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Factors Affecting the Application of Managerial Accounting in Small and Medium-Sized Enterprises in Vietnam*

Co Trong NGUYEN¹

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Abstract

The article analyzes the impact of factors affecting the use of management accounting in small and medium-sized firms in Vietnam, which adds to the empirical evidence on these factors. The survey results collected 328 questionnaires using a questionnaire survey of managers at all levels, chief accountants, and accountants of 89 small and medium firms in Vietnam. Some questionnaires were invalid due to many blank cells, hence the author chose to use 315 questionnaires. Quantitative research was carried out with SPSS 25 software. Research results show that five factors have a positive influence on the application of management accounting including Competitive pressure, Decentralization of responsibility, Application of information technology, the level of interest of managers, and the quality of human resources, in which the application of information technology and competitive pressure are the factors that have the strongest influence on the application of management accounting in small and medium enterprises in Vietnam. Based on the findings of the study, the author has proposed recommendations to help small and medium-sized businesses improve their ability to successfully apply management accounting techniques, thereby improving their competitiveness and efficiency performance and contributing to the long-term sustainability of their businesses.

Keywords: Management Accounting, Small and Medium Enterprises, Vietnam

JEL Classification Code: M40, M41

1. Introduction

Management accounting has the role of providing information (financial and non-financial information) for business managers. Management accounting information plays a key role and governs all business activities of enterprises. It is an important basis for business managers to make short-term and long-term decisions to ensure the existence and sustainable development of enterprises in the market economy. According to Fleischman and Tyson (2006), corporations in the United States have created management accounting

information systems to assist corporate governance from the early nineteenth century in textile factories in New England. Following World War II, Japanese businesses rebounded and developed rapidly, owing to effective management and the use of management accounting information (Atkinson, 2012).

Vietnamese enterprises in general and Vietnamese small and medium enterprises in particular, although operating under the market mechanism, due to the heavy influence of the centralized planning management mechanism, their knowledge of market economy, as well as operating experience in the market economy, is still limited. The majority of Vietnamese enterprises are small and medium-sized, with limited capital, outdated technology, and incompetent management. As a result, in addition to increasing capital potential and technological innovation, Vietnamese small and medium firms must strengthen their governance capacity in the global competitive environment. In terms of governance, managers in Vietnamese small and medium firms require strong support from the information system, in addition to changing management thinking and using new management models. To make effective management decisions, enterprises need information. Through effective management, Vietnamese small and

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¹First Author and Corresponding Author. Academy of Finance, Hanoi, Vietnam [Postal Address: 58 Le Van Hien Road, Bac Tu Liem District, Hanoi, 130500, Vietnam] Email: trongco@hvtc.edu.vn

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medium enterprises effectively use resources to bring more added value to customers, thereby increasing their competitive advantage to be able to survive in the market.

In that context, applying management accounting is an important tool to help business managers achieve sustainable development goals. Management accounting has been successfully applied by many businesses around the world, and large-scale enterprises in Vietnam are also applying it quite well. This study aims to examine the influence on the application of management accounting in Vietnamese small and medium enterprises, thereby making some recommendations for small and medium enterprises to apply successfully management accounting.

2. Literature Review

Many studies focus on explaining the causes and effects of factors on the application of management accounting in enterprises (Chenhall & Morris; 1986; Fuadah et al., 2020) These studies have shown the factors affecting the application of management accounting in enterprises including competitive pressure, decentralization, information technology application, level of management accounting, level of interest of managers, qualification of accounting staff.

Recent studies on the effects of factors on the application of management accounting in enterprises in countries with similar characteristics to the Vietnamese economy are as follows.

Ismail and King (2007) researched factors affecting the application of management accounting in Malaysian small and medium enterprises. The authors surveyed 214 firms to gather information on 19 characteristics of the accounting system. The independent variables included in the study are business size, information technology level, managers' understanding of accounting and information technology, advice of government agencies and audit firms, and the existence of internal IT staff. Research results have provided evidence of a positive relationship between the accounting information system and the advice of government agencies and auditing firms as well as the level of information technology, and accounting owners' and managers' understanding of accounting and information technology.

Wu et al. (2010) studied the factors affecting the application of management accounting in Chinese joint venture enterprises with independent variables such as size, foreign partners, knowledge of managers, senior-level, and knowledge of employees. Research results showed that the size and knowledge of senior managers have a significant influence on the application of management accounting in joint ventures and state-owned enterprises in China. However, the authors found no evidence of government influence on management accounting.

Albu and Albu (2012) studied the factors affecting the application of management accounting in Romanian enterprises. They surveyed 109 Romanian enterprises and

identified the factors that affect the application of management accounting. These factors are the business environment, business industry, enterprise size, organizational factors, funding sources, stock listing, competition, tax relationship, training, and competence of management accountants.

Ahmad and Leftesi (2014) examined the extent to which traditional and advanced MAPs were being used in Libyan manufacturing companies and investigated the stages of management accounting evolution in the country. The results of this study indicated that Libyan manufacturing companies rely heavily on traditional management accounting techniques, while the adoption rates of recently developed or advanced tools were rather slow and similar to those presented in other developing countries. model. Chenhall and Langfield-Smith (1998) found the reasons that hinder the development of skills related to management accounting techniques are the lack of a professional and dynamic management accounting environment, the lack of training programs in modern management accounting techniques, the lack of appropriate courses on management accounting, and the lack of updated knowledge about management accounting.

In Vietnam, Nguyen and Le (2020) and Pham et al. (2020) studied the factors affecting the application of management accounting in Vietnamese enterprises. The independent variables include competition, decentralization of governance, business size, age of the enterprise, the field of operation, form of ownership, and market orientation.

3. Research Methods and Model

3.1. Research Methods

The research method used includes a survey through a questionnaire of small and medium enterprises to assess the factors affecting the application of management accounting. Application of management accounting, Competitive pressure, Degree of delegation of responsibility, Application of information technology, Level of interest of managers, and Quality of human resources are measured on a five-level Likert scale. This scale is a type of psychometric response scale in which responders specify their level of agreement to a statement typically in five points: (1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree. The 5-level Likert scale is familiarly used in many studies, so the author also quantifies each factor according to five levels. Quantitative research was carried out with SPSS 25 software.

The scope of the study is all small and medium enterprises in Vietnam. Research data is collected in the form of face-to-face interviews and email interviews with managers, employees working in different positions, managers at all levels, chief accountants, and accountants of 89 small and medium enterprises in Vietnam. The survey results collected 328 questionnaires. After eliminating the invalid questionnaires due to many blank cells, the author chose to use 315 questionnaires.

3.2. Research Model and Hypothesis

From the research overview, the proposed research model is as follows:

$$\text{AMA} = \beta_1 + \beta_2 \times \text{CP} + \beta_3 \times \text{DR} + \beta_4 \times \text{IT} + \beta_5 \times \text{MC} + \beta_6 \times \text{HQ} + E$$

The variables in the model are described in the following table (Table 1).

To evaluate the impact of factors on the application of management accounting in Vietnamese small and medium enterprises, the study uses 5 detailed hypotheses as follows:

H1: Competitive pressure has a positive relationship way to apply management accounting in businesses small and Vietnam.

H2: the degree of decentralization accountability relationship positively to apply management accounting in businesses small and Vietnam.

H3: The application of information technology has a positive relationship with the application of management accounting in Vietnamese small and medium enterprises.

H4: The level of interest of managers has a positive relationship with the application of management accounting in small and medium enterprises in Vietnam.

H5: Quality of human resources has a positive relationship with the application of management accounting in Vietnamese small and medium enterprises.

Table 1: Description of Variables in the Model

| Variable Names | Symbol | Expectations | Observable Variables |
|------------------------------------|--------|--------------|---|
| Apply management accounting | AMA | | 1. Application of management accounting in planning - AMA1 2. Application of management accounting in control - AMA2 3. Application of management accounting in evaluation - AMA3 4. Application of management accounting in output decisive - AMA4 |
| Competitive pressure | CP | + | 1. New competitors always appear - CP1 2. There are often substitute products and services in the market. - CP2 3. Pressure from big customers - CP3 4. Pressure from big suppliers - CP4 5. Pressure from current competitors in the industry - CP5 |
| Decentralization of responsibility | DR | + | Decentralization responsibilities for: 1. Developing new products and services - DR1 2. Hiring and firing managers - DR2 3. Selection of major investments - DR3 4. Allocating budgets - DR4 5. Valuation selling - DR5 |
| Applying information technology | IT | + | 1. Advanced production technology - IT1 2. Sales automation - IT2 3. Automating human resource management - IT3 4. Automating accounting staff accounting - IT4 5. Total quality management - IT5 6. Only in time system - IT6 |
| Management interest level | MC | + | 1. Managers appreciate the usefulness of tools and techniques Management accounting - MC1 2. Managers have knowledge of management accounting tools and techniques - MC2 3. Administrators have a high demand for management accounting applications - MC3 |
| Quality of human resources | HQ | + | 1. Accountants must have national professional accounting certificates (chief accountants, financial directors) - HQ1 2. Management accountants have professional ethics, provide information accuracy - HQ2 3. Management accountants work with a high sense of responsibility - HQ3 |

4. Results

4.1. Testing the Scale

The results of evaluating the reliability of the scale by Cronbach's Alpha show that all scales have reliability greater than 0.6 and the correlation coefficient of the total variable is greater than 0.3. All scales satisfy the conditions for EFA exploratory factor analysis. The reliability of the scales is summed up in the table below (Table 2).

4.2. Exploratory Factor Analysis

4.2.1. The First

Factor analysis was performed with Principle Component extraction, Varimax rotation for the dependent observed variable. The results show that the coefficient $KMO = 0.848$ (condition > 0.5); Significance level and Barlett test = 0.000 (meet condition < 0.05). This shows that EFA analysis is appropriate. The total variance extracted is $60,840\% > 50\%$, and the loading factors are all greater than 0.5, so they are satisfactory (Table 3).

The MC4 scale simultaneously uploads factors with a load factor close to each other (< 0.3), so it will be removed and EFA will be analyzed again.

4.2.2. The Second

Factor analysis was performed with Principle Component extraction, Varimax rotation for the dependent observed variable. The results in Table 4 show that the coefficient $KMO = 0.861$ (condition > 0.5); Significance level and Barlett test = 0.000 (meet condition < 0.05). This shows that EFA analysis is appropriate. The total variance extracted is $61.057\% > 50\%$, and factor loading factors are all greater than 0.5, so they are satisfactory.

Table 3: Results of 1st EFA Analysis

| | Factor | | | | |
|-----|--------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 |
| IT2 | 0.759 | | | | |
| IT4 | 0.735 | | | | |
| IT1 | 0.671 | | | | |
| IT3 | 0.666 | | | | |
| MC4 | 0.588 | | | 0.527 | |
| IT5 | 0.538 | | | | |
| IT6 | 0.528 | | | | |
| DR3 | | 0.856 | | | |
| DR2 | | 0.825 | | | |
| DR5 | | 0.785 | | | |
| DR1 | | 0.774 | | | |
| DR4 | | 0.774 | | | |
| CP5 | | | 0.740 | | |
| CP2 | | | 0.738 | | |
| CP3 | | | 0.713 | | |
| CP4 | | | 0.682 | | |
| CP1 | | | 0.648 | | |
| MC2 | | | | 0.835 | |
| MC1 | | | | 0.814 | |
| MC3 | | | | 0.573 | |
| HQ3 | | | | | 0.766 |
| HQ1 | | | | | 0.660 |
| HQ2 | | | | | 0.611 |

Table 2: Scale Test Results

| No | Variable Name | Symbol | Number of Observed Variables | Cronbach's Alpha | Smallest Total Variable Correlation Coefficient |
|----|------------------------------------|--------|------------------------------|------------------|---|
| 1 | Competitive pressure | CP | 5 | 0.821 | 0.577 |
| 2 | Decentralization of responsibility | DR | 5 | 0.876 | 0.684 |
| 3 | Pressure IT | IT | 6 | 0.814 | 0.459 |
| 4 | Management interest level | MC | 4 | 0.748 | 0.492 |
| 5 | Quality of human resources | HQ | 3 | 0.666 | 0.342 |
| 6 | Applying management accounting | AMA | 4 | 0.823 | 0.601 |

The official scale after EFA processing includes 5 independent variables with 22 observed variables.

4.3. Regression Analysis

The adjusted R^2 reflects the influence of the independent variables on the variation of the dependent variable- in this case, 5 factors (Competitive pressure, Level of responsibility decentralization, Application of information

technology, Level of interest of managers, Quality of human resources) affects 51.0% to management accounting performance in Vietnam enterprises. The Durbin-Watson coefficient is 1,741, in the range from 1.5 to 2.5, so there is no first-order sequence autocorrelation (Table 5).

To check if the regression model is consistent with the data set collected and has a relevant application or not, the authors continue testing the suitability of the model through accreditation ANOVA as follows (Table 5).

Sig test $F = 0.000 < 0.05$, so the regression model evaluates the influence of 5 factors (Competitive pressure, Decentralization of responsibility, Application of information technology, Interest level of managers, management, human resource quality) on the applicability of management accounting in small and medium enterprises.

The model's F-statistic has a Sig value. = $0.000 < 0.05$, which shows that the model fits the data set and can be generalized. The VIF coefficients are all less than 2, so there is no multicollinearity between the components that do not appear in the research model.

Regression results showing the influence of 5 factors on management accounting application of Vietnamese small and medium enterprises are shown in the table below (Table 6).

The sig test value for each independent variable < 0.05 : all variables are significant in the model.

Beta coefficients are all positive: all variables have the same effect on the dependent variable (Figure 1).

The regression model is written as follows:

$$\text{AMA} = 0.766 + 0.204\text{CP} + 0.145\text{DR} + 0.386\text{IT} + 0.051\text{MC} + 0.183\text{HQ} + E$$

5. Conclusion and Recommendations

Based on the results of quantitative research on factors affecting the application of management accounting in Vietnamese small and medium enterprises, the following conclusions can be drawn:

Linear regression equation: The multiples extracted according to the standardized Beta coefficient showed that the information technology adoption status factor had a higher standardized Beta coefficient (0.386) than all the remaining factors. The standardized beta coefficients of

Table 4: Results of 2nd EFA Analysis

| | Factor | | | | |
|-----|--------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 |
| DR3 | 0.856 | | | | |
| DR2 | 0.825 | | | | |
| DR5 | 0.785 | | | | |
| DR1 | 0.776 | | | | |
| DR4 | 0.773 | | | | |
| IT2 | | 0.786 | | | |
| IT1 | | 0.719 | | | |
| IT3 | | 0.697 | | | |
| IT4 | | 0.663 | | | |
| IT6 | | 0.559 | | | |
| IT5 | | 0.535 | | | |
| CP5 | | | 0.753 | | |
| CP2 | | | 0.753 | | |
| CP3 | | | 0.708 | | |
| CP4 | | | 0.682 | | |
| CP1 | | | 0.632 | | |
| MC2 | | | | 0.836 | |
| MC1 | | | | 0.829 | |
| MC3 | | | | 0.573 | |
| HQ3 | | | | | 0.769 |
| HQ1 | | | | | 0.663 |
| HQ2 | | | | | 0.608 |

Table 5: Statistical Results of Factors

| Model | Model Summary | | | | |
|-------|--------------------|----------------|--------------------------|---------------------------------------|-----------------------------|
| | R | R ² | R ² corrected | Estimated Error of Standard Deviation | Durbin Coefficient - Watson |
| 1 | 0.719 ^a | 0.517 | 0.510 | 0.62247 | 1.741 |

^aPredictors: (Constant), HQ, MC, DR, CP, IT; ^bDependent Variable: AMA

Table 5: Suitability Test (ANOVA Model)

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|--------|--------------------|
| 1 | Regression | 127.944 | 5 | 25.589 | 66.040 | 0.000 ^b |
| | Residual | 119.341 | 308 | 0.387 | | |
| | Total | 247.285 | 313 | | | |

^aDependent Variable: AMA; ^bPredictors: (Constant), HQ, MC, DR, CP, IT

Table 6: Multiple Regression Results

| Coefficients | | | | | | | | |
|--------------|------------|--------------------------|------------|---------------------------|-------|-------|---------------------------|-------|
| Model | | Unnormalized coefficient | | Standardized Coefficients | t | Sig. | Multicollinear Statistics | |
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 0.766 | 0.261 | | 2.941 | 0.004 | | |
| | CP | 0.242 | 0.059 | 0.204 | 4.118 | 0.000 | 0.636 | 1.572 |
| | DR | 0.164 | 0.048 | 0.145 | 3.435 | 0.001 | 0.881 | 1.136 |
| | IT | 0.485 | 0.064 | 0.386 | 7.536 | 0.000 | 0.598 | 1.671 |
| | MC | 0.058 | 0.047 | 0.051 | 1.217 | 0.000 | 0.877 | 1.140 |
| | HQ | 0.209 | 0.055 | 0.183 | 3.823 | 0.000 | 0.683 | 1.463 |

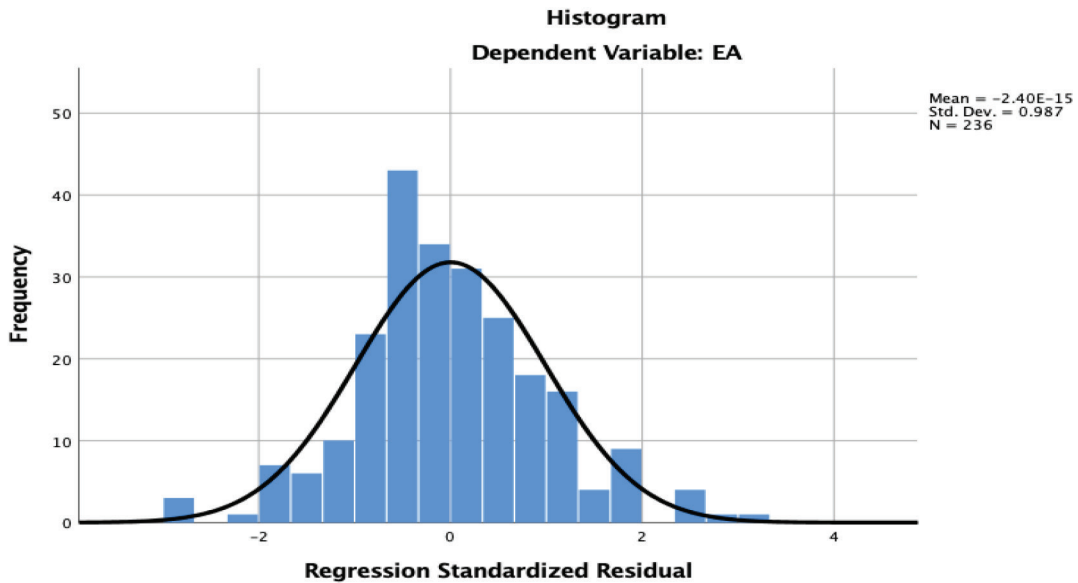


Figure 1: Normalized Residual Frequency Plot

the remaining factors are competitive pressure (0.204), decentralization (0.145), level of interest of managers (0.051), and qualification of accounting staff (0.183). Thus, the status of applying information technology, competitive pressure, and the qualifications of accountants are the factors that have the strongest influence on the application of management accounting in small and medium enterprises. This can be explained that, for small and medium enterprises, the status of applying information technology and good qualifications of accounting staff, and high competitive pressure will positively affect the application of management accounting in Vietnamese small and medium enterprises.

From the results of the study of factors affecting management accounting of Vietnamese small and medium enterprises, the author makes several recommendations to applying environmental accounting, thereby contributing to improving management accounting, which in turn, will improve the operational efficiency of small and medium enterprises as follows:

In view of the rapid advancement of science and technology, particularly information technology, businesses cannot afford to ignore the use of information technology in production and management. The research results show that the application of information technology has had a positive impact on the application of management accounting in the studied enterprises, and this is the factor that has the greatest impact on the application of management accounting. In the current conditions, businesses need to increase the application of information technology to automate the process of data collection and processing, thereby facilitating the application of management accounting techniques.

The qualification of accounting staff has a significant influence on the application of management accounting techniques in small and medium enterprises, especially modern and complex management accounting techniques. Therefore, improving accounting staff's qualifications and updating modern management accounting knowledge is a necessary condition for management accounting techniques in general and modern management accounting techniques in particular. The application of management accounting can support enterprises to effectively use resources, thereby maintaining and increasing the competitive position of enterprises in the market.

Competitive pressure is a factor that influences the use of management accounting in a positive way. Vietnamese small and medium firms are facing increasingly tough competition as globalization and international economic integration expand. Businesses must be aware of the increasing

competitive pressure. Managers must be interested in and dedicated to supporting accountants in applying management accounting approaches to satisfy the information demand for successful corporate governance. This will help to promote the decentralization of governance in the firm, thus assisting businesses to develop sustainably by improving their competitive position

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