

The impact of market orientation on small businesses' performance in Vietnam: The mediating effects of the management accounting system

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ABSTRACT

Objective: The objective of the article is to draw upon the contingency theory to assess the mediating effects of broad-scope management accounting systems (MAS) on the relationship between market orientation and performance in the context of small businesses.

Research Design & Methods: Data was collected from 159 small businesses located in Cantho city in Vietnam. The partial least squares structural equation modelling was used to assess the research model.

Findings: The results reveal that broad-scope MAS fully mediates the link between market orientation and performance.

Implications & Recommendations: The owners of small businesses located in Cantho city should have a sophisticated MAS design like broad-scope MAS to find performance implication when these businesses follow the market-oriented approach.

Contribution & Value Added: This study contributes to the research interface between marketing and accounting by advancing our knowledge of the impact of the MAS design on the relationship between market orientation and performance. It provides exploratory evidence of the crucial role of the sophisticated the MAS design in the performance of small businesses. It sheds light on the influencing role of organisational culture on the MAS design by assessing the Cartesian contingency fit between culture and the MAS design on performance.

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INTRODUCTION

In the marketing literature, empirical evidence of the impact of market orientation on performance is mixed (Gaur, Vasudevan, & Gaur, 2011, p. 1187). It revealed the positive association (Migliori, Pittino, Consorti, & Lucianetti, 2019; Vega-Vázquez, Cossío-Silva, & Revilla-Camacho, 2016), the negative association (Grewal & Tansuhaj, 2001), or even no association (Alnawas & Hemsley-Brown, 2019; Kiessling, Isaksson, & Yasar, 2016). Thus, those authors who found an insignificant relationship argued that there is a mediating effect influencing the relationship.

Management accounting information can support marketing to improve performance (see Opute & Madichie, 2017). It has been revealed that the positive impact of market orientation on performance is indirect through the use of strategic management accounting, which is the information used for customer analysis and competitor assessment (see Cadez & Guilding, 2008; Turner, Way, Hodari, &

Witteaman, 2017). A sophisticated design like broad-scope MAS influences the characteristics of informational provision used for analysing customers and evaluating competitors (Cheng, 2012, p. 185). However, there is no study addressing the problem whether or not this design influences the relationship between market orientation and performance. It limits the advancement of the knowledge of the MAS design on the relationship. Furthermore, small businesses can only support simple MAS (see Lavia López & Hiebl, 2015, p. 103). Hence, the no attention has been paid to the positive effects of sophisticated MAS in small businesses. The understanding of a sophisticated design of MAS as broad scope MAS in these businesses seems to be underexplored.

Addressing these gaps, the main goal of this study is to draw upon the contingency theory to propose the research framework to assess the Cartesian contingency fits between market orientation and broad-scope MAS on small businesses' performance. To assess this framework, according to Gerdin and Greve (2004, p. 310), the mediating effects of broad-scope MAS on the relationship between market orientation and performance should be examined. Four following hypotheses are required to establish the mediating effects of broad-scope MAS on this relationship (see Zhao, Lynch Jr, & Chen, 2010). The following hypotheses are assumed to be tested:

- H1:** Market orientation is positively correlated with small businesses' performance.
- H2:** Market orientation is positively correlated with broad-scope MAS.
- H3:** Broad-scope MAS is positively correlated with small businesses' performance.
- H4:** There is an impact of the mediating effect of broad-scope MAS on the link between market orientation and small businesses' performance.

Data conveniently collected from small businesses located in Cantho city in Vietnam were used to test the proposed model. The results show that broad-scope MAS fully mediates the link between market orientation and small businesses' performance. With respect to these findings, this study provides three contributions to the literature.

First of all, recently, this research interface has gained a lot of attention (Kraus, Håkansson, & Lind, 2015). However, much focus has been given to customer accounting in this research (see Matsuoka, 2020). Surprisingly, no attention has been paid to the role of the MAS design, although this design influences the supply of information used not only for customer and competitor accounting but also for the assessment of future-oriented opportunities (Cheng, 2012, p. 185). Therefore, there is limited knowledge on the role of the MAS design in the research interface between these two pieces of literature. This study indicates the mediating role of broad-scope MAS on the relationship between market orientation and performance. In this regard, this study advances our current knowledge on the MAS design and its support for market orientation in performance enhancement.

Second, there is a growing body of management accounting studies which have shifted their focus to small and medium-sized businesses recently. Results of these studies suggest that management accounting plays a crucial role in these businesses (see Azudin & Mansor, 2018; Shields & Shelleman, 2016). A common argument in this research is that small businesses only support simple MAS (see Lavia López & Hiebl, 2015). As a result, no attention is paid to the role of sophisticated MAS in these businesses. A question whether or not a sophisticated MAS also fosters positive effects on performance in the context of small businesses, remains unanswered. This study fills the gap by showing that broad-scope MAS, a sophisticated design of MAS improves small businesses' performance. In this regard, this study sheds light on the sophisticated MAS design on the performance implication of small businesses. Besides, by collecting data from an emerging country like Vietnam, this study also contributes to the growing accounting body of MAS in emerging countries (see Ghasemi, Azmi Mohamad, Karami, Hafiz Bajuri, & Asgharizade, 2016; Ghasemi, Habibi, Ghasemlo, & Karami, 2019).

Third, a recent review by Otley (2016, p. 51) on contingency-based research in management accounting in which prior studies focus on national culture, and little attention is paid to organisational culture. The empirical knowledge on the impact of organisational culture on the MAS design seems to be limited. Furthermore, Otley (2016, p. 52) also emphasises the determination of the framework to assess the fits. Failing to specify the analytical approach as well as the appropriate statistical methodology used to assess the fit between contingency factors and the MAS design leads to conflicting results

(Gerdin & Greve, 2004). Although this issue was addressed, recent studies (see Ghasemi *et al.*, 2016; Ghasemi *et al.*, 2019) still deal with this issue. It hampers the generalisation of the contingency theory in management accounting studies. This study borrows the marketing concept (e.g., market orientation), which refers to an organisational cultural variable (Narver & Slater, 1990) and follows the analytical approach suggested by Gerdin and Greve (2004) to establish that the Cartesian form of the fit between the culture factor and the MAS design allows high performance. In this regard, this study advances our knowledge on the impact of culture on the MAS design, and overcomes prior limitation relating to the establishment of the research framework to assess the form of fits. Lastly, by assessing the mediating approach, this study provides more empirical evidence on this approach in management accounting studies, which are dominated by the interacting approach (see Cadez & Guilding, 2008, p. 840; Kennedy & Widener, 2008, p. 304; Otley, 2016, p. 52).

The outline of this article is as follows. The next section is the provision of the literature review and developments of the hypothesis. After that, the methodology is introduced. In the next section, results and discussion are described. The last section concludes and indicates limitations as well as suggestions for future studies.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Contingency Theory

The contingency theory in management accounting research proposes that MAS only induces performance if it is designed to fit with contingency factors (Otley, 1980; 2016). In this regard, the fit between market orientation and the MAS design is necessary for performance implication. According to Gerdin and Greve (2004, p. 310), one of the fits is the Cartesian contingency, which reflects the mediating effects of the MAS design on the link between market orientation and performance. Thus, the proposed research framework is illustrated in Figure 1.

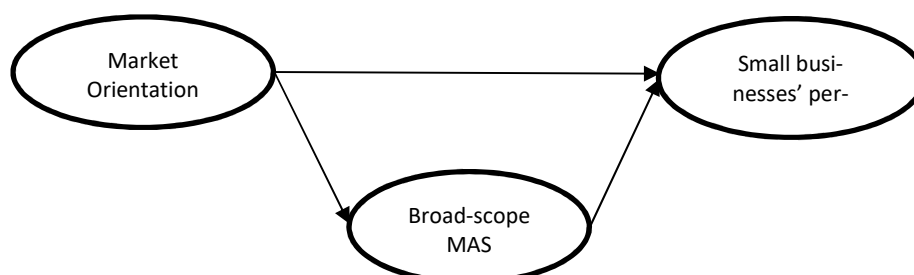


Figure 1. Proposed Research Framework

Source: own elaboration.

Market Orientation

The definition of market orientation can be traced back to the eighties, when two approaches attempted to conceptualise this variable. The first approach focuses on behavioural aspects of an organisation, which Kohli and Jaworski (1990) defined as “the organisation-wide information generation and dissemination and appropriate response related to current and future customer needs and preferences.” The second approach describes this variable in a cultural aspect, which Narver and Slater (1990) refer to as “the organisation culture that most effectively and efficiently creates the necessary behaviours for the creation of superior value for buyers and, thus, continuous superior performance for the business.” Although the latter approach considers this variable a culture factor, they also emphasise that this culture leads to three organisational behaviours: the acquirement of information about the customers and competitors in the market and dissemination of this information throughout the business.

The Links between Market Orientation and Performance

The resource-based theory suggests that the organisational resource promises a high degree of organisational performance (Penrose, 2009). According to this theory (Barney, 1991), gaining a competitive

advantage requires such resources to be rare and valuable. Besides, if organisations sustain such advantages, the resources must be difficult for other organisations to imitate.

Organisations benefit from market orientation because this provides a great knowledge of customers and competitors in the market (Ozkaya, Droge, Hult, Calantone, & Ozkaya, 2015). As a result, managers can select the most productive organisational resources to match the current market conditions (Slater & Narver, 1994). Drawing from the resource-based theory, market orientation is the resource which allows organisations to gain insight into the market conditions, and as such, induces performance (Morgan, Vorhies, & Mason, 2009). Consistent with this proposal, the results of previous studies reveal a positive relationship between market orientation and performance (Migliori *et al.*, 2019; Vega-Vázquez *et al.*, 2016). Similarly, this article expects that market orientation is positively associated with small businesses' performance.

H1: Market orientation is positively correlated with small businesses' performance.

Management Accounting Systems (MAS)

MAS is under the umbrella of management information systems. The role of MAS is to provide information for decision-making. Management accounting literature defines it as the systematic use of management accounting practices, which is designed to enhance the effectiveness of the decision-making process and, as a consequence, allows the achievement of organisational goals (Chenhall, 2003).

According to the framework of Chenhall and Morris (1986), MAS can be designed in between a narrow scope and a broad scope. On the one hand, the narrow-scope MAS provides information relating to financial, historical, and internal-oriented data (Tillema, 2005). On the other hand, the broad-scope MAS provides information covering external, non-financial, and future-oriented data (Soobaroyen & Poorundersing, 2008). The broad-scope MAS is a sophisticated design of MAS (Tillema, 2005).

The Links between Market Orientation and the Broad-Scope MAS

Market orientation can be considered a cultural factor that drives organisations to continuously emphasise customers and competitors (Zhao & Cavusgil, 2006, p. 406). The emphasis on customers allows an in-depth understanding of the customers' needs (Nwokah, 2009, p. 21). Besides, the emphasis on competitors provides an insight into short-term strengths and weaknesses as well as the long-term capabilities and strategies of the competitors (Nwokah, 2009, p. 21). As a consequence, managers can continuously examine the competitors' threat to develop a contingency plan. In this regard, market orientation refers to intangible resources, which allows high performance (Jogarathnam, 2017, p. 104). According to management accounting theorists, the organisational resource can only be transformed into superior performance when MAS is used because this system provides information for planning and control (McAdam & Reid, 2001; Mitchell & Reid, 2000). The broad scope MAS provides information related to the customers, competitors and future orientation (Cheng, 2012, p. 185). Hence, when small businesses follow a market-orientated approach, information relating to customers and competitors is acquired to dissimilate throughout the businesses to gain insight into customers' demand and competitors' behaviours as well as to effectively predict future opportunities. Small businesses require information from the broad-scope MAS to analyse these needs and behaviours to transform this approach into competitive advantages. In this regard, a positive association between these two variables is expected. This argument leads to the second hypothesis, as followed.

H2: Market orientation is positively correlated with broad-scope MAS.

The Links between the Broad-Scope MAS and Performance

The use of the broad-scope MAS can enhance small businesses' performance. Particularly, because of the need of scanning and monitoring the thread of potential as well as current competitors, powers of suppliers, and demands of customers to gain competitive advantage, information is crucial for businesses to survive in a competitive market (Porter & Millar, 1985). To stay competitive, MAS information is argued to be used for scanning and monitoring competitors' actions, and gaining insights into customers' needs, as well as reducing the bargaining power of suppliers (Mia & Clarke, 1999, p.

142). The broad-scope MAS is required because it provides information relating to the external environment, future orientation, and non-financial data (Chenhall & Morris, 1986). Information relating to the competitors allows an insight into competitors' strengths and weaknesses, which allows the development of the contingency plan against competitors' actions. Information associated with customers' needs allows small businesses to deliver the products/services which meet customers' demands. Lastly, small businesses can use the broad-scope MAS to quickly find alternative suppliers, which reduces the bargaining power of suppliers. Hence, the more broad-scope MAS is used, the more competitive advantage is induced. A high competitive advantage leads to high performance (Anwar, 2018). Considering this argument, the third hypothesis is as follows.

H3: Broad-scope MAS is positively correlated with small businesses' performance.

The Mediating Role of the Broad-Scope MAS

The mediator assessment has recently gained much interest from researchers (see Karyaningsih, Wibowo, Saptono, & Narmaditya, 2020; Li, Murad, Ashraf, Syed, & Riaz, 2020; Stelmaszczyk, 2020). It allows an insight into the direct effects of mediators. In strategic management studies, the relationship between various strategic orientations and small businesses' performance was revealed to be influenced by mediators (see Khan, Royhan, Rahman, Rahman, & Mostafa, 2020; Sa, Choon-Yin, Chai, & Joo, 2020). Similarly, the broad-scope MAS is expected to mediate the link between market orientation and small businesses' performance. Thus, this article proposes the last hypothesis as follows.

H4: There is an impact of the mediating effect of the broad-scope MAS on the link between market orientation and small businesses' performance.

RESEARCH METHODOLOGY

Sampling and Data Collection

Convenience sampling is appropriate because the main goal is to assess the relevance of the theoretical prediction (contingency theory) rather than generalise the findings to a larger population (see Speklé & Widener, 2018, pp. 4-5). This is in line with the majority of studies in management accounting fields which focus on theory testing (Van der Stede, Young, & Chen, 2005).

Small businesses located in Cantho city was included in the data of this study. Cantho is one of the four biggest cities in Vietnam. This city is located in the heart of the Mekong Delta. The collection process is as follows. Contact was made with the association of business in Cantho city. This association is a voluntary, non-profit, and multi-sectoral organisation which assists the development of small businesses located in this city. Due to privacy reasons, the association agreed to help only by sending e-mails to the owners of small businesses in the city. This e-mail includes a summary of the purpose of the study and the link to access the online survey.

This study also takes into account three crucial criteria. First, the number of employees working in small businesses is between 10 and 100 employees. Second, only businesses operating for more than three years are included to ensure the establishment of MAS. Third, this study only includes owners of small businesses because these owners are more likely to indicate their point of view regarding the variables included in this study. After eight weeks, the online survey shows 171 respondents successfully filling the survey. Among these, 12 observations were removed due to the missing values (e.g., the majority of empty values) and wrong target respondents (e.g., respondents are not the owners). In total, 159 observations are used for the analysis.

Measures

Three latent variables in the research model were measured by the latent constructs. To do this, in the survey the respondents were asked to indicate their opinion relating to the items' statements to measure each latent construct (Table 1). All these constructs were adapted from prior studies. A 5-point Likert scale ranging from (1) "highly disagree" to (5) "highly agree" was used to measure the items in

the first two constructs, while a 5-point Likert scale ranging from (1) “well-below the average” to (5) “well-above the average” was used to measure the items in the last construct.

Market orientation (MAR)

It was measured by using an instrument from Cravens and Guilding (1999). It was previously used in management accounting studies (Cadez & Guilding, 2008; 2012), and as such, it poses high reliability.

Broad-scope MAS (MAS)

It was measured by using the instrument of Chenhall and Morris (1986). It has been intensively used in many different contexts (Ghasemi *et al.*, 2016; Hammad, Jusoh, & Ghazali, 2013; Soobaroyen & Poorundersing, 2008).

Performance (PER)

It was adopted from Cadez and Guilding (2008), with some minor modifications, it was used to assess small businesses' performance.

Assessment of Common Method Bias

Collecting data in the same survey may be subject to common method bias. Hence, this study uses two steps to examine whether or not this type of bias affects the results. First, Harman's single-factor test was examined (Podsakoff & Organ, 1986). Second, a reliance on the marker variable technique allows this study to assess common method bias (Lindell & Whitney, 2001). The results suggest that the data can be analysed further without the concern of common method bias.

Analytical Procedure

This study uses the partial least square structural equation modelling (PLS-SEM) to assess the research model. PLS-SEM is a structural equation modelling method, which allows the estimation of the complex casual-effect relationship between latent variables (Hair, Ringle, & Sarstedt, 2011). The aim of PLS-SEM is to maximise the explained variance of the dependent latent variables (Hair *et al.*, 2011). In management accounting research, it is a sufficient method used to assess the research models (Nitzl, 2016). This method has received many compliments from these researchers because of the two following reasons (Hair, Sarstedt, Ringle, & Gudergan, 2018). It is capable of handling a small sample size and non-normality data. It is also adequate to test theories.

The evaluation of the PLS-SEM model follows a two-step analytical procedure, which consists of the assessment of the measurement and structural models (Sarstedt & Cheah, 2019). The first assessment includes the examination of the unidimensionality of constructs, convergent, discriminant validity, and internal consistency of the items of these constructs, as well as multicollinearity among these items. The second assessment is the evaluation of multicollinearity between latent variables, the predictive validity of the parameter estimates, and predictive power before assessing the significant relationship between latent variables. Last but not least, the use of PLS-SEM is also appropriate for the mediating assessment (see Sarstedt, Hair Jr, Nitzl, Ringle, & Howard, 2020). The assessment of mediating effects follows the procedure of Zhao *et al.* (2010).

Data consisting of 159 observation were examined by using SPSS 20.0 and SmartPLS 3.2.9. SPSS was only used for the assessment of unidimensionality of the constructs first. And then, SmartPLS was used for the rest of the analysis.

RESULTS AND DISCUSSIONS

Measurement Models

The unidimensionality was assessed by conducting the test of principal axis factoring with direct Oblimin rotations (see Fabrigar, Wegener, MacCallum, & Strahan, 1999). The results indicate that three factors are corresponding to the intended measuring items except for PER_3 (Table 1). This item was removed, and the above test was re-run. The results indicate that these are three factors corresponding to the items.

Table 1. Result of Principal Axis Factoring

Constructs	Items	Statements	Principal Axis Factoring	
			1st run	2nd run
MAR	MAR_1	My business has a strong understanding of our customers.	0.759	0.770
	MAR_2	The functions in my business work closely together to create superior value for our customers.	0.599	0.599
	MAR_3	Management in my business thinks in terms of serving the needs and wants of well- defined markets chosen for their long-term growth and profit potential for the company.	0.750	0.766
	MAR_4	My business has a strong market orientation.	0.542	0.558
MAS	MAS_1	Information that relates to possible future events.	0.808	0.807
	MAS_2	Quantification of the likelihood of future events occurring.	0.660	0.659
	MAS_3	Non-economic information.	0.561	0.559
	MAS_4	Information on broad factors external to your business.	0.717	0.716
	MAS_5	Non-financial information that relates to the efficiency, output rates, employee absenteeism, etc.	0.794	0.793
PER	PER_1	Return on investment	0.637	0.665
	PER_2	Margin on sales	0.652	0.654
	PER_3	Capacity utilisation	0.433	removed
	PER_4	Customer satisfaction	0.724	0.715
	PER_5	Product/service quality	0.755	0.782
	PER_6	Introductions of new products/services	0.636	0.645
	PER_7	Market share	0.727	0.714

Source: Author's own calculation, based on SPSS 20.0.

The convergent validity is established due to the average variance extracted (AVE) of the constructs higher than the 0.5 threshold (Table 3) (Hair *et al.*, 2011, p. 145). The discriminant validity is also established because the heterotrait-monotrait (HTMT) ratios between the variables are all lower than the threshold values of 0.85 (Table 3) (Henseler, Ringle, & Sarstedt, 2015).

Table 2. Cross-loadings of Items

Variable	MAR	MAS	PERF	VIF
MAR_1	0.763	0.311	0.164	1.642
MAR_2	0.803	0.434	0.194	1.526
MAR_3	0.796	0.363	0.193	1.698
MAR_4	0.743	0.377	0.139	1.417
MAS_1	0.329	0.770	0.189	1.868
MAS_2	0.470	0.839	0.367	1.992
MAS_3	0.315	0.709	0.301	1.486
MAS_4	0.382	0.784	0.255	1.808
MAS_5	0.391	0.853	0.344	2.250
PER_1	0.200	0.355	0.792	1.869
PER_2	0.112	0.194	0.677	1.524
PER_4	0.140	0.231	0.734	1.865
PER_5	0.189	0.302	0.817	2.068
PER_6	0.194	0.325	0.770	1.690
PER_7	0.149	0.251	0.737	1.851

Source: Author's own calculation, based on SmartPLS 3.2.9.

Table 3 indicates the establishment of internal consistency because the reliability scores and Cronbach's Alpha are higher than 0.70 threshold value (Hair *et al.*, 2011, p. 145). The VIFs of each item

is less than the threshold value of 3 (Table 2), which in turn indicates an absence of multicollinearity among measuring items (Hair *et al.*, 2011, p. 145).

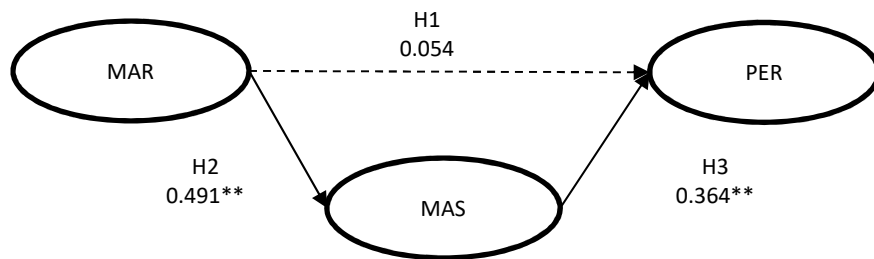
Table 3. Cronbach's Alpha, Composite Reliability, AVE, R², Q² and Discriminant validity

Variable	Cronbach's Alpha	Composite Reliability	AVE	R ²	Q ²	HTMT ratios		
						MAR	MAS	PERF
MAR	0.782	0.859	0.603	–	–	–	–	–
MAS	0.852	0.894	0.628	0.234	0.134	0.577	–	–
PERF	0.851	0.888	0.571	0.145	0.072	0.264	0.419	–

Source: Author's own calculation, based on SmartPLS 3.2.9.

Structural Model

The structural model was examined by using a bootstrapping procedure with 5 000 replacements (Hair *et al.*, 2011, p. 145). The results show that VIFs of these constructs are less than the threshold value of 5 (Hair *et al.*, 2011, p. 145), and Q² values are more than zero (Hair *et al.*, 2011, p. 145), as well as the degree of R² values are sufficient. Thus, it is safe to interpret the significant degree of hypothesis paths.



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

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

Figure 2. Result of Research Framework

Source: Author's own calculation, based on SmartPLS 3.2.9.

The results reveal that market orientation has a positive relationship with the broad-scope MAS ($\beta=0.491$, $p<0.001$). A broad-scope MAS is also positively related to performance ($\beta=0.364$, $p<0.001$). However, the results show that the link between market orientation and small businesses' performance is insignificant ($\beta=0.054$, $p=0.501$). Thus, the hypotheses H2 and H3 are supported.

Assessing Mediating Effects

The results show that the indirect effect (MAR \rightarrow MAS \rightarrow PER) is significant ($a*b=0.170$, $p<0.001$), and its confident interval is from a lower bound of 0.083 to an upper bound of 0.259, indicating the exclusion of zero. Hence, it confirms the mediating effects of the broad-scope MAS on the link between market orientation and this performance. Moreover, the results reveal that the insignificant direct effects between market orientation and the performance ($c=0.054$, $p=0.501$) when controlled by the mediator. Hence, it supports that the broad-scope MAS fully mediates the relationship between market orientation and small businesses' performance. In summary, hypothesis H4 is supported.

Discussion

First of all, this study indicates a positive relationship between market orientation and the broad-scope MAS. It implies that when small businesses follow a market-oriented approach, they are more likely to use the broad-scope MAS. Small businesses have a high degree of flexibility, which allows them to have a strong relationship with customers (Nooteboom, 1994, p. 339). When small businesses develop a strong relationship with customers, these businesses follow a market-oriented approach (Narver & Slater, 1990, p. 21). This approach is considered as the crucial resource, which allows higher perfor-

mance (Morgan *et al.*, 2009). Management accounting theorists argue that MAS is required to effectively transform organisational resources into high performance because the main function of this system is to provide adequate information for planning and control (McAdam & Reid, 2001; Mitchell & Reid, 2000). Hence, the broad-scope MAS, which provides information relating to customers' preferences, competitors' costing and pricing strategies and future opportunities (Cheng, 2012), is required to be effectively used in order to gain more insight into customers' demands and competitors' actions when small businesses follow market-oriented approaches. This leads to a positive association between market orientation and the broad-scope MAS. Similar to this finding, Cadez and Guilding (2008) and Turner *et al.* (2017) found a positive correlation between market orientation and the use of strategic management accounting in large businesses.

Second, the results reveal a positive association between the broad-scope MAS and small businesses' performance. It implies that the broad-scope MAS is relevant for small businesses to improve their performance. In management accounting literature, the theorists strongly propose that management accounting information supports businesses' functions by providing relevant information for management and control (Burns & Scapens, 2000). Relevant information allows higher performance (Choe, 2004; Leach-López, Stammerjohan, & Lee, 2009). Thus, prior empirical studies strongly support the positive association between the broad-scope MAS and performance at the individual level (Ghasemi *et al.*, 2016; Ghasemi *et al.*, 2019) and at business unit levels (Chong & Chong, 1997).

Although the relationship between the broad-scope MAS and performance is strongly supported by previous empirical evidence, the findings are relevant in the contexts of large businesses (see Ghasemi *et al.*, 2016; Ghasemi *et al.*, 2019; Hammad *et al.*, 2013; Soobaroyen & Poorundersing, 2008). A concern is that due to the differences in nature, MAS in small businesses is simpler than one in a large business (see Lavia López & Hiebl, 2015). It questions the relevance of the broad-scope MAS in the context of small businesses because it refers to a sophisticated design of MAS (Tillema, 2005). The results seem to clear such a concern because it is shown that the positive effects between the broad-scope MAS and small businesses' performance. With this regards, it is consistent with the argument, which is that small businesses also require more sophisticated MAS to improve their performance (see Nandan, 2010, p. 65).

Third, the results reveal that there is an insignificant relationship between market orientation and small businesses' performance. It is also indicated that the broad-scope MAS mediates this relationship. This finding can be interpreted that market orientation cannot directly influence small businesses' performance. Instead, market orientation has an effect on the performance indirectly through the broad-scope MAS. It is implied that when small businesses follow a market-orientated approach, they use broad-scope MAS information more to find performance implication. One proper explanation is that the market-oriented approach allows a high focus on customers to adapt to the customers' tastes and, in turn, provides products/services to meet their needs (Nwokah, 2009, p. 21). It also allows a high focus on the competitor to gain insight into competitors' behaviours (Nwokah, 2009, p. 21). the broad-scope MAS provides information relating to customers and competitors as well as future-orientated events (Cheng, 2012). Thus, this system can support small businesses to the extent to which it provides relevant information to gain insight into customers' demand as well as competitors' behaviours when small businesses select a market-orientated approach. It allows these businesses to provide their products/services to meet customers' needs and develop contingency plans against competitors' actions, which in turns leads to higher performance by gaining competitive advantages.

These results are similar to the results of recent management accounting studies, which indicate that the mediating effects of the broad-scope MAS on the link between contingency factors and managerial performance (see Ghasemi *et al.*, 2016; Ghasemi *et al.*, 2019). They are also consistent with recent marketing studies, which reveal that the positive effects of market orientation on performance are indirect, through mediators, rather than direct (see Alnawas & Hemsley-Brown, 2019; Kiessling *et al.*, 2016).

This study provides some managerial implications for the owners of small businesses located in Cantho city in Vietnam. More specifically, when small businesses follow the market-oriented approach, they put an emphasis on customers and competitors. High emphasis on customers allows small businesses to gain insight into customers' demand, while high emphasis on competitors allows the devel-

opment of contingency plans against competitors' actions. The results imply that these emphases cannot be transformed into higher performance if the MAS design is not taken into consideration. It requires from the owner to design the broad-scope MAS, which provides information relating to the market such as customers' taste, competitors' behaviours and future-oriented data. This information supports small businesses following a market-oriented approach by allowing the owners to analyse customers' demands, competitors' actions as well as to predict market trends. In this regard, the owners can gain insight into the market situation as well as acknowledge market trends and thus make managerial decisions effectively, which in turn allows their businesses to find performance implication.

CONCLUSIONS

The aim of this study is to assess the mediating effects of the broad-scope MAS on the link between market orientation and the performance of small businesses located in Vietnam. Data collected from 159 small businesses was used to test the research model. The results show that the broad-scope MAS fully mediates the link between market orientation and small businesses' performance.

The interpretation of this study results should take into account some limitations. First, the results are subject to generalised issues due to the collection of data from small businesses located in Cantho city. Second, the results also subject to a limitation due to low response rates.

This study provides a path for future studies. First, one possible extension of this study is to use probability sampling to replicate this study. In this regard, it allows the generalisations of the study results to a large population. Second, strategic variables can be included in the research model when using contingency theory to predict the relationship between market orientation, the use of strategic management accounting and performance because each strategic type requires a specific design of MAS (Chong & Chong, 1997) and is suggested to have a link with market orientation (Lee, Kim, Seo, & Hight, 2015). Therefore, the future study can extend this study by including strategic variables into the research framework. Lastly, one aspect of the MAS design, like the broad-scope MAS, was included in this study. According to Chenhall and Morris (1986), there are three other aspects of the MAS design. Thus, the future study should include all four aspects of the MAS design into the research model to gain more insight into the impact of the MAS design on the link between market orientation and performance.

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Conflict of Interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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