

Strategic management accounting and sustainable performance: The serial mediating role of business strategies and competitiveness

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Abstract: The objectives of this study were to 1) examine the impact of strategic management accounting (SMA) that influences business sustainability by integrating comprehensive internal information and external business environment to formulate strategic decision-making to enhance competitiveness, and 2) investigate the serial mediating role of business strategies and competitive advantages. Data were collected from a total of 168 samples of listed companies in the Stock Exchange of Thailand and analyzed by using partial least squares structural equation model. The results showed that strategic management accounting had a positive direct impact on innovation-oriented strategy, efficiency-oriented strategy, and sustainable performance. Innovation-oriented strategy and competitiveness was found to have serial mediating effect on strategic management accounting and performance sustainability. However, both efficiency-oriented strategy and competitiveness had no serial mediating effect on strategic management accounting and sustainable performance. The implications in this present study confirm that strategic management accounting plays a significant role in determining effective business strategies; therefore, executives need to focus on related resources to foster the strategic management accounting which in turn enhances the firm's competitiveness and sustainable performance.

Keywords: strategic management accounting; sustainable performance; competitiveness; innovation-oriented strategy; efficiency-oriented strategy

1. Introduction

Today's business is being reshaped by several forces, including economic expansion, laws and regulations, and dataset development spearheaded by rapid digital transformation. These dynamic challenges have heightened the competitive intensity in various industries and operating models (Farida and Setiawan, 2022; Ogunleye et al., 2021) that propel businesses to adjust operational goals to meet the current economic, social, and environmental requirements (Farchi et al., 2021). Firms strive to develop new approaches to assess how much more sustainable value is added to contribute to a significant impact on three main realms of corporate sustainability: economic prosperity, social equity, and environmental integrity to achieve business-related success. Therefore, sustainable operational performance is used as one of the indicators to measure how firms implement their management, resources, and strategies (Ogunleye et al., 2021).

Since accounting insight provides relevant information to ensure effective managerial decision-making in sustaining organizational profitability and competitive advantage, a growing trend has emphasized strategic management accounting (James, 2012; Ojra et al., 2021; Turner et al., 2017). The foundation of strategic management accounting should embrace current and future corporate's

internal and external practices and procedures (Alamri, 2019; Dang et al., 2021) that is critical for strategic planning and control to optimize organization's operational effectiveness (Wajdi and Arsjah, 2019).

Given the importance of strategic management accounting, the mainstream of relevant studies investigates the role of strategic management accounting as a managerial tool contributing to organizational performance. The previous concept of strategic management accounting use was in internal financial cost control. However, today's resource-based strategic management accounting plays broader roles in determining strategic decision-making enabling executives to formulate strategic management practices in response to their intensively competitive environment (Phornlaphatrachakorn and Na-Kalasindhu, 2020).

In other words, strategic management accounting was also found to be associated with non-financial measures. In recent studies, strategic management accounting has been increasingly conceptualized in the context of a resource-based view of the firm and strategic decision-making capabilities to improve organizational sustainability (Alamri, 2019). Empirical studies revealed evidence of a positive impact on operational performance with increased market share when strategic management accounting is effectively implemented in various service sectors (Alabdullah, 2019; Oboh and Ajibolade, 2017).

According to the literature review, it was indicated that strategic management accounting is a concept of internal information acquisition based on existing resources within the business to support executives' decision-making and increase business performance outcomes (Sugiyarti and Asmilina, 2020; Wajdi and Arsjah, 2019).

According to Barney (1991)'s resource-based theory, a firm's sustained competitive advantage is based on its valuable, rare, inimitable, and non-substitutable resources. The resources are abilities, processes, characteristics, information, and knowledge, and all assets controlled by the organization that uses those resources in strategic management to improve the efficiency and effectiveness of operations (Barney et al., 2016). Thus, it can be assumed that strategic management accounting is a valuable resource for processing unique business information to support executives' strategic decision-making, resulting in the business' competitive advantages. Following this notion, strategic management accounting is unlikely to play a direct role in business operational yields (Phornlaphatrachakorn and Na-Kalasindhu, 2020; Thapayom, 2021). Despite various empirical research evidence proving positive impacts of strategic management accounting on enhanced effectiveness of strategic decision-making and further organizational performance, the unexplained gap in previous studies was the extent of mechanism that business strategy should acquire to lead the organization to gain competitiveness.

Since an organization stays in the face of changing current business environment factors that affect operational outcomes, the role of the selected business strategies based on strategic management accounting must be considered. However, there is limited evidence of studies regarding the impact of strategic management accounting on sustainable performance, particularly in Thailand, where its economy and service sectors are entering towards digital transformation. Hence,

to fill the research gap, the objective of this research aimed to examine the impact of strategic management accounting on business strategies and sustainable performance and the serial mediating roles of business strategies and organizational competitiveness on the relationship between strategic management accounting and sustainable performance, using the resource-based theory (RBT) of Barney (1991) as a concept for explaining such a relationship. This study also aimed to provide implications under the context of Thailand, which could be extended to other countries with similar business characteristics in terms of type and size in the future research.

To further investigate the mediating role of strategic management accounting from the previous literature (Alamri, 2019; Dang et al., 2021; Phornlaphatrachakorn and Na-Kalasinth, 2020), this study examined the impact of strategic management accounting on determining strategic decision-making aiming to enhance competitiveness and sustainable performance by integrating internal information and external business environment in several dimensions. Since the strategic management accounting datasets emphasize improving competitiveness and sustainability, they should extend to the constructs of strategic management accounting, including environmental scanning, technology intelligence, market intelligence, and forward-looking information (Wajdi and Arsjah, 2019).

Moreover, today's businesses face challenging environments, strategic models in accomplishing business operations goals must be agile to respond to the consumer's changing requirements. Solving business problems is to maximize valuable resource efficiency by minimizing cost and modifying policies that add value to product innovation and differentiation (Bansal and Bashir, 2023; Yoshikuni and Albertin, 2018). Therefore, business strategies, including innovation-oriented and efficiency-oriented strategies, were assumed to have an impact on business competitiveness.

Thus, the implications of this present study would contribute to strategic foresight for executives to shape their managerial procedures in strategic decision-making aligned with the current and future economic, social, political, marketing, and long-term business scenarios that are critical elements in an analytic path to estimate opportunities and threats in business operations. Such factors help increase accuracy in implementing business strategies that promote its operational efficiency, supporting competitiveness and sustainable operating outcomes.

As aforementioned, the relationship of strategic management accounting is used to identify business strategies to promote competitiveness and sustainable performance. Therefore, this study investigates whether strategic management accounting focuses on gathering internal information and external business environment, namely technology, marketing, and future predictions and whether the comprehensive information can be used in formulating strategic decisions aiming to enhance innovation orientation and efficiency orientation. To what extent do innovation-oriented and efficiency-oriented strategies have an impact on competitiveness and further sustainable business performance? The research questions were as follows: 1) how does strategic management accounting influence business strategies and sustainable performance, and 2) how do business strategies and competitiveness play a serial mediator role in strategic management accounting

and sustainable performance?

2. Review of literature

2.1. Strategic management accounting (SMA)

Strategic management accounting (SMA) was introduced and described as “the provision and analysis of management accounting data about a business and its competitors, for use in developing and monitoring business strategy” (Simmonds, 1981). SMA is a contemporary accounting technique that allows organizations to focus on internal accounting data and external elements that enhance organizations’ operational efficiency and success (Oyewo et al., 2020). The insights of strategic management accounting enable executives to fulfill their strategic decision-making (Berliantiningrum et al., 2017).

According to the literature review on strategic management accounting concepts, there have been numerous studies in the context of a business’s internal resources and capabilities and the provision of information for the strategic decision-making process (Alamri, 2019). In addition, there have also been studies in the broader context of providing information related to the operating environment, competitors, and forecasting future events to shape sustainability in business (Phornlaphatrachakorn and Na-Kalasindhu, 2020).

However, this study focuses on strategic management accounting in the conceptual context of providing essential information with direct and indirect impacts on business competitiveness and sustainable performance in a dynamic competitive demand. The underlying argument integrates the analysis of external business arrays in various dimensions, including the business environment, technology, and marketing, to envisage long-term business operations to support strategic decision-making, increasing in competitiveness and sustainability of business (Thapayom, 2019; Yu et al., 2019).

Subsequently, growing interests have addressed the importance for organizations analyzing the business environment in SMA (Aldehayyat, 2015; Yu et al., 2019). Generally, business environment analysis is implemented by environmental scanning (ES), including political, legal, economic, social, and cultural spheres that would have either direct or indirect impact on business operations. Moreover, technology intelligence (TI) has become the most disruptive work-related environment that executives must substantially adopt in database operations to increase employee performance and productivity and, eventually, overall firm value. Likewise, market intelligence (MI) is a vital system to reflect essential marketing-related information such as customer behavior, competitors’ operating strategies, and market changes that support executives in strategic decision-making to meet growing customer satisfaction and increase the firm’s profitability in return. Understanding the business environment also focuses on forward-looking information (FLI) (e.g., opportunities, risks, and disclosure of future operating policies) required in strategic planning by executives.

Adherence to strategic management accounting practices enables organizations to be comprehensively informed to ensure their accuracy in strategic decision-making, both internal information (e.g., costing, planning, control, and performance)

and external business environment (e.g., market trends, customer dynamics, and competitor trends). Organizations' tailored efforts toward embracing strategic management accounting practices help them avoid focusing only on internal issues, improving designing efficient operational activities and long-term strategic planning (Jaf et al., 2015).

Strategic management accounting is a dataset that executives use as an effective tool that helps executives in strategic planning, decision-making, and operations contributes to greater business efficiency (Navarro-García et al., 2016; Wajdi and Arsjah, 2019). Additionally, strategic management accounting reflects information used to develop business strategies to create competitive advantages over competitors (Kaneko and Yimruan, 2017), even during changing business situations (Panjaitan et al., 2018; YahiaMarzouk and Jin, 2022). Consequently, the implementation of strategic management accounting integrated with technological information and market data with future visions enables executives to evaluate opportunities and risks in business competition, allowing them to formulate appropriate strategies based on their resource capabilities (Stocker et al., 2021). Therefore, the research hypotheses were as follows:

H1: Strategic management accounting has a positive direct influence on innovation-oriented strategy.

H2: Strategic management accounting has a positive direct influence on efficiency-oriented strategy.

In addition, a key success of strategic management accounting is the capability to analyze business environment data that directly or indirectly impacts its operations. This core capability allows executives to assess future business opportunities and threats to adopt specific strategies to respond to the rapidly changing economic environment (Thapayom, 2019). Therefore, strategic management accounting information is critical to help executives manage resources in a balanced manner in accordance with the current economics, society, and environment to reach higher sustainable performance (Yu et al., 2019). Therefore, the research hypotheses were as follows:

H3: Strategic management accounting has a positive direct influence on sustainable performance.

2.2. Business strategy

Business strategy is a guideline for operations that a business sets up to help increase its competitiveness; therefore, it must reflect operational activities and its adaptability to the growing competitive business environment (Bansal and Bashir, 2023; Yuan et al., 2018). However, business executives need to implement operations based on their selected business strategy to promote long-term operational goals.

Business strategies are formulated according to different goals, i.e., to solve specific problems by using current resources worthwhile. For example, a cost leadership strategy focuses on producing products and providing services at low costs; a differentiation strategy focuses on producing high-quality products /services or having characteristics differing from competitors; and a focus strategy focuses on

responding to specific market segments by being cost leaders or making a difference (Dalwai and Salehi, 2021).

Currently, business strategies are designed to reform specific policies to meet the dynamic demand, particularly in operational efficiency and innovation, namely exploration strategy, aiming to introduce new products into the market; exploitation strategy aiming to create maximum output from the use of available resources (March, 1991); operational excellence strategy aiming to producing low-cost products and maintaining operational efficiency; product leadership strategy aiming to producing products or providing services with advanced technology; and customer intimacy strategy aiming to create customer satisfaction (Treacy and Wiersema, 1995).

From the characteristics of business strategies mentioned above, they can be classified into two types: business strategies aiming to create value and uniqueness in the products, emphasizing product innovation rather than operational efficiency, and business strategies that focus on making the resource use worthwhile and creating operational efficiency rather than creating product innovation.

Therefore, from the nature of the business strategies mentioned above, this study has determined that business strategies are consistent with the current operating environment by categorizing them into two types: an innovation-oriented strategy is an operational approach emphasizing creativity and introducing new products/services to the market. Organizations adopt an innovation-oriented strategy as a guideline for their operations to achieve competitive goals by creating product differentiation and values. Innovation-oriented strategy increases business competitiveness (Hilman and Kaliappen, 2015; Prajogo, 2016). On the other hand, an efficiency-oriented strategy is an operational guideline emphasizing stability and avoiding risks or uncertainties in operations. Organizations adopt an efficiency-oriented strategy aiming to improve their efficiency by managing the manufacturing or operational costs, selling their products, or providing services and working to meet customer satisfaction standards that can increase the price advantage (Tenhiälä and Laamanen, 2018; Yuan et al., 2018).

According to the review, business strategies are to minimize resources while maximizing efficiency to create business's competitiveness (Koçyiğit and Tabak, 2020). However, business operations with different business strategies may result in differences in efficiency (Yuan et al., 2018). Some selected business strategies fail to strengthen competitive advantages, especially those established during the dramatic changes forced or resulting in a decrease in operational efficiency or product quality, causing a decrease in overall business performance (Yoshikuni and Albertin, 2018). Therefore, the business strategies promote different degrees of competitiveness and efficiency in operations. The research hypotheses were set as follows:

H4: Innovation-orientated strategy has a positive direct influence on organizational competitiveness.

H5: Efficiency-orientated strategy has a positive direct influence on organizational competitiveness.

2.3. Organizational competitiveness

Competitiveness arises from the use of business resource-based capabilities to operate appropriately in a highly competitive environment (Panjaitan et al., 2018; Thapayom, 2021) and is the ability of the business to provide different products or services in terms of quality and price to satisfy customers (Sukumar et al., 2020). The business that can maintain its competitiveness is required to develop the ability to operate with differentiation to gain competitive advantages and determine its market position. This results in a long-term business superior to competitors (Quartey, 2019).

Competitiveness derived from an organization's resources and chosen business strategy has an impact on its business market positioning and sustainable performance (Hossain et al., 2022). Moreover, competitiveness is an indicator identifying how a business's capabilities outperform its competitors from the customer's point of view. Therefore, competitiveness is an important factor enhancing the sustainability of business performance (Rahab et al., 2016) that helps businesses survive in fierce competition and promote operational results both in the short and long term, both monetary and non-monetary (Valdiansyah and Augustine, 2021; Wajdi and Arsjah, 2019).

Hence, in this study, competitiveness is defined as the ability of a business to create and maintain a superior position to that of its competitors with an emphasis on the competitive price and quality of products/services. The research hypothesis was formulated as follows:

H6: Organizational competitiveness has a positive direct influence on sustainable performance.

2.4. Mediating effect of business strategies and organizational competitiveness

Analyzing critical internal and external data for effective management means business survival in a rapidly changing business environment. Business policies and procedures must support strategic decision-making, planning, and efficient operations monitoring to create a competitive advantage over rivals, resulting in excellent operating outcomes (Phornlaphatrachakorn, 2018).

Previous studies indicated that strategic management accounting is used to gather information for decision-making and formulating business strategies. It focuses on management accounting information and methods for evaluating competitive advantages that can enhance the value of the business (Wajdi and Arsjah, 2019). Due to tremendous challenges in today's business, various factors affect operations in all business sectors. As a result, adopting a traditional strategic management accounting technique causes businesses to fail to maintain their performance (Phornlaphatrachakorn and Na-Kalasinth, 2020; Thapayom, 2021).

Modern business strategy helps integrate a firm's valuable resources to enhance competitiveness, which in turn leads to improved business performance (Correia et al., 2021; Koçyiit and Tabak, 2020) by acting as a mediator in the relationship between strategic management accounting and business performance (Correia et al., 2021). Meanwhile, competitiveness and sustainable performance are related

concepts, developing competitiveness partially contributes to business performance (Ferreira et al., 2021).

However, previous studies suggested that strategic management accounting can indirectly lead to competitiveness as it heavily aims to analyze important information for strategic decision-making and would result in improved operational and competitive ability (Valdiansyah and Augustine, 2021). From the argument in the literature review, it was assumed that business strategy and competitiveness have a continuous relationship. Business strategy is used as a guideline for operations to create competitive abilities, leading to improved performance. Therefore, this research examined business strategies and competitiveness as serial mediators in the relationship between strategic management accounting and sustainable performance. The research hypotheses were established as follows:

H7: Innovation-orientated strategy and organizational competitiveness are serial mediators of strategic management accounting and sustainable performance.

H8: Efficiency-orientated strategy and organizational competitiveness are serial mediators of strategic management accounting and sustainable performance.

3. Methodology

3.1. Sample selection and data collection procedure

The initial population of this study included 814 firms listed in the Stock Exchange of Thailand since these companies generated high income to the Thai economic system and assumed to use strategic management accounting information in their decisions, including planning and operating. However, those undergoing rehabilitation and those in the group of mutual funds and real estate investment trusts were excluded from the study. The purposive sampling method was used in this study.

The appropriate sample size for structural equation modeling analysis with the number of latent variables less than or equal to 7 variables should be at least 150 samples (observation), according to Hair et al. (2010). The latent variables in this research were 5 variables, resulting in a sample size of at least 150 samples in this study.

The key informants of this research were accounting executives, namely the accounting director and finance, accounting manager, or other accounting-related positions since their major responsibilities were to provide accounting information to support executives in determining strategic decisions.

Data were collected through a mail questionnaire distributed to the samples during May and July 2023. The second reminder mail was sent to all non-respondents 30 days after the initial contact. A total of 168 applicable questionnaires were returned, representing an effective response rate of 20.64%, as shown in **Table 1**.

Table 1 shows the characteristics of the firms listed in the Stock Exchange of Thailand in this study. The majority of the samples were service businesses (23.81%), 76.79% operated over 20 years, and 54.17% had fewer than 500 employees.

According to Armstrong and Overton (1977), statistically significant

differences in early and late returned surveys were used to test non-response bias. It was assumed that later responses were representative of the opinions of non-respondents. The respondents' answers of the earliest and the latest 30 sets each were compared via t-test. No significant differences were found between the two groups at $p < 0.05$. The sample representativeness was also checked. From the test results, the p -value of the firm's operating years was 0.121 (sig. > 0.05), and that of the number of employees was 0.125 (sig. > 0.05). These results revealed no significant differences between the samples and the population regarding industry distribution, years of operation, and number of employees. Therefore, the data obtained from questionnaires was appropriate to be used in this research.

Table 1. Characteristics of listed firms in Thailand.

Characteristics	Categories	Frequencies	Percentage
Type of business	Argo and food industry	13	7.74
	Resources	13	7.74
	Technology	17	10.12
	Financials	14	8.33
	Services	40	23.81
	Industrials	30	17.86
	Consumer products	12	7.14
	Property and construction	29	17.26
Total		168	100.00
Years of operation	≤ 20 years	39	23.21
	> 20 years	129	76.79
Total		168	100.00
Number of employees	< 500 employees	91	54.17
	≥ 500 employees	77	45.83
Total		168	100.00

3.2. Measuring variable

The construct measurements of strategic management accounting, orientation strategies, organizational competitiveness, and sustainable performance used in this study were developed from the review of previous studies, as shown in **Table 2**. The closed-ended questions in the questionnaire were measured by using an interval 5-Likert scale (1 = strongly disagree to 5 = strongly agree, except for general information regarding the firm characteristics).

The content validity, including language consistency, accuracy, appropriateness, clarity, comprehensiveness, completeness, and appropriateness of the questionnaire, was tested to confirm the consistency between the measuring instruments and the measured objectives selected by five accounting experts in marketing and management. The individual conformity index showed the item objective congruence (IOC) value between 0.60 and 1.00, which was justified to be employed in this study according to Rovinelli and Hambleton (1976) and Polit and Beck (2012).

In addition, the 30-set pilot test was used to validate the reliability of the study. The questionnaire confidence was tested by using Cronbach’s alpha coefficient formula. The result showed the instrument’s confidence level between 0.920 and 0.966, which passed the required standard of greater than 0.70. Therefore, the questionnaire in this study was reliable and capable of measuring the variables, according to Cronbach (1990) and Hair et al. (2019).

Table 2. Source of measuring variables.

Variables	Description	Sources
Strategic management accounting (SMA)	Collecting significant internal and external information about current and forward-looking trends and events, to support business plan and strategic management according to the current state of the dynamic environment, to adjust its conduct; as a result, the organization becomes more resilient, competitive, and sustainable over rivals in the face of external disruptions.	YahiaMarzouk and Jin, 2022; Hendar et al., 2020; Talaja et al., 2017; Phornlaphatrachakorn and Na-Kalasinthu, 2020
Innovation-oriented strategy (IOS)	Understanding the environmental dynamics helps an organization exploit innovation practices to develop its capacity and resources to promptly respond the general external environment changes and identify factors that enhance the launch of new products and services, improv existing products/services, differentiate themselves from competitors, establish themselves as a vanguard, and expand participation in the current customer market.	Ilmudeen and Bao, 2020; Yoshikuni and Albertin, 2018
Efficiency-oriented strategy (EOS)	Understanding the business environment, an organization focuses on competitors and defends its competitive position against competitors by focusing on a limited number of key criteria such as cost. Thus, to gain cost leadership, an organization avoids organizational change, and maximizes production effectiveness and efficiency at the lowest cost.	Ilmudeen and Bao, 2020; Keskin et al., 2021
Organizational competitiveness (OC)	The ability of an organization that promptly anticipates new trends and determines latent market demands to execute suitable strategies, then delivers differentiated products/services in an improved quality at a more competitive price than its competitors.	YahiaMarzouk and Jin, 2022
Sustainable performance (SP)	Company’s ability to operate in a manner that upholds environmental integrity, social well-being, and economic prosperity.	Ogunleye et al., 2021; Saqib and Zhang, 2021

Exploratory factor analysis indicating a Kaiser-Meyer-Olkin index (KMO) > 0.50, with a *p*-value of Bartlett’s sphericity test < 0.05 (Gomes et al., 2022), and an Eigen value ≥ 1.00 (Hair et al., 2010), must be conducted to examine the consistency of the question items to determine the absolute quality of the fit measure between the empirical data and the measuring variables. The test showed a KMO value between 0.851 and 0.926, and Bartlett’s sphericity test with a *p*-value < 0.05 and an Eigen value > 1.00 in each variable, as shown in **Table 3**.

Table 3. Exploratory factor analysis.

Construct	KMO index	Bartlett’s sphericity test	Eigen value
SMA			1.309
-ES			10.480
-TI	0.926	0.000	1.831
-MI			1.080
-FLI			
IOS	0.862	0.000	4.647
EOS	0.863	0.000	4.320
OC	0.872	0.000	4.283
SP	0.851	0.000	4.661

3.3. Data analysis

Partial least squares structural equation modeling (PLS-SEM) has become a statistical method in various social science and business administration studies, particularly in the case of complex path modeling analysis. Despite the multiple latent variables and the abnormally distributed indicators, PLS-SEM is an alternative technique to identify key success factors and sources of competitive advantage for important target constructs and provide accurate prediction results, according to Hair et al. (2019) and Sarstedt et al. (2021). Additionally, PLS-SEM is recommended for testing causal relationships among variables in multiple paths at once to reduce errors in data analysis (Hariguna and Ruangkanjanases, 2024). Hence, PLS-SEM is justified in this study to analyze the direct and indirect effect of variables of business strategies and organizational competitiveness to determine its serial mediating role in the relationship between strategic management accounting and sustainable performance.

4. Results

In this study, the quality of the structural model was assessed by item loading value > 0.707 and average variance extracted (AVE) > 0.5 to ensure the construct's convergent validity for all indicators on each construct. The loading value of Environmental scanning (ES), a component of SMA, was between 0.643 and 0.879, rejecting the criteria. However, the AVE value of SMA passed the convergent validity test. Therefore, ES as a construct of SMA was included in this study.

In addition, the internal consistency was identified by two parameters: Dijkstra-Henseler's rho (ρ_A) and Jöreskog's rho (ρ_C), which both should be greater than 0.70. The results showed Dijkstra-Henseler's rho (ρ_A) between 0.882 and 0.922 and Jöreskog's rho (ρ_C) between 0.871 and 0.921, which were greater than 0.70. The convergent validity assessment based on the average variance extracted (AVE) was between 0.607 and 0.659, greater than 0.50. The results of the assessment of the measurement model showed that all indicators in each construct were consistent and appropriate in measuring latent variables, as shown in **Table 4**.

Table 4. Assessment of measurement model.

Construct	Loading > 0.707	Dijkstra-Henseler's rho (ρ_A) > 0.7	Jöreskog's rho (ρ_C) > 0.7	AVE ≥ 0.50
SMA	0.643–0.879	0.882	0.871	0.631
IOS	0.715–0.854	0.917	0.915	0.607
EOS	0.766–0.853	0.921	0.921	0.659
OC	0.721–0.866	0.922	0.919	0.656
SP	0.704–0.865	0.919	0.915	0.608

Note: SMA = Strategic management accounting, IOS = Innovation orientation strategy, EOS = Efficiency orientation strategy, OC = Organizational competitiveness, SP = Sustainable performance.

Furthermore, the discriminant validity of the measurement model was also assessed by considering Heterotrait-monotrait (HTMT) ratio of correlation values, as shown in **Table 5**. The results from the analysis showed HTMT values between 0.622 and 0.842, which were less than 0.85. The results indicated that the latent

variables were not highly correlated with each other, causing no multicollinearity problem (Hair et al., 2019).

Table 5. Heterotrait-monotrait (HTHT) ratio.

Construct	SMA	IOS	EOS	OC	SP
SMA					
IOS	0.778				
EOS	0.697	0.740			
OC	0.726	0.842	0.700		
SP	0.749	0.705	0.622	0.800	

Note: HTHT < 0.85 (Hair et al., 2019).

The assessment of the structural model in PLS-SEM statistics was analyzed using bootstrapping techniques. The direction of effect between latent variables was determined by considering path coefficients (β), and the size of the effect test was based on the *f*-square (f^2) value. The test results show that β were positive in all paths with a large statistical correlation influence ($f^2 > 0.35$), except the SMA and SP relationships, indicating a medium effect, as shown in **Table 6**.

Table 6. Assessment of structural model and Hypothesis testing.

Panel A: Direct effect test					
Hypothesis	Path coefficient (β)	<i>p</i> -value	f^2	Size of effect	Hypothesis testing
H1: SMA → IOS	0.783	0.000	1.580	Large	Supported
H2: SMA → EOS	0.704	0.000	0.982	Large	Supported
H3: SMA → SP	0.349	0.007	0.191	Medium	Supported
H4: IOS → OC	0.722	0.000	0.877	Large	Supported
H5: EOS → OC	0.169	0.129	0.048	Small	Not support
H6: OC → SP	0.549	0.000	0.472	Large	Supported
Panel B: Indirect effect test					
Hypothesis	Path coefficient (β)	<i>p</i> -value	f^2	Mediation	Hypothesis testing
H7: SMA → IOS → OC → SP	0.310	0.000	-	Partial mediation	Supported
H8: SMA → EOS → OC → SP	0.065	0.238	-	Non-mediation	Not supported

Note: $f^2 > 0.02$ = small effect, > 0.15 = medium effect, and > 0.35 = large effect (Hair et al., 2019).

In addition, according to direct effect testing, the results showed that SMA had a positive direct effect on IOS ($\beta = 0.783$, p -value < 0.001), EOS ($\beta = 0.704$, p -value < 0.001), and SP ($\beta = 0.349$, p -value < 0.01), which was following H1, H2, and H3. Moreover, IOS had a positive direct effect on OC ($\beta = 0.722$, p -value < 0.001), supporting H4. However, EOS had no effect on OC ($\beta = 0.169$, p -value > 0.05), rejecting H5. Moreover, the test results showed that OC had a positive direct effect on SP ($\beta = 0.549$, p -value < 0.001), supporting H6, as shown in **Table 6** (panel A) and **Figure 1**.

As for testing the mediating role by considering the p -value of the direct and indirect effect when both paths were statistically significant, the results indicated that

the mediator variable was partially mediated when the direct effect was statistically significant.

However, when the indirect effect path was not statistically significant, it indicated that the mediator variable was not mediated or when the direct influence was not statistically significant. However, the indirect influence indicated full mediation (Hair et al., 2021). The test results revealed that IOS and OC ($\beta = 0.310$, p -value < 0.001) served as serial mediator variables that caused partial mediation. In contrast, EOS and OC ($\beta = 0.065$, p -value > 0.05) had no role as serial mediator variables of SMA and SP, as shown in **Table 6** (panel B) and **Figure 1**.

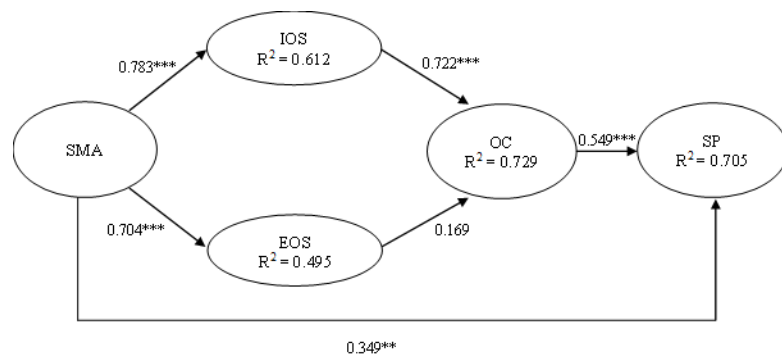


Figure 1. Results of hypotheses tests.

Note: * p -value ≤ 0.05 , ** p -value ≤ 0.01 , *** p -value ≤ 0.001 , $R^2 \geq 0.75$ is strong predictive power, ≥ 0.50 is moderate predictive power, ≥ 0.25 is weak predictive power (Hair et al., 2019).

5. Discussion

The findings from this study are described in three focal points: the effect of strategic management accounting on sustainable performance, the effect of business strategy on organizational competitiveness, and the mediating role of business strategies and organizational competitiveness on sustainable performance.

Firstly, grounded on the substance that strategic management accounting is a tool for executives to collect comprehensive information regarding the current business environment and future business forecasts that directly or indirectly affect business operations, strategic management accounting is widely used to enable executives to make effective strategic decisions. Following this notion, this study examined the effect of strategic management accounting on business strategies. The results showed that strategic management accounting has a positive direct effect on innovation-oriented strategy and efficiency-oriented strategy, supporting H1 and H2, consistent with the reviewed literature (e.g., Kaneko and Yimruan, 2017; Turner et al., 2017) indicating that strategic management accounting is an effective approach required for executives' decision-making in determining strategic operational guidelines by looking over financial and non-financial measures.

Moreover, the results showed that strategic management accounting has a direct effect on sustainable performance, supporting H3, consistent with the empirical evidence found in Thapayom (2019), indicating that the implementation of strategic management accounting is an essential pathway for practitioners to analyze opportunities and threats to business operations and formulate efficient managerial decision-making which eventually boost organization's sustainable performance.

Secondly, given the cumulative evidence of the impact of strategic management accounting on enhanced organizational performance, this study further investigated the underlying business strategy orientation that would optimize the sustained competitiveness of the business to different degrees. The results showed that business strategy, innovation-oriented strategy in particular, has a positive direct effect on organizational competitiveness, supporting H4, consistent with the previous studies (e.g., Anning-Dorson, 2018; Keskin et al., 2021) concluding that innovation-oriented strategy leads businesses to readily align with the internal and external organizational dynamics, enabling them to adapt to their circumstances effectively. Innovation-oriented strategy is used to develop innovative initiatives in product/service differentiation to abruptly meet the firms' changing consumer requirements to create competitive advantages over competitors in the marketplace (Prajogo, 2016).

On the other hand, (Ilmudeen and Bao, 2020) distilled that an efficiency-oriented strategy also has an impact on organizational competitiveness as the strategy focuses on improving operational efficiency by minimizing the use of excessive resources to help the firm control costs and setting competitive prices, which in turn, add competitive advantages to the firm. However, the results in this study found that an efficiency-oriented strategy has no impact on organizational competitiveness, rejecting H5.

Since today's changing consumer values and purchasing decisions have altered from price factors to product differentiation features focusing on providing quality. In other words, a firm's efficiency-oriented strategy emphasizing cost leadership (i.e., financial measures), in contrast to a differentiation strategy, is likely to fail in competitiveness promotion in the context of Thailand (Wongchaiya and Pheunpha, 2018). This notion was in line with the recent study conducted in Indonesia by Sugiyarti and Asmilia (2020), revealing that a cost leadership strategy that makes the firm positioned to withstand price competition from rivals, so the firm is unlikely to align with the rapidly changing consumer preference challenged by technology disruption, leading to reduced competitive ability.

However, the results of this study showed that organizational competitiveness has a direct positive effect on sustainable performance, supporting H6. The finding was consistent with the studies of Wajdi and Arsajah (2019) and Rahab et al. (2016), positing that the firm's long-term organizational performance over competitors amid the intensively competitive market derives from the different bundles of resource-based competitive advantage.

Thirdly, given the importance of strategic management accounting as a critical element of sustainable performance enhancement, the mediating role of business strategies and organizational competitiveness was further investigated. The results showed that innovation-oriented strategy and organizational competitiveness are partial mediators in the relationship between strategic management accounting and sustainable performance, supporting H7, consistent with the study by Keskin et al. (2021) stating that business strategy is an operating guideline that promotes competitiveness and interlink between the firm's valuable resources and its performance. However, it was found that efficiency-oriented strategy and organizational competitiveness are not serial mediators in the relationship between

strategic management accounting and sustainable performance, rejecting H8, consistent with Alonso-Almeida et al. (2015) indicating that efficiency-oriented strategy emphasizing cost control to offer the competitive price can be achieved by reducing product quality, affecting lower consumer satisfaction and further loss of competitiveness in the long term.

Therefore, comprehensive external information regarding the business environment enables executives to identify business opportunities and threats to formulate business strategies in accordance with the current business circumstances. However, business strategies determination result in different operational outcomes (Yuan et al., 2018). The innovation-oriented strategy focuses on product/service quality and differentiation to meet consumer expectations strategies, leading to the firm's competitive advantage by offering additional exclusive benefits unlike other competitors. In contrast, an efficiency-oriented strategy focuses on cost control by disregarding creating identity or differentiation of the products/services, resulting in decreased competitiveness (Yoshikuni and Albertin, 2018).

From the results in all three focal points of the study, the effect of strategic management accounting is an effective practice of gathering information about the current business environment and future predictions regarding technology and marketing. Thus, strategic management accounting is a crucial source of information to support the strategic decision-making of executives in determining appropriate business operations to keep pace with the current business situations. The results also pointed out that businesses should orient the strategies that focus on innovation development rather than efficiency as an innovation strategy promotes the firm's competitive advantage, achieving higher operational goals. Innovation strategy aims to offer exclusive products/services benefits that respond to rapidly changing customer expectations in the intense market competition in the global dynamics (Herzallah et al., 2017).

6. Conclusion and suggestions for future research

6.1. Summary of results

Strategic management accounting is a concept for gathering information covering general operations, technology, marketing, and long-term business forecasts. This information supports the executives' strategic decision-making in business strategies focusing on innovation and efficiency. Both strategy orientations are operational guidelines that are consistent with the current business model. In addition, strategic management accounting is information that executives use to manage their organization and accomplish its economic, social, and environmental sustainability goals.

Although strategic management accounting is used to formulate business strategies and manage the organization effectively, businesses must choose an appropriate strategy for the intensely competitive market. Consequently, strategic management accounting provides certain competitive advantages and produces excellent operational performance. Innovation orientation is a strategy that promotes competitive ability, resulting in sustainable business performance, whereas efficiency orientation aims to become cost-leadership, disregarding competitiveness

enhancement.

6.2. Theoretical contributions

The study showed that strategic management accounting is a practical resource for executives' strategic decision-making, used for planning operations and helping the business to create sustainable competitiveness. The business strategy that aims to initiate innovations is considered a unique characteristic of the business, which plays an essential role in building competitive ability. Therefore, strategic management accounting is a resource that is an uncommon practice. Instead, it arises from the knowledge and ability of executives to design techniques to gather information that fits the business context of today's changing business environment. Following this notion, strategic management accounting is grounded on the resource-based theory since it is a valuable, rare, unreplaceable, and inimitable resource. These characteristics could help the business gain a competitive advantage, leading to excellence in business performance (Dang et al., 2021).

6.3. Managerial contributions

This study supported the previous studies that the changing business environment reinforces strategic management accounting to emphasize gathering business information in the extended area of environment, operation, technology, marketing, and long-term forecast information. This information is vital for making strategic decisions, particularly business strategy, which aims to develop innovation to help businesses gain competitiveness in the current business environment and eventually increase the sustainability of business performance. Hence, innovation orientation focusing on product/service differentiation can offer more exclusive benefits that meet today's customer preference than those solely focusing on cost-control efficiency orientation. Therefore, business executives must consider the nature of information used in decision-making and the business strategies challenged by the change in current competitive conditions. Executives can utilize the evidence from this study in strategic planning and operational management to foster competitiveness and achieve excellent operational performance.

6.4. Limitations and recommendations for future studies

Despite the numerous contributions of the study, certain limitations must be highlighted. During the data collection period, the informants, who were accounting executives responsible for arranging the financial statements, were overloaded with the half-year financial statement review and mid-year tax filings for the companies listed on the Stock Exchange of Thailand. As a result, the response rate to the questionnaire was low. Therefore, the data collection period and access to the samples' contact in future research would be reorganized.

Future research should explore the effects of strategic management accounting on a separate construct and consider the results of using strategic management accounting in the form of broader performance indicators, e.g., financial performance, business value. In addition, the moderator variables should also be tested, such as organizational culture and the learning ability of the organization,

since they have an impact on sustainable performance. To examine what degree business sustainability relies on information system or management style and the internal business.

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References

- Alabdullah, T. T. Y. (2019). Management accounting and service companies' performance: research in emerging economies. *Australasian Accounting, Business and Finance Journal*, 13(4), 100-118. <https://doi.org/10.14453/aabfj.v13i4.8>
- Alamri, A. M. (2019). Association between strategic management accounting facets and organizational performance. *Baltic Journal of Management*, 14(2), 212-234. <https://doi.org/10.1108/bjm-12-2017-0411>
- Aldehayyat, J. S. (2015). Environmental scanning in business organisations. *Management Research Review*, 38(5), 459-481. <https://doi.org/10.1108/mrr-02-2014-0032>
- Alonso-Almeida, M. d. M., Bremser, K., & Llach, J. (2015). Proactive and reactive strategies deployed by restaurants in times of crisis. *International Journal of Contemporary Hospitality Management*, 27(7), 1641-1661. <https://doi.org/10.1108/ijchm-03-2014-0117>
- Anning-Dorson, T. (2018). Innovation and competitive advantage creation. *International Marketing Review*, 35(4), 580-600. <https://doi.org/10.1108/imr-11-2015-0262>
- Armstrong, J. S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, 14, 396-402. <https://doi.org/10.1177/002224377701400320>
- Bansal, M., & Bashir, H. A. (2023). Business strategy and classification shifting: Indian evidence. *Journal of Accounting in Emerging Economies*, 13(1), 69-92. <https://doi.org/10.1108/jaee-03-2021-0099>
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17, 99-120. <http://dx.doi.org/10.1177/014920639101700108>
- Barney, J., Wright, M., & Ketchen, D. J. (2016). The resource-based view of the firm: Ten years after 1991. *Journal of Management*, 27(6), 625-641. <https://doi.org/10.1177/014920630102700601>
- Berliantiningrum, R., Sunaryanto, H., & Pratikto, H. H. (2017). The effect of strategic management and strategic management accounting system on the performance of manufacturing companies in east Java (Using the perspective of institutional theory). *International Journal of Business, Economics and Law*, 12(1), 44-51.
- Correia, R. J., Dias, J. G., & Teixeira, M. S. (2021). Dynamic capabilities and competitive advantages as mediator variables between market orientation and business performance. *Journal of Strategy and Management*, 14(2), 187-206. <https://doi.org/10.1108/jsma-12-2019-0223>
- Cronbach, L. J. (1990). *Essential of psychological testing*, 5th ed. New York: Harper Collins Publishers. Inc.
- Dalwai, T., & Salehi, M. (2021). Business strategy, intellectual capital, firm performance, and bankruptcy risk: evidence from Oman's non-financial sector companies. *Asian Review of Accounting*, 29(3), 474-504. <https://doi.org/10.1108/ara-01-2021-0008>
- Dang, L. A., Le, T. M. H., Le, T. H., & Pham, T. B. T. (2021). The effect of strategic management accounting on business

- performance of sugar enterprises in Vietnam. *Accounting*, 7, 1085-1094. <https://doi.org/10.5267/j.ac.2021.2.031>
- Farchi, C., Touzi, B., Farchi, F., & Mousrij, A. (2021). Sustainable performance assessment: A systematic literature review. *Journal of Sustainable Development of Transport and Logistics*, 6(2), 124-142. <https://doi.org/10.14254/jsdtl.2021.6-2.8>
- Farida, I., & Setiawan, D. (2022). Business strategies and competitive advantage: The role of performance and innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(3). <https://doi.org/10.3390/joitmc8030163>
- Ferreira, J., Cardim, S., & Coelho, A. (2021). Dynamic capabilities and mediating effects of innovation on the competitive advantage and firm's performance: the moderating role of organizational learning capability. *Journal of the Knowledge Economy*, 12(2), 620-644. <https://doi.org/10.1007/s13132-020-00655-z>
- Gomes, G., Seman, L. O., Berndt, A. C., & Bogoni, N. (2022). The role of entrepreneurial orientation, organizational learning capability and service innovation in organizational performance. *Revista de Gestão*, 29(1), 39-54. <https://doi.org/10.1108/rege-11-2020-0103>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*, 7th ed. Pearson education, Inc.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2-24. <https://doi.org/10.1108/eb-11-2018-0203>
- Hariguna, T., Ruangkanjanases, A. (2024). Assessing the impact of social media interaction in s-commerce strategies mediated by relationship quality. *Journal of Infrastructure, Policy and Development*, 8(2) 2807, 1-20. <https://doi.org/10.24294/jipd.v8i2.2807>
- Hendar, H., Ratnawati, A., Ab Razak, W. M. W., & Abdullah, Z. (2020). Market intelligence on business performance: The mediating role of specialized marketing capabilities. *Journal of Intelligence Studies in Business*, 10(1), 42-58. <https://doi.org/10.37380/jisib.v1i1.562>
- Herzallah, A., Gutierrez-Gutierrez, L. J., & Rosas, J. F. M. (2017). Quality ambidexterity, competitive strategies, and financial performance: An empirical study in industrial firms. *International Journal of Operations & Production Management*, 37(10), 1496-1519. <https://doi.org/10.1108/IJOPM-01-2016-0053>
- Hilman, H., & Kaliappen, N. (2015). Innovation strategies and performance: Are they truly linked? *World Journal of Entrepreneurship, Management and Sustainable Development*, 11(1), 48-63. <https://doi.org/10.1108/WJEMSD-04-2014-0010>
- Hossain, M. S., Hussain, K., Kannan, S., & Kunju Raman Nair, S. K. (2022). Determinants of sustainable competitive advantage from resource-based view: implications for hotel industry. *Journal of Hospitality and Tourism Insights*, 5(1), 79-98. <https://doi.org/10.1108/jhti-08-2020-0152>
- Ilmudeen, A., & Bao, Y. (2020). IT strategy and business strategy mediate the effect of managing IT on firm performance: empirical analysis. *Journal of Enterprise Information Management*, 33(6), 1357-1378. <https://doi.org/10.1108/jeim-03-2019-0068>
- Jaf, R. A. S., Sabr, S. A., & Nader, K. A. (2015). Impact of management accounting techniques on achieve competitive advantage. *Research Journal of Finance and Accounting*, 6(4), 84-98.
- James, P. C. (2012). The application of innovative management accounting principles for enhancing profitability and competitiveness: An exploratory study of Jamaican manufacturers. *International Journal of Business and Social Research (IJBSR)*, 2(6), 47-60.
- Kaneko, P., & Yimruan, S. (2017). Combination of strategic management accounting implementation, organizational culture, and human resource accounting capabilities on sustainable competitive advantage: Literature review on Thai Traditional Puppetry Businesses. *PSAKU International Journal of Interdisciplinary Research*, 6(1), 67-78. <https://doi.org/10.12778/235108618x15452373185822>
- Keskin, H., Ayar Şentürk, H., Tatoglu, E., Gölgeci, I., Kalaycioglu, O., & Etioglu, H. T. (2021). The simultaneous effect of firm capabilities and competitive strategies on export performance: the role of competitive advantages and competitive intensity. *International Marketing Review*, 38(6), 1242-1266. <https://doi.org/10.1108/imr-09-2019-0227>
- Koçyiğit, Y., & Tabak, A. (2020). The interaction among organizational flexibility, competitive strategy and competitive advantage: A path analytic study. In: *Agile Business Leadership Methods for Industry 4.0*. pp.303-326. <https://doi.org/10.1108/978-1-80043-380-920201017>
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71-87. <https://doi.org/10.1287/orsc.2.1.71>
- Navarro-García, A., Peris-Ortiz, M., & Barrera-Barrera, R. (2016). Market intelligence effect on perceived psychic distance,

- strategic behaviours and export performance in industrial SMEs. *Journal of Business & Industrial Marketing*, 31(3), 365-380. <https://doi.org/10.1108/jbim-03-2013-0065>
- Oboh, C. S., & Ajibolade, S. O. (2017). Strategic management accounting and decision making: A survey of the Nigerian Banks. *Future Business Journal*, 3(2), 119-137. <https://doi.org/10.1016/j.fbj.2017.05.004>
- Ogunleye, O. J., Fagboro, G. D., & Oparinde, D. O. (2021). The impact of strategic management accounting on corporate sustainability in Nigerian Banks. *Global Journal of Accounting*, 7(1), 69-79.
- Ojra, J., Opute, A. P., & Alsolmi, M. M. (2021). Strategic management accounting and performance implications: a literature review and research agenda. *Future Business Journal*, 7(1). <https://doi.org/10.1186/s43093-021-00109-1>
- Oyewo, B., Ajibolade, S., & Omolehinwa, E. (2020). The usage of customer accounting as a source of sustainable competitive advantage: Some evidence from quoted manufacturing companies in Nigeria. *International Journal of Accounting & Finance*, 9(1), 18-46.
- Panjaitan, D., Lesmana, D., & Maimunah, M. (2018). Effect of use of management accounting systems on competitive advantages: business unit performance as a mediator (Study of MSMEs in Palembang city). *Journal of Accounting and Strategic Finance*, 1(01), 33-44. <https://doi.org/10.33005/jasf.v1i01.22>
- Phornlaphatrachakorn, K. (2018). Strategic cost management and firm profitability: An empirical investigation of instant foods and convenience foods businesses in Thailand. *International journal of business*, 23(4), 357-371.
- Phornlaphatrachakorn, K., & Na-Kalasindhu, K. (2020). Strategic management accounting and firm performance: evidence from finance businesses in Thailand. *Journal of Asian Finance, Economics and Business*, 7(8), 309-320. <https://doi.org/10.13106/jafeb.2020.vol7.no8.309>
- Polit, D. & Beck, T. (2012). *Nursing research: generating and assessing evidence for nursing practice*, 9th ed. Philadelphia: Lippincott Williams & Wilkins.
- Prajogo, D. I. (2016). The strategic fit between innovation strategies and business environment in delivering business performance. *International Journal of Production Economics*, 171, 241-249. <https://doi.org/10.1016/j.ijpe.2015.07.037>
- Quartey, S. H. (2019). Knowledge and sustainable competitive advantage of the Eyre Peninsula's fishing industry in Australia. *Knowledge and Process Management*, 26(2), 86-97. <https://doi.org/10.1002/kpm.1592>
- Rahab, R., Anwar, N., & Priyono, R. E. (2016). Effect of core competence on sustainable competitive advantages of Batik Banyumas Small and Medium Enterprises. *Journal of Comparative International Management*, 19(1), 19-34.
- Rovinelli, R. J., & Hambleton, R. K. (1976). On the use of content specialists in the assessment of criterion-referenced test item validity. Available online: <https://files.eric.ed.gov/fulltext/ED121845.pdf> (accessed on 30 November 2022).
- Saqib, Z. A., & Zhang, Q. (2021). Impact of sustainable practices on sustainable performance: the moderating role of supply chain visibility. *Journal of Manufacturing Technology Management*, 32(7), 1421-1443. <https://doi.org/10.1108/jmtm-10-2020-0403>
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). *Partial least squares structural equation modeling*. In: *Handbook of market research* Cham: Springer International Publishing.
- Simmonds, K., Cost, I. O., & Accountants, M. (1981). *The Fundamentals of Strategic Management Accounting*. Institute of Cost and Management Accountants. Available online: <https://books.google.co.th/books?id=yJNjGQAACAAJ> (accessed on 30 November 2022).
- Stocker, F., Zanini, M. T., & Reis Irigaray, H. A. (2021). The role of multi-stakeholders in market orientation and sustainable performance. *Marketing Intelligence & Planning*, 39(8), 1091-1103. <https://doi.org/10.1108/mip-05-2021-0157>
- Sugiyarti, L., & Asmilia, N. (2020). Managerial performance: The mediating role of strategy management accounting techniques on competitive advantage and organization performance. *Economics and Accounting Journal*, 3(2), 80-89. <https://doi.org/10.32493/eaj.v3i2.y2020.p80-89>
- Sukumar, A., Jafari-Sadeghi, V., Garcia-Perez, A., & Dutta, D. K. (2020). The potential link between corporate innovations and corporate competitiveness: evidence from IT firms in the UK. *Journal of Knowledge Management*, 24(5), 965-983. <https://doi.org/10.1108/jkm-10-2019-0590>
- Talaja, A., Miočević, D., Alfirević, N., & Pavičić, J. (2017). Market orientation, competitive advantage and business performance: Exploring the indirect effects. *Drustvena istrazivanja*, 26(4). <https://doi.org/10.5559/di.26.4.07>
- Tenhiälä, A., & Laamanen, T. (2018). Right on the money? The contingent effects of strategic orientation and pay system design on firm performance. *Strategic Management Journal*, 39(13), 3408-3433. <https://doi.org/10.1002/smj.2953>
- Thapayom, A. (2019). Strategic management accounting techniques and organizational sustainable performance: evidence from

- industrial estates in Rayong area, Thailand. *Journal of Modern Management Science*, 21(1), 51-74.
- Thapayom, A. (2021). Strategic cost management as a valuable approach for achieving organizational sustainability: Evidence from industrial businesses in Rayong. *Journal of Accounting Profession*, 17(53), 98-125. <https://doi.org/10.14456/jap.2021.5>
- Treacy, M., & Wiersema, F. (1995). How market leaders keep their edge. *Fortune*, 131(2), 52-57.
- Turner, M. J., Way, S. A., Hodari, D., & Witteman, W. (2017). Hotel property performance: The role of strategic management accounting. *International Journal of Hospitality Management*, 63, 33-43. <https://doi.org/10.1016/j.ijhm.2017.02.001>
- Valdiansyah, R. H., & Augustine, Y. (2021). Modeling of beyond budgeting, competitor accounting, transparency, competitive advantage, and organizational performance: The case of Indonesia SMEs. *Technium Social Sciences Journal*, 22, 334-349. <https://doi.org/10.47577/tssj.v22i1.4333>
- Wajdi, F., & Arsajah, R. J. (2019). The influence of organizational capabilities, strategic management accounting on organizational performance mediated by competitive advantage in companies in Indonesia. *Research Journal of Finance and Accounting*, 10(22), 141-151. <https://doi.org/10.7176/rjfa/10-22-17>
- Wongchaiya, S., & Pheunpha, P. (2018). The influences of business strategies and entrepreneur characteristics on the business success of Small and Medium Entreprises. *Journal of the Association of Researchers*, 23(2), 139-152.
- YahiaMarzouk, Y., & Jin, J. (2022). Impact of environmental scanning on organizational resilience and competitive advantage: a study of Egyptian SMEs. *Continuity & Resilience Review*, 4(2), 192-223. <https://doi.org/10.1108/crr-10-2021-0037>
- Yoshikuni, A. C., & Albertin, A. L. (2018). Effects of strategic information systems on competitive strategy and performance. *International Journal of Productivity and Performance Management*, 67(9), 2018-2045. <https://doi.org/10.1108/ijppm-07-2017-0166>
- Yu, W., Chavez, R., Jacobs, M., Wong, C. Y., & Yuan, C. (2019). Environmental scanning, supply chain integration, responsiveness, and operational performance. *International Journal of Operations & Production Management*, 39(5), 787-814. <https://doi.org/10.1108/ijopm-07-2018-0395>
- Yuan, Y., Lu, L. Y., Tian, G., & Yu, Y. (2018). Business strategy and corporate social responsibility. *Journal of Business Ethics*, 162(2), 359-377. <https://doi.org/10.1007/s10551-018-3952-9>