handling quality information when making decisions will concentrate in managing the information in an efficient way in order to achieve excellent performance.

According, the interaction among technology acceptance and accounting information integration capability has a negative and insignificant effect on decision making effectiveness ($\beta_7 = -0.024$, $p > 0.05$), accounting knowledge advantage ($\beta_{16} = -0.016$, $p > 0.05$), and information quality support ($\beta_{25} = -0.072$, $p > 0.05$) (Wangcharoendate, 2016). Therefore, hypotheses 10a-10c was not supported.

Additionally, the results of control variables indicate that firm size and firm age do not have a significant effect on decision making effectiveness, accounting knowledge advantage, and information quality support and business goal achievement. Results can be interpreted both low and high total asset of firm and both short and long firm's period of working business do not significantly affect the level of decision making effectiveness, accounting knowledge advantage, information quality support and business goal achievement.

Discussion

The findings will usefulness the firm decides and consider how to appreciate their developments to succeed in firm purpose. Firm should place more concern on the technology munificence growth, advancement, and the diversity of technology will enhance the effective communication channel, which ultimately affects the accounting information system quality of the firm. Moreover, the firm should pay the more encourage of information management leadership by the supporting and adapting the newly techniques or novel technologies for the information management, continuously improving firms' database, which leads to enhance the more effectively of firm's performance.

Table 3: The results of OLS Regression analysis^a

Independent Variables	Dependent Variables			
	E 5: Business Goal Achievement	E 1: Decision Making Effectiveness	E 2: Accounting Knowledge Advantage	E 3: Information Quality Support
Accounting Transaction Collaboration (ATC)		.246** (.079)	.224** (.083)	.175** (.085)
Accounting Compatible Information Linkage (ACIL)		.053 (.089)	.243** (.089)	.184** (.093)
Accounting Information Integration Capability (AIIC)		.204** (.085)	.193** (.088)	.204** (.091)
Technology Acceptance (TA)		.102 (.080)	.067** (.090)	.193** (.093)
ATC x TA		.069 (.071)	.127** (.060)	.042 (.077)
ACILP x TA		.198** (.083)	.065 (.093)	.172** (.077)

Table 3: The results of OLS Regression analysis^a

Independent Variables	Dependent Variables			
	E 5: Business Goal Achievement	E 1: Decision Making Effectiveness	E 2: Accounting Knowledge Advantage	E 3: Information Quality Support
AIIC x TA		-.024 (.067)	-.016 (.033)	-.072 (.081)
Decision Making Effectiveness (DME)	.052 (.092)			
Accounting Knowledge Advantage (AKA)	.257** (.090)	.238** (.080)		.181** (.070)
Information Quality Support (IQS)	.233** (.087)			
Firm Size (FS)	0.05 (.093)	0.12 (.106)	0.17 (.123)	.080 (.106)
Firm AGE (FA)	.100 (.094)	-0.11 (.016)	-0.172 (.012)	-0.151 (.106)
Adjusted R square	.301	.369	.384	.432
Maximum VIF	2.591	3.725	3.725	3.725

** p < .05, * p < .10

^a Beta coefficients with standard errors in parenthesis.

Conclusion

The results indicate that accounting transaction collaboration, accounting compatible information linkage, and accounting information integration capability, almost has a partial significant positive effect on decision making effectiveness, accounting knowledge advantage, and information quality support. Moreover, all consequences have a significant positive effect on business goal achievement. Likewise, accounting knowledge advantage has the significant positive effect on decision making effectiveness and information quality support. The moderating effect of technology acceptance is a partial moderator relationship between accounting transaction collaboration and accounting compatible information linkage on decision making effectiveness, accounting knowledge advantage, and information quality support.

The findings show the evidence overall of creativity of the modern accounting information system with each dimension is an essential and valuable resource of the firm, which leads the firm to meet its business goal. It implies that Small and Medium Enterprises (SMEs), especially in auto parts, are expected to be an important driving factor to address the challenge of job creation, sustainable economic growth equitable distribution of income and the overall stimulation of economic development in Thailand.

Suggestions

The result shows the main beneficially for firms and their accounting executives. Firstly, the advantageous accounting information system quality should contain the potential competencies in the collaboration among the various business functions within firm; other IS system compatibility including communication system, business transaction linkage and integrated accounting information reporting to related users through the potential of information management manner. Secondly, the results reveal that the firm should concentrate on information usefulness effectiveness, because it can help firms analyzing, and predicting the opportunities and hindrances in the high competitive situation.

Limitations and Future Research Direction

There are two limitations: firstly, the measurements of all constructs in this research are newly developed with some modifications, based on literature reviews and related theories. Secondly, the measurements are developed using the content validation with business experts, however, without the in-depth interview from firm's practitioners. Moreover, the results of this research may be narrow as lacking generalized concepts for both other business and countries. Finally, attempt to study other potential moderating variables.

Future research may employ other sampling populations with differentiation in types and characteristics in order to compare the results and outcomes. Moreover, should employ the modern accounting information system as a whole or research other consequences.

Reference

- Assenso-Kofo, O., Ali, M. J. and Ahmed, K. (2011). The development of accounting and reporting in Ghana. *The International Journal of Accounting*. 46: 459-480.
- Auh, S. and B. Mengue. (2005). Balancing exploration and exploitation: The moderating role of competitive intensity. *Journal of Business Research*. 58(12): 1652-1661.
- Blouin, M. C. (2012). Does other information improve the usefulness of management earning forecasts for analysis? *Review of Accounting and Finance*. 1(2): 93-112.
- Bortiz, J. E. (2005). IS practitioners' views on core concepts of information integration. *International Journal of Accounting Information System*. 6(4): 260-279.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis: A Global Perspective*. 7th ed. Upper Saddle River, NJ: Prentice Hall.
- Harash E., Al-Timimi S., and Radhi A. H. (2014). The influence of accounting information systems (AIS) on performance of Small and Medium Enterprises (SMEs) in Iraq. *Journal of Business & Management*. 3(4): 48-57.
- Inluang Fawikom (2018). Modern human capital management in operational level of generation Y : A case study at Northern region industrial estate Lamphun. *Journal of Thonburi University*. 12(Special Issue): 43-55.
- Ismail, N. A. and M. King. (2005). Firm performance and AIS alignment in Malaysian SMEs. *International Journal of Accounting Information System*. 6(2005): 241-259.

- Marriot, N. and Marriot, P. (2000). Professional accountants and the development of a management accounting service for the small firm: barriers and possibilities. *Management Accounting Research*. 11(4): 475-479.
- Mitchell, V. L. (2006). Knowledge Integration and Information Technology Project Performance. *MIS Quarterly*. 30(4): 919-939.
- Rodriguez, C S. and Lorente, A. R. M. (2011). Effect of IT and quality management on performance. *Industrial Management & Data Systems*. 111(6): 830-848.
- Van De Ven A.H., Drazin, R. (1985) The concept of fit in contingency theory. *Resources Organizational Behavior*. 7: 65-333.
- Wangcharoendate, S. (2016). Audit Professional Proficiency and Audit Stability: An Empirical Research of Certified Public Accountants (CPAs) in Thailand. *University of the Thai Chamber of Commerce Journal*. 36(3): 126-150.
- Zarraga, R. M., and Alvarez, M.J. (2016). Efficient information related practices in companies committed to EFQM. *TQM Journal*. 28(6): 798-813.