

## Factors affecting the implementation of Strategic Management Accounting (SMA): An Empirical evident from medium - sized enterprises of Vietnam

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### ABSTRACT

The research is conducted for assessing factors affecting the implementation of Strategic Management Accounting (SMA) of medium - sized enterprises in Vietnam. Data was collected from 235 medium - sized enterprises of Vietnam for the period from 2019 to 2021. Based on quantitative research methods, the implementation of Strategic Management (SMA) and factors affecting this implementation were scrutinized. The results indicate that the implementation of Strategic Management (SMA) of medium - sized enterprises in Vietnam is influenced by factors: Technology level, Quality of accountants, Competitive level, Business strategy, and Business risk. Through findings, some recommendations are given for improving the implementation of SMA of medium - sized to satisfy the demand for information of the stakeholder in the context of integration.

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## 1. Introduction

Changes in the competitive environment and structure of organizations affect their performances and encourage strategic management accounting (SMA) practices in order to achieve a better fit with these changes. The process of deepening, broadening integration of Vietnam into the world economy has brought about great achievements for medium – sized enterprises in Vietnam. These companies have more opportunities to enter the global market, and the world financial market to mobilize foreign capital at cheaper rates. In this context of fiercer competition, the accounting profession has witnessed significant changes due to globalization, digital transformation, regulations and competitions. The role of SMA has expanded to include a focus on helping managers to solve problems and improve their competitive position. The focus is now on assisting the formation, selection and operational implementation of strategies. The world economy in general and Vietnam's economy, in particular, are constantly developing, creating competitive pressure on businesses. With the explosion of science and technology 4.0, artificial intelligence not only creates development opportunities but also poses many challenges and difficulties. As of 2020, Vietnam currently has about 800,000 enterprises operating in the economy, of which 98% are SMEs, contributing 40% of the country's GDP. However, the SMEs still face many limitations, especially in the period when Vietnam is conducting extensive international integration. Faced with that situation, SMEs need to actively innovate, apply new management and control tools, and bring high efficiency, especially Strategic Management Accounting (SMA) - An effective tool for management. This is a relatively new strategic management tool in Vietnam, which not only quickly provides leaders with complete and comprehensive information on internal resources and external orientation, but also contributes to creating value for customers and shareholders as well as enhancing the competitive position of enterprises. The study of factors affecting the implementation of SMA in enterprises is also of great interest to scholars, however, the results are still diverse. While some scholars evidenced that the SMA is aimed specifically at improving organization outcomes, providing forward – looking information to assist management in decision making

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(Alsayegh, 2020; Lu et al., 2017; Sorros et al., 2017). However, these studies have been conducted for companies in developed countries which may have many different characteristics with medium - sized enterprises of Vietnam. For Vietnam, there have been several studies on factors affecting the implementation of SMA (For instance, Tran & Thao, 2020), factors affecting the use of management accounting (Nguyen & Doan, 2016). Authors found that there are some factors like behavior and organization factors, technical factors, corporate structure factors, and corporate culture factors. Therefore, our research was conducted for raising awareness about the importance of Strategic Management Accounting of medium - sized enterprises of Vietnam and promotion for SMA.

The remainder of the paper is structured as follows. Section 2 presents theoretical background and research hypotheses. Section 3 describes our sample and research methodology. Section 4 presents the empirical results and robustness tests. Section 5 discusses the findings and provides a conclusion.

## **2. Literature review and hypothesis development**

### *2.1. Literature review*

SMA uses a wide range of tools and techniques that support each stage of the SMA process. So, SMA becomes an enabler, or a catalyst, that helps initiate and drive SMA activity. SMA helps organizations in their desire to create long-term, sustainable value that is of benefit to all stakeholders. use of the role SMA plays increasing, managing, and protecting value, so it has received much attention from both academics and business executives. The research on SMA is classified according to 2 main research directions which are: (1) Research on applying SMA in two aspects: Firstly, studying the importance of applying SMA; Second, researching and applying SMA with specific technical tools. (2) Research the factors affecting the application of SMA. According to Bromwich (1990) the author proposed that enterprises should apply SMA to analyze the advantages of comparative levels, thereby seeing an increasing number of products produced compared to competitors in the industry. Rosli et al., 2014, have shown that the element of Business strategy and Information technology has a significant relationship with the use of SMA. In addition, the use of SMA also has a significant relationship with the performance of enterprises. Al-Mawali, 2015, concludes that the higher the perceived environmental uncertainty, the greater the use of SMA, and shows that SMA is applied more in market-oriented companies. The research of Nair (2017), affirmed that the organization size and advanced production technology have significant relationships with management accounting practices in Malaysia while rejecting the other two factors as the Level of qualification of accounting and Competitive level have no impact on management accounting practice in Malaysia. Cescon et al. (2019) reported that SMA usage does not depend on strategy type and only marginally depends on geographic orientation while affirming that the use of SMA is positively related to external factors such as environmental uncertainty and competitive forces.

In Vietnam, the research related to SMA implementation mainly involves theory and testing applied in some enterprises. Recently, there have been a number of studies concerning the factors affecting the applicability of SMA. The study by Anh, 2012, analyzed survey data of 220 SMEs, showing that the Competitive level factor and Decentralized management have a proportional impact with the use of SMA. The analysis results also show that the application of SMA has a proportional relationship with the performance of enterprises. The reseach of Van and Lan (2020), shows that Organization's structure, Business strategy, and Market orientation affect the application of market-oriented SMA techniques. Meanwhile, the factors of an enterprise's characteristics, Organization's structure, Market orientation, and Information Technology level affect the application of SMA techniques towards cost and performance evaluation. Quy, 2021, focuses on surveying manufacturing enterprises in the Southeast region - Vietnam, concluding on the factors affecting the application of SMA in production enterprises, including Competitive level; Accountants participate in making quality decisions; Building business quality; Company size; Technology level. On the other hand, the study also shows that the Decentralized management does not affect the application of SMA in manufacturing enterprises in the Southeast region - Vietnam. The studies that thoroughly investigate and point out the factors affecting the applicability of SMA in SMEs in Vietnam are still limited. In short, there have been many studies related to SMA implementation. However, most of these studies were conducted in developed countries. There are a small number of studies in Vietnam about the factors that influence the success of the SMA implementation, but these studies are limited to assess whether correlations between individuals affect the ability to manipulate the SMA without measuring how specific the impact is. Therefore, developing empirical studies to prove the importance of SMA implementation to the performance of enterprises is necessary in promoting business administrators to apply the SMA into practice in the future. Thus, this study attempts to bridge these apparent gaps in prior research, by contributing to our understanding of contingency factors, SMA implementation of medium - sized enterprises in Vietnam. Therefore, the research is a breakthrough, a new point compared to other research before.

### *2.2. Theoretical Background*

There are many studies related to SMA that have introduced the concept of SMA from many angles. Although there is still no formal concept, SMA has the three biggest commonalities: (1) SMA is oriented to information collected from outside; (2) Using both financial and non-financial information, and (3) SMA is built for a long period at the enterprise. The research of Bromwich, 1990, clearly stated the role of SMA in allowing leaders to monitor performance. Some articles have

examined the characteristics of the role of SMA in cooperation with several management, control, and strategic-oriented functions. The role of the SMA is as an analyst of production and business activities, a business consultant, and a strategic consultant. According to Ojra, 2014, SMA techniques are classified into 5 main categories: (1) costing, (2) planning, controlling, and measuring results, (3) strategic decisions, (4) competitor accounting, (5) buyer accounting. At present, most enterprises only partially apply SMA, that is, only apply some tools that enterprises think are appropriate and effective for their operations. SMA has just appeared in Vietnam, only focusing on cost-related issues to provide more specific and detailed information for managers, so for enterprises in Vietnam, especially, medium - sized enterprises of Vietnam, the use of SMA techniques will be a new and long-lasting story. To explain the degree of success when implementing SMA, the study employed the following theories:

*Contingency theory:* According to Chenhall, 2006, the foundation here is understood as the ability to cope with the uncertainty of the business environment. An organization's performance is affected by many factors such as environment, strategy, technology, size, and culture, and especially the reasonableness of the model chosen by the organization. Contingency theory developed and was used by management accounting researchers in the mid-1970s to the 1980s. Contingency theory applied in the field of SMA mainly studies each relation of SMA with the environment in which the business is participating. It can be understood that, if an enterprise wants to establish an appropriate SMA system, it must be based not only on its own characteristics but also on the environment in which the business is operating. According to Gordon and Miller (1976), contingency theory will be applied in research to explain the impact of two factors Environmental (Level of competition) and Organization's characteristics (Building business strategy, Company size, Technology level) to organizational behavior to apply SMA to help managers implement strategic business management.

*Representative theory:* The theory is that the relationship between shareholders and the manager is a representative relationship or trust relationship Brown et al., 2004. Both shareholders and company managers want to maximize their benefits, so it is reasonable to believe that the company manager will not always act in the best interest of the employer, or other stakeholders. The conflict then arises when the information is incomplete and asymmetric between the subject and the agent in the company, because both sides have different interests. The theory of agency is the basis for the management decentralization to build the SMA system for each unit and department in accordance with the organizational structure of the enterprise to apply the appropriate SMA to improve the performance of the company. each division, ensuring the interests of investors and shareholders. Therefore, through this theory, it helps the author to form an idea about the impact of the factor Decentralized management on the ability to apply SMA in enterprises.

*Institution theory:* According to Berthod (2016), it builds on the analysis of design and organization. Therefore, the enterprise can be seen as a miniature institution, with all the characteristics of the larger common institution. Institution theory that explains the change in enterprise behavior due to impact of the external operating environment, therefore, each enterprise exists in a business environment with certain cultural and technological characteristics. Institution theory is used to explain the implementation of SMA, according to Scapens and Roberts (1993), management accounting is seen as a set of rules and habits, in addition to other habits and rules established in the application, which ensures duplication and attachment of the entity's activities. When managers are aware of the benefits of implementing SMA techniques to improve organization's performance in a competitive environment, the spillover mechanism will motivate the unit to implement SMA. Institution theory deals with power from two angles: the power of management accountants to propose and introduce new SMA techniques based on established business plans and goals. According to institution theory, if there is no coercive mechanism from the law or pressure from the competitive environment, technology, professional organizations and social principles, the members of the enterprise are afraid of change or not yet aware of the benefits of SMA, may use system power to hinder the implementation of SMA, to protect their interests and inherent stability. Therefore, institutional theory is used to explain the impact of technology, and management accounting qualifications on SMA implementation of medium - sized enterprises of Vietnam

### 2.3. Hypothesis development

Synthesized from the results of previous research models, the authors predict the factors affecting the implementation of medium - sized enterprises of Vietnam. The model was established and developed based on the model of previous studies, the author consulted experts and adjusted it to suit the conditions of medium - sized enterprises of Vietnam. Uncertainty theory has shown that uncertain factors will affect the application of SMA. Research by Anderson (1999) and Majid and Ali (2013) have shown that the higher the hierarchical structure of management, the more complex it is required to operate a management accounting system (Abdel-Kader & Luther, 2008; Ojua, 2016). In Vietnam, there are also many studies showing the close relationship between Decentralized management and the operation of SMA in enterprises. Managers at all levels in the enterprise always have to take more responsibility for planning, operating, and controlling related activities of the enterprise. Therefore, management tools, including SMA, if used effectively, can help complete the assigned tasks. Therefore, the study proposes the first research hypothesis as:

**H<sub>1</sub>:** *The level of decentralized management positively affects the applicability of SMA.*

Research by Anderson, 1999 has shown the quality of accounting human resources is an indispensable factor in the effective and successful application and operation of SMA in enterprises because they are the people who directly participate,

practice, and provide information at the request of the leader. Studies in the world such as Haldma & Lääts, 2002; Ahmad, 2012; and Le, 2020, in Vietnam all show a positive impact of the qualification of accounting personnel. accounting for the application of SMA in enterprises. Therefore, the hypothesis about the quality of accounting human resources is given as follows:

**H<sub>2</sub>:** *Quality of accountants positively affects the applicability of SMA.*

Research by Anderson (1999), Upping and Oliver (2011) and Majid and Ali (2013) all show that technology is an important internal factor for enterprises in the current era, especially for the management system of the unit. According to Hyvönen et al. (2008) and Ahmad (2012), the level of technology has a positive impact on the operation and application of management accounting. Quy, 2021; Le, 2020 also pointed out that the level of technology has a close relationship with the application of SMA in production enterprises, which is one of the core factors affecting the industry. Organization and technical expansion of SMA. Therefore, the authors propose the following hypothesis:

**H<sub>3</sub>:** *Technology level positively affects the applicability of SMA.*

The research of Kober et al. (2007) believed that the application of SMA will help build a reasonable business strategy. The search of Petera and Šoljaková (2020) argued that differentiation strategy positively affects the use of SMA. In today's increasingly competitive market, building a suitable and flexible business strategy will help businesses have great advantages, especially for medium - sized enterprises. Therefore, enterprises need to have more SMA tools to support providing information for strategic planning. Therefore, the hypothesis put forward is:

**H<sub>4</sub>:** *Business strategy positively affects the applicability of SMA.*

Many authors have demonstrated the relationship between the level of competition and the application of management accounting or SMA. Collier & Gregory, 1995 point out that the level of competition in the industry in which the unit operates, the greater the need to apply SMA of the units to make decisions. Anh, 2012; Quy, 2021, also stated in their research that the level of competition has a positive influence on the application of SMA. Thus, the fiercer the competition, the more enterprises must increase their use of SMA tools to provide information to ensure the successful implementation of the proposed business strategy. Based on that, the authors propose the following hypothesis:

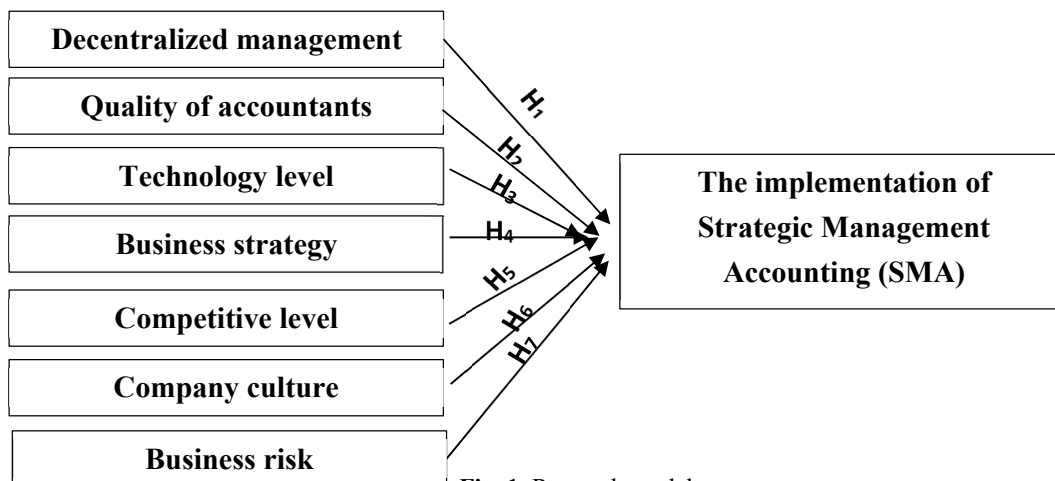
**H<sub>5</sub>:** *Competitive level positively affects the applicability of SMA.*

Influence of company culture on the success of the application of SMA was tested in several topics, (e.g. Erserim, 2012; Hung, 2016; Le, 2020). An organization where employees receive support from leaders, employees have a close relationship, help each other in their work, and strive for the common goal of the company will make the application of SMA easy to achieve. Therefore, it can be expected that company culture affects the implementation of SMA, the proposed hypothesis is:

**H<sub>6</sub>:** *Company culture positively affects the applicability of SMA.*

The Theory of Market Instability in research Hwang, 2005; Ojra, 2014 concluded that market perception affects the information desire of the unit. To minimize risks, businesses need to have foresight, analyze and grasp the market situation to come up with timely solutions. Therefore, the authors expect business risks to affect the application of SMA as follows:

**H<sub>7</sub>:** *Business risk positively affects the applicability of SMA.*



**Fig. 1.** Research model

## 2.4. Research methodology

The method used in this research is a mixed research method, which combines qualitative research methods and quantitative research methods.

*Qualitative research method:* The qualitative research method is carried out by studying and analyzing previous topics in combination with the theoretical basis, then consulting experts in the field of management accounting, the leader in medium - sized enterprises. The survey was sent and was discussed by 7 experts on the online platform. The results obtained show that 7/7 experts agree that all 7 factors have an impact on the ability to apply SMA to medium - sized enterprises in Vietnam. In addition, the research team also adjusted the scale of the variables to meet the recommendations from experts.

**Table 1**

Content of the adjusted factor scale

| <i>Factor</i>                    | <i>Code</i> | <i>Observed variables</i>   |
|----------------------------------|-------------|---|
| <b>Decentralized management</b>  | PC1         | The leader or department head is the person who makes important decisions |
|                                  | PC2         | Important decisions made by employees must be approved by the leader      |
|                                  | PC3         | Employees cannot make their own decisions without authorization           |
| <b>Quality of accountants</b>    | NL1         | High qualification  |
|                                  | NL2         | Extensive work experience   |
|                                  | NL3         | Regularly trained professionally  |
|                                  | NL4         | Accountants also contribute to building business strategies               |
| <b>Technology level</b>          | CN1         | Advanced accounting system  |
|                                  | CN2         | Focus on investing in technology development in all activities            |
|                                  | CN3         | Technology is the foundation for engineering                              |
| <b>Business strategy</b>         | CL1         | Built-in accordance with the characteristics and goals                    |
|                                  | CL2         | Flexible construction   |
|                                  | CL3         | Specific analysis before putting into application                         |
| <b>Competitive level</b>         | CT1         | Compete on suppliers  |
|                                  | CT2         | Compete on human resources  |
|                                  | CT3         | Compete on market share   |
|                                  | CT4         | Compete on product quality  |
|                                  | CT5         | Compete on product diversity  |
|                                  | CT6         | Compete on price  |
| <b>Company culture</b>           | VH1         | Employees receive support from leaders                                    |
|                                  | VH2         | The departments support each other  |
|                                  | VH3         | All members strive for common development goals                           |
| <b>Business risk</b>             | RR1         | Natural disasters, epidemics happen suddenly                              |
|                                  | RR2         | An economic crisis occurred   |
|                                  | RR3         | The legal environment can change at any time                              |
| <b>The implementation of SMA</b> | SMA1        | Improve the quality of strategic decisions                                |
|                                  | SMA2        | Perform accounting and management accounting                              |
|                                  | SMA3        | Identify activities in the business                                       |
|                                  | SMA4        | Cost calculation and strategic planning                                   |
|                                  | SMA5        | Improve competitiveness   |

Source: Compiled by the authors

*Quantitative research method:* The research sample is selected from the medium - sized enterprises of Vietnam listed on the stock market from the Website <http://finance.vietstock.vn>, the research team selects the enterprises that are the clients of the independent audit. The sample selected to send the questionnaire was 305 medium - sized of 668 enterprises, accounting for 45.66% of the total listed Vietnamese medium - sized enterprises as of March 31, 2021. The survey period was from April 2021 to August 2021. The number of survey questionnaires distributed was 305 votes, 235 votes were collected, and the number of valid votes included in the study was 101 votes. Preliminary survey forms are built and sent to the survey subjects through the Google forms application (accessed at: <https://docs.google.com>). The research sample is summarized as Table 2, the results show that the respondents to the question are all chief accountants or chief financial officers of the enterprise, have worked at the enterprise for quite a long time, on average from for 3 years or more, this is someone who knows very well about financial and accounting activities at the business, so their answers are guaranteed to be reliable. The scale of research concepts used in this study is inherited from previous studies. The scale of Decentralized management includes 3 measures inherited from the study of (Abdel-Kader & Luther, 2008; Quy, 2021); the Quality of accountants scale includes 4 measurement items inherited from the study of (Ahmad, 2012; Haldma & Lääts, 2002; Le, 2020); The Technology level scale consists of 3 measurement items inherited from the study of (Ahmad, 2012; Hyvönen et al., 2008; Van & Lan, 2020); Business strategy scale consisting of 3 measurement items inherited from the study of (Erserim, 2012; Hung, 2016; Le, 2020); Competitive level scale consisting of 6 measures inherited from the study of (Al-Mawali,

2015; Cescon et al., 2019; Ojra, 2014); Company culture scale includes 3 measurement items inherited from the study of (Cadez & Guilding, 2008; Cinquini & Tenucci, 2010; Ojra, 2014); Business risk scale includes 3 measurement items inherited from the study of (Al-Mawali, 2015; Cescon et al., 2019; Ojra, 2014). The scale of the implementation of SMA of medium - sized enterprises in Vietnam includes 5 measurement items inherited from the study of (Cadez & Guilding, 2008; Cinquini & Tenucci, 2010; Ojra, 2014); A total of 8 concepts and 30 items are designed in the form of a 5-point Likert scale with: 1- Completely disagree; 2 - Disagree; 3- Neutral; 4 - Agree; 5 - Totally agree.

**Table 2**  
Descriptive information

| Criterion                            |                         | Frequency | Percent (%) |
|--------------------------------------|-------------------------|-----------|-------------|
| Position                             | Chief Financial Officer | 85        | 36.17       |
|                                      | Financial Manager       | 92        | 39.15       |
|                                      | Other                   | 58        | 24.68       |
| Years of working in the organization | Below 3 years           | 9         | 3.83        |
|                                      | 3-8 years               | 108       | 45.96       |
|                                      | Above 8 years           | 118       | 50.21       |
| Age of organization                  | Under 3 years           | 2         | 0.85        |
|                                      | 3-8 years               | 101       | 42.98       |
|                                      | More than 8 years       | 132       | 56.17       |

Source: According to Author's Calculations

### 3. Research results and discussion

#### 3.1. Results of Cronbach's Alpha test and Exploratory Factor Analysis (EFA)

**Results of Cronbach's Alpha test:** The test was carried out on 8 scales with 30 observed variables, obtained results showing that the reliability of the scales satisfied Cronbach's Alpha standard (each scale > 0.6), item-total correlations > 0.3. Except for the variable NL4 of the scale "Quality of accountants", which has an item-total correlation equal to 0.004, less than 0.3, thus it is excluded from the model. The remaining 29 observed variables continued to be included in the EFA confirmatory factor analysis.

**Table 3**  
Results of Cronbach's Alpha test and The Analysis Results of Factors

|     | Observed variables | Cronbach's Alpha | Corrected | The Analysis Results of |
|-----|--------------------|------------------|-----------|-------------------------|
| PC  | PC1                | 0,851            | 0,754     | 0.872                   |
|     | PC2                |                  | 0,641     | 0.683                   |
|     | PC3                |                  | 0,773     | 0.878                   |
| NL  | NL1                | 0,863            | 0,735     | 0.805                   |
|     | NL2                |                  | 0,730     | 0.807                   |
|     | NL3                |                  | 0,761     | 0.869                   |
| VH  | VH1                | 0,804            | 0,755     | 0.849                   |
|     | VH2                |                  | 0,720     | 0.789                   |
|     | VH3                |                  | 0,703     | 0.770                   |
| CT  | CT1                | 0,809            | 0,589     | 0.687                   |
|     | CT2                |                  | 0,473     | 0.596                   |
|     | CT3                |                  | 0,677     | 0.669                   |
|     | CT4                |                  | 0,688     | 0.833                   |
|     | CT5                |                  | 0,555     | 0.551                   |
|     | CT6                |                  | 0,435     | 0.808                   |
| CN  | CN1                | 0,891            | 0,786     | 0.803                   |
|     | CN2                |                  | 0,767     | 0.823                   |
|     | CN3                |                  | 0,808     | 0.896                   |
| CL  | CL1                | 0,751            | 0,565     | 0.667                   |
|     | CL2                |                  | 0,554     | 0.643                   |
|     | CL3                |                  | 0,620     | 0.842                   |
| RR  | RR1                | 0,761            | 0,626     | 0.767                   |
|     | RR2                |                  | 0,579     | 0.72                    |
|     | RR3                |                  | 0,587     | 0.673                   |
| SMA | SMA1               | 0,836            | 0,625     | 0.744                   |
|     | SMA2               |                  | 0,669     | 0.782                   |
|     | SMA3               |                  | 0,608     | 0.565                   |
|     | SMA4               |                  | 0,634     | 0.591                   |
|     | SMA5               |                  | 0,651     | 0.749                   |

Source: According to Author's Calculations

**Exploratory Factor Analysis (EFA):** After the first factor rotation, the Bartlett test, the KMO coefficient, and other coefficients still satisfy the requirements, but looking at the factor rotation matrix, the variable CT6 of the competition scale has no load factor that reaches 0.5, thus have to be excluded from the model. Re-test the reliability of the "Competitive level" scale after removing the variable CT6, found that the scale is reliable. Continue to rotate the factor for the second time, test KMO and Bartlett on the suitability of factors that show that Sig. = 0.00 < 0.05, coefficient KMO = 0.830, satisfying 0.5 < KMO < 1. All factor loadings are greater than 0.5. The EFA analysis showed that 8 factors were extracted and the observed variables in the factors remained the same, so it can be concluded that the exploratory factor analysis method is suitable for the study. The Eigenvalues coefficient of the 8th factor has the lowest value of 1.009 > 1 and the total variance extracted is 70.593% > 50%. Therefore, 8 factors with 28 observed variables satisfy the requirements while using EFA analysis.

3.2. Confirmatory Factor Analysis (CFA) and Results of Linear Structure Model (SEM)

**Confirmatory Factor Analysis (CFA):** After satisfying the EFA analysis, the research model consisting of 8 factors and 28 observed variables continues to be included in the CFA confirmatory factor analysis. The first confirmatory factor analysis showed the index CMIN/df = 1.460 < 2; TLI = 0.955 > 0.9; CFI = 0.962 > 0.9; GFI = 0.907 > 0.9; RMSEA = 0.038 < 0.05. The research results show that the critical model all achieve the set index, thus preventing the research model has a high degree of agreement with the research data. The reliability and discriminant tests both satisfy the requirements. However, the convergence is not guaranteed when the average variance extracted (AVE) of the CT (Competitive level) is less than 0.5, so the variable CT2 was removed from the model to increase the AVE value. After removing the variable CT2, the research model consisting of 8 factors and 27 observed variables continued to be included in the CFA analysis, then obtain the index CMIN/df = 1.449 < 2; TLI = 0.958 > 0.9, CFI = 0.965 > 0.9; GFI = 0.912 > 0.9 and RMSEA = 0.038 < 0.05, which shows that the research model is consistent with the collected data. In addition, the reliability, discriminant, and convergence of the scales in the research model are guaranteed.

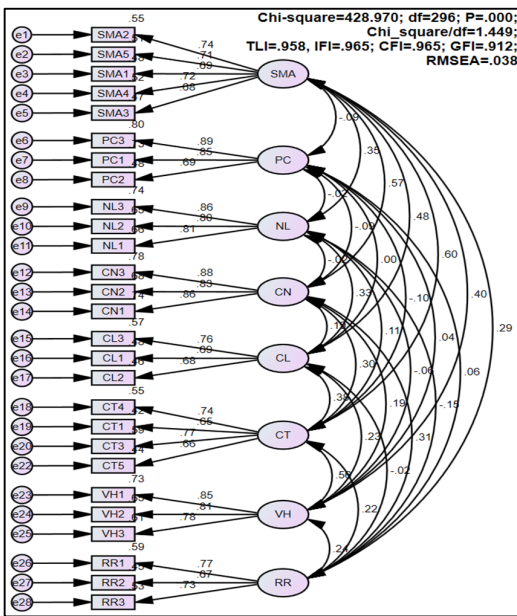


Fig. 2. CFA Analysis Results

Source: According to Author's Calculations

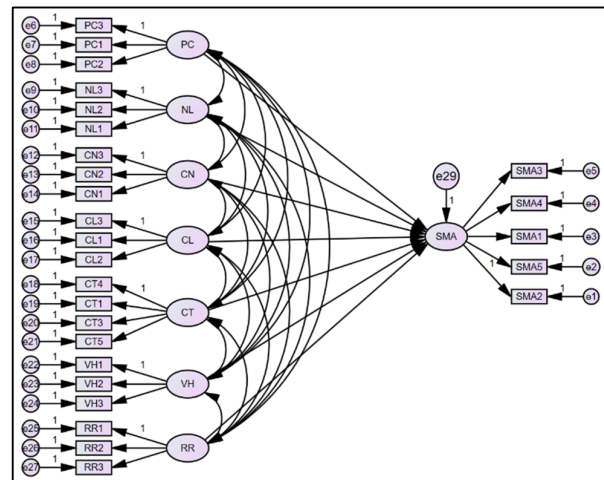


Fig. 3. Linear Structure Analysis SEM

**Results of Linear Structure Model (SEM):** The analysis on linear structural model shows the chi-square index = 428.970 and degrees of freedom df = 296, thus we can calculate the chi-square/df ratio = 1.449 < 2; Also, there are TLI = 0.958 > 0.9; CFI = 0.965 > 0.9; GFI = 0.912 > 0.9; RMSEA = 0.038 < 0.8; P = 0.000. Accordingly, the research model can be considered fitting with the collected data in reality.

3.3. Estimating the research model using Bootstrap

Table 4 shows the results of Testing the Relationships between Concepts in the Theory Models and The Estimated Results Using the Bootstrap with N = 1000. The analysis results show that the variables NL, CN, CL, CT, RR have the same effect on SMA and have statistical significance with 95% confidence (P < 0.05). The influencing factors in decreasing order of magnitude are as follows: Technology level, Quality of accountants, Competitive level, Business strategy, and Business

risk. Besides, two factors, "Decentralized management" and "Company culture" do not affect the ability to apply SMA because these two variables have  $P > 0.05$ . Perform Bootstrap test after testing the SEM model to verify the parameters in the theoretical model, re-evaluate the reliability of the estimates. Bootstrap is a method of sampling that repeats and changes from the original template. Use a sample size of 1000 to test Bootstrap for research. The results show that the absolute value of CR indexes does not exceed 1.96, so it can be concluded that the non-zero deviation has no statistical significance at the 95% confidence level. Thus, it can be concluded that the estimated model is reliable.

**Table 4**

Results of Testing the Relationships between Concepts in the Theory Models and The Estimated Results Using the Bootstrap with  $N = 1000$

| Results of Testing the Relationships between Concepts in the Theory Models |                                    |       |        |       | Estimated Results Using the Bootstrap with $N = 1000$ |         |        |
|--|------------------------------------|-------|--------|-------|---|---------|--------|
| Relationship   | Coefficient $\beta$ (standardized) | SE    | CR     | P     | Bias  | SE-Bias | CR     |
| SMA $\leftarrow$ PC  | -0.035                             | 0.057 | -0.001 | 0.002 | -0.500  | 0.002   | -0.500 |
| SMA $\leftarrow$ NL  | 0.296                              | 0.038 | 0.001  | 0.003 | 0.333   | 0.003   | 0.333  |
| SMA $\leftarrow$ CN  | 0.391                              | 0.038 | 0.002  | 0.002 | 1,000   | 0.002   | 1,000  |
| SMA $\leftarrow$ CL  | 0.176                              | 0.066 | 0.001  | 0.003 | 0.333   | 0.003   | 0.333  |
| SMA $\leftarrow$ CT  | 0.294                              | 0.070 | 0.001  | 0.003 | 0.333   | 0.003   | 0.333  |
| SMA $\leftarrow$ VH  | 0.110                              | 0.049 | -0.002 | 0.003 | -0.667  | 0.003   | -0.667 |
| SMA $\leftarrow$ RR  | 0.133                              | 0.059 | 0.004  | 0.003 | 1.333   | 0.003   | 1.333  |

Source: According to Author's Calculations

#### 4. Conclusions and Policy Implications

The value of  $R^2$  in the SEM model is 67.6%, which means that the influencing factors explain 67.6% of the variation of the dependent variable SMA.  $R^2 = 67.6\% > 50\%$  is relatively high, so the factors selected by the research team have a suitable level and are typical for the factors affecting the ability of SMEs to apply SMA. Therefore, the research team has identified 5 factors affecting the applicability of SMA in SMEs in the following order:

Firstly, the factor "Technology level" has the strongest impact on the ability to use the SMA. Today, along with the explosion of the 4.0 revolution, applying technology to enterprises' production and business processes is inevitable. So managers need to have the right information to make reasonable choices for their businesses, and SMA is an effective tool. Besides the benefits when applying the SMA tool, businesses also need to pay attention to the risks related to information security to anticipate possible uncertainties.

Second, "Quality of accountants" has the second strongest impact on the ability to use SMA. Although the concept of SMA is still not popular, it is a technical tool to help businesses meet the new requirements of the digital economy in terms of strategic management, risk management, and value chain management. In order for enterprises to apply this tool, the requirements of necessity are to train the quality of their intensive accounting human resources on SMA. Therefore, the higher the quality of accounting human resources, the greater the ability to apply SMA.

Thirdly, the factor "Competitive level". The larger this factor, the greater the ability of enterprises to apply SMA. The collection of appropriate information is an important factor for businesses to devise a strategy to compete with other businesses. Applying SMA will bring information related to competitiveness for managers.

Fourth, "Business strategy" has the same effect on the ability to use SMA. To build an effective business strategy, a manager needs to collect a lot of important and relevant information for the business. Applying SMA will help accountants provide the necessary information to managers.

Finally, the factor "Business risk" has a positive impact on the ability to use SMA. In today's volatile economy, having timely information is a factor for businesses to build a suitable contingency plan. SMA is a tool that helps accountants quickly provide information to businesses so they can have a plan to respond to risks in the business market.

In addition to the above 5 factors, the research team also found that the two factors of Decentralized management and Company culture have no positive impact on the ability to apply SMA. This contrast can be explained by the fact that the survey subjects of the study are SMEs, which can affect the research results. This is also the basis for medium - sized enterprises to consider applying SMA to these two factors. In order to contribute to enhancing the applicability of SMA in medium - sized enterprises the research team proposes the following 3 recommendations:



- (1) Firstly, for the government, it is necessary to issue documents, decrees, and circulars specifically guiding the application of SMA to Vietnamese enterprises.
- (2) Secondly, for enterprises, it is necessary to be aware of the benefits of applying SMA, thereby opening training courses or cooperating with educational institutions to improve the quality of the accounting team.
- (3) Finally, for education and training institutions, renovate training programs in the direction of equipping them with the necessary knowledge and skills for international economic integration.

The study has contributed to the important factors affecting the applicability of SMA in medium - sized enterprises. However, the article has some limitations, such as the research sample size, which means it cannot represent all Vietnamese medium - sized enterprise; the study only evaluated 7 factors, not mentioning other related factors. Each medium - sized enterprises belongs to different fields, so there will be different factors affecting the SMA application technique in each enterprise. These may be points to keep in mind so that future studies can overcome these limitations.

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