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# Factors Affecting the Intention to Apply Management Accounting in Enterprises in Vietnam\*

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## Abstract

By applying behavioral intention theories and the theory of diffusion of innovation in organizations, this study identified several factors influencing the intention to apply management accounting in enterprises in Vietnam. Research data was collected from the questionnaire sent to Vietnamese enterprises in 2019, collecting 542 observations from accountants and directors. The data is, then, synthesized by excel file, conformity check, and processed by SPSS 20 software with descriptive statistics and multiple regression analysis. The results showed four factors that affect the intention to apply management accounting in enterprises in Vietnam: (1) Performance expectancy; (2) Effort expectancy; (3) Perceived trust; and (4) Subjective norms. The study pointed out that the above factors explain 60.618% of the variation of “intention to apply management accounting”, in which, Subjective norms has the strongest impact (regression coefficient is 0.238). The findings also show that raising the awareness of managers and accountants about the role of management accounting, improving the qualifications and knowledge of accountants, and increasing the trust of managers about management accounting information are needed to increase the level of management accounting application in Vietnamese enterprises. The study also proposes recommendations to improve the effectiveness of management accounting for managers in operation and decision-making.

**Keywords:** Behavioral Intention Theories, Decision Making, Intention To Apply, Management Accounting, Innovation Diffusion Theory.

**JEL Classification Code:** M10, M21, M40, M41

## 1. Introduction

In Vietnam, in the late 1990s, management accounting started to be taught at some leading economics universities. Legally, management accounting was officially recognized in Vietnamese Accounting Law, which was updated on June 17, 2003. In fact, the role of management accounting is not essential as management accounting used in companies

is very simplistic, and some organizations do not even incorporate it in their operations (Nghiem, 2015). Similarly, many researchers argue that management accounting has not received much attention from Vietnamese enterprises. The establishment and application of management accounting in enterprises in Vietnam are just at the early stage (Bui, 2015). The organization of enterprises is inadequate and inappropriate, while the macro-economic policies of the government are neither clear nor reasonable. As a result, it leads to a low effectiveness of management accounting applications in enterprises (Vo, 2013).

## 2. Literature Review

### 2.1. Factors Affecting Management Accounting Applications

In Malaysia, Afirah and Noorhayati (2018) applied contingency theory to examine the applications of management accounting in 110 enterprises in Eastern Malaysia. The research results showed three factors

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affecting the application of management accounting, including organizational characteristics, business potential and operational technology. However, in another study in Malaysia, (Ahmad, 2012) concluded that the application of management accounting in enterprises is influenced by factors such as size, market competition, participation of the business owner in management accounting, and advanced manufacturing technology.

In Iran, a study on management accounting application in 340 small and medium-sized enterprises was conducted by Hamid and Arash (2018). The results showed that factors affecting the application of management accounting include organizational characteristics (including size, competitive strategy and management decentralization), business potential (including customer power, advanced technology and market competition), and operational technology (including the complexity of processing systems, advanced manufacturing technology and total quality management).

In Nigeria, Fasesin, Salman and Dunsin (2015) examined factors affecting management accounting in enterprises by applying the research model of Kosaiyakanont (2011). The research showed that factors influencing the management accounting application include characteristics of managers, financial capacity and company structure. The degrees of impact of these factors are similar in different areas.

In Canada, Howard and Alan (2013) carried out a study on management accounting application and found that the effectiveness of management accounting application in these companies depends on the qualifications of accountants as well as knowledge and experiences of the managers. The research also pointed out other factors affecting the application of management accounting including financial capacity and company's investment, market fluctuations and competitors, enterprise size. Specifically, firm size has the highest impact (0.345), competitive market has the lowest and negative impact (-0.125) on management accounting application.

Lobo, Tilt and Forsaith (2004) summarized empirical studies conducted in Australia, the UK and the US to identify the role of factors affecting the changes of management accounting. The results showed that influential factors include: (i) Environmental factors consisting of globalization of markets, advances in information and manufacturing technology, and competition; (ii) Organizational factors that include financial capacity, relationships with customers and suppliers, organizational structures, and cooperation between departments in enterprises.

In the UK, Ojua (2016) investigated the actual status of application of strategic management accounting in Nigerian manufacturing companies. The research proved that the application of contemporary management accounting depends heavily on internal factors of enterprises, including managers' perspectives, accounting qualifications and financial capacity. External factors that affect the application

of management accounting include legal environment, competition, risks, and technological changes. Abdel-Kader and Luther (2008) carried out a study on management accounting application in 658 enterprises in the food and beverage industry in the UK. The results pointed out factors affecting the management accounting application in enterprises, including perceived environmental uncertainty, organizational structure, enterprise size, complexity of processing system, advanced manufacturing technology, total quality management, just-in-time system, corporate strategy, customer power, and perishability level of products

Kosaiyakanont (2011) conducted a study in the North of Thailand on the relationship between perspectives and needs of business owners regarding management accounting information; he found that the greater the awareness of business owners about the importance and usefulness of management accounting, the higher the management accounting needs. In addition, there is a difference in awareness (knowledge) about the importance and usefulness of management accounting application between small enterprises and medium-sized enterprises. In particular, medium-sized enterprises have greater awareness of the importance and usefulness of management accounting as well as have higher management accounting needs compared to small enterprises.

## **2.2. Management Accounting Applications in Vietnam**

There have been much research on the factors affecting the applications of management accounting in Vietnamese enterprises. La, Tran and Tran (2020) applied contingency theory, psychological theory and agency theory to analyze the factors affecting the management accounting applications in manufacturing enterprises in Ben Tre province. The study showed five factors affecting the applications of management accounting in manufacturing enterprises in Ben Tre province: enterprise size, market competition, qualifications of accounting staff, awareness of managers on management accounting, and decentralization. Particularly, enterprise size has the strongest impact on management accounting applications and managers' awareness on management accounting has the weakest impact.

Nguyen, Pham, Tran and Nguyen (2019) investigated factors affecting the applications of management accounting in construction enterprises in Tien Giang province. With a sample of 223 companies, the results pointed out seven factors affecting the application of management accounting in these enterprises with the explanation of 53.1%, including: enterprise size, awareness of managers about management accounting, costs of applying management accounting, corporate strategy, market competition, qualifications of accounting staff, and just-in-time (JIT).

Tran (2020) conducted a study to determine the factors affecting the use of balanced scorecards in Vietnamese commercial banks. Based on 109 respondents, the results showed that the factors of finance, customers, internal process, and learning and development all have a positive impact on the application of balanced scorecard. The result is the scientific basis for Vietnamese enterprises to have a successful application of balanced scorecard to improve their performance.

Le, Bui, Tran and Nguyen (2019) conducted a study of 120 Vietnamese enterprises in the fields of production, trade and services to identify factors affecting management accounting applications of enterprises in this field. The results showed that five out of six factors affecting management accounting application include enterprise size, organizational culture, organizational structure, technology, and human resources. In particular, corporate culture has the strongest impact on the degree of management accounting applications of these enterprises.

Thai (2018) conducted research on factors affecting the applications of management accounting based on contingency theory and pointed out eight factors: competitive pressure, decentralization, enterprise size, proportion of ownership of professional members, information technology, interest of managers with regard to management accounting, and qualifications of management accounting staff.

Nguyen and Le (2018) conducted a study on factors affecting the ability to apply cost management accounting in enterprises in tourism, hospitality in Ba Ria city, Vung Tau province and found six factors: policies and regulations of the government, size and characteristics of enterprise, economic-cultural-social conditions, business sector, staff management, equipment, and qualifications of accounting staff.

Nguyen (2017) examined factors affecting the applications of management accounting in small and medium-sized enterprises in Ho Chi Minh City and identified six factors affecting the application of management accounting, including: awareness of business owners, business strategy, enterprise size, corporate culture, qualifications of accounting staff, and cost of management accounting application.

Tran (2017) carried out research on the applications of management accounting in 90 enterprises in Binh Dinh province. The results of the study showed that the application of management accounting in enterprises is affected by three factors: (i) perceived usefulness of managers regarding technical tools of management accounting; (ii) qualifications of accounting staff; (iii) and enterprise size. These factors are positively associated to the ability to successfully apply management accounting in enterprises.

Tran (2016) conducted a survey on 186 enterprises and examined seven factors affecting management accounting applications in Vietnamese enterprises, namely, enterprise

size, cost of management accounting applications, organizational culture, qualifications of accountants, corporate strategy, ownership structure, market competition, and owner's perspective. These factors explained 34.8% of the impact on management accounting applications in Vietnamese enterprises. The most influential factors are owner's perspective (19.16%), firm size (18.67%) and corporate strategy (18.19%).

Doan (2016) examined more than 220 enterprises to investigate the impact of management accounting applications on corporate performance in the transition economy in Vietnam. The study pointed out that both decentralization and competition have a positive impact on the use of contemporary management accounting techniques, but they have no impact on the use of traditional management accounting techniques. In addition, the study provided that management accounting practices contribute to improving the business performance.

In summary, research on factors affecting the applications of management accounting in Vietnamese enterprises has been conducted during the past five years. Although each study was conducted based on different founding theories and different objects, these studies used quantitative research method to measure the impact of factors on management accounting practices (or costs of management accounting applications and strategic management accounting). In addition, the research scopes of the above studies were selected based on business sectors or specific location, therefore, the results are referential for certain area. Currently, there has been no research investigating factors affecting management accounting in a wide scope including the North, the Center, and the South of Vietnam. Furthermore, such studies did not apply behavioral theory.

Therefore, the purposes of this study include (i) finding out the factors that influence the intention to apply management accounting in Vietnamese enterprises; and (ii) proposing recommendations to encourage Vietnamese enterprises to implement scientific management measures, limiting shortcomings and weaknesses in management.

### 3. Research Methods and Materials

#### 3.1. Theories

##### 3.1.1. Diffusion of Innovations

Diffusion of innovations is a classic work on the spread of new ideas (Roggers, 1995). Particularly, diffusion is a process where innovation is communicated through channels over a period of time among members of an organization. Innovation is the application of new systems, policies, programs, and processes, which can be created internally by an organization or externally by outsiders.

Each member of the organization must make his or her own decision to accept innovation through five steps: Knowledge, Persuasion, Decision, Implementation, and Confirmation. Based on the above steps, Rogers makes three types of innovation-decisions: (1) Optional Innovation-Decision in which an individual can apply or refuse to apply certain innovations; (2) Collective Innovation-Decision in which members of an organization can apply or refuse to apply certain innovations; and (3) Authority Innovation-Decision in which authorities or experts can apply or refuse to apply certain innovations.

After analyzing the mechanism of spreading and acceptance of innovations, Rogers identified key factors that can influence the process and classified them into three main groups:

**(1) Managerial Factors:** managers play a huge role in accepting innovations in an organization through strong supportive attitude, ability to direct, guide and implement strategies.

**(2) Organizational Factors:** six factors influence organizational innovations: Centralization, Professionalism, Standardization, Internal communications, 'Liquid' organization, and Enterprise size.

**(3) External Factors:** an innovative and competitive environment can promote the application of new ideas. Pressure from stakeholders can create many opportunities for strong innovations.

### 3.1.2. Behavioral Intention Theories

The intention to apply management accounting is not only influenced by internal factors of enterprises and environmental factors, but also decided by senior management of enterprises. The diffusion of innovation theory concerns managerial factors, which is "manager's attitude" toward innovation. However, innovation diffusion theory does not go into depth to understand the causes of managers' attitudes. Therefore, in order to systematically investigate factors affecting the attitudes of individuals who have a decisive role in the applications of management accounting in enterprises, it is necessary to apply the theory of reasoned action as a fundamental theory.

#### **Theory of Reasoned Action (TRA):**

The behavioral intention theory is derived from the theory of reasoned action (TRA), which was first introduced by Ajzen and Fishbein (1975) in the field of social psychology. The theory of reasoned action states that people often consider the outcomes of different actions before performing them and they tend to engage in a particular behavior that will lead to expected outcomes. Behavioral intention is the best predictor of actual behavior

and two main factors influencing intention are attitudes and subjective norms. In particular, an individual's attitude is measured by beliefs and judgments towards the outcome of that behavior. Subjective norms are perceptions of influencers who think that the individual should or should not perform a behavior. Subjective norms are formed by two components: the belief in related parties and motivation to comply with their wishes (Ta, 2018).

#### **Theory of Technology Acceptance Model (TAM):**

Theory of technology acceptance model was first studied and introduced in 1986, focusing on clarifying factors affecting users' adoption of new technology (Fred D., Richard, & Paul R., 1989). This model is also inherited from the TRA model, but is more specific, especially, the "Attitude" factor is split into "Perceived usefulness" and "Perceived ease of use". However, TAM does not use the "Subjective norm" factor to assess the impact of the role and belief in information on attitude of users. TAM is widely used to evaluate users' acceptance of information, and explain users' behavior through assessing the impact of information on users in terms of trust, attitude, and intentions. Attitudes towards usage of information can be positive or negative. The TAM is more applicable than the TRA because it explains situations where individuals may not like it but still use the information because of their perceived usefulness (for better outcomes).

#### **Theory of Planned Behavior (TPB):**

The TRA was later expanded and improved by Ajzen (1991) into the Theory of Planned Behavior (TPB). This theory has been tested in many empirical studies and in many different research contexts. According to Ajzen (1991), the introduction of the theory of planned behavior (TPB) comes from the limitations of behaviors over which people have little control. Ajzen believed that individuals themselves controlled their behavior. In the TPB, the central factor explaining behavior is behavioral intention. In other words, actual behaviors are predicted and explained by behavioral intention. The behavioral intention is influenced by three factors, in which two factors "Attitude" and "Subjective norms" are inherited from the theory of reasoned actions. The third factor according to Ajzen, which influences people's intention is "Perceived behavioral control". Perceived behavioral control refers to an individual's perception of ease or difficulty of performing a particular behavior and whether the performance of that behavior is controllable or not. Ajzen proved that the perceived behavioral control factor does not only directly affect behavioral intention, but also indirectly impact the actual behavior. Therefore, the

explanation of the behavioral intention might achieve better results and more precisely by adding this factor.

### ***The Unified Theory of Acceptance and Use of Technology (UTAUT):***

The UTAUT is one of the most impressive models of acceptance of information formulated by Venkatesh, Morris, Davis and Davis (2003), combined with prior research to form a new model which increase the explanation of factors affecting behavior of using information of individuals. There are four key factors directly affecting behavior: Performance expectancy, Effort expectancy, Social influence, and Facilitating conditions. Regarding usage of management accounting information, these factors are understood as follows:

*Performance expectancy:* Managers believe that using management accounting information will benefit them at work. This factor is inherited from the factor “Performance expectancy” in the TAM.

*Effort expectancy:* This factor assesses how easy it is to combine the use information in management work. This factor has the same connotation as “Effort expectancy” factor in TAM model.

*Social influence:* This factor indicates that managers are aware that others believe that they should use management accounting information. This factor is integrated from the “Subjective norms” in the TRA model.

*Facilitating conditions:* This factor represents the current status of infrastructure and technology to support the management use of information. This factor is inherited from the factor “Perceived behavioral control” in the TPB model. In addition to the above factors, the UTAUT proposes factors such as gender, age of the individual (the manager), which was not mentioned in the previous research models.

Recently, there has been much research on the acceptance and use of information of individuals (Taylor & Todd, 1995). For individuals, the research is conducted on two basic trends: evaluation of acceptance and evaluation of the use of information. The first trend focused on assessing the intention to accept information that has been widely applied in psychology and sociology. The second trend looks at the use of personal information, within the scope of an industry, an enterprise or the information technology sector (Pindaro, 2007). The behavior models were used in many studies to predict attitude or action. Nguyen and Bui (2019) assess online shopping behavior by using TAM model. The result indicated that the perceived benefits have the most influence on online trust of Vietnamese customers. Le et al. (2019) did the research to identify the main factors affecting customers’ decision to use mobile banking service in Vietnam by using TAM and UTAUT models. The research indicated the perceived ease-of-use, and perceived trust affecting the intention to use mobile banking in Thanh Hoa province of

Vietnam. (Nguyen O. T., 2020) Nguyen (2020) evaluated the factors affecting the intention to use digital banking in Vietnam from data of 201 customers. By TAM extended model, the study showed that perceived usefulness has a positive effect on attitude and intention to use the service digital banking.

Therefore, regarding management accounting information, the evaluation of the use of information of managers suits the second trend. This can be explained by the fact that management accounting information is provided to managers at their request, ignoring the regulation on recording information under the General Accepted Accounting Principles (GAAP), including non-financial information. Therefore, management accounting information is different from financial accounting information, and not uniformly applicable to different enterprises like financial accounting information. Thus, selecting an appropriate model to evaluate factors affecting manager’s intention to use management accounting information is critically essential.

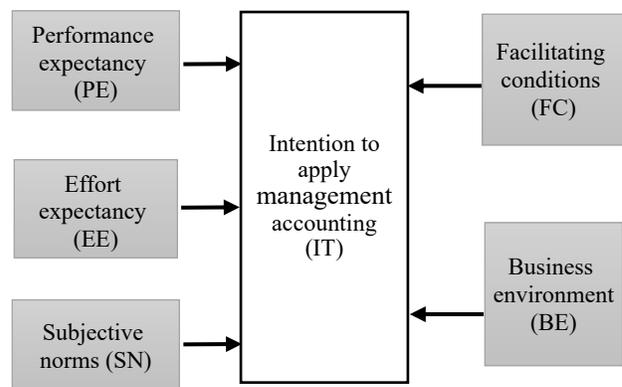
## **3.2. Research Methods**

### **3.2.1. Hypotheses**

Combining the diffusion of innovation (DOI) theory and behavioral intention theory (TRA, TPB, TAM and UTAUT), the study proposes five main factors that influence the “Intention to apply management accounting” by managers: (1) Performance expectancy; (2) Effort expectancy; (3) Subjective norms; (4) Facilitating conditions; and (5) Business environment. The model is explained as follows (see Figure 1):

Performance expectancy, Effort expectancy

Many previous studies showed that individuals use certain information if it is expected to bring specific outcomes, which significantly influences intention and behavior of



**Figure 1:** The proposed research model

information users (Suki & Suki, 2011). In addition, other studies proved that Effort expectancy directly affect intention and behavior of information users. Effort expectancy is an awareness of users about the amount of effort required to use information. On the other hand, the effort expectation of using information influences further learning to raise perceived usefulness (Chen, 2015). Regarding management accounting information, performance expectancy indicates the managers' belief that the provided management accounting information can enhance management outcomes. Effort expectancy shows that a manager can capture management accounting information without effort or ease of understanding, but still achieve certain outcomes. The proposed hypotheses are formulated as follows:

**Hypothesis H1:** The higher the performance expectancy of managers, the higher the intention to apply management accounting.

**Hypothesis H2:** The higher the effort expectancy of managers, the higher the intention to apply management accounting.

#### ***Subjective Norms***

The subjective norms refer to the attitude and perception of managers when using the information, thereby affecting the intention of certain behavior. To assess users' acceptance of the information, subjective norms indicate that the use of information can be positive or negative. The relevant hypothesis is proposed as follows:

**Hypothesis H3:** The higher the subjective norms of managers, the higher the intention to apply management accounting.

#### ***Facilitating Conditions***

Facilitating conditions include the current status of infrastructure and technology, the implementation team, the methods of organizing information of enterprises in order to support the managers' use of information. In addition, other factors including size, age and business sector of enterprises are also considered. The research hypothesis is proposed as follows:

**Hypothesis H4:** the better the facilitating conditions in the enterprise, the higher the intention to apply management accounting.

#### ***Business Environment***

Intention to apply management accounting is influenced by the impact of social environment, family, and friends on the use of management accounting information. In other

words, managers are aware that other people believe that managers should use management accounting information. Intention to use information indicates a person's willingness to perform certain behaviors. The research hypothesis is proposed as follows:

**Hypothesis H5:** The more facilitating the business environment, the higher the intention to apply management accounting.

#### ***Intention to Apply Management Accounting***

The intention of management accounting application is understood as the direct applications of management accounting by managers with modern management techniques, which are more suitable for planning, controlling and making decisions.

### **3.2.2. Methodology**

In order to assess the impact of factors on the intention to apply management accounting in Vietnamese enterprises, the study was conducted through sending questionnaires to accountants and business managers. The questionnaire is divided into three main sectors: (i) Enterprise's information; (ii) Intention to apply management accounting; and (iii) Information on respondent. The measurement scales of variables are inherited from previous studies by Fred D., Richard and Paul R. (1989); Ajzen (1991), and Venkatesh, Morris, Davis and Davis (2003). Details of measurement scales are shown in Table 1.

The research was conducted in following steps:

#### ***Step 1: Pilot testing***

The questionnaire was created on Google docs, and sent to 10 experts who are researchers and 20 business executives and accountants to assess the relevance and ease of understanding of the questions. Afterward, the questionnaire was edited according to the comments received to s the survey.

#### ***Step 2: Sending official questionnaire***

The questionnaire is sent to accountants and business managers via email and hard copies. The convenience sampling method was used through sending the questionnaires to respondents who are friends, relatives, and partners.

#### ***Step 3: Collecting, cleaning data***

The total number of questionnaires sent was 650 and 579 answers was received. After cleaning data, the number of valid answers was 542.

#### ***Step 4: Analyzing data on SPSS 22.***

**Table 1:** Measurement scales

<b>Factors</b>	<b>Cod</b>	<b>Variables</b>
<i>Performance Expectation (PE)</i>	PE1	Management accounting information enables better control of activities
	PE2	Management accounting information enables better control of costs
	PE3	Management accounting information enables better planning
	PE4	Management accounting information brings better business outcomes
	PE5	Management accounting information helps managers avoid risks when making decisions.
	PE6	Knowledge of management accounting is useful for managers
<i>Effort Expectation (EE)</i>	EE1	Management accounting information is easy to understand for users
	EE2	Application of management accounting methods are relatively easy
	EE3	Management accounting reports can be presented simply without relying on regulations
	EE4	Managers who do not have specific training in accounting can still read and understand the management accounting reports
	EE5	Managers who do not have specific training in management accounting can still read and understand management accounting reports
	EE6	People with knowledge of economic management can read and understand management accounting reports
<i>Subjective Norms (SN)</i>	SN1	Managers need to have appropriate understanding of the usefulness of management accounting information
	SN2	Managers appreciate the role of management accounting
	SN3	Application of management accounting is necessary
	SN4	Managers need to apply methods of management accounting to make appropriatedecisions
	SN5	Management accounting information is important in making decisions
	SN6	Not applying management accounting causes difficulties for managers in making decision of selecting the optimal alternatives
	SN7	Making decisions based on intuition and experience without applying management accounting may lead to wrong decisions
	SN8	Not applying management accounting can make managers fail to make decisionspromptly
	SN9	Not applying management accounting can result in insecurity in management
<i>Facilitating Conditions (FC)</i>	FC1	Enterprise size can affect management accounting application
	FC2	Specified organizational structure of enterprise can affect management accounting application
	FC3	The length of operation of enterprise can affect management accounting application
	FC4	To apply management accounting application, enterprises need to have professional management team with specific training in management accounting
	FC5	To apply management accounting application, enterprises need to have required infrastructure and management tools
	FC6	To apply management accounting application, enterprises need to have communication team to guide and reorganize management procedure
	FC7	Professionalism in organizing facilitates management accounting application
<i>Business Environment (BE)</i>	BE1	Competitive pressure is a factor promoting the application of management accounting
	BE2	Instability and fluctuation of the market promote the application of management accounting
	BE3	More diversified information which causes difficulty in selecting optimal alternatives promotes the application of management accounting
	BE4	Professionalism of competitors promotes changes in management of enterprises
	BE5	Information on the importance of management accounting promotes the application of management accounting
	BE6	The development of technology can put enterprises under pressure to change management
	BE7	Legal pressure can affect the intention to apply management accounting in enterprises
<i>Intention (IT)</i>	IT1	We will (continue to) learn about management accounting
	IT2	We will participate in training courses about management accounting to considering the application of management accounting
	IT3	We have intention to apply or continue to apply management accounting
	IT4	We are concerning the application of scientific management methods
	IT5	We need time to prepare before applying management accounting

The data was analyzed using description statistics; exploratory factor analysis, reliability test; regression analysis to test the model and identify factors affecting the intention to apply management accounting.

Details of respondents' information are shown in Table 2 and Table 3.

As regards details about survey respondents (see Table 2), the majority was female (426; 78.6%); the age groups were 30-40 years old (243; 44.8%), followed by the above-40 group (181; 33.4%). Regarding job position, most respondents were accountants (379; 69.9%); the rest were directors (118; 21.8%).

As regards details of surveyed enterprises (see Table 2), a total of 542 answers were collected from three major cities representing three regions of Vietnam: the North (Hanoi), the Central (Da Nang), the South (HCMC). The majority of answers were from Hanoi (203; 37.5%), followed by TP, Ho Chi Minh City (148; 27.3%). Regarding the enterprise size based on the number of employees, most enterprises were small with the number of employees under 100 people (354; 65.3%). In terms of the length of operation, most enterprises have been operating for 5 to 10 years (294; 54.2%).

**Table 2:** Surveyed respondents and enterprises

Demographic statistics		N=542	(%)
Gender	Female	426	78.6
	Male	116	21.4
Age	> 30	118	21.8
	30-40	243	44.8
	< 40	181	33.4
Job position	Director	118	21.8
	Accountant	379	69.9
	Other (Assistant)	45	8.3
Enterprise statistics			
No. of employee	< 100 people	354	65.3
	100 - 500 people	131	24.2
	> 500	44	8.1
	N/A	13	2.4
Age of firm	< 5 years	223	41.1
	5 - 10 years	294	54.2
	N/A	25	4.7
Regions	Hanoi	203	37.5
	Da nang	116	21.4
	Ho Chi Minh City	148	27.3
	Other	75	13.8
Total	542	100	Total

**Table 3. Rotated Component Matrix<sup>a</sup>**

Cod	Component						
	1	2	3	4	5	6	7
PE1	.811						
PE2	.775						
PE6	.746						
PE3	.734						
PE5	.733						
PE4	.711						
EE5		.816					
EE4		.793					
EE2		.687					
EE3		.674					
EE6		.642					
EE1		.567					
SN9			.768				
SN7			.740				
SN8			.720				
SN6			.716				
SN4			.501				
SN2				.735			
SN1				.725			
SN3				.632			
BE1				.597			
SN5				.551			
BE5					.673		
BE3					.665		
BE6					.629		
BE2					.627		
BE7					.592		
BE4					.513		
FC6						.777	
FC5						.762	
FC4						.672	
FC3						.559	
FC1							.794
FC2							.754

## 4. Research Results

### 4.1. Exploratory Factor Analysis

To check whether the research data is appropriate for EFA, KMO and Bartlett's test are conducted. After removing FC7 variable from the preliminary research, 34 observed variables were included in the analysis. The results showed that the KMO = 0.898 and the significance level of Bartlett's test was  $0.000 < 0.05$ . This indicates that data was appropriate for factor analysis.

The Principal Component Analysis (PCA) was conducted on independent variables with Eigenvalue values greater than 1. The results showed that the total variance explained is 60,618. It indicates that the seven factors explain 60,618% of the variation of the dependent variable (see Table 3).

Then Varimax rotation was conducted, factors withdrawn from this method are explained as follows:

- Factor 1 "*Performance expectation\_PE*" and factor 2 "*Effort expectation\_EE*" stay the same.
- The initial Factor 3 was "*Subjective norms\_SN*", however, four variables are deleted and divided into two new factors. Now Factor 3 is "Perceived Trust\_PT" with five observed variables SN4, SN6, SN7, SN8, SN9. Perceived trust indicates managers' belief that using management accounting information benefits management work (Chong et al., 2012).

Factor 4 is "*Subjective norms\_SN*", including five observed variables: SN1, SN2, BE1, SN3, SN5.

- Factor 5 is "*Business environment\_BE*". One observed variable BE1 is deleted, there are six variables left.
- Factor 6 is "*Facilitating conditions\_FC*". Two observed variables are deleted, there are four variables left: FC6, FC5, FC4, FC3.
- Factor 7 includes 2 observed variables regarding enterprise size and specific features of enterprise. So Factor 7 is "*Firm Features\_FF*": FC1, FC2.

### 4.2. Reliability

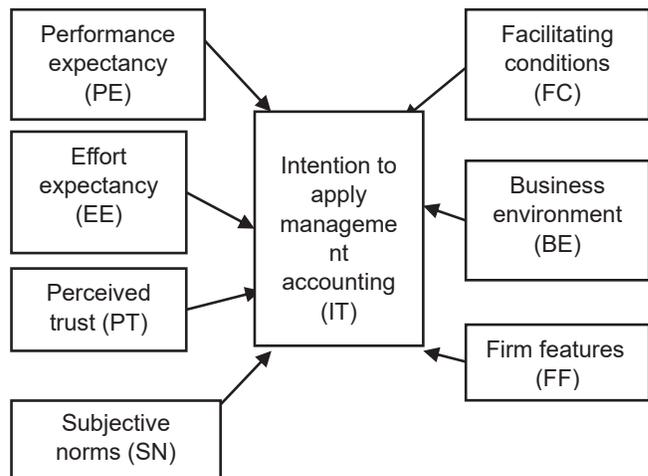
After performing EFA, the research model has two new factors. The reliability tests are conducted again and results are presented in Table 4.

Table 4 shows that all scales have Cronbach's Alpha coefficient  $> 0.6$  and the correlation coefficient of the total variables are greater than 0.3, which indicates reliability in each group of factors. Thus, with two new factors, the original research model was revised as Figure 2 follows:

Based on the above model, research hypotheses are proposed as follows:

**Table 4:** Reliability Coefficients

Scale	Code	N of Items	Cronbach's alpha
Performance expectancy	PE	6	0.886
Effort expectancy	EE	6	0.833
Perceived trust	PT	5	0.839
Subjective norms	SN	5	0.829
Facilitating conditions	FC	4	0.721
Business environment	BE	6	0.765
Firm features	FF	2	0.693
Intention to apply management accounting	IT	5	0.863



**Figure 2:** The adjusted research model

H1: The higher the performance expectancy of managers, the higher the intention to apply management accounting.

H2: The higher the effort expectancy of managers, the higher the intention to apply management accounting.

H3: The higher the perceived trust of managers, the higher the intention to apply management accounting.

H4: The higher the subjective norms of managers, the higher the intention to apply management accounting.

H5: The better the facilitating conditions in the enterprise, the higher the intention to apply management accounting.

H6: The more facilitating the business environment, the higher the intention to apply management accounting.

H7: The features of enterprises have an influence on the intention to apply management accounting.

### 4.3. Regression Analysis

#### 4.3.1. Correlation Analysis

Before performing the regression analysis, correlation analysis is conducted to examine the linear relationship between variables, especially examining the relationship between each independent variable and dependent variable, and between independent variables. The correlation test results are shown in the Table 5. The correlation matrix in Table 5 showed that correlation coefficients between dependent variable “Intention to apply management accounting” and independent variables are statistically significant at 99%. Therefore, independent variables are appropriate for regression analysis.

#### 4.3.2. Regression Analysis

Regression analysis is conducted using Stepwise selection, which is shown in Table 6. The results showed the impact of each factor on “intention to apply management accounting” as follows:

**Table 5:** Pearson Correlation Coefficients of the Independent and Dependent Variables

	IT	SN	PE	EE	PT	BE	FC	FF
IT	1							
SN	.461**							
PE	.374**	.559**						
EE	.316**	.312**	.338**					
PT	.401**	.602**	.404**	.421**				
BE	.290**	.464**	.343**	.346**	.449**			
FC	.149**	.283**	.174**	.278**	.276**	.383**		
FF	.195**	.276**	.283**	.082	.162**	.365**	.297**	1

\*\* Significant at the 0.01 level (2-tailed).

\* Significant at the 0.05 level (2-tailed).

**Table 6:** Multiple Regression Analyses

	B	t-Sig.	Tolerance	VIF	F-Sig.	Adjusted-R2
(Constant)	1.658**	0.000				
Subjecte norms (SN)	0.238**	0.000	0.505	1.981	0.000	0.255
Effort expectancy (EE)	0.105**	0.002	0.790	1.266		
Performance expectancy (PE)	0.129**	0.002	0.617	1.622		
Perceived trust (PT)	0.101**	0.016	0.586	1.708		
N = 542; **P ≤ 0.01						
B: Unstandardized Coefficients						

Based on the regression results, “intention to apply management accounting” is affected by four factors: “Subjective norms”, “Effort expectancy”, “Performance expectancy”, and “Perceived trust”. The Adjusted R Square = 0.255, which indicates that independent variables can explain 25.5% of variation of dependent variable. The F-test has significance value = 0.040 < 0.05, this means the regression model is good fit for the research data and can be used to predict the impact of variables with significant accuracy. The intercepts, regression coefficient of independent variables are statistically significant as their p values are smaller than 0.05. In addition, all independent variables have Tolerance values greater than 0.1 and VIF coefficients of independent variables are smaller than 10, thus, there is no multicollinearity. However, there is not enough evidence about the impact of “Business environment”, “Firm features”, “Enterprise conditions” on “Intention of management accounting application”

Therefore, the regression equation reflecting relationship between independent variables and intention to apply management accounting is presented as follows:

$$IT = 1.658 + 0.238*SN + 0.105*EE + 0.129*PE + 0.101*PT$$

In the above model, the Subjective norm (SN) has the strongest impact on the intention to apply management accounting with the largest regression coefficient of 0.238. It is followed by factors with respective coefficients: Performance expectation (PE) (0.129), Effort expectation (EE) (0.105), and Perceived trust (PT) (0.101).

## 5. Discussion and Recommendations

### 5.1. Discussion

From the adjusted research model, this study investigated seven hypotheses. The study confirmed four hypotheses. These hypotheses are analyzed based on the behavioral theory of managers in enterprises in Vietnam as follows:

*Firstly*, performance expectancy has a positive impact on the intention to apply management accounting. Hypothesis H1 is confirmed with 95% confidence. In other words, the higher the performance expectancy of management accounting, the higher the intention to apply management accounting. This result is consistent with previous studies of Kosaiyakanont (2011); Nguyen, Pham, Tran and Nguyen (2019); Nguyen (2017); Tran (2017); Tran (2016). Thus, in order to motivate managers to have a positive attitude towards the application of management accounting, it is necessary to strongly influence their perception of the effectiveness and usefulness of management accounting.

*Secondly*, effort expectancy has a positive impact on intention to apply management accounting. Hypothesis H2 states that there is a positive relationship between effort expectancy and the intention to apply management accounting. The test results confirmed hypothesis H2 with 95% confidence. This can be understood that the higher the effort expectancy of managers, the higher the intention to apply management accounting. On the contrary, the more they find it difficult to apply, the less confident they are when applying management accounting. This result is completely consistent with the practice as well as the research results on the application of management accounting by Nguyen (2017); Tran (2017); Tran (2016). Thus, in addition to "Performance expectation", another factor that has an impact on the "Intention to apply management accounting" is "Effort expectation". Therefore, in order to increase the ease of management accounting application for managers, accountants need to present necessary information in an easy-to-understand manner, focusing on the nature so that administrators can understand.

*Thirdly*, perceived trust of managers has a positive impact on the intention to apply management accounting. Hypothesis H3 states that if managers have confidence in the effectiveness of management accounting, they are more likely to apply management accounting. The study confirms hypothesis H3 with 95% confidence. In other words, the higher the trust of managers in management accounting information, the higher the intention to apply management accounting is. This conclusion is consistent with the statements of behavior theories such as: the Theory of Reasoned Actions (TRA); the Theory of Planned Behavior (TPB); the Theory of Technology Acceptance Model (TAM) and research results of Kosaiyakanont (2011).

*Finally*, there is a positive relationship between subjective norms and the intention to apply management accounting. Hypothesis H4 states that subjective norms have a positive impact on the intention to apply management accounting. The study confirmed this hypothesis with 95% confidence. In other words, if managers have proper awareness of management accounting and appreciate

management accounting in management, their intention to apply management accounting in enterprises is higher. This result is consistent with studies of Fasesin, Salman and Dunsin (2015); Ojua (2016) and Thai (2018) who stated that the managers' interest in management accounting will increase the application of management accounting

## 5.2. Recommendations

The fact is that management accounting information is not appreciated in Vietnamese enterprises; both managers themselves and management accounting staff fail to see its utility (Nghiem, 2014; Vo, 2013). In order to contribute to promoting the efficiency of management accounting information to managers, the study suggests the following recommendations:

*Firstly*, it is necessary to increase managers' and accounting staff's awareness of the importance of management accounting. For managers, management accounting information has not played an important role in administration and decision-making because managers haven't seen the usefulness of management accounting information. Therefore, to create a habit of using management accounting information instead of using personal experience, accountants should provide high-quality information – not just information about sales, expenses, profits, liabilities, and other such basic budgeting information. In particular, accountants should provide information to serve the decision-making goals such as break-even point analysis, cost-volume-profile analysis, accountability or long-term information such as the balanced scorecard. In addition, accountants should not just provide information about the past production activities, but also suggest future trends and events.

*Secondly*, it is important to improve the quality of accountants; the higher the quality of accountants, the higher the quality of the information they can deliver, especially estimates and analysis report information. Furthermore, accountants who are better educated will provide better information and consultation services to managers. Management accounting information with contemporary techniques is changing rapidly; therefore, accountants need to acquire knowledge of management accounting to provide better information to managers.

*Thirdly*, managers should be encouraged to acquire more accounting knowledge. Knowledge about accounting in general and management accounting in particular is critical for management because it serves the understanding and use of information to make decisions. Accounting information possesses quite a lot of jargon; therefore, by understanding the nature of information, managers can interpret and apply that information in their own work.

Finally, it is critical to increase trust, awareness, and motivation of managers to use management accounting information. Pressure from uncertainty, market fluctuations, diversified information, competitors' campaigns, and the development of technology may have an impact on the intention to apply management accounting in enterprises.

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