

# Performance implications of the interaction between the accountants' participation in strategic decision-making and accounting capacity

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Interaction  
between APAR  
& ACAP

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## Abstract

**Purpose** – Based on the contingency theory and resource-based view, this study develops and tests a moderated mediation model explaining the performance implications of the interaction between the accountants' participation in strategic decision-making (APAR) and accounting capacity (ACAP) in promoting the use of management accounting systems (MAS) toward enhancing firm performance.

**Design/methodology/approach** – Using partial least squares structural equation modeling, the authors tested the proposed model and its hypotheses with survey data from 340 large Vietnamese firms.

**Findings** – The results indicate that (1) MAS act as the full mediator in the positive relationship between APAR and firm performance, and (2) ACAP positively moderates the effect of APAR on the use of MAS.

**Originality/value** – This study bridges the gap between accounting and strategic management literature by elucidating the mechanism by which the involvement of accountants in strategic issues improves the use of MAS toward enhancing firm performance and increases the current understanding of ACAP as a boundary condition for this mechanism.

**Keywords** Accounting capacity, Accountants' participation in strategic decision-making, Firm performance, Management accounting systems, Vietnam

**Paper type** Research paper

## 1. Introduction

In today's business environment, organizations are under growing pressure to build sophisticated management systems to efficiently execute their strategies and handle international challenges (Hutahayan, 2020). Rapid technological improvements in the context of severe competition have a substantial influence on corporate operations as well as the adoption of management accounting systems (MAS) (Islam and Kantor, 2005). These improvements also amplify the relevance of MAS in strategic management, and improving MAS is considered a feasible option for the proactive assistance of firms in establishing an effective competitive strategy (Islam and Kantor, 2005; Hutahayan, 2020). In addition, greater usage of MAS may aid firms in encouraging cross-functional cooperation, planning, control

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and decision-making to react promptly to an ever-changing business environment (Massicotte and Henri, 2021).

Under intense competitive pressures, firms are compelled to continuously develop and implement optimum management strategies to maintain stability and function successfully. Competitive pressures, combined with the phenomenal growth of information technology, have also had a significant impact on competitive strategy (Porter, 2008). As a result, firms must plan, evaluate and adjust management strategies according to available internal resources and adapt flexibly to changing business conditions. Consequently, the information provided by MAS (e.g. customer revenues, costs, profitability, satisfaction, loyalty and the antecedents of those performance indicators) can support firms in tailoring their production and business processes to maximize customer value (Nguyen, 2018b).

Previous management accounting studies (e.g. Johnston *et al.*, 2002; Cadez and Guilding, 2012) show that involving accountants in strategic decision-making can positively change operational processes toward improving firm performance. Furthermore, Pasch (2019) emphasized the importance of the active consultation of accountants in assisting firms in developing and implementing effective corporate strategies. Accountants' participation in strategic decision-making (APAR) can promote the use of management accounting information in terms of broad scope, timeliness, integration and aggregation (Chenhall and Morris, 1986). It can be argued that when accountants are involved in the strategic decision-making process, the extent to which the MAS is used for this process increases, resulting in improved firm performance. Thus, the potential performance implications of the interaction of APAR at the highest level with the extensive use of MAS can provide businesses with practical benefits and improved performance.

Indeed, management accounting research in emerging markets primarily focuses on how emerging market firms adopt management accounting practices (Anh *et al.*, 2011; Islam and Kantor, 2005; Pomberg *et al.*, 2012). In addition, some studies examined the relationships between MAS usage, market orientation and firm performance. Tu and Nguyen (2021) demonstrate that MAS usage directly affects firm performance, suggesting that the adoption of MAS should be facilitated and encouraged in ways other than cross-functional cooperation to boost firm performance. However, the mediating role of the level of MAS usage in the relationship between APAR and firm performance in relation to the moderating role of accounting capacity (ACAP) remains unexplored in emerging markets. This research gap is critical because it has implications for emerging market firms seeking to improve their competitive edge by integrating their accounting teams' capability and accounting information.

Our study contributes to the body of knowledge in several ways. First, it adds to our understanding of how APAR influences the use of MAS, which in turn, affects firm performance. This is an essential line of inquiry because understanding the APAR–MAS–performance chain by which management accountants influence the performance of emerging-market firms is essential, as these firms frequently lack the ACAP to maximize the use of management accounting information. Second, we identify one condition for the link between APAR and the use of MAS, namely accounting capability, as a contingent factor. This is an important finding, as fostering ACAP would contribute to the synergy between the quality of accountants and their involvement in strategic decision-making. Third, we test our research model on a representative sample of Vietnamese businesses. We chose Vietnam as the research setting because it is crucial to comprehend management accounting practices, given that Vietnam is a one-party socialist republic, and its accounting ecosystem may differ from Western nations. Furthermore, being the third-largest and one of the fastest-growing transitional economies (Nguyen *et al.*, 2020), Vietnam is attracting more FDI; hence, boosting management accounting practices as a strategic resource can improve business performance, allowing the country to attract greater FDI inflows. Therefore, testing the research model

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in the context of Vietnam can provide insight into growing research interest in the strategic role of management accounting in emerging market firms.

The structure of this study is organized in the following manner. The next section outlines how the theoretical model and hypotheses are developed from the underpinning theories, specifically the contingency theory (Otley, 1980) and the resource-based view (RBV) (Barney, 1991), with a focus on the relationships between APAR, the extent to which MAS is used and firm performance, as well as the moderating role of ACAP in the effect of APAR on the use of MAS. Subsequently, the research methods and main findings are presented. The theoretical and managerial implications of this study are then discussed. Finally, this study concludes by acknowledging its limitations, outlining future research directions, and drawing a conclusion.

## 2. Theoretical background and hypotheses development

### 2.1 Contingency theory and resource-based view

Our study is underpinned by the contingency theory and the RBV. Contingency theory relates to the contextual or contingent circumstances that influence the performance of an organization. This theory proposes that the design and implementation of accounting systems are contingent on the organizational context (Otley, 1980). According to contingency theory (Otley, 1980), the accounting system's components must be associated with the enterprise's operating environment. Additionally, the business' performance is contingent upon the organizational structure's compatibility with contextual factors (e.g. business environment, strategy, scale, technology and culture) (Chenhall and Langfield-Smith, 2007). In our study, contingency theory was employed to hypothesize the moderating effect of ACAP, as a contingent factor, on the relationship between APAR and the use of MAS.

The next underpinning theory is the well-known RBV, which refers to the paradigm Barney (1991) proposed on how an organization's internal resources contribute to generating a sustainable competitive advantage. This view is founded on two fundamental assumptions: (1) corporate resources and capacities are distributed heterogeneously among companies and (2) these resources and capabilities are imperfect and immobile. Based on these two assumptions, Barney (1991) argues that these resources and capabilities must be valuable, rare, inimitable and non-substitutable (VRIN). In our study, RBV was used to explain the effect of the use of MAS on firm performance.

### 2.2 The mediating role of the use of MAS

MAS is a management system designed to provide management accounting information in response to various business requirements. According to Chenhall and Morris (1986), this type of information is characterized by four features: broad scope, timeliness, aggregation and integration. Broad scope suggests that MAS provides not only internal business, financial and historical data but also nonfinancial and meaningful data for forecasting the future (Cadez and Guilding, 2008). The MAS will provide information on a broader scale, enabling administrators to manage, forecast and make decisions more effectively. Management accounting information provided promptly when requested by management demonstrates timeliness, as reports are always available when requested by managers. Integration is organizing and summarizing data between functional departments within an enterprise. Hence, MAS will periodically refine and synthesize data depending on the characteristics of each functional department. The consistency of data between functions and objectives demonstrates aggregation. Aggregation can promote cross-functional information sharing and coordination, thus increasing operational effectiveness and efficiency.

Due to the growing demand for management accounting information (Caglio and Ditillo, 2012), businesses have placed a greater emphasis on the providers and users of such information, specifically management accountants (Kornberger and Carter, 2010). The perspectives, analysis, evaluation and recommendations of accountants can assist businesses in identifying emerging issues and establishing certain advantages when entering a competitive market (Mouritsen and Kreiner, 2016). Historically, the accountants' role in strategic decision-making was less recognized, owing to their unclear involvement in the decision-making process. However, once an accounting system achieves the initial benefits, management accounting information is recognized as critical and directly impacts managers' decision-making (Caglio and Ditillo, 2012; Chenhall and Morris, 1986). Following this, businesses have also increased their focus on the role of accountants (Kornberger and Carter, 2010). Numerous studies have confirmed that positive changes in business processes can be attributed to APAR (Johnston *et al.*, 2002). Accounting professionals can synthesize, process and analyze data to provide useful information to business leaders regarding each specific business strategy (Kornberger and Carter, 2010). As a result, APAR at the highest levels of the organization (e.g. pricing strategy, quality management strategy and business scaling strategy) will positively affect how MAS is used. Specifically, this participation will impact the usage of MAS across all dimensions (broad scope, timeliness, integration and aggregation), thereby improving business performance.

From another viewpoint, management accounting information must always be readily accessible, complete, relevant and forward-looking to facilitate strategic decision-making (Cadez and Guilding, 2012). APAR will significantly improve the quality of management accounting information (Kornberger and Carter, 2010). The accountants' collection, processing, synthesis, analysis and evaluation of management accounting information will eliminate irrelevant information while increasing the use of relevant information for planning, controlling and making decisions (Soobaroyen and Poorundersing, 2008). Accountants also closely monitor MAS issues and advise managers on improving the quality of management accounting information (Tu and Nguyen, 2021). This demonstrates that APAR is critical in improving how firms use MAS to enhance their performance. Hence, we hypothesize the following:

*H1.* APAR positively affects the extent of use of MAS.

The globalization of business, combined with the information technology revolution, has compelled firms to be more sensitive to complex and competitive developments in the market and seek out relevant information in the shortest time possible. Additionally, Soobaroyen and Poorundersing (2008) recommend that managers increase their use of management accounting information to assist with product pricing, demand forecasting, raw material procurement planning and strategy formulation. At the same time, management accounting information will assist managers in pricing the products or services rationally to ensure and enhance competitive advantages when entering new markets. Furthermore, as competition intensifies, managers will make better decisions in various settings when prepared with pertinent MAS information (Soobaroyen and Poorundersing, 2008), and firms will perform better when empowered with strategic information provided by MAS (Cadez and Guilding, 2012; Nguyen, 2018b). Some recent studies (e.g. Nguyen, 2018b; Tu and Nguyen, 2021) further suggest that expanding MAS adoption directly impacts firm performance. However, another school of thought holds that sophisticated information provided by management accountants does not enhance firm performance or even have a deleterious effect. For example, Perera (1997) discovered no correlation between management accounting information and the expansion of a firm's scope of activities and performance. Agbejule (2005) asserted that operating an excessively

complex MAS will have an adverse effect on the operations of the firm in an uncertain business environment. These authors believe that information MAS provided may be outdated and incompatible with the firm's business strategy. The above review indicates that the association between the degree to which management accounting information is used and firm performance still requires further investigation. Thus, our study will resolve this issue by elucidating the conditions necessary for this relationship to become positive in Vietnam.

According to the RBV (Barney, 1991), this study argues that MAS, in terms of its broad scope, timeliness, aggregation and integration, is a resource that meets the following conditions: valuable, rare, inimitable, and non-substitutable (VRIN). Businesses seeking a competitive edge must pay increased attention to VRIN conditions by developing valuable, scarce, unique and non-replaceable resources (Nguyen, 2018b; Tu and Nguyen, 2021). MAS is well-known for providing useful information to functional departments (Massicotte and Henri, 2021). The functional components are easily accessible and can convert the data provided by MAS into practical benefits, which is extremely valuable. However, the establishment and successful operation of the MAS is contingent upon various factors, including the business environment, competitive pressure, organizational structure, organizational size and organizational resources. Therefore, the input and output of MAS are not consistent across firms, as evidenced by the rarity of the data. Each firm will develop an MAS to meet unique management requirements, and it should be unique. MAS is considered irreplaceable because it is almost the only way to assist businesses in collecting, storing, processing, providing and controlling information, thereby directly affecting decision-making (Caglio and Ditillo, 2012; Massicotte and Henri, 2021). This study argues that MAS can provide valuable information about products, strategies, finances, competitors and markets. This information will significantly assist businesses in responding to the evolving business environment promptly and appropriately (Johnston *et al.*, 2002; Massicotte and Henri, 2021). Management accounting information that is adaptable allows managers to analyze events precisely and make well-informed business decisions (Tu and Nguyen, 2021). As a result, it can be demonstrated that the more MAS is employed, the higher the business performance. Thus, we hypothesize the following:

*H2.* The extent of use of MAS positively affects firm performance.

Evidence from the past demonstrates that the active participation of management accountants in decision-making processes adds to more effective decisions (e.g. Aver and Cadez, 2009; Jansen, 2015; Lambert and Pezet, 2011). For example, Lambert and Pezet (2011) claim that accountants' participation in monthly performance review meetings is evidence that they are becoming "the producers of truthful knowledge about the firm", which may promote well-informed decisions and consequently improve firm performance. Based on this argument and our hypotheses H1 and H2, we suggest that the use of MAS can act as a mediator in the relationship between APAR and firm performance. Hence, we hypothesize the following:

*H3.* The extent of use of MAS mediates the effect of APAR on firm performance.

### *2.3 The moderating role of ACAP*

APAR can increase accountants' motivation to add value to strategic decision-making (Oliver, 1991). These outcomes can ensure that MAS's design, development and operation resources are used more efficiently (Cadez and Guilding, 2008). If accountants are more involved in strategic decision-making, they can positively influence MAS's development and effectively utilize the information provided by the MAS (Tu and Nguyen, 2021). As a result, the greater their ACAP, the more influential their activities. Accounting capability is

defined as the complete convergence of professional qualifications, business knowledge, technology comprehension, legal mastery, communication skills, problem-solving abilities, proficient use of supportive tools, positive attitudes and team leadership (Palmer *et al.*, 2004). Accounting capability can assist firms in easily establishing and developing a high-quality MAS (Anh and Nguyen, 2013).

Following the contingency theory (Otley, 1980), this study argues that firms must be interested in organizing and customizing MAS to fit the operating structure and context properly. As a result, accounting capability is recognized as a contextual factor and a necessary component of an accounting system (Xu *et al.*, 2003). To maintain a competitive edge in today's business environment, firms must clearly define the role of accounting capability (Anessi-Pessina *et al.*, 2008), specifically in developing MAS compatible with strategic activities. One could argue that promoting APAR increases the likelihood of achieving superior organizational performance outcomes. When accountants directly involved in strategic decision-making are capable, the management accounting information will be more relevant to decision-making. If ACAP is improved, the relationship between the APAR and how MAS is used can be significantly enhanced. Therefore, the more resources a firm invests in the design and operation of the MAS and in enabling qualified accountants to participate in strategic decision-making, the higher the extent to which MAS will be used. As a result, the firm's performance improves. Based on previous arguments, we hypothesize the following:

*H4.* ACAP positively moderates the effect of APAR on the use of MAS.

Figure 1 illustrates the research model and hypotheses in our study.

### 3. Methods

#### 3.1 Sample

As the unit of analysis of this study is at the firm level, top or middle managers representing each organization were the potential respondents to answer the survey questionnaires. First, scale items, which would be included in the survey form, were back-translated into Vietnamese following the procedure recommended by Brislin (1970). Next, 7,650 emails were collected from potential respondents from our personal LinkedIn networks. We also performed screening to ensure that respondents had adequate experience to represent their firms to answer the survey questionnaires. Then, a list of 2,268 emails from the top- and mid-level managers was developed.

The survey questionnaire was designed based on the scale items for the variables in the proposed model (see Table A2) and then piloted with ten managers from different companies to ensure that the questions were understandable and free of bias. SurveyMonkey software was then used to email the survey questionnaires to the potential respondents. The procedure

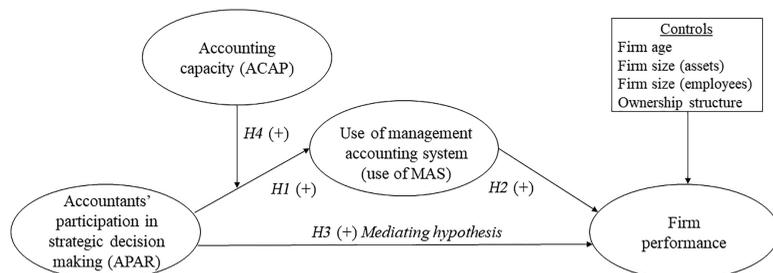


Figure 1.  
Proposed model and hypotheses

took place within eight weeks, with three email notifications within two weeks. We received 586 replies, of which 152 were disqualified because they were not completed and 83 respondents were eliminated due to a response time of less than five minutes, which is the minimum required duration to complete the survey accurately. As the unit of analysis of this study is at the firm level, we further dismissed 11 responses from the same firms. These procedures resulted in a final sample size of 340 with a response rate of 15% [340/2,268]. This response rate is considered reasonable under email survey conditions in Vietnam.

Since the survey response rate was quite low, we tested for nonresponse bias using the independent *t*-tests suggested by [Armstrong and Overton \(1977\)](#). We found that the means of the main variables between two groups of respondents (i.e. the first quartile of the earliest responses and the last quartile of the latest responses) were not significantly different, suggesting there was no nonresponse bias in our study.

### 3.2 Measurement scales

We employed well-established scales to measure the main variables in the proposed model. Specifically, the scale used to assess the independent variable, i.e. APAR, was adapted from [Cadez and Guilding \(2012\)](#). This scale has five 7-point Likert items. Respondents were asked to rate accountants' involvement in various aspects of the strategic planning process (i.e. identifying problems and proposing objectives, generating options, evaluating options, developing details about options and taking the necessary actions to implement the changes). Next, we measured the moderating variable, i.e. ACAP, using the thirteen 5-point Likert scale proposed by [Palmer et al. \(2004\)](#) and [Mohamed and Lashine \(2003\)](#). The mediating variable, i.e. MAS, has four dimensions (i.e. broad scope, timeliness, aggregation and integration), which were measured using the fifteen 7-point scale items derived from [Chenhall and Morris \(1986\)](#). This scale for the use of MAS has since been used in various accounting studies ([Ismail and King, 2006](#); [Nguyen, 2018b](#); [Tu and Nguyen, 2021](#)). We used six 7-point Likert-scale items proposed by [Calantone et al. \(2002\)](#) to assess the dependent variable, i.e. firm performance. Following this, respondents were asked to compare their firm's performance against major competitors over the last three years using these six indicators. Additionally, we followed prior research ([Baker and Sinkula, 2002](#)) in utilizing ownership structure (1 = "with foreign capital"; 2 = "without foreign capital"), firm size in terms of total assets and the number of full-time equivalent employees, and firm age as the control variables for firm performance.

## 4. Results and discussions

### 4.1 Sample descriptive statistics

Table A1 shows the descriptive statistics of participating respondents and organizations. In terms of position, 28.5% were top managers and the remaining were mid-level managers. They had an average of 7.86 (standard deviation (SD) = 6.03) years of experience in their respective firms, indicating adequate experience to answer the survey questionnaire accurately. Regarding industry structure, service firms accounted for 52.9% of the total, followed by manufacturing (25.0%) and trading (22.1%). The dominance of the service firms in this sample structure is also consistent with the economic structure of Vietnam, where its service industry accounted for 46.13% of GDP ([General Statistics Office of Vietnam \(GSO\), 2020](#)). Regarding full-time employees, 76.2% of firms employed more than 500, while 23.8% employed less than 500. Firms had an average age of 22.59 (SD = 22.59) years, and 95.6% had ages equal to or more than 6 years, which is a reasonable time to develop an MAS. In terms of size, most sampled firms (65.9%) had total assets of more than VND 200 billion (USD 8.75 million equivalent), and 72.1% of sampled firms had more than 500 full-time equivalent employees.

#### 4.2 Reliability and validity analysis

Table A2 shows the reliability and validity analysis of the measurement scales. The result shows that most of the outer loadings of all the items were above the cutoff value of 0.70 (*t*-value ranged between 11.70 and 82.82), except that of the “Return on sales (ROS)” item with a small loading of 0.68 retained to maintain the content validity of the firm performance scale. This result reflects the reliability of the measurement scales. In addition, the scales had composite reliabilities ranging between 0.85 and 0.95, above the cutoff value of 0.70 to be reliable (Kline, 2016). They also had average variance extracted values ranging between 0.54 and 0.76, higher than 0.50. Thus, the measurement model has a satisfactory level of convergent validity.

Table A3 depicts the discriminant validity analysis. The absolute correlation coefficients between any pair of components (ranging between 0.07 and 0.72) were consistently less than their square root average variance extracted values (ranging between 0.73 and 0.87) and did not exceed their composite reliability coefficients (ranging between 0.85 and 0.95). These findings suggested a high degree of discriminant validity of the scales (Fornell and Larcker, 1981). In addition, we further evaluated discriminant validity using the heterotrait-monotrait (HTMT) test (Henseler *et al.*, 2015), which is a more stringent approach than that of Fornell and Larcker (1981). While the bootstrapped HTMT values were significantly less than the cutoff value of 0.90 (Henseler *et al.*, 2015), we claimed more robust evidence for the discriminant validity of the measurement scales.

#### 4.3 Common method bias and multicollinearity issues

Because data was collected using the key informant approach, we employed Harman’s single-factor test for common method bias (CMB) and found that the first factor accounted only for 26.84% of the total variance explained of 61.74%. Therefore, CMB is not an issue in our study. Given the low sensitivity for detecting CMB of the Harman test, the marker-variable test (Lindell and Whitney, 2001) was also used. The questionnaire item “Would you prefer to visit Ha Long Bay during this year’s national holiday?” was chosen as a marker variable because it did not have a theoretical relationship with any of the variables. After adjusting for the effects of the marker variable, the mean change in correlations between main constructs was just 0.03. Thus, the results of all preceding tests indicate that this study is devoid of CMB. Next, the highest inner variance inflation value was 1.38, much smaller than the “rule of thumb” value of 10 (O’Brien, 2007), exhibiting negligible multicollinearity in our study.

#### 4.4 Hypothesis testing results

The proposed model and hypotheses were analyzed using partial least squares structural equation modeling (PLS-SEM). This approach is appropriate because it tends to attain higher levels of statistical power under comparable settings than the conventional covariance-based structural equation model (Reinartz *et al.*, 2009). In addition, PLS-SEM enables researchers to simultaneously assess the measurement model and structural model, including both moderating and mediating interactions, and is a widely established statistical method utilized in management accounting studies (Nitzl, 2016). The sample size of 340 was adequate because it exceeds tenfold the maximum number of paths between variables in the proposed models (Hair *et al.*, 2021). Moreover, the proposed model has a standardized root mean squared residual of 0.07, less than the 0.09 threshold set by Hu and Bentler (1999), showing that the proposed model adequately fits the data.

We developed three hierarchical models to evaluate the hypotheses (Table 1). Model 1 shows the relationship between APAR and firm performance. Model 2 is the augmentation of

Dependent variable	Model 1	Model 2 (with the use of MAS as the mediator)		Model 3 (with the use of MAS as the mediator and ACAP as the moderator)	
	FP	Use of MAS	FP	Use of MAS	FP
<i>Independent variable</i>					
H1 APAR	0.30 (5.89) <sup>c</sup>	0.52 (11.89) <sup>c</sup>	0.07 (1.18)	0.51 (12.44) <sup>c</sup>	0.07 (1.19)
ACAP				0.20 (4.28) <sup>c</sup>	
H2 Use of MAS			0.41 (8.41) <sup>c</sup>		0.41 (7.77) <sup>c</sup>
H4 APAR × ACAP					0.19 (5.18) <sup>c</sup>
<i>Control variable</i>					
Ownership	0.14 (2.77) <sup>c</sup>		0.11 (2.40) <sup>b</sup>		0.11 (2.28) <sup>b</sup>
Assets	0.13 (2.38) <sup>b</sup>		0.14 (2.99) <sup>c</sup>		0.14 (3.12) <sup>c</sup>
Employees	-0.05 (1.09)		-0.05 (1.03)		-0.05 (1.01)
Firm age	0.10 (2.19) <sup>b</sup>		0.07 (1.53)		0.07 (1.53)
Adjusted R <sup>2</sup>	0.12	0.26	0.24	0.36	0.24
<i>Indirect effect</i>					
H3 APAR→Use of MAS→FP			Estimate 0.21 (6.35) <sup>c</sup>	LLCI 0.16	ULCI 0.29

**Note(s):** APAR × ACAP: interaction between APAR and ACAP; FP: firm performance; Numbers in brackets: *t*-values; <sup>b</sup>, <sup>c</sup>: significance at 5% and 1% levels, respectively (two-tailed *t*-test); LLCI: lower limit confidence interval; ULCI: upper limit confidence interval

**Table 1.**  
Hypothesis testing  
results

model 1 with the use of MAS added as the mediator. Models 1 and 2 are employed to test H1, H2 and H3. Finally, model 3 introduces ACAP as a moderator of the relationship between APAR and the use of MAS. This model is used to test H4.

Table 1 contains the indices used to determine the predictive capacity of the individual paths between variables ( $\beta$  coefficients, *t*-values), as well as the adjusted  $R^2$  values for the mediating variable (i.e. use of MAS) and the dependent variable (i.e. firm performance). These indices were computed using 5,000 bootstrapped runs. Each of the three models had an adjusted  $R^2$  value greater than 0.10 (ranging from 0.12 to 0.36), which is the suggested level for indicating that the variances of mediating and dependent variables were adequate (Falk and Miller, 1992).

H1 proposes that APAR positively affects the extent of use of MAS. This hypothesis is supported (model 2:  $\beta = 0.52$ , *t*-value = 11.89). The strong coefficient for the path from APAR to MAS use (0.52) indicates that participation is the primary driver of information use, as established in the literature on information systems (e.g. Hartwick and Barki, 1994; Hunton and Beeler, 1997). This result is consistent with findings from prior research (e.g. Cadez and Guilding, 2008; Jansen, 2015; Hair *et al.*, 2021), indicating that participation may provide businesses with benefits in producing and exploiting relevant information for decision-making. Our data analysis also confirms H2, which conjectures that the extent of use of MAS has a positive effect on firm performance (model 1:  $\beta = 0.41$ , *t*-value = 8.41; model 2:  $\beta = 0.41$ , *t*-value = 7.77), confirming the competitive advantages of management accounting information examined in previous studies (e.g. Nguyen, 2018b; Tu and Nguyen, 2021).

To test H3 concerning the mediating role of the extent of use of MAS in the link between APAR and firm performance, we examined the indirect effect of the path APAR→Use of MAS→FP. We found that the indirect effect is significant ( $\beta = 0.21$ , *t*-value = 6.35, confidence interval 95% = [0.16; 0.29]), and thus, H3 is confirmed. Moreover, when the extent of the use of MAS was included as a mediator in the relationship between APAR and firm performance, the path from APAR to firm performance turned from significant (model 1:  $\beta = 0.30$ ; *t*-value = 5.89) to insignificant (model 2:  $\beta = 0.07$ ; *t*-value = 1.18), implying that the extent of use of MAS fully mediates the effect of APAR on firm performance.

This finding adds to previous works in the employee participation literature in emerging markets (e.g. [Nguyen, 2018a, b](#)), claiming that employee participation can have strong performance effects by developing and exploiting relevant information derived during their participation.

To test [H4](#) regarding the moderating effect of ACAP on the relationship between APAR and the extent of use of MAS, we created an interaction term,  $APAR \times ACAP$ , after mean centering the APAR and ACAP to avoid multicollinearity ([Aiken et al., 1991](#)). As the effect of the interaction term on the extent of use of MAS was significant (model 3:  $\beta = 0.19$ ;  $t$ -value = 5.18), [H4](#) was supported. To show the interaction effect more clearly, we presented the effects of APAR on the extent of use of MAS at high (+1 SD), average (mean) and low (-1 SD) ACAP levels in the interaction graph (see Figure A1). The graph indicates that when ACAP is high, the influence of APAR on the use of MAS is high, but when ACAP is medium (low), the effect of APAR on the use of MAS is medium (low). This finding provides additional support for [H4](#), emphasizing the increasingly important role of ACAP in emerging economies, which has been addressed in previous studies (e.g. [Mohamed and Lashine, 2003](#); [Palmer et al., 2004](#); [Venter et al., 2018](#)). The support of both mediating and moderating hypotheses (i.e. [H3](#) and [H4](#)) in this study confirmed the role of RBV ([Barney, 1991](#)) and contingency theory ([Otley, 1980](#)) in explaining how the use of MAS mediates the relationship between APAR and firm performance in an emerging country and that the magnitude of the relationship between APAR and the use of MAS is dependent on ACAP.

## 5. Implications, limitations and future research directions

### 5.1 Theoretical implications

This study adds to the limited research on management accounting practices in emerging markets such as Vietnam, which are still quite limited ([Anh et al., 2011](#)), and the existing management accounting literature in several ways. First, the positive relationship between APAR and the extent of use of MAS found in our study is consistent with previous studies (e.g. [Nguyen, 2018b](#); [Tu and Nguyen, 2021](#)). Specifically, when accountants play a significant role in the strategic decision-making process, the extent to which MAS is used for policy formulation increases, allowing management accounting information to be used effectively in all aspects ([Tu and Nguyen, 2021](#)). Additionally, the frequent use of accountants' inputs in the strategic decision-making process improves the quality of management accounting information. This is because accountants can evaluate and filter information that is truly useful to prevent managers from becoming overwhelmed with irrelevant information ([Sutcliffe and Weick, 2009](#)).

Second, the research findings support the RBV ([Barney, 1991](#)) in explaining the positive relationship between MAS resources and the competitive advantages of emerging market firms, which is in line with previous studies (e.g. [Islam and Kantor, 2005](#); [Nguyen, 2018b](#); [Tu and Nguyen, 2021](#)). As a result, the information provided by MAS that satisfies the VRIN condition can be considered a valuable resource. Businesses that regularly utilize management accounting information can have more opportunities to gain a competitive advantage and will be able to improve their performance ([Nguyen, 2018b](#)). On the other hand, if firms continue to use management accounting information infrequently, the management accounting information is likely to be limited in scope, delayed, incomplete or asynchronous. This will impede internal coordination and knowledge exchange, thereby limiting the transformation of knowledge into new ideas that can be offered to meet customer needs and performance enhancement. Simultaneously, this study established that the use of MAS information on four dimensions (broad scope, timeliness, integration and aggregation), as defined by [Chenhall and Morris \(1986\)](#), influences firms' strategic decision-making in emerging market contexts.

Finally, this study revealed the critical role of ACAP in the relationship between APAR and the extent to which MAS is used, i.e. the fact that firms fostering the participation of qualified accountants in strategic decision-making will increase the extent of the use of MAS. Additionally, the research findings validate the contingency theory (Otley, 1980) for explaining the compatibility of MAS factors with enterprise strategy. This compatibility will provide practical benefits to businesses, such as increasing ACAP, increasing the extent to which MAS is used and improving the quality of management accounting information. This study has reaffirmed the critical role of contingency theory in explaining MAS problems in Vietnamese firms through a novel lens. This is necessary because MAS in Vietnamese firms must be more effectively organized and promoted (Tu and Nguyen, 2021). Specifically, via the lens of the contingency theory, we can explain the critical role of APAR in the strategic decision-making process, and accountants can promote the extensive use of MAS. Thus, this study confirms that firms in Vietnam can fully promote and convert their extensive use of MAS into a sustainable competitive advantage by allowing qualified accountants to participate in the strategic decision-making process.

### *5.2 Managerial implications*

Our research has some managerial implications. First, the impact of APAR on the extent to which MAS is used demonstrates the critical nature of APAR in emerging market firms and the consulting role of the accounting department in strategic operations. When it is recognized that while making strategic decisions based on management accounting information is a critical issue for a firm's development (Rieg, 2018), the role of accountants in strategic management becomes more apparent (Rieg, 2018; Cadez and Guilding, 2008). The stronger the ACAP, the more beneficial the use of MAS and the more frequent and effective the use of MAS would be (Byrne and Pierce, 2007). Thus, firms must actively consult accountants with relevant and high-quality information from MAS (Pasch, 2019).

Second, business leaders should consider the mediating effect on the extent to which they use MAS on firm performance. The beneficial mediating effect of the extent of MAS use demonstrates the critical nature of paying attention to and being aware of the potential extent of MAS use. As a result, leaders in emerging market firms should consider expanding the use of MAS to convert APAR to improved firm performance.

Third, the findings indicate that APAR positively affects the extent to which MAS is used, with ACAP acting as a positive moderator of this relationship. Businesses must place a higher premium on accountant qualifications and create opportunities for accounting staff to develop their competencies through short- and long-term training courses. Additionally, companies should create opportunities for accountants to participate in strategic decision-making and encourage them to develop their capabilities. The fact that qualified accountants are deeply involved in the strategic decision-making process, on the other hand, enables them to quickly grasp information and make detailed assessments, recommendations and the development of suitable options. Simultaneously, accounting staff must continually improve, learn, innovate and develop skills and knowledge to effectively support leaders in strategic decision-making.

### *5.3 Limitations and future research directions*

Despite its significant contributions, this study has several notable shortcomings. First, as it was a cross-sectional study, causal relationships between APAR, the extent to which MAS is used and firm performance could not be inferred. As a result, a longitudinal study is needed to test these causal relationships. Second, the generalization of our findings to other emerging

countries should proceed cautiously. Future research in other emerging countries, other than Vietnam, should be conducted to examine the effects of unique national contextual factors (e.g. institutions, politics and culture) on the relationships examined in our study and compare the strengths of these relationships across countries to gain additional insights. Third, this study relied on managers' self-reported data. As a result, future research should gather objective data (e.g. performance indicators from financial statements) to assess firm performance. Finally, to improve the efficiency and effectiveness of MAS use, businesses must emphasize factors such as information technology systems (Ghasemi *et al.*, 2019), leadership abilities and cross-functional coordination (Rante and Warokka, 2016). Subsequent research could consider these factors as moderating variables in the relationship between APAR and the use of MAS.

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### Appendix

The Appendix for this article can be found online.

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