

Impact of managerial accounting on the link between business environment and organizational effectiveness

Quang Linh HUYNH

School of Economics- Law, Tra Vinh University, Tra Vinh, Vietnam

ABSTRACT: This work explores the mediating role of managerial accounting in the link between the uncertainty of business environments and organizational effectiveness. It also investigates the effects of managerial accounting and business environments on organizational effectiveness as well as the relationship between managerial accounting and business environments. The findings recommend that the adoption of managerial accounting in business and the uncertainty of business environments are both positively related to organizational effectiveness. The uncertainty of business environments plays an important role in improving organizational effectiveness. More importantly, this study provides empirical evidence on the mediating effect of managerial accounting in the relationship between the uncertainty of business environments and organizational effectiveness. The results are supportive to executives by offering them with a better understanding of the complex links among the adoption of managerial accounting in business, the uncertainty of business environment and organizational effectiveness.

Keywords: Managerial accounting, Business environment, Organizational effectiveness

I. INTRODUCTION

Managerial accounting is regarded as the most important tool of management, which offers essential information for organizations. Inadequacies and inefficiencies in the managerial accounting system of a firm will generate numerous problems for organizational control. Johnson and Kaplan (1987) argue that firms need managerial accounting tools to offer suitable information for the control of business costs and enhancement of efficiency. Some scholars have stressed the advanced managerial accounting as supplement for traditional managerial accounting (Hoque et al. 2001; Fullerton and McWatters 2001; Haldma and Laats 2002). According to Ghanbari and Vaseli (2015), the main function of managerial accounting is to classify, evaluate, gather, analyze, prepare and communicate financial information for organizational planning, assessment and management, which guarantees a wise utilization of organizational resource. Managerial accounting has been developed in order to offer significant information for business decision-making. In order to maintain and thrive in the highly changing environment, firms have to apply contemporary managerial tools to incessantly enhance quality control and lessen the production cost. Managerial accounting plays a vital role in offering accurate business information, which helps to make better business decisions for firms. Consequently, these firms may achieve competitive advantages over competitors. The adoption of management accounting in business is recommended to a causation of organizational effectiveness (Tayles et al. 2007). In addition, a prior study has proposed the link between the acceptance of managerial accounting in business and organizational effectiveness (Ajibolade et al. 2010). Recent research of managerial accounting relies on contingency theory to emphasize the importance of contextual variables to the adoption decision of managerial accounting in business (Gerdin and Greve 2004; Soheilrad and Sofian 2016). Contingency theory of managerial accounting is grounded on the thought that it is essential to recognize the association between contingency variables from business environment. In addition, Ismail and King (2005) assert that managerial accounting information is valuable for firms facing highly competitive business environments. Business environments are becoming gradually more uncertain and they may affect organizations' chances of success and development. Besides, Chenhall (2003) drawing on contingency theory confirmed that organizational effectiveness will increase if managerial accounting practices are matched with business environments facing the organization. Several researchers have established the effect of business environments on organizational effectiveness. Based on Miller (1993), business environments are considered as a significant element leading to organizational success. This scholar offers practical support for the linkage between business environments and organizational effectiveness. On the one hand, managerial accounting is a causation of organizational effectiveness; on the other hand, it is considered as a result of uncertainty business environments.

Furthermore, business environments are suggested as driving forces of organizational effectiveness. Based on the viewpoint on the mediation by Baron and Kenny (1986), it can propose that the adoption of

management accounting systems may mediate the linkage between business environments and organizational effectiveness. Nonetheless, to the best of the researcher's knowledge, research on accounting has not explored the intervenient role of managerial accounting in the connection between business environments and organizational effectiveness. Over the last twenty years, various surveys on management accounting systems have been performed in developed and newly industrialized economies. Nevertheless, Lin and Yu (2002) discover that the adoption of managerial accounting in developing economies still remains unsatisfactory. Sulaiman et al. (2004) reveal a lack of exploratory studies on management accounting systems in Southeast Asian developing countries and a need for further investigating the adoption of management accounting systems there. In addition, Doan et al. (2011) insist that emerging economies in transition including Vietnam have received fairly little attention in the managerial accounting knowledge. Furthermore, as the third most populous Southeast Asian country after Indonesia and the Philippines, Vietnam expects that its new status as a signatory member of the international trading system will make increasingly large contributions to the world economic growth. The dynamic and rapidly changing business environment enables organizations in Vietnam to pay more attention to effective managerial tools in order to generate competitive advantages and achieve better organizational effectiveness. Accordingly, in order to fill this void, this research is conducted in Vietnam as an emerging economy.

II. MANAGERIAL ACCOUNTING AND ORGANIZATIONAL EFFECTIVENESS

There is an increasing body of knowledge recognising the importance of managerial accounting in business. Numerous scholars have acknowledged that the main function of managerial accounting is to help executives in business decision making (Abernethy and Bouwens 2005). Managerial accounting comprises the design and application of managerial accounting information in firms. It is not a set of fixed regulations but means to attain organizational objectives by improving decision-making. Generally, managerial accounting is regarded as a tool of measurement and collection of accounting that guides managerial activities and improve organizational values (Al-Htaybat. and Alberti-Alhtaybat 2013). Furthermore, managerial accounting is managerial means designed to provide reliable financial or non-financial information that a firm needs to make business decisions. They are considered as a part of management systems whose role offers useful information for management planning and control to enhance business effectiveness (Kaplan 1983). Traditional management accounting systems, such as traditional budgeting, cost volume profit analysis, and variance analysis, which focus on concerns internal to the firm and are financially oriented, are no more considered by prior researchers (Kaplan 1983; Lucas 1997) as a supportive means to provide sufficient information for planning and management in the current ever-changing business environment. In addition to traditional management accounting systems (such as traditional budgeting, cost volume profit analysis and variance analysis), firms should also relate their control tools to more advanced management systems (such as activity based costing, total quality management and balanced scorecard) that satisfy customers' requirements, so will gain competitive advantages (Lucas 1997). There have been a number of researchers who offered support for a causal link from the adoption of managerial accounting to organizational effectiveness. Mia and Clarke (1999) propose a positive link between the adoption of managerial accounting and organizational effectiveness. They assert that the high use of managerial accounting will help improve organizational effectiveness. As well, Williams and Seaman (2002) offer statistical support for the role of managerial accounting in boosting organizational business effectiveness. Ajibolade et al. (2010) put emphasis on a causal association between the adoption of managerial accounting in business and organizational effectiveness. Chenhall and Langfield-Smith (1998) documented that a firm adopting a high level of managerial accounting will achieve high organizational effectiveness. Likewise, Kennedy and Affleck-Graves (2001) confirm that a higher adoption of managerial accounting is positively related to the improvement in organizational effectiveness; while Maiga and Jacobs (2006) reveal that managerial accounting will help organizations to enhance their organizational effectiveness. In addition, Cadez and Guilding (2008) confirmed a positive link from the adoption of managerial accounting to organizational effectiveness. These previously mentioned perspectives lead to the following hypothesis.

H1: The adoption of managerial accounting in business can improve organizational effectiveness

III. MANAGERIAL ACCOUNTING AND BUSINESS ENVIRONMENT

There is a growing body of literature that recognizes the importance of business environments. The uncertainty of business environments is referred to as an important contextual variable, which is related to customers, suppliers, competitors, social-political issues and technologies (Duncan 1972). In addition, Miles et al. (1978) identify the uncertainty of business environments is identified by the predictability of business conditions in organizational environments. Miller (1993) categorizes business environments into six areas; namely (1) technology, (2) economy, (3) resources and services used by the company, (4) product market and demand, (5) competition and (6) government policies. Chenhall (2003) argues that business environments are deemed as contingent variables affecting organizational effectiveness. A lot of research has examined the causal linkage

from business environments to the adoption of managerial accounting in business. Gordon and Miller (1976) verified that firms require more complicated managerial accounting practices to provide more non-financial business information in highly uncertain environments. The contingency theory of managerial accounting is employed in the view that when executives face a high uncertainty of business environments, they have a tendency to decide which managerial accounting practices are the most appropriate to the business environments in order to be viable. Haldma and Laats (2002) allege that, contextual factors positively affect the adoption of managerial accounting in business. Additionally, Ajibolade et al. (2010) and Ibadin and Imoisili (2010) also find out statistical evidence on the positive relationship between environmental uncertainty and the design of managerial accounting systems. The above discussed perspectives can help to arrive at the following hypothesis.

H2: The uncertainty of business environments positively affects the adoption of managerial accounting in business

IV. BUSINESS ENVIRONMENT AND ORGANIZATIONAL EFFECTIVENESS

Organizational researchers highlight that firms have to match with their business environments in order to survive and thrive (Duncan, 1972). For Machuki and Aosa (2011), organizational success and effectiveness will be great if the firm responds suitably to the uncertainty of business environments facing that firm. When a firm's business environment is highly uncertain, the firm pays more attention to the business environment, so will achieve improved organizational effectiveness (Rumelt 1991; Wagner et al. 2002). Likewise, Gosselin and Bauwen (2006) documented that if firms are facing a higher uncertainty of business environments will adopt more managerial accounting and therefore will obtain more improved firm performance. Based on Regan (2012), managerial executives should be careful on the uncertainty of business environment since it is one of the elementary threats facing firms. A study performed by Jusoh (2008) has revealed that when organizations are facing highly competitive and dynamic business environments, they will react well to environmental turbulence. In addition, Daft (2004) confirms that each business environment consists of various aspects related to organizational performance. Burns and Stalker (1960) offer empirical evidence on the causal link from the uncertainty of business environments in improving firm effectiveness. Miller (1993) assessed the uncertainty of business environment as a vital variable to enhance organizational effectiveness. When competitive conditions are high, executives have to pay more attention to organizational control; so they can achieve good firm performance (Isabela and Waddock 1994; Mia and Clarke 1999). Furthermore, Wagner et al. (2002) claim that the boosting of a firm's ability to predict the uncertainty of business environment is significant for organizational success. The uncertainty of business environments plays a critical role on growth and they are significantly related to firm profitability (Kotha and Nair (1995). The link between the uncertainty of business environments and organizational effectiveness is crucial, since the international economy is developing fast and ever more uncertain. The previously mentioned arguments can come to the following hypothesis.

H3: The uncertainty of business environments can enhance organizational effectiveness

V. THE ROLE OF MANAGERIAL ACCOUNTING

The linkages among the adoption of managerial accounting in business, the uncertainty of business environments and organizational effectiveness in the research model are generally more intricate than the simple bivariate linkage between an independent variable and a dependent variable. Rather, another third variable in the model can intervene in these links. Therefore, it should investigate the mediating effects where the data presents intervenient links. Baron and Kenny (1986) establish the intervenient model, where a variable may be regarded as an intermediary variable to the degree to which it partly carries the effect of a given independent variable to a dependent variable. Additionally, Mia (1988) and Spencer (2011) point out that when there is a relationship between two variables at least partly through a third variable, the third variable is suggested to mediate this relationship. Overall, the following hypothesis can be arrived at.

H4: The adoption of managerial accounting in business can mediate the link between the uncertainty of business environments and organizational effectiveness

VI. DATA COLLECTION AND MEASUREMENTS

This study employed a population of the 1142 publicly listed firms in the Vietnamese Stock Exchanges. Before conducting the data gathering, a pilot test was performed for variable measurements by in person interviewing 20 executives involved in managerial accounting about the questionnaires, so it can ensure the validity and appropriateness of the data (Donna et al. 2011). In addition to information available in their statements and reports, the initial emails were sent to solicit responses from main informants with experience in managerial accounting. Then, the questionnaires were completed with a relevant executive for each targeted firm. The questionnaires were delivered to 400 firms. However, there finally were 302 useful replies with adequately required information for analyses. The sample size of 302 passes the requirements for the sample

size stipulated by Hair et al. (2010), in which the ratio of sample size to the number of variables in the model should be greater than 20 over 1.

Adoption of managerial accounting (AMA) is evaluated by using a five-point scale. The measurement ranges from 1.never considering, 2.decided not to introduce, 3.favored to introduce, 4.intended to introduce, to 5.under implementation of management accounting systems, adapted from Cinquini et al. (2008). The six dimensions that are traditional budgeting (AMA1), cost volume profit analysis (AMA2), variance analysis (AMA3), activity based costing (AMA4), total quality management (AMA5) and balanced scorecard (AMA6), are employed for the factor “AMA”. These six dimensions are suggested by the prior studies (Lucas 1997; Hyvonen 2005; Al-Omiri and Drury 2007). Organizational effectiveness (ORE)” is based on both financial performance and non-financial performance. For the financial performance proxy, this research uses the two items that are return on asset- ORE1 and return on equity- ORE2, which are modified from Droge et al. (2003). For the non-financial performance proxy, this research employs the three items, namely innovativeness- ORE3, quality in products or services- ORE4, and customer satisfaction- ORE5, which are adapted from Hudson et al. (2001). The items are assessed by using a five-point scale from 1.no growth, 2.a little growth, 3.average growth, 4.fast growth to 5.very fast growth. The items of the sample firms’ performance were compared to the industry average during the last year. Uncertainty of business environments (UBE) is measured with a five-point scale ranging from 1.always predicted, 2.easily predicted, 3.difficult to be predicted, 4.quite difficult to be predicted to 5.very difficult to be predicted for the five dimensions: (1) technology- UBE1, (2) economy- UBE2, (3) resources and services used by the company- UBE3, (4) product market and demand- UBE4, (5) competition- UBE5 and (6) government policies- UBE6, adapted from Miller (1993).

VII. EMPIRICAL RESULTS

To assess the validity and reliability of the factors, reliability and exploratory factor analyses were carried out. Three factors, namely the adoption of managerial accounting (AMA), organizational effectiveness (ORE) and the uncertainty of business environment (UBE) were examined. The findings obtained from these procedures are exhibited in Table 1. The reliability procedure produced item-total correlations and Cronbach alphas. The values of item-total correlations range from 0.610 through 0.771, which are all bigger than 0.5, the smallest level stipulated by Hair et al. (2010). The Cronbach alphas all exceed the cutoff of 0.7, the acceptable limit (Hair et al. 2010). These findings indicate that the factors of the research model have satisfactory internal reliability.

Table 1: Reliability and Exploratory factor analyses

Item	Item-total Correlations	Cronbach Alphas	Loadings	Communalities	KMO/Sig.
AMA1	0.664	0.853	0.718	0.625	0.863/0.004
AMA2	0.653		0.695	0.607	
AMA3	0.648		0.754	0.615	
AMA4	0.692		0.774	0.668	
AMA5	0.657		0.759	0.632	
AMA6	0.659		0.713	0.622	
ORE1	0.710	0.813	0.777	0.693	
ORE2	0.610		0.722	0.573	
ORE3	0.628		0.660	0.593	
ORE4	0.625		0.710	0.588	
ORE5	0.611		0.792	0.638	
UBE1	0.739	0.865	0.735	0.698	
UBE2	0.713		0.714	0.666	
UBE3	0.678		0.796	0.685	
UBE4	0.771		0.746	0.735	
UBE5	0.723		0.776	0.696	
UBE6	0.712		0.712	0.665	

After the data was ensured internal reliability, the exploratory factor analysis was conducted. This technique generated factor loadings, communalities, the indices of Kaiser-Meyer-Olkin measures of sampling adequacy (KMO) and significance (Sig.). All communalities are greater than the 0.5 threshold, the preferable limit accepted by Hair et al. (2010). In addition, all factor loadings are also larger than the critical value of 0.5 (Hair et al. 2010). The indices of Kaiser-Meyer-Olkin measures of sampling adequacy are all greater than 0.7, the acceptable smallest value (Hair et al. 2010). Furthermore, the exploratory factor analysis achieves a significance level of 1%. These numbers demonstrate that the three factors satisfy the validity and reliability. Consequently, all the items and factors employed for analyses are consistently kept for next step.

After the research data and variables are proved valid and reliable, regression analyses were applied to look at the causal hypotheses in the research model. These procedures produced the results in Table 2. Concerning the research model, in which organizational effectiveness serves as an explained variable, the research model obtains a significance level of 1%, indicating the goodness of fit. Explanatory variables (AMA; UBE) account for 67.3% of variation in the explained variable (organizational effectiveness- ORE).

The uncertainty of business environments imposes a positive influence on organizational effectiveness at the 1% significance level with the coefficient of 0.166. The adoption of managerial accounting in business statistically improves organizational effectiveness. The significance value is lower than 1% and the influential coefficient obtains 0.365; so it can conclude that the effect of managerial accounting on organizational effectiveness is stronger than that of business environments. These findings offer statistical supports for hypotheses H1 and H3, stating that the adoption of managerial accounting in business and the uncertainty of business environments both affect organizational effectiveness.

Table 2: Regression analyses

Explained	Explanatory	Coefficient	Std. error	t	Sig.	Fit of model	
						R ²	Sig.
ORE	Constant	0.716	0.155	4.619	.000	0.673	0.000
	AMA	0.365	0.082	4.451	.000		
	UBE	0.166	0.061	2.721	.006		
AMA	Constant	0.921	0.141	6.532	.000	0.631	0.000
	UBE	0.492	0.074	6.649	.000		

For the research model of managerial accounting, the uncertainty of business environments is positively related to the adoption of managerial accounting in business at the 1% significance level with the coefficient of 0.492. In this model, the uncertainty of business environments explains 63.1% of variance in the adoption of managerial accounting in business. The model achieves the goodness of fit at the 1% significance level. These findings statistically support hypothesis H2, asserting that the uncertainty of business environments is an important factor to the adoption of managerial accounting in business. As previously discussed, the one hand the adoption of managerial accounting in business is a causation of organizational effectiveness, on the other hand it is enhanced by the uncertainty of business environments; while the uncertainty of business environments is a driving force of organizational effectiveness. Therefore, it can suggest that the adoption of managerial accounting in business can mediate the linkage between the uncertainty of business environments and organizational effectiveness.

Table 3: Mediating analysis

Linkage	Mediator	t _{indirect}	Sig.
UBE and ORE	AMA	5.299	0.000

To investigate the statistical significance for the indirect effect, the intervenient method was employed. The outcomes generated from this method are shown in Table 3. The findings reveal that the indirect influence of business environments on organizational effectiveness through the adoption of managerial accounting is statistical at the 1% level. These imply that the adoption of managerial accounting in business statistically intervene in the relationship between the uncertainty of business environments and organizational effectiveness. Hence, hypothesis H4 is statistically supported. The addition of managerial accounting into the research model of business environments and organizational effectiveness will diminish the effect of business environments on organizational effectiveness. Therefore, it can conclude that the influence of business environments on organizational effectiveness is transmitted via managerial accounting.

VIII. CONCLUSION

The relationships among the uncertainty of business environments, the adoption of managerial accounting in business and organizational effectiveness have been examined. However, only a few scholars have investigated the mediating role of managerial accounting in the linkage between the uncertainty of business environments and organizational effectiveness. The current work tried to examine the effect of business environments and managerial accounting on organizational effectiveness as well as the influence of business environments on managerial accounting. Importantly, it sought to explore the mediating role of managerial accounting in the relationship between business environments and organizational effectiveness.

The results find out that the adoption of managerial accounting in business and the uncertainty of business environments are both the driving forces of organizational effectiveness. However the adoption of managerial accounting in business more strongly affects organizational effectiveness than the uncertainty of business environments does. In addition, the adoption of managerial accounting in business is also evidenced as a result of uncertain business environments. These findings statistically support hypotheses H1, H2 and H3. The organizations accepting much managerial accounting in business can achieve superior organizational performance over others. The accepting level of managerial accounting in business is dependent on the dynamic degree of business environments, in which higher uncertainties of business environments can force executives to adopt more managerial accounting in their firms. And higher uncertainties of business environments also make executives pay more attention to managerial accounting, so they can obtain better organizational effectiveness. The findings also reveal that when included into the research model of business environments and organizational effectiveness, managerial accounting will transmit part of effect of business environments on organizational effectiveness and lessen this effect. In order words, the adoption of managerial accounting in business is deemed as a mediator of the link between the uncertainty of business environments and organizational effectiveness.

The current study offers managers as well as researchers with insight into the complicated links among the uncertainty of business environments, the adoption of managerial accounting in business and organizational effectiveness. These can help executives make better business decisions on the adoption of managerial accounting in business in their business, which should fit the business environment in order to improve organizational effectiveness.

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Quang Linh HUYNH. "Impact of managerial accounting on the link between business environment and organizational effectiveness." *IOSR Journal Of Humanities And Social Science (IOSR-JHSS)*, vol. 22, no. 9, 2017, pp. 18–25.