

Modern Managerial Accounting Capability of Textile Export Businesses in Thailand: An Empirical Investigation of Antecedents

Napat Jantarajaturapath

Maharakham Business School, Maharakham University, Thailand

napat.j@acc.msu.ac.th

Phaprukbaramee Ussahawanitchakit

Maharakham Business School, Maharakham University, Thailand

phapruke.u@acc.msu.ac.th

Suparak Janjarasjit

Maharakham Business School, Maharakham University, Thailand

suparak.j@acc.msu.ac.th

Abstract

Textile export industry is an economic importance generating great national revenue in Thailand. The industry is confronting intense exporting competition with foreign country. Interestingly, modern managerial accounting has become inevitably important for businesses to successfully compete in a dynamic environment of global markets. Moreover, several context variables influence on the use of modern managerial accounting techniques of companies. The purpose of this research is to examine the influences of antecedents on modern managerial accounting capability of textile export businesses in Thailand. Data was collected from 150 textile export businesses in Thailand by using mail survey. The statistic techniques for data analyzing were correlation and multiple regression. The results indicated that dynamic top management support, operational innovation development and best management accounting system have a positive significance on modern managerial accounting capability. Moreover, conclusion and recommendation for future research are discussed in the last section of this research.

Keywords: Best management accounting system, Modern management accounting capability, Textile export business

1. Introduction

There are highly competitive in the textile industry in Asia, for instance, China, India, and Vietnam are major competitors for Thai textile industry (SMEs Knowledge Center, Office of Small and Medium Enterprise Promotion, 2016). Firm applies managerial accounting for computing a manufacturer's product costs, planning and controlling a business to support the decision making. To survive, firm needs to focus on managerial accounting and adjust itself to fit into the industrial environment. Managerial accounting is an activity to transform data into information assisting managers to accomplish organizational goals and to reduce costs effectively. Managerial accounting provides relevant information, timely which reduces processing time of managers, leading to more effective decision-making in operations (Baines and Langfield-Smith, 2003; Tappura et al., 2015). As aforementioned, firms need information designed to make it possible to enable individual to stand out from the competition and increase sales. Clearly, management accounting is an important tool to provide information that top management level would be able to decisions make (Meiryani, 2014).

Since 1980s, modern managerial accounting techniques have been developed and designed as a competitive advantage because traditional managerial accounting techniques provide insufficient information in terms of detail and accuracy (Smith, Abdullah, and Razak 2008; Sheikh and Rana, 2014). Modern managerial accounting capability is considered as an ability of an organization to utilize new methods of management accounting and organizational resources effectively to achieve organizational goals. Moreover, modern and traditional managerial accounting techniques could be distinguished by emphasizing function and value, reducing miscalculations for better classifying activities, and increasing operational efficiency (Onat, Anitsal and Anitsal, 2014).

As it has become a key to success factors in business development, especially in a dynamic environment of global markets, businesses do need modern managerial accounting (Sulaiman, Ahmad and Alwi, 2004). In addition, several context variables influence on using modern managerial accounting techniques of companies (Abdel-Kader and Luther, 2008). The context of an internal and an external environment as antecedents are taking effect on modern managerial accounting capability. An internal environment is a dynamic top management support, operational innovation development, organizational learning orientation, and best management accounting system. For an external environment, it is continuing in technological growth.

This research is aim to examine the relationships between dynamic top management support, operational innovation development, organizational learning orientation, best management accounting system and continuous technological growth towards modern managerial accounting capability in textile export businesses in Thailand. The key research question of this research is “How do dynamic top management support, operational innovation development, organizational learning orientation, best management accounting system and continuous technological growth affect modern managerial accounting capability? ”.

The remains of this study are organized as follows: Firstly, review of literatures and hypotheses development of antecedents and modern managerial accounting capability, organizational goal achievement and firm success. Secondly, the methodology explains the research method. Thirdly, the results of this study are discussed. Fourthly, the contributions, and future directions for research are also explained. Finally, the conclusion is presented.

2. Literature review

The contingency theory is applied to explain the relationships between its antecedents and modern managerial accounting capability. The contingency theory proposed that organizational management should consider environments to design a management structure that is best fits its situations (Elgharbawy and Abdel-Kader, 2013). Both of internal and external factors are used in the management process in business. Each firm should have its own management accounting techniques. Thus, the contingency theory may be explained by several variables in the model with respect to the environment, strategy, situation, technology and the systems of the firm (Delaney and Guilding, 2011).

This research also examines the relationships among the impacts of dynamic top management support, operational innovation development, organizational learning orientation, best management accounting system continuous technological growth and modern managerial accounting capability, which consists of internal and external factors. It can be concluded that the contingency theory is an appropriate theory for explaining in the conceptual framework in Figure 1.

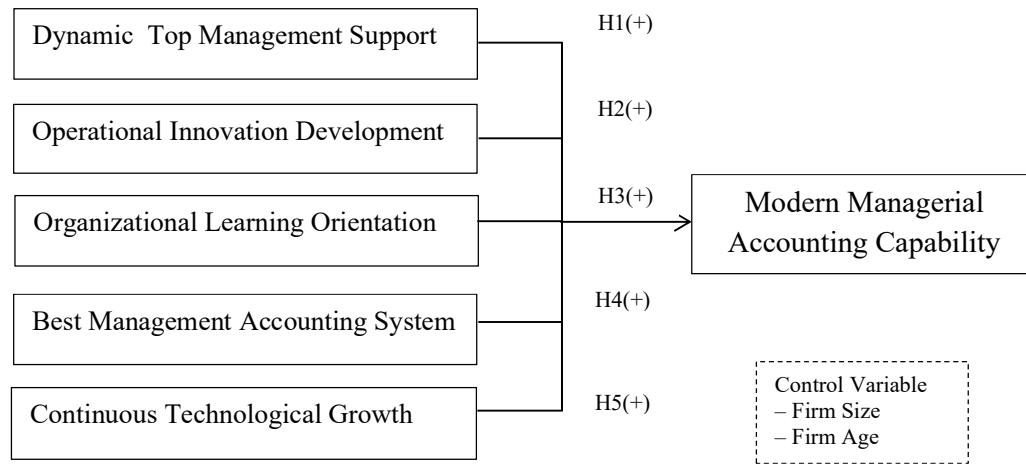


Figure 1: Conceptual Framework

Dynamic Top Management Support (DTM) is defined as the amount of executive to facilitate in developing and implementing new techniques and procedures in an organization (Krumwiede, Suessmair, and MacDonald, 2007). Thus, to make the right decisions necessary quality information, top management support is a key recurrent factor critical for effective management accounting (Chong, 1996). In the review of the literature, the research found that the support of the top management level has a significant influence on managerial accounting implementation (Anand, 2004). In addition, Brown, Booth, and Giacobbe (2004) found that top management support caused adoption of activity-based management as a part of modern managerial accounting. Moreover, Cavaluzzo and Ittner (2004) found that training and top management support has an influence on modern management accounting. Thus, the first hypothesis is shown as follows:

H1: Dynamic top management support is positively related to modern managerial accounting capability.

Operational Innovation Development (OID) is defined as an ability of firms to create, develop and change to new ways of operation and process steps together to increase competitive advantages (Amit and Zott, 2012; Azadegan, 2011). Different organizations seek for new ways, ideas, and creative solutions to improve their current product, process, system and technology to development innovation. Additionally, Hammer (2004) specified that operational innovation is the creation and deployment of significant changes or new methods in a firm's manufacturing operations, and processes for producing the firm's products. Consistent with research of Wu and Lee (2007) suggested that firms with high operational innovation can systematically challenge the common practices espoused in their operations to develop new processes. Moreover, Frishammar et al. (2012) indicated that the outcomes of process innovation are changes in processes to gain efficiency by reducing cost and increasing production. Thus, the second hypothesis is as follows:

H2: Operational innovation development is positively related to modern managerial accounting capability.

Organizational Learning Orientation (OLO) is defined as ability of the firm to study and understand an organizational environment by experiencing and exchanging knowledge between people within the organization (Ahmad, 2004; Jensen, 2005). In general, firms are forced learning to quickly adapt and facing a new circumstance to survive in a long term (Alas, 2007). Organization learning is the important key requiring factors of firm to sustain in the modern world of economic and competitive environment. Thus, firms may need to be prepared their organizational members through constantly learning, for enables quicker and more effective responses to a complex and dynamic environment (Gilaninia, Rankouh and Gildeh, 2013). In review of literatures, organizational learning influences on increase the rate of applying new management accounting approaches and techniques. Also, it helps optimize the operational process (Rasouli, Valipour and Moradi, 2014). On the other hands, the unstable environment of organizational learning of the firm may not encourage the continuous learning and training (O'Donnell and David, 2000). Thus, the third hypothesis is as follows:

H3: Organizational learning orientation is positively related to modern managerial accounting capability.

Best Management Accounting System (BMS) is defined as a setting of accounting approach relates to managerial accounting in order to support activity in operational excellence (Cassia, Paleari and Redondi, 2005). The managers' use of the information provided by the management accounting system can help organizations to adopt and to implement plans in response to their competitive environment. Thus, best management accounting plays an important role in planning, controlling, communicating, monitoring, and linking together the various sections and divisions in an organization (Soin, 2005). Similarly, Watts, Yapa and Dellaportas (2014) indicated that managerial accounting system-setting is related to planning, implementation, has relevance with the modern managerial accounting techniques to fulfill expectations in the future. According to Feng and Li (2009) suggested that the result of best accounting system activity provides guidance, recommendations and value-added support in order to help the firm succeed. Thus, the fourth hypothesis is as follows:

H4: Best management accounting system is positively related to modern managerial accounting capability.

Continuous Technological Growth (CTG) is defines as the perceptions of the progress involves continuously change, development, and communication technology affect the management of organizations (Allred and Swan, 2004). Technology is an important key and requirement factors of firms and continuously developed affect managerial accounting. Szchta (2002) suggested that technology had a significant influence in the adoption of modern managerial accounting techniques in a Polish firm. On the other hand, Moorthy et al. (2012) found that the problem of continuous technological growth caused a lack of awareness and understanding suitable technology available based on an organization adapting to management accounting, including a lack of availability of internal expertise and implementation of information technology (IT) in management accounting. Thus, the fifth hypothesis is as follows:

H5: Continuous technological growth is positively related to modern managerial accounting capability.

Modern Managerial Accounting Capability (MMAC) refers to the ability of an organization to utilize new methods of management accounting and organizational resources for achieving an organization's goals (Naranjo-Gill, Maas and Hartmann, 2009). The modern managerial accounting capability that consist of activity-based costing orientation, target costing focus, activity-based management capability, re-engineering awareness, and benchmarking technique emphasis (Alsoboa and Aldehayyat, 2013). Prior research of Abdel-Kedar and Luther (2008) found that environmental uncertainty, customer power, decentralization, size, and advanced manufacturing technology are significantly effect on management accounting techniques. Oyerogba (2015) reveals that internal factors such as firm size, human capacity development, firm structure and external factors include infrastructure and competition are significantly influence on management accounting techniques.

Firm size (FIS) refers to total assets of a firm (Joshi et al., 2011). Hagel and Singer (1999) indicate that a large firm will have a greater advantage than a small firm. Firm size is a determinant of organizational success and it explains the value of firm performance (Serrano-Cinca E, Fuertes-Callen and Mar-Molinero, 2005).

Firm age (FIA) refers to firm experience measured by the number of years a firm has been in operation (Jonas and Diamanto, 2006). Older firms have benefit from accumulated experience, which firm performance and success are affected by their age in operation (Leiblein, Reuer and Dalsace, 2002). On the other hand, Majumdar (1997) suggests that older firms are prone to be inertia, and management is bureaucratic.

3. Methodology

The sample of this research is textile export businesses in Thailand. Based on the database of the Customs Department, Ministry of Commerce, Thailand. There are 778 textile export businesses in Thailand (www.moc.go.th, accessed January, 2016). The reasoning textile export businesses is critical to Thai economy because it is one of majors the country revenue source. Therefore, apply managerial accounting information to reduce costs and to improve firm performance is needed. The sample size is calculated by using Taro Yamane's formula, (1973). Therefore, sample size is 264 firms under the 95% confidentiality level. There were 150 respondents, approximately 20.21% response rate. Based on previous business research, the average mail survey response rate is in the range of 20 percent, which in this research the response rate is more than satisfactory level (Aaker, Kumer and Day, 2001).

Test of Non-Response Bias compare the results of early and late respondents by using t-test (Armstrong and Overton, 1977). The variables used for non-response bias testing were business type, working capital, total asset, number or full time employee at present, period of time operations, and income average per year. The results indicated that there were not significant different between early and late respondents. It can be concluded that a non-response bias is not a problem in this study.

The conceptual framework, all variables were measured on five point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Additionally, all constructs were developed to measure by the definition of each constructs and examine the relationship from theoretical framework and prior literature reviews. The variables measurement of this study is described as follows.

Dependent Variable

Modern managerial accounting capability is measured through manager perception towards to utilize new methods of activity-based costing orientation, target costing focus, activity-based management capability, re-engineering awareness, and benchmarking technique emphasis. The five-item scale is newly developed from relevant literature.

Independent Variables

Dynamic top management support is assessed by manager perspective that regards to organizational development in all areas continuous, emphasizes the budget to the full development of human resources, and continued investment in information technology. The five-item scale is newly developed.

Operational innovation development is measured through manager perception regarding to research and development implementation, and operational improvement. The five-item scale is newly developed.

Organizational learning orientation is measured through manager perception towards learning within the organization, applying new technology, supporting the integration capability, and exchanging knowledge between people in the organization continuously. The five-item scale is newly developed from relevant literature.

Best management accounting system is measured through manager perception of firm's ability to improve management accounting system, to present relevant information, and to support employees' development. The four-item scale adapted from Chaikambang, Ussahawanitchakit and Boonlua (2012).

Continuous technological growth is measured by the managerial perception toward change of technology usage in the organization continuously, and application of suitable technology in various situations. A four-item scale is newly developed based on relevant literature.

Control Variables

The control variables in this research include firm size and firm age. For the analysis, firm size is represented by a dummy variable in which 0 means the firm has total assets lower than or equal to 100 million Baht, and 1 means a firm has total assets more than 100 million Baht (Prasong, Ussahawanitchakit and Muenthaisong, 2013). Firm age is represented by a dummy variable in which 0 means the firm has been in business less than or equal to 15 year, and 1 means the firm been in business more than 15 years (Prempre, Ussahawanitchakit and Boonlua, 2013).

Table 1: Result of Measure Validation

Constructs	Factor Loadings	Cronbach's Alpha
Dynamic Top Management Support (DTM)	0.525-0.890	0.850
Operational Innovation Development (OID)	0.767-0.879	0.893
Organizational Learning Orientation (OLO)	0.706-0.873	0.880
Best Management Accounting System (BMA)	0.800-0.886	0.864
Continuous Technology Growth (CTG)	0.821-0.899	0.877
Modern Managerial Accounting Capability (MMAC)	0.512-0.712	0.935

For the validity and reliability of questionnaires were employed thirty observations to pre-test procedures as illustrated in Table 1. The results reveal that the value of factor loadings of each construct are 0.512 to 0.899, and are greater than 0.4, which indicates acceptable construct validity (Nunnally and Bernstein, 1994). Moreover, the Cronbach's alpha coefficient of all variables are between 0.830 and 0.935, and are greater than 0.70 (Hair et al., 2010). It can be concluded that the internal consistency of the entire scale exists in this research. The ordinary least squares regression (OLS) is used to test all hypotheses following the conceptual framework. It is appropriate technique for examining the hypothesized relationships. The general formula for the research model is

$$\text{Equation } MMAC = \alpha + \beta_1 DTM + \beta_2 OID + \beta_3 OLO + \beta_4 BMA + \beta_5 CTG + \beta_6 FIS + \beta_7 FIA + \varepsilon$$

4. Results and Discussion

Table 2 presents descriptive statistics and correlation matrix for all variables. Correlation coefficients of variables are ranging from 0.553 - 0.773, which is not exceeding 0.80 (Hair et al., 2010). Therefore, variance inflation factors (VIF) was used to test the multicollinearity. In this study, the VIFs range from 1.119 to 3.557, below the cut-off value of 10 (Hair et al., 2010), meaning that the independent variables are no multicollinearity problem in this research.

Table 2: Descriptive Statistics and Correlation Matrix

Variables	DTM	OID	OLO	BMS	CTG	MMAC	FIS	FIA	VIF
Mean	3.762	3.754	3.761	3.855	3.731	3.938	n/a	n/a	n/a
S.D	.608	.640	.630	.647	.613	.460	n/a	n/a	n/a
DTM	1								3.044
OID	.714***	1							2.640
OLO	.773***	.757***	1						3.557
BMS	.670***	.593***	.698***	1					2.192
CTG	.620***	.553***	.640***	.597***	1				1.898
MMAC	.686***	.655***	.652***	.656***	.580***	1			n/a
FIS	.055	.006	.145	.131	.102	.061	1		1.165
FIA	.033	-.009	.058	.077	.023	-.113	.319**	1	1.119

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

Table 3 shows the results of hypothesis testing for effects of antecedents on modern managerial accounting capability.

Firstly, the results demonstrate that dynamic top management support has a significant positive effect on modern managerial accounting capability ($H1: \beta_1 = 0.234$, $p < 0.05$). The key factor for effective management accounting is top management support and adequacy of training for to use modern managerial accounting. The results indicate that dynamic top management support leads to modern managerial accounting capability. Consistent with prior research found that top management support has a significant influence on managerial accounting implementation (Anand, 2004). Likewise, Cavaluzzo and Ittner (2004) found that training and top management support has influence on modern management accounting. Moreover, Brown, Booth and Giacobbe (2004) found that top management support caused adoption of activity-based management, which as one part of modern managerial accounting. Therefore, Hypothesis 1 is supported.

Secondly, the results demonstrate that operational innovation development has a significant positive effect on modern managerial accounting capability ($H2: \beta_2 = 0.221, p < 0.05$). Operational innovation development helps businesses to increase revenues and continually sustainable market competitive advantages from use modern managerial accounting. Consistent with research of Wu and Lee (2007) suggest that firms with high operational innovation are able to systematically challenge the common practices espoused in their operations to develop new processes.

Likewise, Frishammar et al. (2012) indicate that the outcomes of process innovation are changes in processes in order to gain efficiency by reducing cost and increasing production. Therefore, Hypothesis 2 is supported.

Thirdly, the results demonstrate that organizational learning orientation is not significantly related to modern managerial accounting capability ($H3: \beta_3 = 0.043, p > 0.10$). Although, organizational learning is the important key and requirement factors of firm that wants to remain in the economic modern world and competitive environment. This result indicated that organizational learning orientation is not significantly to modern managerial accounting capability. It is possible that employees lack knowledge or specific experience about new techniques of managerial accounting, and does not like to change to a new process. Likewise, O'Donnell and David (2000) indicate that the managerial accounting, which is not stable occurs from the firm that does not promote continuous employee learning and training. Therefore, Hypotheses 3 is not supported.

Fourthly, the results demonstrate that best accounting management system has a significant positive effect on modern managerial accounting capability ($H4: \beta_4 = 0.278, p < 0.01$). The managers' use of the information provided by the management accounting system can help organizations adopt and implement plans in response to their competitive environment. Consistent with research of Soin (2005) indicated that best management accounting plays an important role in planning, controlling, communicating, monitoring, and linking together the various sections and divisions in an organization. Similarly, Watts, Yapa and Dellaportas (2014) indicate that managerial accounting system-setting is related to planning, implementation, has relevance with the new managerial accounting techniques to fulfill expectations in the future. Therefore, Hypothesis 4 is supported.

Finally, the results demonstrate that continuous technological growth is not significantly related to modern managerial accounting capability ($H5: \beta_5 = 0.118, p > 0.10$). Technology is the important key and requirement factors of firms and continuously developed effects on managerial accounting. It is necessary that firms need to engage skilled employees who can use new technology. Thus, firm using new technology results in high cost and high skilled worker requirements. According to Moorthy et al. (2012) found that problem of continuous technological growth causes a lack of awareness and understanding of available and suitable technology based on an organization that desires to adapt management accounting including a lack of availability of internal expertise and information technology implementation in management accounting. Therefore, Hypotheses 5 is not supported.

Table 3: Results of Effects of Antecedents on Modern Managerial Accounting Capability

Independent Variables	Dependent Variables
	MMAC
Dynamic Top Management Support (DTM : H1)	.234** (.092)
Operational Innovation Development (OID : H2)	.221** (.086)
Organizational Learning Orientation (OLO : H3)	.043 (.100)
Best Management Accounting System (BMS : H4)	.278*** (.078)
Continuous Technological Growth (CTG : H5)	.118 (.073)
Firm Size (FIS)	.083 .114
Firm Age (FIA)	-.346** .123
Adjusted R ²	.582
Maximum VIF	3.557

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

For the control variables, the results indicate that firm age has a significant negative influence on modern managerial accounting capability ($\beta_7 = -.346$, $p < 0.05$). It implies that the relationship between firm age and modern managerial accounting capability is affected by the business operation of a firm with less than 15 years. This is because young operation firm have less processes, which firm can easy cost management and young firm have complex of production process less than older firm. According to Majumdar (1997) suggested that older firms are prone to be an inertia, and management bureaucratic. Thus, firm are unlikely to have flexibility to make rapid adjustment to use modern managerial accounting.

5. Conclusion and recommendation

This research aims to examine the influences of antecedents on modern managerial accounting capability of textile export businesses in Thailand. Data was collected from 150 textile export businesses in Thailand by using mail survey. The statistic used for data analyzing was correlation and multiple regression. The results indicated that dynamic top management support, operational innovation development and best management accounting system has significant positive effected on modern managerial accounting capability. Furthermore, organizational learning orientation and continuous technological growth have no significant effect on modern managerial accounting capability. There two recommendations about managerial contribution.

Firstly, the results suggest that firm should provide operational innovation development and best management accounting system to enhance great modern management accounting capability for textile export businesses in Thailand. Secondly, firm should be aware of applying a modern management accounting techniques to be able to interact and respond to environment. The future research may employ other sampling populations involved manufacturing such as consumer manufacturing or food manufacturing or textile businesses of other countries to compare and confirm the results of this study.

References

- Aaker, D. A., Kumar, V., and Day, G. S. (2001). *Marketing research*. New York: John Wiley and Sons.
- Abdel-Kader, M. and Luther, R. (2008). The impact of firm characteristics on management accounting practices: A UK-based empirical analysis. *The British Accounting Review*, 40(1), 2-27.
- Alas, R. (2007). Organizational Change from Learning Perspective. *Problems and Perspectives in Management*, 5(2), 43-50.
- Allred, B. B. and Swan, K. S. (2004). Global versus multi-domestic: Culture's consequence on innovation. *Management International Review*, 44(1), 81-105.
- Ahmad, S. S. (2004). Organizational learning and innovation in southern Malaysia furniture industries, *Jurnal Sains dan Teknologi*, 2(6), 41-49.
- Alsoboa, S. S. and Aldehayyat, J. S. (2013). The impact of competitive business strategies on managerial accounting techniques: A study of Jordanian public industrial companies. *International Journal of Management*, 30(2), 545-555.
- Amit, R. and Zott, C. (2012). Creating value through business model innovation. *MIT Sloan Management Review*, 53(3), 41-49.
- Anand, M. (2004). A review of research on the theory and practice of cost management. *South Asian Journal of Management*, 11(1), 59-95.
- Armstrong, J. S., and Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, 14(3), 396-402.
- Azadegan, A. (2011). Benefiting from supplier operational innovativeness: The influence of supplier evaluations and absorptive capacity. *Journal Supply Chain Management*, 47(2), 49-64.
- Baines, A. and Langfield-Smith, K. (2003). Antecedents to management accounting change: A structural equation approach. *Accounting, Organizations and Society*, 28(7-8), 675-698.
- Brown, D. A., Booth, P., and Giacobbe, F. (2004). Technological and organizational influences on the adoption of activity-based costing in Australia. *Accounting and Finance*, 44(3), 329-356.
- Cassia, L., Paleari, S. and Redondi, R. (2005). Management accounting systems and organizational structure. *Small Business Economics*, 25(4), 373-391.
- Cavalluzzo, K. S. and Ittner, C. D. (2004). Implementing performance measurement innovations: evidence from government. *Accounting, Organizations and Society*, 29(1), 243-67.
- Chaikambang, C., Ussahawanitchakit, P. and Boonlua, S. (2012). Strategic cost management and goal achievement: Empirical from food business in Thailand. *International Journal of Business Strategy*, 12(4), 1-30.
- Chong, V. K. (1996). Management accounting systems, task uncertainty and managerial performance: A research note. *Accounting, Organizations and Society*, 21(5), 415-421.

- Delaney, D. and Guilding, C. (2011). Examination of budgetary roles in the context of sponsorship management: A contingency perspective. *Journal of Applied Management Accounting Research*, 9(2), 21-42.
- The Customs Department of the Ministry of Commerce (DMC)*. n.d. (Online). Available from [http:// www.moc.go.th/](http://www.moc.go.th/) accessed 31 January, 2016).
- Elgharbawy, A. and Abdel-Kader, M. (2013). Enterprise governance and value-based management: At contingency framework. *Journal of Management and Governance*, 17(1), 99-129.
- Feng, M. and Li, C. (2009). Internal control and management guidance. *Journal of Accounting and Economic*, 48(2-3), 190-209.
- Frishammar, J., Kurkkio, M., Abrahamsson, L. and Lichtenthaler, U. (2012). Antecedents and consequences of firms' process innovation capability: A literature review and a conceptual framework, *IEEE Transactions on Engineering Management*, 59(4), 519-529.
- Gilaninia, Rankouh and Gildeh. (2013). Overview on the importance of organizational learning and learning organization. *Iran: Journal of research and Development*. 1(2), 44-49.
- Hagel, J. and Singer, M. (1999). Unbundling the corporation. *Harvard Business Review*, 77(2), 133-141.
- Hair, Jr. J. F., Black, W. C., Babin, B. J. and Anderson, R. E. (2010). *Multivariate data analysis: A global perspective*. 7th ed. New Jersey: Pearson Prentice Hall.
- Hammer, M. (2004). Deep change. *Harvard Business Review*, 82(4), 84-93.
- Jensen, P. E. (2005). A contextual theory of learning and the learning organization. *Knowledge and Process Management*, 12(1), 53-64.
- Joshi, P. L., Bremser, W., Deshmukh, G. A. and Kumar, R. (2011). Diffusion of management accounting practices in gulf cooperation council countries. *Accounting Perspectives*, 10(1), 23-53.
- Krumwiede, K. R., Suessmair, A. and MacDonald, J. (2007). An exploratory study of the factors affecting the implementation success of German cost accounting methods, <http://papers.ssrn.com/sol3/papers.cfm?abstract id=1003833>.
- Meiryani, M. (2014). Influence of top management support on the quality of accounting information system and its impact on the quality of accounting information. *Research Journal of Finance and Accounting*, 5(11), 124-132.
- Moorthy, K. M., Voon, O. O., Samsuri B. S., Gopalan, M. and Yew K. T. (2012). Application of information technology in management accounting decision-making. *International Journal of Academic Research in Business and Social Sciences*, 2(3), 1-16.
- Naranjo-Gill, D., Mass, V., and Hartmann, F. (2009). How CFOs determine management accounting innovation: An examinations of direct and indirect effects. *European Accounting Review*, 18(4), 667-695.
- Nunnally, J. C., and Berenstein, I. H. (1994). *Psychometric theory*. New York: McGraw-Hill.
- O'Donnell, E. and David, J. S. (2000). How Information Systems Influence User Decisions: A Research Framework and Literature Review. *International Journal of Accounting Information Systems*, 1(3), 178-203.
- Onat, N. O., Anitsal, I. and Anitsal, M. M. (2014). Activity based costing in services industry: A conceptual framework for entrepreneurs. *Entrepreneurial Executive*, 19(1), 149-167.

- Oyerogba, O. E. (2015). Management accounting practices in the developing economies: The case of Nigeria listed companies. *Journal of Accounting and Management*, 5(2), 76-85.
- Prasong, P., Ussahawanitchakit, P. and Muenthaisong, K. (2013). Antecedents and consequences of accounting governance : An empirical study of paper manufacturing businesses in Thailand. *Journal of International Business and Economics*, 13(3), 111-134.
- Prempee, K., Ussahawanitchakit, P. and Boonlua, S. (2013). Management accounting governance and firm value of textile manufacturing businesses in Thailand. *International Journal of Business Strategy*, 13(4), 41-72.
- 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.
- Serrano-Cinca, C., Fuertes-Callen, Y. and Mar-Molinero, C. (2005). Measuring DEA Efficiency in Internet Companies. *Decision Support Systems*, 38(4), 557-573.
- Sheikh, Z. and Rana, S. (2014). Why process oriented management accounting techniques are more useful to handle new era problems. *International Journal Academic Research in Accounting, Finance and Management Sciences*, 4(2), 264-270.
- Smith, M., Abdullah, Z. and Razak, R. A. (2008). The diffusion of technological and management accounting innovation: Malaysian evidence. *Asian Review of Accounting*, 16(3), 197-218.
- SMEs Knowledge Center, Office of Small and Medium Enterprise Promotion (OSMEP). n.d. (Online). Available from: <http://www.sme.go.th/th/index.php/knowledge-center/...1/618-smes-knowledge-center2> [accessed 30 September, 2016].
- Soin, K. (2005). *Risk, regulation and the role of management accounting and control in UK financial services, paper presented at Critical Perspectives in Accounting Conference*, Baruch College at the City University of New York, New York.
- Sulaiman, M., Ahmad, N. N. and Alwi, N. (2004). Management accounting practices in selected Asian countries. *Management accounting practices, Emerald*, 19(4), 493-508.
- Szchta, A. (2002). The Scope of Management Accounting Methods in Polish Enterprises. *Management Accounting Research*, 13(4), 18.
- Majumdar, S. K. (1997). The impact of size and age on firm-level performance: Some evidence from India. *Review of Industrial Organization*, 12(2), 231-241.
- Tappura, S., Sievanen, M., Heikkila, J., Jussila, A. and Nenonen, N. (2015). A management accounting perspective on safety. *Safety Science*, 71(January), 151-159.
- Watts, D., Yapa, P. W. S. and Dellaportas, S. (2014). The case of a newly implemented modern management accounting system in a multinational manufacturing company. *Accounting, Business and Finance Journal*, 8(2), 121-137.
- Wu, H. L. and Lee, C. Y. (2007). The effects of board competence on operational innovation: tests of universal, contingency and configurationally models. *International Journal of Technology Management*, 39(3-4), 330-345.
- Yamane, T. (1973). *Statistics: An Introductory Analysis* (3rd ed). New York: Harper and Row.