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Strategic management accounting implementation: how the role of big data

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The objective of this study is to investigate the factors that impact the implementation of strategic management accounting (SMA) practices in Vietnamese enterprises. While SMA is considered a modern management tool that provides relevant information for decision-making, as managers increasingly view SMA as a vital modern management tool that provides valuable information for long-term strategies and daily activities. Although many motivating factors can influence the use of SMA, recent digitalization trends, particularly the application of big data, have the potential to enhance SMA implementation. However, factors such as managers' perceptions of SMA, knowledge of big data, accountants, corporate culture, enterprise size, networking, information system (IS) quality, and market competition may also significantly impact the adoption of SMA techniques. This exploratory study employs a quantitative survey approach, and data is collected using purposive sampling techniques from 180 Vietnamese enterprises. The findings indicate that networking, enterprise size, corporate culture, big data, and IS quality have a positive relationship with the implementation of SMA practices. Moreover, the role of big data as a new factor impacting SMA practices is identified. The study's contribution lies in providing insights into the influencing factors on SMA practices in Vietnamese enterprises, benefiting both practical management and theoretical perspectives.

Keywords: big data, Vietnamese enterprises, strategic management accounting (SMA), impacting factor.

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1 Introduction

Since the 1980s, the business environment had changed and challenged the relevance of traditional management accounting tools. The fast improvement in technology and its popular application in practical business have enhanced the modernized tools in management accounting. In order to meet the urgent demand, Roslender and Hart (2003) first introduced strategic management accounting (SMA), and then rapidly called for so many global scholars' interest. Their research has focused on how SMA practices can be applied in enterprises, and how they are associated with business performance. Some findings concluded that applying SMA practices could help to improve business performance. On the contrary, some findings stated that SMA practices were not popular in practical business due to their context specification. It meant that some SMA tools might be suitable for certain situations but not others. Therefore, managers should consider their specifications and compare them to characteristics of such contexts before applying them to practical business cases (Alamri, 2019; Baird et al., 2018; Cescon et al., 2019; Pavlatos and Kostakis, 2018; Turner et al., 2017). In addition, scholars also found some motivational factors considered as the reasons for adopting SMA tools, such as competition (the ability to assess competitor information), supporting tools for making decision processes, development, and advancement using artificial intelligence and so on.

Global economic integration brings both benefits and risks. It puts Vietnamese enterprises under pressure when they compete with powerful FDI enterprises in the local market or multinational enterprises in global markets. In order to survive, they have to improve their management capability by applying advanced management techniques such as strategic management accounting. In Vietnam, there has been some research on SMA practices. In 2021, Dang et al. (2021) studied the effect of SMA on the business performance of Vietnamese sugar enterprises. They concluded that there was a positive association between applying SMA and the business performance of sugar enterprises in Vietnam. Later, Nguyen and Nguyen (2021) examined factors that impacted the application of SMA in enterprises belonging to Vietnam's consumer goods industry. Sampling with 72 enterprises, their results stated that six factors have a positive influence on the application of SMA. It included awareness of the business market, business trategy, technology, corporateculture, qualification of management accountants, and decentralization of management. The research by Nguyen et al. (2023) meticulously explores the multifaceted internal and external contingencies impacting the adoption of Strategic Management Accounting (SMA) within Vietnamese manufacturing firms. This comprehensive study delineates how various factors, including the size of the organisation, the intensity of competitive pressures, the nature of organisational structure (specifically, the degree of decentralisation in management), technological advancements within the organisation, the strategic approach to business operations, and the organisation's sensitivity towards market volatility, collectively contribute to enhancing the integration of SMA practices in the context of Vietnamese manufacturing enterprises. Through their investigation, Nguyen et al. (2023) shed light on the pivotal role these determinants play in facilitating the practical application of SMA, underscoring their significance in the strategic decision-making processes of such enterprises.

2 Literature review

Up-to-date, there has been so much research about SMA, but it is still no common definition of SMA. The reason for having no universal consensus on the definition of SMA may come from different personal points of view of scholars when defining it. But at least most of them agreed on three common characteristics of SMA, including external environment orientation, both financial and non-financial data are investigated and have a long-term view (Nguyen and Nguyen, 2021). According to Simmonds (1982), the concept of SMA was defined as "the provision and analysis of management accounting data about a business and its competitors for use in developing and monitoring the business strategy". Later, Roslender and Hart (2003) developed a different and new concept by combining strategy, management, and accounting as a single concept of SMA, like providing accounting information in support of the strategic management process concerning the firm's product markets, internal activities, competitors' costs and cost structures based on financial and management accounting information, and so on. Because Cadez and Guilding (2008) considered SMA from two perspectives, SMA not only included a set of accounting techniques that are strategically oriented but also needed the active participation of management accountants and other managers in its long-term strategic decision-making activities.

When considering traditional management accounting, Cadez and Guilding (2012) pointed out that its tools only focused on internal financial reporting but ignored related and valuable information about external business and some non-financial activities. Moreover, it was not easy to allocate cost or aggregate cost nature because of its inflexible characteristics. As a result, traditional MA cannot help to find the cost driver for these costs. So enterprises only reduced costs and expenses by changing product design or input materials, which might lead to decreasing product quality. Applying SMA can help to solve the above matters by developing cost strategies. In addition, applying SMA can help enterprises to enhance management capability and take a competitive advantage over their competitors in their industrial sector. It can help to bring more profits and business opportunities for enterprises. SMA can also help to improve profit margins by alternating business processes and cutting wasteful operations. In some cases, it helps to determine whether or not an enterprise should drop certain business lines, hire outsources, and so on (Cadez and Guilding, 2012; Cescon et al., 2019).

2.1 Big data and SMA implementation

The concept of "big data" has gained significant attention and has been widely discussed with multiple interpretations in the professional arena. According to some experts, big data encompasses large datasets that cannot be processed manually or through traditional methods, such as spreadsheets. The sources of this data are diverse and can include social media, business operations, live sports events, weather forecasts, and other similar channels. Furthermore, big data is extensively analyzed and utilized in an agile and dynamic business environment.

The three fundamental characteristics of big data are known as the 3 Vs, which include

volume, velocity, and variety, as identified by McAfee et al. (2012). Volume refers to the vast amount of data generated, while velocity denotes the speed at which data is produced and transmitted. Finally, variety pertains to the different types of data, structured and unstructured. Other experts view big data not as a technical term but as a cultural shift within organizations toward making data-driven decisions, as highlighted by Frizzo-Barker et al. (2016). Currently, big data is characterized by various attributes, including the 3 Vs of volume, velocity, and variety, as well as veracity, value, variability, and valence. In addition to the three fundamental characteristics, veracity refers to the quality, uncertainty, and imprecision of data, while value denotes the data's competitive advantage.

Technology always plays a vital role in SMA implementation. And today the concept of big data is not far familiar to enterprises. By investing in the necessary technology infrastructure and through unique datasets, enterprises might have an integrated information system to ensure the feasibility and effectiveness of SMA techniques. And in some cases, because of the absence of such infrastructure, managers feel fluctuate in applying SMA extensively. The findings by Vu et al. (2022) showed that there is a positive relationship between the degree of technological advancement and the extent of SMA application. In prior research, Nguyen and Nguyen (2021) surveyed managers at all levels, chief accountants, and accountants from 72 consumer goods enterprises in Vietnam. They found that among all the factors studied, technology has the strongest influence on SMA application in consumer goods enterprises. SMA tools require information to be gathered from various sources on a timely basis. Therefore, organizations need to have an integrated information system to ensure the feasibility and effectiveness of SMA applications. Furthermore, some findings found that it should be flexible in applying different strategies for bid data and analytics implementation. Not only large enterprises but also small and medium enterprises may run their big data and analytics projects dependently on talented technical teams (Cescon et al., 2019).

H1: Big data has a positive association with SMA implementations.

2.2 Enterprise size and SMA implementation

According to prior research, when an enterprise has grown, it might face more complex problems of communication and control. A larger enterprise always has greater specialization and sophisticated control processes than a small one. As a result, a larger company always adopts a longer-term systematic approach with the incorporation of more competitor-related information for supporting the decision-making process (Cadez and Guilding, 2008). In the hotel industry, some scholars also found positive associations between the size factor and SMA use (Pavlatos and Kostakis, 2018). For measuring the enterprise size, researchers might use some variables such as the number of employees, sales turnover, total assets, investing capital and so on (Ahmad, 2012; Al-Omiri and Drury, 2007). Recently in Vietnam, Nguyen and Le (2020) investigated and concluded that there was a positive association between SMA application and enterprise size.

H2: Enterprise size has a positive association with SMA implementations.

2.3 Corporate culture and SMA implementation

O'Reilly and Chatman (1986) defined corporate culture as the "shared norms and values that set expectations about appropriate attitudes and behaviour for members of the group". Based on this sense, some scholars have presumed it to play a vital role in the SMA implementation. Take innovation-oriented and outcome-oriented cultures as examples; employees are more likely to accept innovative accounting and non-accounting practices with less resistance (Ax and Greve, 2017; Baird et al., 2018). In this cultural environment, employees are ready to spend their time and resources to enjoy new business activities, including SMA practices. They feel free and respond positively to new knowledgeable implementation. Besides, they are also expected to be more committed to engagement, providing the necessary infrastructure to successfully implement and benefit from such practices.

H3: Corporate culture has a positive association with SMA implementations.

2.4 Networking and SMA implementation

When applying SMA techniques for better business performance, not only the management accountant but also managers in other departments should actively participate as a team (Cadez and Guilding, 2008). In addition, when doing research with a sample of 121 Malaysian service SMEs, Kalkhouran et al. (2017) also stated that CEOs' involvement in networks might impact SMA practices. Moreover, management accountants should communicate and interact with related parties for developing their competence and knowledge. It helps them to select appropriate accounting practices and implement them successfully (Tillmann and Goddard, 2008). As a result, it is expected to ultimately increase their ability to provide strategic information and contribute to the implementation of SMA practices.

H4: Networking has a positive association with SMA implementations.

2.5 Information system (IS) quality and SMA implementation

When using SMA tools for supporting the decision-making process, managers need great valuable information. They might gather data from various sources on a timely basis. Therefore, enterprises need to have an integrated information system to ensure the feasibility and effectiveness of SMA implementation. It can help managers to effectively perform their tasks and make informed decisions (Hadid and Al-Sayed, 2021;Maiga et al., 2014). Al-Omiri and Drury (2007) have defined high-quality integrated IS as systems that facilitate the collection, aggregation, storage and accessibility of data and information from various functions, including accounting and other operational functions in enterprises. Therefore, managers from across operational functioning departments can rely on more detailed and relevant information from high-quality integrated IS to make decisions. In this sense, some researchers have stated that high-quality IS could promote and encourage the adoption of new management accounting tools including SMA practices (Al-Omiri and Drury, 2007).

H5: Information system (IS) quality has a positive association with SMA implementations.

2.6 Perceived environmental uncertainty and SMA implementation

The contingency theory highlights the unpredictability of the business environment, which requires managers to continuously monitor it to prevent disruptions. Al-Mawali et al. (2012) found that perceived environmental uncertainty significantly influences SMA implementation in Jordanian enterprises, and Erserim (2012) reached a similar conclusion by examining the impact of perceived environmental uncertainty on the extent of management accounting practices. He linked organizational and environmental factors to the usage of management accounting practices, aligning with prior studies by Abdel-Kader and Luther (2008). Due to the lack of information and unpredictability in the business environment, organizations may struggle to make informed decisions, leading to frustration. To address this, flexible strategies are formulated by the board of directors to quickly respond to external risks, even in times of recession. SMA practices provide managers with various potential risk-based solutions, thus minimizing the impact of environmental risks on the success of the business. In conclusion, the success of a business is largely determined by how management responds to environmental uncertainty, which can be achieved through the successful implementation of SMA (Cescon et al., 2019).

H6: Perceived environmental uncertainty has a positive association with SMA implementations.

2.7 Market competition and SMA implementation

When an enterprise applies SMA, its ability to assess competitor information will be greater. Because SMA tools are used to monitor market conditions, competitors' cost structures, and pricing policies, they are essential to enhance an enterprise's competitor advantage in the changing business world (Marlina et al., 2020; Turner et al., 2017). When sampling 220 Vietnamese enterprises, Doan (2012) found that there was evidence of a positive influence of market competition on SMA implementations. Furthermore, the results indicated that market competition was one of two significant factors that profoundly affected the application of SMA in Vietnam. This study was consistent with prior studies such as (Williams and Seaman, 2001). At the same time, the study of Ahmad (2012) showed that market competitiveness was one of the factors that impacted the application of SMA in businesses.

H7: Market competition has a positive association with SMA implementations.

Model research might be built as below:

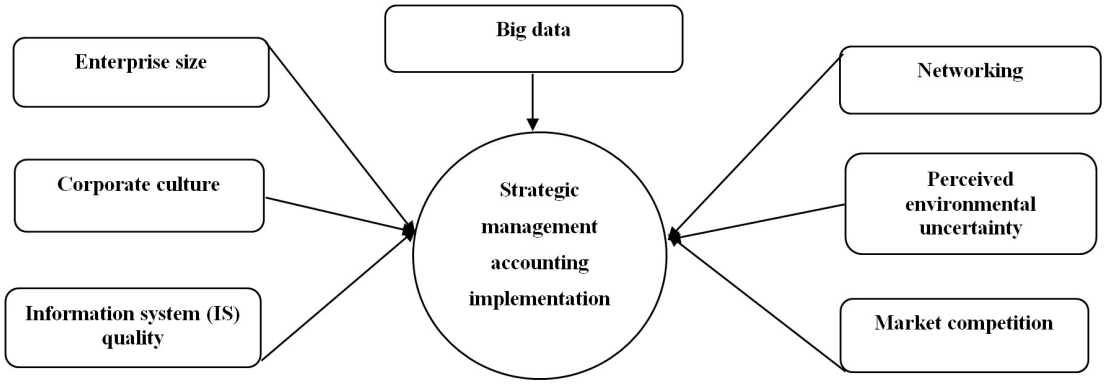

Figure 1: Overview of the research model

Source: Own research

3 Methodology

3.1 The Research Model Development

The model was constructed based on the seven hypotheses, to evaluate the influence of seven independent variables on the dependent variable SMAI (strategic management accounting implementation).

The model is explained as below:

SMAIi = α + β1BIGi + β2SIZEi + β3CULi+ β4ISQi + β5NETi + β6PERi + β7COMi ε,

Where

SMAIi: represents strategic management accounting implementation factors.

- α: constant term - βi: coefficient of variables - εi: Residual

The study included the variables BIG (big data), SIZE (enterprise size), CUL (corporate culture), ISQ (information system quality), NET (networking), PER (perceived environmental uncertainty), and COM (market competition), which are believed to affect the implementation of strategic management accounting in Vietnamese enterprises.

Green (1991) proposed a method for determining the sample size (N) for multiple regression analysis, which requires N to be equal to or greater than 50 + 8p, where p denotes the number of independent variables. This study involved seven independent variables, resulting in a minimum sample size of 106. The sample population consisted of directors, chief accountants, managers, and accountants in Vietnamese enterprises, and a total of 300 questionnaires were distributed for feedback. Out of these, 180 valid responses were obtained, yielding a response rate of 60%. The questionnaire utilized a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5), to assess all questions. The research model, theoretical model, and hypothesis testing were conducted using Exploratory Factor Analysis (EFA) methods with the aid of SPSS 24.0 software.

Figure 1 presents a summary of the study, which explores the impacting factors on

the implementation of strategic management accounting in Vietnamese enterprises using a quantitative survey approach. The data collection was performed through non-probability purposive sampling and snowball techniques.

3.2 Measurements' Development

The questionnaire was designed based on existing literature and divided into three parts. The first section collected information about the participants, including directors, chief accountants, managers, and accountants. The second section gathered data about the enterprises, and the third section focused on the factors affecting the implementation of strategic management accounting in Vietnamese enterprises. Before finalizing the questionnaire, a draft was reviewed by several experts in questionnaire development for feedback on the wording, content, simplicity, and presentation. After making necessary modifications, the survey was distributed to the target respondents, who were directors, chief accountants, managers, and accountants working in Vietnamese enterprises.

4 Results

Using SPSS 24.0 for testing EFA models, some research results were found below:

Table 1: The results of the reliability and validity test

Name of Scale	Corrected Item-Total Correlation	Cronbach's Alpha (Number of Observed variables)
Big data (BIG)	0.591–0.713	0.819 (04)
Enterprise size (SIZE)	0.654–0.822	0.842 (03)
Corporate culture (CUL)	0.620–0.763	0.869 (05)
Networking (NET)	0.308–0.571	0.651 (04)
Information system (IS) quality (ISQ)	0.541–0.746	0.807 (04)
Perceived environmental uncertainty (PER)	-0.003–0.515	0.450 (03)
Market competition (COM)	0.292–0.726	0.740 (04)
Strategic management accounting implementation (SMAI)	0.004–0.683	0.661 (05)

Source: Own research

Table 1 indicates that Cronbach's Alpha for the Perceived Environmental Uncertainty (PER) scale was 0.450, which is less than the threshold value of 0.6. As a result, this scale was excluded from the study. On the other hand, the remaining scales demonstrated Cronbach's Alpha values greater than 0.6, implying that they were suitable for analysis.

These scales comprised 32 variables, including 27 independent variables and 5 dependent variables. Table 2 presents the results of the tests conducted, which revealed that the KMO value (0.730) was greater than 0.5 and less than 1. Moreover, Bartlett's Test was statistically significant with a P-value less than 0.05. Based on these findings, it can be concluded that the use of the Exploratory Factor Analysis (EFA) model was appropriate to evaluate the scale values of the independent variables.

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.730
Bartlett's Test of Sphericity	Approx. Chi-Square	2234.838
	df	276
	Sig.	.000

Source: Own research

The analytical results in table 3 show that the observed variables accounted for a 67.235% ($> 50\%$) variance in the factors. Hence, the EFA model was suitable, prompting the acceptance of the scale.

Table 3: Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% Variance	Cumulative %	Total	% Variance	Cumulative %	Total	% Variance	Cumulative %
1	4.743	19.761	19.761	4.743	19.761	19.761	4.198	17.490	17.490
2	3.897	16.238	35.999	3.897	16.238	35.999	2.688	11.199	28.689
3	3.145	13.105	49.104	3.145	13.105	49.104	2.430	10.124	38.812
4	1.867	7.779	56.883	1.867	7.779	56.883	2.425	10.105	48.918
5	1.369	5.703	62.586	1.369	5.703	62.586	2.326	9.690	58.608
6	1.116	4.649	67.235	1.116	4.649	67.235	2.071	8.627	67.235
7	1.000	4.166	71.402	...	...	....	...	...	...

Source: Own research

Extraction Method: Principal Component Analysis.

To ensure the reliability of the factors of the six groups of independent variables, the researchers conducted a factor analysis test using the 23 observed variables. The results of this test are presented in Table 4:

Table 4: Matrix of rotational factors.

	Component					
	1	2	3	4	5	6
SIZE1						.888
SIZE2						.736
SIZE3						.849
NET1					.885	
NET2					.865	
NET3			.741			
NET4			.749			
ISQ1	.744					
ISQ2	.784					
ISQ3	.676					
ISQ4	.646					
COM1					.618	
COM2					.842	
COM3			.677			
COM4					.760	
CUL1						
CUL2			.742			
CUL3		.895				
CUL4		.837				
CUL5		.856				
BIG1	.739					
BIG2	.684					
BIG3	.780					
BIG4	.698					

Source: Own research

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

Renaming six groups of independent variables as F1-BIG (including variables ISQ1, ISQ2, ISQ3, ISQ4, BIG1, BIG2, BIG3, BIG4), F2-CUL (including variables CUL3, CUL4, CUL5), F3-NET (including variables NET3, NET4, COM3, CUL2), F4-SIZE (including variables SIZE1, SIZE2, SIZE3), F5-COM (including variables COM1, COM2, COM4) and F6-SUBNET (including variables NET1, NET2).

The results of the Exploratory Factor Analysis (EFA) for the independent variables, as depicted in Table 4, indicate that all factor loadings of the observed variables were significant, with values exceeding 0.5. The factor analysis yielded six factors, which align with the initial hypothesis regarding the measurement variables for each factor.

Table 5 displays that the adjusted R^2 coefficient was 47.3%, demonstrating the level of variation in the dependent variables explained by the independent variables.

Table 5: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.701	.491	.473	.72583148	.491	27.795	6	173	.000

Source: Own research

a. Predictors: (Constant), REGR factor score 6 for analysis 2, REGR factor score 5 for analysis 2, REGR factor score 4 for analysis 2, REGR factor score 3 for analysis 2, REGR factor score 2 for analysis 2, REGR factor score 1 for analysis 2

b. Dependent Variable: REGR factor score 1 for analysis 2

The ANOVA findings presented in Table 6 show that the significance (Sig) level in the F-test was below the 0.05 threshold, demonstrating statistical significance. This outcome confirms the adequacy of the regression model and the selected independent variables (F1-BIG, including variables ISQ1, ISQ2, ISQ3, ISQ4, BIG1, BIG2, BIG3, BIG4; F2-CUL, including variables CUL3, CUL4, CUL5; F3-NET, including variables NET3, NET4, COM3, CUL2; F4-SIZE, including variables SIZE1, SIZE2, SIZE3; F5-COM, including variables COM1, COM2, COM4 and F6-SUBNET, including variables NET1, NET2), which explained 47.3% of the variance in the dependent variable SMAI.

After conducting regression (table 7), all variables (F1 to F6) are accepted due to their Sig values are lower than 0.05. Continuing with Spearman testing (table 8), it was determined that two variables (F5 and F6) should be excluded because of their Sig. values are below 0.05 (0.025 and 0.024 respectively).

The regression equation can be found in the detailed results in Table 7 below:

SMAI = 0.112 * BIG + 0.187 * CUL + 0.42 * NET + 0.203 * SIZE.

Table 6: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	87.858	6	14.643	27.795	.000b
	Residual	91.142	173	.527		
	Total	179.000	179			

Source: Own research

a. Dependent Variable: REGR factor score 1 for analysis 2
b. Predictors: (Constant), REGR factor score 6 for analysis 2, REGR factor score 5 for analysis 2, REGR factor score 4 for analysis 2, REGR factor score 3 for analysis 2, REGR factor score 2 for analysis 2, REGR factor score 1 for analysis 2

Table 7: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-3.15E-13	.054		.000	1.000
BIG	.112	.054	.112	2.071	.040
CUL	.187	.054	.187	3.455	.001
NET	.420	.054	.420	7.733	.000
SIZE	.203	.054	.203	3.748	.000
COM	.226	.054	.226	4.165	.000
SUBNET	.418	.054	.418	7.704	.000

Source: Own research

a. Dependent Variable: REGR factor score 1 for analysis 2

Table 8: Correlations weighting

		ABS RES	BIG	CUL	NET	SIZE	COM	SUB NET
ABS RES	Corre Coeff	1.000	.027	.098	-.002	-.032	-.168*	-.168*
	Sig. 2-tailed	.	.723	.189	.974	.669	.025	.024
	N	180	180	180	180	180	180	180
BIG	Corre Coeff	.027	1.000	-.001	.002	.022	.018	-.012
	Sig. 2-tailed	.723	.	.988	.978	.771	.810	.874
	N	180	180	180	180	180	180	180
CUL	Corre Coeff	.098	-.001	1.000	-.142	-.028	-.009	-.004
	Sig. 2-tailed	.189	.988	.	.058	.708	.905	.954
	N	180	180	180	180	180	180	180
NET	Corre Coeff	-.002	.002	-.142	1.000	-.101	-.065	-.046
	Sig. 2-tailed	.974	.978	.058	.	.179	.389	.539
	N	180	180	180	180	180	180	180
SIZE	Corre Coeff	-.032	.022	-.028	-.101	1.000	-.137	-.009
	Sig. 2-tailed	.669	.771	.708	.179	.	.067	.906
	N	180	180	180	180	180	180	180
COM	Corre Coeff	-.168*	.018	-.009	-.065	-.137	1.000	.065
	Sig. 2-tailed	.025	.810	.905	.389	.067	.	.388
	N	180	180	180	180	180	180	180
SUB NET	Corre Coeff	-.168*	-.012	-.004	-.046	-.009	.065	1.000
	Sig. 2-tailed	.024	.874	.954	.539	.906	.388	.
	N	180	180	180	180	180	180	180

Source: Own research

5 Discussion

This study yields some inferred conclusions. Firstly, the results indicate that networking plays a critical role in the implementation of strategic management accounting (SMA). Networking can have a substantial impact on SMA implementation by offering employees the chance to exchange knowledge and best practices. This can enhance the implementation process and improve overall SMA success. Networking promotes collaboration among different departments and stakeholders in the organization, promoting communication and coordination during the SMA implementation process. Furthermore, it provides access to external expertise and resources, which can aid in overcoming challenges and improving SMA implementation through access to best practices, technology, and other resources. Networking offers insights into industry trends and developments related to SMA, helping organizations to stay ahead of the game and implement SMA in a manner that meets their industry's evolving needs. It also strengthens relationships between stakeholders, fostering communication and collaboration and increasing the likelihood of SMA implementation success. In conclusion, networking has a positive impact on SMA implementation and organizations can benefit from actively seeking out networking opportunities and utilizing the knowledge and resources available through networking. It is consistent with prior findings of Kalkhouran et al. (2017).

Secondly, the size of an enterprise can influence the implementation of strategic management accounting (SMA) within the organization. Typically, larger enterprises have more resources, such as financial, human (Elia et al., 2021; Ingusci et al., 2023), and technological resources, that can assist with the implementation of SMA. However, smaller enterprises may have limited resources, making the implementation of SMA more challenging. The more complex organizational structures and systems in larger enterprises can also make SMA implementation difficult, while smaller enterprises with simpler structures and fewer systems may find the implementation of SMA more manageable. The bureaucratic and rigid processes in larger enterprises may pose obstacles to SMA implementation, whereas the more adaptable culture in smaller enterprises can make SMA implementation easier. The hierarchical and inflexible culture in larger enterprises may also make it harder to implement new processes like SMA, while a more flexible and adaptive culture in smaller enterprises can support SMA implementation. Larger enterprises may have centralized decision-making, while smaller enterprises may have a more decentralized approach, which can impact the implementation of SMA, as a decentralized approach may be more conducive to the adoption of new processes like SMA. In conclusion, the size of an enterprise can impact the implementation of SMA and organizations should be cognizant of this and take measures to ensure their size is conducive to SMA implementation, such as by securing adequate resources, fostering a flexible culture, and streamlining processes to support SMA implementation. It was mentioned in prior studies' results (Al-Omiri and Drury, 2007; Nguyen and Le, 2020).

Thirdly, the corporate culture can greatly affect the implementation of strategic management accounting (SMA) in a company. Attitude towards change: A culture that is resistant to change may obstruct the implementation of SMA, while a culture that welcomes new ideas and processes may more readily embrace it and understand its benefits.

A corporate culture that places a strong emphasis on strategy and long-term planning is more likely to adopt SMA and see its strategic benefits. Cultures that promote collaboration and open communication can aid the implementation of SMA by promoting a shared understanding of its goals. Allowing employees autonomy in decision-making can foster a sense of ownership and investment in the implementation process. A culture that shies away from risk may hesitate to implement SMA due to the perceived risks involved, while a culture that embraces innovation and risk-taking may be more accepting of it. In conclusion, corporate culture can greatly impact the implementation of SMA in a company, and organizations must recognize its role and create a culture that supports its implementation. This can include fostering open communication, promoting collaboration, and giving opportunities for employee involvement and empowerment. This study also supports prior research by Baird et al. (2018).

Lastly, the implementation of Strategic Management Accounting (SMA) can be impacted by big data in various ways. Big data offers organizations a vast amount of information and insights, which can be utilized to make informed decisions and improve the precision of strategic accounting. This data enables organizations to recognize new prospects and obstacles and make decisions based on data. Additionally, big data helps in the automation of several data collection, storage, and processing tasks, making the implementation of SMA more efficient by reducing time and effort and freeing up resources for other activities. It also enhances the accuracy and dependability of accounting information by providing organizations with a comprehensive and detailed view of their financial performance. This information can be used to establish critical performance indicators (KPIs) and track the organization's progress over time. Big data can help monitor the implementation of SMA and identify areas for improvement, which can be used to establish best practices and improve the overall success of the process. In conclusion, big data plays a crucial role in supporting the implementation of SMA by providing valuable insights, improving the accuracy and reliability of accounting information, and streamlining the implementation process. That is why in existing research, scholars have argued that high-quality IS could facilitate and boost the adoption of updated management accounting tools, including SMA practices (Nguyen & Nguyen, 2021; Vu et al., 2022).

6 Conclusion

This study has added to the understanding of implementing SMA. In conclusion, the implementation of Strategic Management Accounting (SMA) is significantly impacted by networking, enterprise size, corporate culture, and big data.

Networking can play a crucial role in SMA implementation by connecting organizations and individuals with relevant expertise, resources, and best practices. Through networking, companies can identify potential partners and collaborators, exchange knowledge and insights, and access new technologies and methods for data analysis and management.

Enterprise size is also a critical factor that affects SMA implementation. Small and

medium-sized enterprises (SMEs) may face challenges in terms of resources, skills, and expertise, whereas large enterprises may have the resources to implement and scale SMA initiatives, but may struggle with integrating and managing large amounts of data.

Corporate culture is also an important consideration in SMA implementation. Companies with a culture of innovation and collaboration are more likely to successfully adopt and implement SMA practices, while organizations with a more traditional and hierarchical culture may find it challenging to adapt to new technologies and processes.

Finally, the impact of big data on SMA implementation cannot be overstated. The massive volume of data generated by various sources, including social media, provides a rich source of information for companies to analyze and gain insights. However, processing and analyzing this data requires specialized skills, tools, and technologies, and companies must also navigate privacy and security concerns as well as ethical considerations in their use of big data.

In conclusion, networking, enterprise size, corporate culture, and big data all have a significant impact on the implementation of SMA initiatives. Companies must consider these factors and develop strategies to overcome any challenges and fully realize the potential benefits of SMA.

The research has some limitations such as the limited time and resources that prevented the examination of other factors that impact SMA implementation. Further studies should investigate other factors like government support, SMA implementation costs, managers' qualifications, etc. that were not covered in this study.

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