


**IMPACT OF STRATEGIC MANAGEMENT ACCOUNTING ON OPERATING PERFORMANCE: RESEARCH IN PUBLIC UNIVERSITIES OF VIETNAM**

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| ARTICLE INFO                                                                                                                                                                                              | ABSTRACT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| <p><b>Article history:</b></p> <p><b>Received</b> 08 May 2023</p> <p><b>Accepted</b> 04 August 2023</p>                                                                                                   | <p><b>Purpose:</b> The study aims to evaluate the impact of strategic management accounting (SMA) on the operating performance of Vietnamese public universities in terms of autonomy, student size, and number of years of establishment.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p><b>Keywords:</b></p> <p>Strategic Management Accounting;<br/>Operating Performance;<br/>Public Universities;<br/>Degree of Autonomy;<br/>Number of Students;<br/>Number of Years of Establishment.</p> | <p><b>Theoretical framework:</b> The paper is based on the theory of strategic management accounting, including the use of strategic management accounting as well as the characteristics of organizations in general and universities in particular.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                        | <p><b>Design/Methodology/Approach:</b> Survey data were collected from 142 accountants of 102 public higher education institutions, cleaned data, and used regression analysis by SPSS 22 software.</p> <p><b>Findings:</b> The results showed that with 07 factors of SMA stands for Strategic Application (AD), Strategic Planning (LKH), Strategic Management Accounting (KT), Financial Measures (TC), Non-Financial Measures (PTC), Reporting strategy (BC), and Strategic Management Decision Making (RQD), there are only 3 factors that have an impact on the performance of quality universities (Application of Strategy, Quality Management Accounting Techniques, and Financial Measures). Considering the control variable, only the degree of autonomy, and the number of students have a positive effect on the impact of quality management accounting information and the performance of universities.</p> <p><b>Research, practical &amp; social implications:</b> The results contribute to additional evidence for managers to pay more attention to quality management accounting information, thereby improving the universities' operational performance. In addition, this study complements the literature review documents related to the content of SMA and the impact of using SMA on the performance of universities.</p> <p><b>Originality/Value:</b> The study provided an extension on the impact of SMA on the performance of universities as well as the mediating role of the control variable on the relationship between SMA and performance. Research results provide useful references for research on related issues.</p> <p>Doi: <a href="https://doi.org/10.26668/businessreview/2023.v8i8.3269">https://doi.org/10.26668/businessreview/2023.v8i8.3269</a></p> |

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## IMPACTO DA CONTABILIDADE DE GESTÃO ESTRATÉGICA NO DESEMPENHO OPERACIONAL: PESQUISA NAS UNIVERSIDADES PÚBLICAS DO VIETNÃ

### RESUMO

**Objetivo:** O estudo tem como objetivo avaliar o impacto da contabilidade de gestão estratégica (SMA) no desempenho operacional das universidades públicas vietnamitas em termos de autonomia, tamanho do aluno e número de anos de estabelecimento.

**Estrutura teórica:** O artigo é baseado na teoria da contabilidade de gestão estratégica, incluindo o uso da contabilidade de gestão estratégica, bem como as características das organizações em geral e universidades em particular.

**Projeto/Metodologia/Abordagem:** Foram recolhidos dados de inquéritos de 142 contabilistas de 102 instituições públicas de ensino superior, dados limpos e análise de regressão utilizada pelo software SPSS 22.

**Constatações:** Os resultados mostraram que com 07 fatores de SMA significam Aplicação Estratégica (AD), Planejamento Estratégico (LKH), Contabilidade de Gestão Estratégica (KT), Medidas Financeiras (TC), Medidas Não Financeiras (PTC), Estratégia de Relatório (BC) e Tomada de Decisão de Gestão Estratégica (RQD), há apenas 3 fatores que têm impacto no desempenho das universidades de qualidade (Aplicação de Estratégia, Técnicas de Contabilidade de Gestão de Qualidade e Medidas Financeiras). Considerando a variável controle, apenas o grau de autonomia e o número de alunos têm um efeito positivo sobre o impacto da informação contábil de gestão de qualidade e o desempenho das universidades.

**Investigação, implicações práticas e sociais:** Os resultados contribuem para provas adicionais para que os gestores prestem mais atenção à informação contabilística de gestão de qualidade, melhorando assim o desempenho operacional das universidades. Além disso, este estudo complementa os documentos de revisão de literatura relacionados ao conteúdo da SMA e o impacto do uso da SMA no desempenho das universidades.

**Originalidade/valor:** O estudo proveu uma ampliação do impacto da SMA no desempenho das universidades, bem como o papel mediador da variável de controle na relação entre a SMA e o desempenho. Os resultados da pesquisa fornecem referências úteis para pesquisas sobre questões relacionadas.

**Palavras-chave:** Contabilidade de Gestão Estratégica, Desempenho Operacional, Universidades Públicas, Grau de Autonomia, Número de Alunos, Número de Anos de Estabelecimento.

## IMPACTO DE LA CONTABILIDAD DE GESTIÓN ESTRATÉGICA EN EL DESEMPEÑO OPERATIVO: INVESTIGACIÓN EN UNIVERSIDADES PÚBLICAS DE VIETNAM

### RESUMEN

**Objetivo:** El estudio tiene como objetivo evaluar el impacto de la contabilidad estratégica de gestión (SMA) en el rendimiento operativo de las universidades públicas vietnamitas en términos de autonomía, tamaño de los estudiantes y número de años de establecimiento.

**Marco teórico:** El artículo se basa en la teoría de la contabilidad de gestión estratégica, incluyendo el uso de la contabilidad de gestión estratégica, así como las características de las organizaciones en general y las universidades en particular.

**Diseño/Metodología/Enfoque:** Se recolectaron datos de encuestas a 142 contadores de 102 instituciones públicas de educación superior, se limpiaron datos y se utilizó análisis de regresión por el software SPSS 22.

**Resultados:** Los resultados mostraron que con 07 factores de AME se destacan Aplicación Estratégica (DA), Planificación Estratégica (LKH), Contabilidad de Gestión Estratégica (KT), Medidas Financieras (CT), Medidas No Financieras (PTC), Estrategia de Reporte (BC), y Toma de Decisiones de Gestión Estratégica (RQD), solo hay 3 factores que inciden en el desempeño de las universidades de calidad (Aplicación de Estrategia, Técnicas Contables de Gestión de Calidad, y Medidas Financieras). Considerando la variable control, solo el grado de autonomía, y el número de estudiantes tienen un efecto positivo en el impacto de la gestión de calidad de la información contable y el desempeño de las universidades.

**Implicaciones de investigación, prácticas y sociales:** Los resultados contribuyen a la evidencia adicional para que los gerentes presten más atención a la información contable de gestión de calidad, mejorando así el desempeño operativo de las universidades. Además, este estudio complementa los documentos de revisión bibliográfica relacionados con el contenido de la AME y el impacto del uso de la AME en el desempeño de las universidades.

**Originalidad/Valor:** El estudio proporcionó una extensión sobre el impacto de la AME en el desempeño de las universidades así como el papel mediador de la variable control en la relación entre AME y desempeño. Los resultados de la investigación proporcionan referencias útiles para la investigación sobre cuestiones conexas.

**Palabras clave:** Contabilidad de Gestión Estratégica, Desempeño Operativo, Universidades Públicas, Grado de Autonomía, Número de Estudiantes, Número de Años de Establecimiento.

## INTRODUCTION

Along with the increasingly fierce competition in the business environment, organizations are increasingly interested in information affecting their competitive position, serving strategic decisions and control associated with Sustainable development provided by the strategic management accounting system (SMA). Quality management accounting helps managers determine the strategy and strategic position of the organization because the related techniques take into account external factors such as the competitive environment (Simmond, 1981). Quality management accounting information helps managers to have enough basis for planning and forecasting, to anticipate key issues, and to limit possible risks. Quality management accounting information will be oriented according to the needs of managers to compare and evaluate for effective control and review. SMA aspects have a significant influence on performance, assessed in two main categories, financial and non-financial performance (Amanollah Nejad Kalkhouran et al., 2017; Alamri, 2019; Alrjoub et al., 2023).

Bromwich (1990) defines quality management accounting (SMA) as the provision and analysis of financial information about an organization's market, competitor costs, cost structure, and strategic monitoring of the entity with competitors over some time. Guilding, Cravens, and Tayles (2000) argue that quality management accounting must have at least one of the following characteristics: orientation to the external business environment, market orientation, focus on competitors, and long-term orientation of the organization. Strategic management accounting information is influenced by the size of the organization, the business environment factors, and the characteristics of the business industry of the organization (Phi Anh, 2016). Cadez and Guilding (2008) identified 16 individual SMA instruments grouped into five categories, which are strategic costs; planning, control; performance measurement; competitor accounting; and client accounting.

According to the current trend, the role of the state from a state-controlled model has also gradually shifted to a state-supervised model in exercising the autonomy of education and training institutions. The degree of university autonomy is associated with the autonomy model and is always changed to suit the socioeconomic context of each country (Nguyen, 2020). The model of autonomy in the world is known including (1) the state control model; (2) the semi-autonomous model (semi-control) and (3) the autonomous model (independent).

Vietnamese public universities as of 2020 include 172 schools (Statistics of the Ministry of Education and Training). Facing the challenge of increasingly fierce competition in international integration, Vietnamese quality universities have been assigned autonomy in

operation by the State. The assignment of university autonomy is stipulated in the Law on Education (2005) but started to put into practice the assignment of autonomy according to Resolution 77/NQ-CP dated October 24, 2014, on Piloting innovation of operating mechanism. action for public higher education institutions in the period 2014-2017. According to the Law on Education of Vietnam (2005), university autonomy includes autonomy in performing tasks, autonomy in organization, personnel, and financial autonomy. Autonomy allows universities to make their own decisions but also comes under competitive pressure to attract students.

From being a non-business unit of the state to providing public services, Vietnamese public universities must operate more efficiently and economically. On the other hand, the self-directed mechanism is highly responsible for the school's responsibility to society with directly related subjects such as the State, investors, learners, and employers .... Currently, the information provided to evaluate the performance of the schools is a big obstacle in improving the effectiveness of the management and administration of the managers. Schools implementing autonomy need to strengthen information resources and tools to help effective school governance. Schools have to face stiff competition along with the requirements of sustainable development, schools must change their business thinking and management methods to improve operational efficiency. Awareness of the university's role, mission, and characteristics is the foundation for higher education policy making, deciding on an appropriate autonomous management mechanism for universities to operate with real quality. Schools cannot lack the important management tools that are strategic management accounting.

From the urgent requirement to use quality management accounting information when switching to the autonomous mechanism of Vietnamese public universities to enhance operational efficiency, the objective of the study is to measure the impact of using information strategic management accounting information, considering the number of students, the number of years of establishment and the degree of autonomy to the performance of Vietnamese public universities. Apart from the introduction, the rest of this paper is arranged as follows: Section 2 is the research overview. Section 3 presents the research methods. Part 4 is the results of multivariate regression analysis. Section 5 is a summary of the findings and conclusions.

## **THEORETICAL BASIS AND RESEARCH OVERVIEW**

Studies on strategic management accounting, including the use of strategic management accounting as well as the characteristics of organizations in general and universities in particular, that have an impact on performance have been studied by many researchers.

Research on universities has been heavily concentrated in the last 10 years (Evi Marlina et al., 2020).

### **Strategic Management Accounting**

Guilding et al. (2000) were the first to conduct empirical research on the use of SMA techniques in the largest companies in New Zealand, the United States, and the United Kingdom. The study identified the 12 most commonly used SMA techniques in these companies around issues such as activity-based costing (ABC), product life cycle costing, value chain costing, cost per competitor, cost per customer, balanced scorecard (BSC)... Cadez and Guilding (2008) added 3 techniques: profit by customer analysis, and customer life cycle analysis. customers, evaluate customer assets to bring about 15 techniques used in SMA. These techniques have provided information for decision-making for managers.

In the study of Guilding et al. (2000), in addition to quality management accounting techniques to provide management information, other tools of SMA are strategy application, strategic planning, financial and non-financial measures, and strategic reporting, and strategic decision-making.

Cadez and Guilding (2008) used a model to assess the impact of strategic options, market orientation, and organizational size on the use of SMA in the Slovenian context. The results show that the use of SMA is positively associated with the adoption of strategy, and the size of the organization. Chinquini and Tenucci (2010) review and have positive conclusions about the impact of strategy and firm size on the adoption of SMA techniques in the largest Italian manufacturing companies.

Lachmann et al. (2013) studied the use of strategic management accounting techniques in 116 German hospitals in a competitive environment. The study has shown that the evaluation factors of SMA have an impact on the performance of hospitals such as strategy application, strategic planning, use of SMA techniques, strategic reporting, and information. financial, non-financial, and strategic decision-making. The application of SMA is also very diverse, depending on the characteristics of the hospital's organizational structure.

### **Operating Performance**

Kupper (2013) argues that management accountants in the public sector, including universities, should pay attention to three basic criteria: cash flow value, economy, and efficiency. Efficiency is expressed as the input/output productivity ratio. Many scholars also

agree that universities should manage their limited resources by maximizing profits to maintain organizational sustainability to meet social and political goals (Tatikonda et al. & Tatikonda, 2001; Marlina et al., 2018).

According to Sarbaitnil and Firdaus (2019) and Permana (2018), the performance of a higher education institution is the achievement of that institution, the result of the whole process. Kurniawan et al. (2016) are specific about performance as it can be measured by training quality, productivity, innovation, and quality of work. Ali et al. (2013), Mntonintshi and Mtembu (2018) argue that improving the performance of an educational institution is to create good outputs, including improving the quality of facilities, infrastructure, and quality of educational activities. education and teaching, quality research, and services to the community.

Lachmann et al. (2013) measured the performance of an organization using financial measures (revenue, costs, net profit, return on invested capital) and non-financial measures (customer satisfaction). goods, quality, reputation).

### **The Role of SMA on Performance**

Alsharari et al (2015) researched the role of SMA in supporting and influencing strategic processes in organizations. Research results have suggested a framework for a complex “combination” of interrelated factors that can affect management accounting change at many institutional levels: political and economic levels. economic, organizational domain level, and organizational level. Azhar and Rahman (2009), Corral and Sriborisutsakul (2010), Cadez and et al. (2017) were interested in assessing how higher education strategies are used by institutions to gain competitive advantage.

Studies exploring the relationship between SMA and university performance are much done using quantitative research methods. Studies focusing on SMA and strategy on quality, customer focus or agile processes, and training product innovation, such as Asaad et al. (2013), Janudin and Maelah (2016) ), Marlina et al. (2018), Love et al., (2017).

Studies show that SMA can improve the performance of schools (Cadez et al., 2017; Janudin & Maelah, 2016; Marlina et al., 2018; Ramos-Monge et al., 2017; Ozdil & et al., 2017). Hoque, 2019 and Anuforo et al., 2019).

Cadez et al (2017) conducted research at Slovenian universities and showed that scientific research activities are positively related to the quality of teaching of lecturers, which can improve efficiency. university activities.

Janudin and Maelah (2016), Anuforo et al. (2019) argued that the strategies used to measure performance have an impact on the performance of universities as a result of monitoring performance to achieve strategic goals, thereby achieving those goals. organization's goals.

Ramos-Monge et al. (2017) survey on customer orientation through applying social responsibility to universities will make the reputation of universities more popular with the public, thereby improving performance.

Ozdil and Hoque (2019) also show that the transformational application of governance strategies in decision-making is important in universities as this can improve their operational efficiency.

Marlina et al. (2018 & 2020) highlighted the role of strategic cost by trying to control the resources of universities more effectively and efficiently to influence the improvement of operational efficiency.

Aykan and Aksoylu (2013) examined the impact of using SMA on the performance of 229 large and medium Turkish companies. They noted a significant positive effect of competitor and customer-focused SMA techniques on the performance of these organizations. Similarly, Turner et al. (2017) investigated the mediating effects of SMA use on non-financial (customer satisfaction) and financial performance measures of 95 hotels in the United States. Their findings confirmed the mediating role of SMA use between hotel business strategy, market orientation, and financial performance.

### **Organizational Characteristics Affect Performance**

Some other studies on organizational characteristics that can affect SMA thereby affecting the performance of universities such as Guilding et al. (2000) argue that organizational characteristics different SMA techniques, and management information analysis can be used. Fiss (2007) also concluded about the relationship between structural factors (scale, age) and the application of the SMA technique. Hill (2000) when assessing the level of use of quality management accounting techniques takes into account the size of the organization and ownership. The legal form of the organization (type of ownership), size, and age are also factors mentioned by Lachman et al. (2013) in assessing the level of use of quality management accounting techniques by organizations. Lachmann et al. (2013) investigated the influence of structural features (size, ownership, and legal form) and found a significant positive effect of some structural features on engineering use. SMA in German hospitals. Sriyono et al. (2023)

studied the application of strategic costing techniques SMA in village-owned enterprises in Indonesia but the results indicated that Organization size did not have a significant effect on this adoption.

From the research review, it is shown that the studies on SMA in organizations in general and universities, in particular, show the importance of SMA for universities before the requirements of implementing the autonomy mechanism associated with sustainable development. Studies have also shown the relationship between SMA information, applying SMA techniques to improve school performance, and impacts from context, financial mechanism, and resources to the use of information. SMA news in universities. Due to the characteristics of structure, ownership, legality, and scale that affect the use of SMA in previous studies, we inherit the research with Vietnamese universities according to 03 factors: the number of students, number of years of establishment, and degree of autonomy. The research results are useful reference information for Vietnam, however, the inheritance needs to be selective to suit the characteristics and socio-economic conditions of Vietnam.

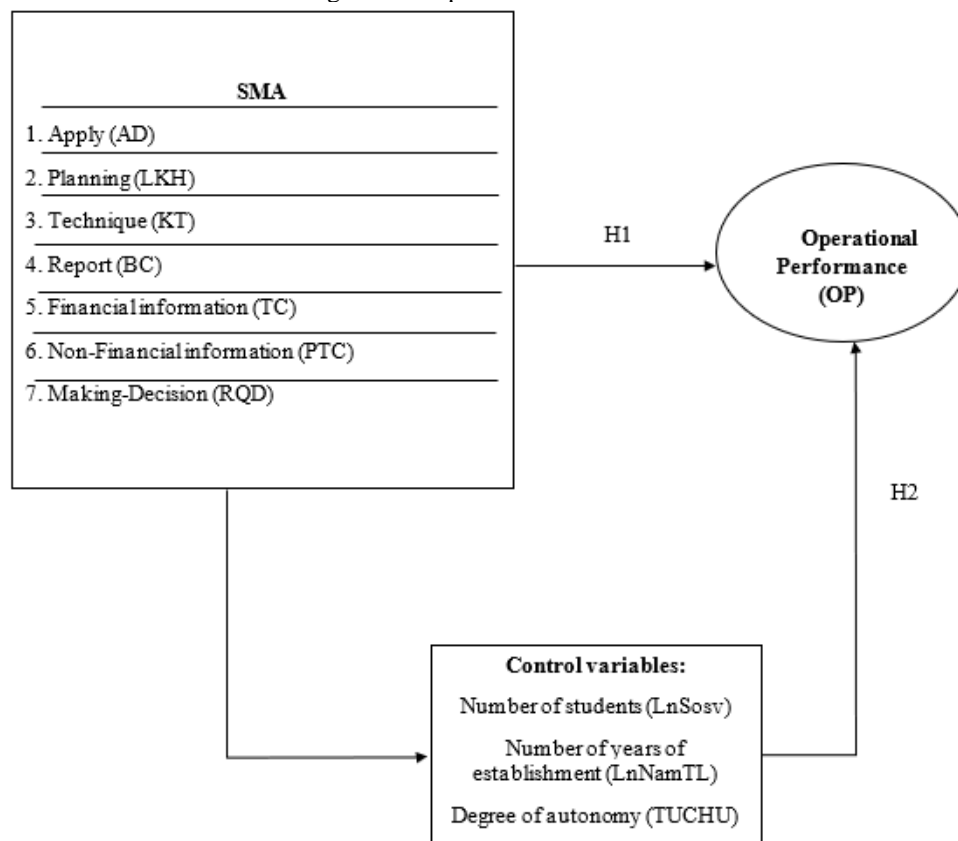
The hypotheses are:

H1. The usage of strategic management accounting has a positive impact on university performance.

H2. Organizational structure characteristics (number of students, number of years of establishment, degree of autonomy) affect the impact of strategic management accounting on university performance.



Figure 1. Proposed research model



Source: Prepared by the authors (2023)

## RESEARCH METHODS

The study uses a combination of qualitative and quantitative methods to collect information to assess the impact of strategic management accounting on the performance of Vietnamese public universities.

### Qualitative Research Methods

In-depth interviews combined with consulting experts to determine the suitability of the factors in the proposed research model, detect and add appropriate variables to measure research concepts. In this study, in-depth interviews were conducted with 02 accounting staff of Hanoi Open University and 05 experts who are lecturers teaching accounting, and researchers of the Thuongmai University, University of Labour and Social Affairs, Hanoi University of Industry, Academy of Finance, Hanoi Open University. Based on the theoretical model of Guilding et al. (2000), Abernethy and Lillis (2001), Cadez and Guilding (2008), and Lachman et al (2013), we built the questionnaire and used it for in-depth interviews.

From the content of the exchange, we use the final discussion results as a basis to build a questionnaire for the survey. The method of face-to-face interviews is mainly combined

with telephone interviews. The conducting time for each in-depth interview and focus discussion lasted from 30 to 60 minutes. The content of the interview questions is elaborated based on the test and screening objectives to clarify the questions measuring the variables in the research model. In addition, the questions also have an openness to detect new observed variables or adjust words, descriptions of content, and structure. Based on the results of the discussion on structure, words, and questions are considered to complete the research model as well as research hypotheses, scales, and formal questionnaire construction... The meaning of these interviews is to complete the scales gathered through the literature review and confirm the validity of the new scale.

### **Quantitative Research Methods**

After editing according to the opinions of experts, we adjusted the observed variable to conduct a test survey. The respondents to the test questionnaire were 10 accountants from public universities and 10 lecturers from the Thuongmai University, the University of Labor and Social Affairs, the Hanoi University of Industry, and the Academy of Finance, Hanoi Open University. The construction of the scale is more research work than practice, so the experts identified are mainly accountants, chief accountants, and lecturers. These are subjects who are knowledgeable about accounting and knowledgeable about scientific research methods.

Based on the test survey results, we evaluate the appropriateness of the question and conduct a formal survey. The questionnaire is divided into 3 main parts: (i) SMA; (ii) Information about the university; (iii) Personal information of survey respondents. The sections on quality management accounting used a 5-point Likert scale, from "1-Strongly disagree" to "5-Strongly agree". The number of students and the number of years of the establishment are used Logarithmic function. The official questionnaire was built on Google form and sent to 172 universities via email and social networks. As a result, 142 votes were received, representing the chief accountants and accountants of 102 universities. Each unit (headquarter, branch, dependent establishment) corresponds to 01 votes. After data encryption and cleaning, 142 votes were all valid for analysis.

Data were analyzed on SPSS 22 software using the following tools: (1) Checking the reliability of the scale using Cronbach's Alpha; (2) EFA exploratory factor analysis; (3) Regression analysis.

The scale is inherited from Guilding et al. (2000), Abernethy and Lillis (2001), Cadez and Guilding (2008), and Lachman et al. (2013) (Table 1).

Table 1. Scale description table

| STT | Scale                     | Code | Source                                                                    |
|-----|---------------------------|------|---------------------------------------------------------------------------|
| 1   | Apply SMA                 | AD   | Guilding (2000)                                                           |
| 2   | Planning SMA              | LKH  |                                                                           |
| 3   | Technique                 | KT   | Guilding (2000),<br>Lachman (2013)                                        |
| 4   | Financial information     | TC   | Guilding (2000)                                                           |
| 5   | Non-Financial information | PTC  | Guilding (2000),<br>Lachman (2013)                                        |
| 6   | Report                    | BC   | Guilding (2000)                                                           |
| 7   | Making-Decision           | RQD  | Guilding (2000),<br>Lachman (2013)                                        |
| 8   | Operating performance     | HQ   | Cadez and Guilding (2008), Abernethy<br>and Lillis (2001), Lachman (2013) |

Source: Prepared by the authors (2023)

The collected survey forms are checked, data cleaned, and analyzed. The survey results are processed through the SPSS 22 software analysis tool, using descriptive statistics, analyzing and evaluating the reliability of the scale, exploratory factor analysis, and regression analysis to clarify research results.

## Research Sample

Table 2. Demographic characteristics

| Characteristics |                  | Number<br>(N = 142) | (%)  |
|-----------------|------------------|---------------------|------|
| Gender          | Female           | 112                 | 78.9 |
|                 | Male             | 30                  | 21.1 |
| Age             | Under 30         | 4                   | 2.8  |
|                 | 30-40            | 55                  | 38.7 |
|                 | 40-50            | 82                  | 57.7 |
|                 | Over 50          | 1                   | 0.7  |
| Location        | Chief accountant | 32                  | 22.5 |
|                 | Accountant       | 110                 | 77.5 |
| Experience      | Under 5 years    | 32                  | 22.5 |
|                 | 5-10 years       | 19                  | 13.4 |

|       |               |            |            |
|-------|---------------|------------|------------|
| Level | Over 10 years | 91         | 64.1       |
|       | Student       | 110        | 77.5       |
|       | Graduated     | 32         | 22.5       |
|       | <b>Total</b>  | <b>142</b> | <b>100</b> |

Source: Prepared by the authors (2023)

Regarding the demographic characteristics of survey respondents (Table 2), out of a total of 142 people, the majority of them were female (78.9%), aged 40-50 the most (57.7%), and mainly accountants. accountant (7.5%). The number of people who have worked for more than 10 years is 91 people, accounting for 64.1%, followed by 5 to 10 years, accounting for 13.4%. In terms of training level, the majority had a bachelor's degree from a university (110 people, accounting for 77.5%). The results of the demographic survey showed that the subjects had appropriate ages, qualifications, and experiences to collect. Relevant information on strategic management accounting of autonomous public universities.

Table 3. Unversities characteristics

| Characteristic          |                  | Number<br>(N = 142) | %          |
|-------------------------|------------------|---------------------|------------|
| Years of establishment  | < 20 years       | 29                  | 20.40      |
|                         | 20- < 40 years   | 47                  | 33.1       |
|                         | 40- < 60 years   | 35                  | 24.6       |
|                         | >= 60 years      | 31                  | 21.8       |
| Number of students/year | < 2.000          | 47                  | 33.1       |
|                         | 2.000 - 5.000    | 75                  | 52.8       |
|                         | > 5.000          | 7                   | 14.1       |
| Degree of autonomy      | Not yet          | 13                  | 9.2        |
|                         | Partial autonomy | 62                  | 43.7       |
|                         | Fully autonomy   | 67                  | 47.2       |
| <b>Total</b>            |                  | <b>142</b>          | <b>100</b> |

Source: Prepared by the authors (2023)

Regarding the unversities characteristics (Table 3), the total number of responses was 142, representing the chief accountants and accountants of 102 universities. Each unit (headquarter, branch, dependent establishment) corresponds to 01 votes. In terms of years of establishment, schools established from 20 to under 40 years accounted for the highest percentage (33.1%), followed by 40-60 years (24.6%), groups of schools with 60 years or more, and under 20 years. years accounted for quite similar proportions. In terms of the number of students enrolled in the year, most schools have the number of students from 2,000 to 5,000 (75%), followed by schools with less than 2,000 students accounting for 33.1%, schools with over 5,000 students accounting for the percentage. the shortest. According to the degree of autonomy, schools with full autonomy are the most (67 facilities; 47.2%), followed by schools

with partial autonomy (62 campuses; 43.7%), the lowest are schools with no autonomy (9.2%). Because the survey sample accounted for 102/142 (72%) of universities, which is close enough to the overall population, the surveyed sample is suitable for information collection and analysis.

## RESEARCH RESULTS

### The Reliability Analysis

Evaluate the reliability of the scales by Cronbach's Alpha reliability coefficient to reflect the close correlation between the observed variables in the same factor. Variables with item-total correlation of less than 0.3 will be excluded and the scale will be accepted for analysis in the next steps when the Cronbach Alpha reliability is from 0.6 or higher (Hair et al., 2010). The groups that need to perform the reliability assessment include AD, BC, LKH, TC, PTC, KT, RQD and HQ. The results of the reliability analysis of the scale are shown in Table 4.

Table 4. Evaluate the reliability of the scale

| Items                                             | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---------------------------------------------------|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| <b>Applying SMA (AD), alpha = 0.805</b>           |                            |                                |                                  |                                  |
| AD01                                              | 7.73                       | 1.729                          | .642                             | .770                             |
| AD02                                              | 8.07                       | 1.286                          | .699                             | .685                             |
| AD03                                              | 8.18                       | 1.229                          | .663                             | .736                             |
| <b>Planning SMA (LKH), alpha = 0.932</b>          |                            |                                |                                  |                                  |
| LKH01                                             | 8.09                       | 1.304                          | .805                             | .930                             |
| LKH02                                             | 8.08                       | 1.184                          | .897                             | .859                             |
| LKH03                                             | 8.15                       | 1.247                          | .857                             | .892                             |
| <b>Technique of SMA (KT), alpha = 0.889</b>       |                            |                                |                                  |                                  |
| KT01                                              | 18.30                      | 9.532                          | .589                             | .887                             |
| KT02                                              | 18.50                      | 8.961                          | .645                             | .879                             |
| KT03                                              | 18.47                      | 8.634                          | .757                             | .861                             |
| KT04                                              | 18.36                      | 8.359                          | .812                             | .851                             |
| KT05                                              | 18.25                      | 8.758                          | .815                             | .853                             |
| KT06                                              | 18.15                      | 8.893                          | .632                             | .882                             |
| <b>Financial metrics (TC), alpha = 0.977</b>      |                            |                                |                                  |                                  |
| TC01                                              | 13.94                      | 13.634                         | .901                             | .977                             |
| TC02                                              | 14.13                      | 12.315                         | .964                             | .967                             |
| TC03                                              | 14.14                      | 12.689                         | .942                             | .970                             |
| TC04                                              | 14.17                      | 12.297                         | .959                             | .968                             |
| TC05                                              | 14.21                      | 12.934                         | .909                             | .975                             |
| <b>Non-Financial metrics (PTC), alpha = 0.725</b> |                            |                                |                                  |                                  |
| PTC01                                             | 7.81                       | 1.020                          | .618                             | .547                             |
| PTC02                                             | 7.94                       | 1.259                          | .500                             | .693                             |
| PTC03                                             | 7.65                       | 1.050                          | .532                             | .659                             |
| <b>Strategy report (BC), alpha = 0.881</b>        |                            |                                |                                  |                                  |
| BC01                                              | 11.07                      | 4.747                          | .687                             | .880                             |
| BC02                                              | 11.46                      | 3.867                          | .732                             | .851                             |
| BC03                                              | 11.70                      | 3.444                          | .796                             | .827                             |
| BC04                                              | 11.61                      | 3.416                          | .816                             | .818                             |
| <b>Making-decision (RQD), alpha = 0.844</b>       |                            |                                |                                  |                                  |

|                                                    |       |        |      |      |
|----------------------------------------------------|-------|--------|------|------|
| RQD01                                              | 7.48  | 1.712  | .684 | .807 |
| RQD02                                              | 7.80  | 1.610  | .778 | .716 |
| RQD03                                              | 7.89  | 1.698  | .670 | .821 |
| <b>Operational Performance (HQ), alpha = 0.898</b> |       |        |      |      |
| HQ01                                               | 20.47 | 12.535 | .560 | .898 |
| HQ02                                               | 20.39 | 11.233 | .765 | .875 |
| HQ03                                               | 20.30 | 12.224 | .638 | .890 |
| HQ04                                               | 20.19 | 11.091 | .810 | .869 |
| HQ05                                               | 20.07 | 11.626 | .752 | .877 |
| HQ06                                               | 20.01 | 11.759 | .699 | .883 |
| HQ07                                               | 20.07 | 11.754 | .684 | .885 |

Source: Prepared by the authors (2023)

Table 4 shows the results of Cronbach's Alpha of the regular scale from 0.725 to 0.977, both greater than 0.6. The correlation coefficients of the total variables of the observed variables in the scales are all greater than 0.3, and there is no case of removing the observed variables that can make the Cronbach's Alpha of this scale larger than the variable Cronbach's Alpha coefficient. total. Therefore, all observed variables are accepted and will be used in the next analysis.

### Exploratory Factor Analysis (EFA)

Consider exploratory factors to assess the convergence and distinction of groups of factors, reaffirming the structure of the scales. KMO and Bartlett's test results show that  $\text{Sig.} = 0.000 < 0.05$ ; high KMO coefficient ( $0.800 > 0.5$ ). This result indicates that the observed variables in the population are correlated with each other and the EFA factor analysis is very appropriate. Eigenvalues greater than 1, with 07 factors and extracted variance of 79.785% (greater than 50%) are satisfactory.

Table 5. Rotated Component Matrixa

| Cod   | Component         |                  |          |        |                 |           |                       |
|-------|-------------------|------------------|----------|--------|-----------------|-----------|-----------------------|
|       | Financial metrics | Technique of SMA | Planning | Report | Making-Decision | Apply SMA | Non-Financial metrics |
| TC03  | .879              |                  |          |        |                 |           |                       |
| TC02  | .869              |                  |          |        |                 |           |                       |
| TC05  | .839              |                  |          |        |                 |           |                       |
| TC01  | .837              |                  |          |        |                 |           |                       |
| TC04  | .819              |                  |          |        |                 |           |                       |
| KT03  |                   | .774             |          |        |                 |           |                       |
| KT04  |                   | .749             |          |        |                 |           |                       |
| KT02  |                   | .718             |          |        |                 |           |                       |
| KT05  |                   | .701             |          |        |                 |           |                       |
| KT01  |                   | .660             |          |        |                 |           |                       |
| KT06  |                   | .577             |          |        |                 |           |                       |
| LKH02 |                   |                  | .915     |        |                 |           |                       |
| LKH03 |                   |                  | .902     |        |                 |           |                       |
| LKH01 |                   |                  | .894     |        |                 |           |                       |
| BC02  |                   |                  |          | .791   |                 |           |                       |

|       |      |      |      |      |
|-------|------|------|------|------|
| BC03  | .761 |      |      |      |
| BC04  | .708 |      |      |      |
| BC01  | .600 |      |      |      |
| RQD03 |      | .811 |      |      |
| RQD02 |      | .789 |      |      |
| RQD01 |      | .741 |      |      |
| AD01  |      |      | .828 |      |
| AD02  |      |      | .787 |      |
| AD03  |      |      | .782 |      |
| PTC01 |      |      |      | .911 |
| PTC03 |      |      |      | .676 |
| PTC02 |      |      |      | .587 |

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 a. Rotation converged in 9 iterations.  
 Source: Prepared by the authors (2023)

The results of exploratory factor analysis (Table 5) showed that the observed variables combined into 07 factors were consistent with the original scales. This proves that the observed variables show cohesion in the same factor, consistent with the proposed model.

### Regression Analysis

F-value là 9.088, Adjusted R Square là 0.365

| Model        | Standardized Coefficients |  | Collinearity Statistics |       |
|--------------|---------------------------|--|-------------------------|-------|
|              | Beta                      |  | Tolerance               | VIF   |
| 1 (Constant) |                           |  |                         |       |
| AD           | .215**                    |  | .718                    | 1.393 |
| BC           | -.067                     |  | .485                    | 2.061 |
| PTC          | .105                      |  | .795                    | 1.257 |
| TC           | .336**                    |  | .388                    | 2.576 |
| KT           | -.203**                   |  | .431                    | 2.322 |
| RQD          | .054                      |  | .577                    | 1.732 |
| LKH          | .133                      |  | .674                    | 1.484 |
| TUCHU        | .385***                   |  | .873                    | 1.145 |
| LnNamTL      | .113                      |  | .880                    | 1.136 |
| LnSosv       | .202**                    |  | .772                    | 1.296 |

a. Dependent Variable: HQ  
 (\*\* p<0.05; \*\*\* p<0.01)  
 Source: Prepared by the authors (2023)

Normalized regression equation:

$$HQ = 0.215*AD + 0.336*TC - 0.203*KT + 0.385*TUCHU + 0.202*LnSosv + e$$

The results of the regression analysis according to the stepwise selection method are presented in Table 6 to test the hypothesis about the impact of quality management accounting

information in Vietnamese quality universities on the performance, and the influence of the number of years of establishment, the number of students and the degree of autonomy of the schools. The Tolerance coefficients of the independent variables are all greater than 0.1 and the VIF coefficients of the independent variables are all less than 3, so it can be confirmed that the model does not have multicollinearity.

Regression results (Table 6) show 5 independent variables that have an impact on the performance of Vietnam's quality universities, in which, the technical variable quality management accounting (KT) has the opposite effect with the regression coefficient. normalized is 0.203, the remaining variables have the same effect. Based on the size of the normalized regression coefficient, the level of positive impact from strong to weak on the dependent variable HQ is TUCHU (0.385) > TC (0.336) > AD (0.215) > LnSosv (0.202), specifically can:

- The variable degree of autonomy of schools (TUCHU) has the strongest impact on school performance.
- The Financial Measure (TC) variable has the second strongest impact on the performance of schools.
- The Strategic Adoption (AD) variable has the third strongest impact on school performance.
- The Variable Number of Students (LnSoSV) has the fourth strongest impact on the performance of schools.

Thus, with the 02 proposed hypothesis groups, there is factor 03 of SMA which is accepted as (Apply strategy, SMA technique, and Financial measure), while other factors are not enough basis for conclusion in the study. This study due to not having statistical significance is Management Reporting (BC), Non-Financial Measures (PTC), Decision Making (RQD), and Strategic Planning (LKH). The intermediate variables are Degree of autonomy (TUCHU), Number of students (LnSoSV), and number of years of establishment (LnNamTL), then the hypothesis about the impact of SMA on the performance of schools with the intermediary role is according to the establishment year is not enough basis for acceptance in this study.

## DISCUSSION

Research results have shown that, among the 07 factors belonging to quality management accounting in Vietnam quality university, it is Strategic Application (AD); Strategic Planning (LKH), Strategic Management Accounting Techniques (KT), Financial



Measures (TC), Non-Financial Measures (PTC), Strategic Reporting (BC), and Decision Making In strategic management (RQD), there are only 3 factors that have an impact on the performance of universities (Applying strategies, Management Accounting Techniques and Financial Measures). This shows that applying strategy is an important content in strategic management associated with sustainable development, which is of interest to universities. This research result is consistent with previous studies on the importance of strategy to organizational performance such as Azhar and Rahman (2009), Corral and Sriborisutsakul (2010), Cadez et al. (2017) Janudin and Maelah (2016), Anuforo et al. (2019).

Financial information with indicators such as revenue, expenses, profit, return on assets, and return on equity is widely used by schools. However, the factor Quality Management Accounting Technique harms the performance of schools, in contrast to the positive effect of Marlina et al. (2018 & 2020), Asaad et al. (2013), Janudin and Maelah (2016), Marlina et al. (2018), Love et al., (2017), Aykan and Aksoylu (2013). This can be explained that Vietnamese public universities operate according to the operation and domination of the state. Therefore, accounting information is mainly used to report to the authorities, while management accounting information has only been interesting in recent times when schools operate under an autonomous mechanism. However, the level of application of management accounting in general and quality management accounting, in particular, is still not much, focusing on financial information, estimating, and reporting of performance, while non-financial information or techniques Complex techniques of management accounting such as Balanced Scorecard, customer analysis, competitor analysis... have not been interested and used. On the other hand, accountants are paying much attention to financial accounting, responding to information by state regulations, but have not realized the role of consulting and providing information for managers to make decisions. Knowledge and qualifications of accountants in management accounting are also obstacles in providing management accounting information. Moreover, the school leaders themselves have not paid much attention to the requirements of providing management accounting information, and have not realized the important role and usefulness of management accounting information in operating.

Considering the mediating role of the control variables are Degree of autonomy (TUCHU), Number of students (LnSoSV), and number of years of establishment (LnNamTL) with the impact of quality management accounting and school performance, 02 variables control is the level of Autonomy (TUCHU), and Number of Students (LnSoSV) have a positive influence on the impact of SMA information and performance. This result is consistent with

the study of Hill (2000), Fiss (2007), and Lachman et al (2013). This shows that the important role of the autonomy of schools will help administrators be proactive in operating and using quality management accounting information to increase operational efficiency. On the other hand, when given autonomy, students are customers of the schools. Schools target strategic enrollment in terms of student numbers to ensure a source of revenue to operate and be profitable. Therefore, the number of students is also a factor that helps schools use quality management accounting information, thereby increasing their operational efficiency.

Although the study has not found a relationship between other tools in providing information on the SMA and the number of years of establishment of the school affecting the performance, the study has made initial assessments on the effectiveness of this study. The concern of Vietnam's quality universities when taking responsibility for autonomous activities to SMA. Research results help schools find orientations for sustainable development when the environment is changing and competition is getting fiercer.

## CONCLUSION

Based on the framework of Guilding et al. (2000), Abernethy and Lillis (2001), Cadez and Guilding (2008), and Lachman et al. (2013), the study assessed the impact of SMA on operational performance. of schools and considers the intermediate effects of autonomy, number of students, and years of establishment. the hypothesis that 07 factors belong to quality management accounting in Vietnam quality university, which are Strategy Application (AD), Strategic Planning (LKH), Strategic Management Accounting Techniques (KT), Financial Measures Key (TC), Non-Financial Measures (PTC), Strategic Reporting (BC), and Strategic Management Decision Making (RQD), only 3 factors have an impact on the performance of universities (Applying Strategy, Quality Management Accounting Techniques and Financial Measures). Regarding the control variables are the degree of autonomy (TUCHU), the number of students (LnSoSV), and the number of years of establishment (LnNamTL) that mediate with the impact of quality management accounting and the performance of the schools, there are only 02 control variables. Controls are Level of Autonomy (TUCHU), and Number of Students (LnSoSV) that have a positive influence on the impact of SMA information and school performance.

Although the study has not found a relationship between SMA and the number of years of establishment of the school and the relationship between other tools in providing information of SMA to the school's performance such as strategic management reports, strategic planning,

and non-financial measures, but the study has made initial assessments of the interest of Vietnamese quality universities when taking responsibility for operational autonomy to SMA. The research contributes to helping schools improve the information they provide to managers for a stronger future-oriented and environmental orientation. To be able to provide strategic management information for long-term and sustainable development, accountants and managers need additional knowledge related to the use of quality management accounting techniques. Research results help schools find orientations for sustainable development when the environment is changing and competition is getting fiercer.

The results of the study contribute to additional evidence for schools to improve the provision of quality management accounting information to managers, thereby improving operational efficiency. To be able to provide strategic management information for long-term and sustainable development, accountants and managers need additional knowledge related to the use of quality management accounting techniques. For the governing body, promoting autonomy in schools is necessary to help schools achieve better performance. In addition, this study complements the existing review documents related to the content of SMA and the impact of using SMA on the performance of quality universities considering the degree of autonomy, the number of students, members, and years of establishment.

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