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Article

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Cogent Business & Management

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Suggested Citation: Abdullah, Nik Herda Nik; Krishnan, Shamala; Zakaria, Azliza Azrah Mohd; Morris, Grace (2022) : Strategic management accounting practices in business: A systematic review of the literature and future research directions, Cogent Business & Management, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 9, Iss. 1, pp. 1-21, <https://doi.org/10.1080/23311975.2022.2093488>

This Version is available at:

<https://hdl.handle.net/10419/288972>

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To cite this article: Nik Herda Nik Abdullah, Shamala Krishnan, Azliza Azrah Mohd Zakaria & Grace Morris (2022) Strategic management accounting practices in business: A systematic review of the literature and future research directions, Cogent Business & Management, 9:1, 2093488, DOI: [10.1080/23311975.2022.2093488](https://doi.org/10.1080/23311975.2022.2093488)

To link to this article: <https://doi.org/10.1080/23311975.2022.2093488>



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Received: 25 April 2022
Accepted: 20 June 2022

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ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | REVIEW ARTICLE

Strategic management accounting practices in business: A systematic review of the literature and future research directions

Nik Herda Nik Abdullah^{1*}, Shamala Krishnan², Azliza Azrah Mohd Zakaria², and Grace Morris²,

Abstract: In the last decade, strategic management accounting (SMA) practices have garnered considerable attention from academics and business organizations. SMA is described as the provision and analysis of management accounting data on a company's product in the markets, its cost structure, and competitors' costs, as well as the monitoring of the firm's and its competitors' strategic positions in these markets over time. SMA techniques have the potential to provide a wide range of benefits for organizations. These techniques include competitor accounting, customer accounting, strategic costing, strategic planning, control and performance management, and strategic decision making. Despite the high potential of SMA for decision making, there are still issues with practical application and a lack of knowledge about using SMA strategically to achieve business goals. Using a systematic literature review approach, the present study aims to provide a critical literature review to identify the motivation to adopt SMA practices; to identify evidence on the usage of SMA practices; to provide a synthesis of the impacts of SMA on business goals, and to identify the knowledge gaps that exist in the current literature about SMA practices and business goals, highlighting the potential benefits, challenges, and opportunities, and presenting a discussion about future research directions. The review's main contributions are to provide an in-depth discussion of the peer-reviewed literature in which the term SMA is used, as well as a basis for future research and practice.

Subjects: Finance; Business, Management and Accounting; Industry & Industrial Studies

Keywords: Costing; competitor analysis; customer analysis; performance measurement; strategic management accounting

PUBLIC INTEREST STATEMENT

The systematic literature review of the effect of strategic management accounting (SMA) practices on businesses, including motivation to adopt, evidence on use, and effects on attaining company goals. The study recognized, analyzed, and synthesized prior work by researchers, scholars, and practitioners. This procedure was followed systematically, with the metrics clearly described and organized given that the analysis of the journals, article classification, topic significance over time, primary research methodology, and conclusions were drawn. The study examined journal articles on SMA practices published between 1982 and 2022 that were found on SCOPUS and Web of Science. This is accomplished to obtain a deeper understanding of how SMA practices affect business decision making and to demonstrate the research approaches and theories used in the field. The appraisal identified research gaps and directed future exploration.

1. Introduction

The change in business environment in the 1980s had challenged the relevance of traditional management accounting and the term SMA was instituted with a range of techniques to address the challenges of traditional management accounting. The rapid advancement in technology and its application in business and decision making further abetted the development of tools in the field of management accounting. Several motivational factors were identified as the reasons for the adoption of SMA tools by businesses. The ability to assess competitor information, tools to support the decision-making process, facilitation of the process of management and cost control of a product's life cycle, SMA development and advancement using artificial intelligence (AI) and big data analysis and improvement in business performance are factors that have been identified as the main reasons for businesses to adopt SMA tools.

Simmonds was the first to develop the term "Strategic Management Accounting" (SMA) in (Simmonds, 1982). He described SMA as tools that assist in providing and analyzing management accounting data about a company and its rivals for the purpose of creating and monitoring business strategy. Roslender and Hart (2003) described SMA as an assimilation of management accounting and marketing management that would enable an organization to position itself strategically. While in the recent studies by Marlina and Tjahjadi (2020a), SMA was defined as "*providing and analyzing financial information on product costs in the market and competitors' cost structure and monitoring company strategy.*" According to Bromwich and Bhimani (1989, 1994), SMA is different from other traditional management accounting practices as it incorporates external orientation.

SMA is not a theory or a field, but a term used to describe a collection of techniques, approaches, tools, and applications that are essential in analyzing competitor data and developing relevant workable strategies (Abdullah et al., 2020; Guilding et al., 2000; Langfield-Smith & Parker, 2008). This was considered essential by Simmonds (1982), who was referred to as the father of SMA, pointed out that an organization can grow not only by being efficient internally, but it is essential to have the right positioning in the market and competitive advantages. Roslender and Hart (2003) described SMA as having a broader outlook of an organization and its operations and a more long-term focus than traditional management accounting. There were a number of SMA practices identified by various studies. Guilding et al. (2000) identified 12 SMA techniques, which are: attribute costing; brand value budgeting and monitoring; competitor cost assessment; evaluation of competitors based on financial statements that have been made public; life cycle costing; quality costing; strategic costing; competitive position monitoring; strategic pricing; target costing; and value chain costing. These were identified based on three focus areas: competitor focus, marketing focus, and future focus. Cadez and Guilding (2008) discovered 16 distinct SMA tools and classified them into five categories in their research: strategic costing; planning, control, and performance measurement; strategic decision making, competitor accounting, and customer accounting. Recognizing the importance of SMA knowledge, SMA is often incorporated into business and accounting courses at tertiary level.

After 40 years since the term was introduced, it is necessary to organize the literature and provide some insights on SMA practices among business organizations (Rashid et al., 2020). Furthermore, the Fourth Industrial Revolution (IR 4.0) technologies such as artificial intelligence (AI), and big data analytics that has been underway over the past half-century may influence the strategic management accounting practices in businesses. In this context, the present study aims to fill this gap by providing a systematic literature review which intends to make an incremental contribution to the existing literature of SMA with the following objectives: (i) to identify the motivation to adopt strategic management accounting practices; (ii) to identify evidence on the usage of strategic management accounting; (iii) to provide a synthesis of the impacts of strategic management accounting on business goals; and (iv) to identify the knowledge gaps that exist in the current literature about strategic management accounting practices and business goals on future research. Based on the research objectives, the following questions arise:

RQ1: What are the motivations of strategic management accounting adoption?

RQ2: Is there any evidence of strategic management accounting practices being used in decision making?

RQ3: What are the impacts of strategic management accounting on business goals?

RQ4: What knowledge gaps exist in the current literature about strategic management accounting practices and business goals that future researchers can investigate?

The remaining section of this paper will be organized as follows: The immediate section presents the theoretical background relating to SMA literature, covering the evolution of SMA and its practices in the organization. It is followed by the methodology section, where the review process is explained, and the research questions are discussed. The findings of the literature review are reported in the next section, and the conclusion is presented in the final section.

2. Background of strategic management accounting (SMA)

2.1. Exploring the background of strategic management accounting (SMA)

The overwhelming interest and various research in strategic management accounting (SMA) started due to the widely published criticisms of traditional management accounting practices (MAP), which were mainly internal-focused and not strategically oriented. Based on the past literature in accounting reviewed from 1982 to 2022, there is no consensus on the definition of SMA (Langfield-Smith & Parker, 2008). Coad (1996) believes that SMA is a field that has a keen and growing interest amongst many researchers, but its characteristics are not clearly defined and there is no agreed-upon view of what SMA is all about in detail or how SMA might develop in the future. The existing literature in the field is both disparate and disjointed. Similarly, according to Nguyen and Nguyen (2021), there is no universal consensus on the definition of strategic management accounting as of to-date, even though Simmonds (1982) was the first to coin the term “strategic management accounting. The reason being that each scholar looks from a different personal point of view when defining SMA, however three common characteristics of SMA that can be clearly noted in most studies are: external environment orientation, both financial and non-financial data are investigated and has a long-term view.

The definition of SMA by Simmonds (1982) was the provision and analysis of management accounting information about a business and its competitors that can be applied for the monitoring and development of business strategy. He noted that management accountants should potentially have a bigger role in competitor analysis which was more externally oriented than the current management accountant’s role, which was more internally oriented. There have been many scholars in the past who have tried to provide various definitions of SMA based on their own points of view, such as Bromwich (1990), and Langfield-Smith and Parker (2008). Nguyen and Nguyen (2021) summarized these definitions to include three common characteristics: they are all oriented to the environment outside the organization when making decisions based on all financial and non-financial data, and all have a long-term orientation.

The external orientation, which is an outward-looking characteristic of SMA, as explained by Guilding et al. (2000), provides crucial accounting information about external stakeholders such as competitors, suppliers, and customers. Langfield-Smith and Parker (2008) summarizes SMA as “taking strategic orientation to the generation, interpretation, and analysis of management accounting information and competitor activities.” Ma and Tayles (2009) define SMA as “the body of management accounting concerned with strategically oriented information for decision making and control.” Therefore, SMA embraces the management accounting technique with a clear strategic focus, with a future-oriented stance and explicit external focus forming the core of the concept of SMA. Furthermore, SMA draws heavily on non-financial measures (Bhimani & Langfield-Smith, 2007). In

order for SMA techniques to be adopted by more companies to strengthen their business performance, the external orientation characteristics need to be defined more clearly stating who are the external parties that will be affected by the SMA techniques applied and how can these techniques bring benefit to the external parties as well as internal benefit.

SMA was defined by Bromwich (1990) as the provision and analysis of financial information on the firm's products, markets, and competitors' costs and cost structures, and the monitoring of the organization's strategies and those of its competitors in these markets over a couple of accounting periods. Bromwich also emphasized the longer-term nature of the management accounting information required as well as adding external stakeholders such as customers (markets) to all external analysis. Guilding et al. (2000) mentioned that conventional management accounting practices are assumed to be a short-term view with a one-year time frame and the focus is internal matters. These characteristics resemble a non-strategic orientation. Whereas strategy implies a long-term future orientation time frame and externally focused perspectives. These distinctions in characteristics between MAP and strategy were useful in determining what accounting techniques qualify as SMA. Even though there has been an increase in literature in SMA research, this area is still under-defined and there is not a universally accepted SMA framework, so it is best understood as a generic approach to accounting for strategic positioning. SMA is seen to bring together ideas from management accounting and marketing management with those from strategic management (Roslender & Hart, 2003). There should also be studies to confirm whether other areas of businesses besides marketing management such as human resource and management accounting ideas can be brought together for the SMA concept.

According to Roslender and Hart (2003), combining strategy, management, and accounting as a single concept makes it possible to identify a new and quite different conception of SMA, one that is arguably insightful and provides accounting information in support of the strategic management process. In the study of Cadez and Guilding (2008), SMA is seen from two perspectives. One, SMA, can be devised as a set of accounting techniques that are strategically oriented. Next, SMA can be seen as a technique that needs the active participation of accountants in its long-term strategic decision-making activities. It should be noted that not only the management accountant that needs to be actively participating in long term decision making but need to include other managers also and all should work as a team to successfully apply SMA techniques for better business performance.

As indicated by Shaqqour (2020), SMA entails the preparation and implementation of a wide range of policies, practices, methods, and tools that align with the company's internal and external strategic direction at all organisational levels to ensure the provision of relevant and appropriate information in order to achieve organization's goals. According to Duci (2021) SMA is considered as a variation of management accounting and its role remains as to provide information for decision making and has the following characteristics: SMA refers to prospective view and not a historical view as in management accounting, SMA focuses on multiple periods, SMA has an outward-looking orientation and competitive focus. SAM aims to contribute to the decision-making activities and uses attributes and economics theories. SMA is viewed as a multidisciplinary field as it relates to accounting, strategic management, marketing, and IT.

A study by Visedsun and Terdpaopong (2021) concludes that corporate strategies and corporate goals has statistically significant effect on both financial and non-financial performance of large companies in Thailand when SMA systems are used as mediators. To enhance the performance of an organization, SMA system with the relevant SMA techniques should be implemented and minimize the use of traditional management accounting systems and its techniques. Meanwhile, Vu et al. (2022) considers SMA as an effective management tool that can support company managers to carry out their management functions properly because SMA combines and focuses on both financial and non-financial information in their decision-making activities. SMA also

Table 1. Summary of SMA techniques by categories (Source: Cadez & Guilding, 2008)

SMA Categories	SMA Techniques
1) Costing	1) Attribute Costing 2) Life-cycle costing 3) Quality costing 4) Target Costing 5) Value Chain Costing
2) Planning, control & performance measurement	1) Benchmarking 2) Integrated performance measurement
3) Strategic decision-making	1) Strategic Costing (strategic cost management) 2) Strategic pricing 3) Brand Valuation
4) Competitor accounting	1) Competitor cost assessment 2) Competitive position monitoring 3) Competitor performance appraisal
5) Customer accounting	1) Customer profitability analysis 2) Lifetime customer profitability analysis 3) Valuation of customers as assets

provides various tools, techniques, and internal information for budgeting, executive planning, performance evaluation and decision making.

Based on all the past literature reviewed, it is evident that more in-depth study should be carried-out to come up with a unified consensus on the exact definition of strategic management accounting and what are the specific characteristics or features of SMA that scholars and future research should incorporate in their study. Once a unified definition of SMA can be universally accepted and the characteristics (features) of SMA can be clearly established, then only can we decide which SMA techniques should be included as an SMA practice to be adopted by companies for the management functions of planning, control, and decision-making purposes. SMA techniques to be adopted should also be linked to business strategies and business goals for better business performance for both the financial and non-financial aspects.

2.1.1. Strategic management accounting techniques

There are various SMA techniques that have been developed over the past few decades, and many researchers have categorized these techniques as those with internal focus and those with external focus. The following are 16 SMA techniques that Cadez and Guilding (2008) listed based on past literature from Guilding et al. (2000), which highlighted 12 SMA techniques from past literature. Cravens and Gilding (2001) included three additional techniques. Cadez and Guilding's (2008) listing is given in Table 1, which is classified into five broad categories.

3. 1st category: Costing

3.1. Attribute costing

This SMA technique is all about the cost accumulation of benefits that products provide to customers (Roslender & Hart, 2003). The attribute costing technique has been the most compelling development within SMA. Its focus on costing the benefits associated with products and their attributes necessitates contributions from both the disciplines of management accounting and marketing management within a strategic management framework (Roslender & Hart, 2003). In their literature, Cadez and Guilding (2008) explain attribute costing as the cost accumulation of specific product attributes that are appealing to customers. These attributes, where their costs can be ascertained, include the following list: operating performance variables, reliability, warranty arrangements, the degree of finish and trim, assurance of supply, and after-sales services. Bromwich (1990) sees these benefits as the final drivers of cost because the customer, who is

outside-oriented, shows why attribute costing can be used as an SMA example. The use of attribute costing should benefit not only internally but also external parties especially customers will be able to know the true worth of the product.

3.2. Life cycle costing

This SMA technique refers to the appraisal of all related costs of a product or service throughout the entire span of life of the product or service, which is popularly known as the stages in the product's life cycle. The stages of the product's life cycle include the following: design, introduction, growth, maturity, decline, and abandonment (Abdullah et al., 2020; Cadez & Guilding, 2008). Cravens and Gilding (2001) assume that life cycle costing is a clear long-term accounting perspective and market orientation, which is in tune with the market orientation of SMA in Simmonds (1982) and Bromwich (1990). In another sense, life cycle costing is a SMA technique that evaluates the products' worthiness by accumulating their costs at every stage of their product life cycle: introduction, growth, maturity, and decline, instead of appraising costs on an annual basis on a somewhat arbitrary basis. Many supporters of this technique agree that it can provide more useful product cost information than the traditional short-term management accounting perspective for decision-making purposes. The overall profitability of the product, as well as the success or failure of new product introduction, can be determined using life cycle costing as a SMA technique.

3.3. Quality costing

In dealing with matters relating to competitive advantage and business strategy, quality concerns cannot be side-lined, and much attention must be given to them. There are generally four categories of quality costs that are used by many companies, which are prevention costs, appraisal costs, internal failure costs, and external failure costs. Nowadays, in many companies, most quality issues are typically confined within the context of customer satisfaction. Cadez and Guilding (2008) explain quality costs as those costs that are related to the creation, identification, repair, and prevention of defects, and these can be arranged into three categories: prevention costs, appraisal costs, and internal and external failure costs. Cost of quality reports are produced for the purpose of directing management attention to prioritize quality issues that need to be resolved (Cadez & Guilding, 2008). By identifying quality costs separately, companies can use it as a competitive advantage to provide goods and services that are appealing to customers.

3.4. Target costing

Target costing is a customer-oriented technique originally used by Japanese firms and now widely adopted by companies all over the globe that can be used for cost reduction for a new product at its design and development stages (design-out costs at its design stage). The target cost is the desired full product cost that can be derived from estimates of sales volume, external market price, and target profit. Cadez and Guilding (2008) stated in their review that target costing is a method used during the design stage of the product and process and involves the estimation of cost, which is calculated by deducting an anticipated profit margin from an estimated market-based price to arrive at a desired production, engineering, or marketing cost. The product or service is then designed and developed to meet that cost estimate, which is called the target cost. This technique also represents the external orientation of SMA as proposed by Bromwich (1990), Cravens and Gilding (2001), and Roslender and Hart (2003). Target costing is believed to exhibit strong external emphasis, not only on competitors but also on customers and the marketplace (Roslender & Hart, 2003). The use of target costing as a tool for cost reduction over the product's life cycle until maturity stage can help companies to sustain and to be able to face any severe competition. However, the problem in using target costing will be in getting a reliable market price to compute the target cost.

3.5. Value chain costing

This is a SMA technique that represents a management accounting operationalization of Porter's (1985) value chain analysis. Value chain costing is a technique that examines all activities performed right from the design stage up to the distribution stage of the product or service, which can include both internal and external factors associated with a firm because it involves viewing the

organisation as a set of links in the chain of all value-creating activities related to the product or service provided. According to Cadez and Guilding (2008), the value chain technique uses an activity-based costing approach whereby costs are attributed to activities that are required for the design, procure, produce, market, distribute, and service of a product or service. The value chain analysis can be used not only as a SMA tool for value creation but enables companies to have a holistic view of the supply chain for better performance.

4. 2nd category: Planning, control and performance measurement

4.1. Benchmarking

This technique focuses on identifying best practice within the organization or external to the company. It involves the continuous comparison of processes or activities in all areas of performance within an organization's activities, including strategic areas, operational activities and processes, and the satisfaction of customers. Best practice is usually an ideal provided by sources external to the company, or another high-performing division within a company. Benchmarking is the process of regular comparison of internal processes to an ideal standard of performance (Cadez & Guilding, 2008). The main objective of benchmarking is to improve performance, but this exercise can be very time consuming and expensive, so the company needs to consider the cost and benefit of this exercise.

4.2. Integrated performance measurement

Integrative performance measurement systems provide both financial and non-financial performance metrics that cut across a wide range of organizational perspectives. According to Cadez and Guilding (2007), this SMA technique can be seen to be closely related to the balance scorecard that has been widely popularized by Kaplan and Norton's (1992, 1996a, 1996b). The main feature of this technique is that it is focused on acquiring performance knowledge based on customer requirements and may include non-financial metrics. This measure involves departments monitoring those factors which are critical to securing customer satisfaction (Cadez & Guilding, 2008). However, in practice there are difficulties in getting information on the non-financial areas and the accuracy of non-financial information can be questionable.

5. 3rd category: Strategic decision-making

5.1. Strategic costing (Strategic Cost Management)

The strategic costing technique is also known as Strategic Cost Management (SCM). This technique will assess the financial impact of various managerial decisions whereby cost data is used to come up with superior strategies to garner a strong competitive advantage. This technique considers strategic management concepts (value chain) and marketing concepts (product positioning) as most relevant in strategic decision making, thus focusing on external and future matters. Cost data that is derived from strategic and marketing information is used to develop and identify superior strategies that will produce a sustainable competitive advantage for the firm (Cadez & Guilding, 2008). This technique thus uses cost data for strategic decision-making that has external and future orientation. If this technique is used properly, it can provide significant benefits to the company, but it is time consuming and costly.

5.2. Strategic pricing

Simmonds (1982) uses a case study to show that pricing decisions based on the traditional approach, which is internal-orientation and historically based analysis can result in sub-optimality. In his opinion, the information used in making pricing decisions should be supplemented with information regarding possible competitor reactions to any proposed change in pricing policy. Another case study by Rickwood et al. (1990) illustrates a similar perspective, whereby the use of market intelligence gives recognition to the significance of the external environment and how the competitor might be expected to respond to company market action. The strategic pricing technique involves the analysis of strategic factors such as competitor price reactions, elasticity,

market growth, economies of scale, and experience in the pricing decision process (Cadez & Guilding, 2008). Since this technique is more externally focused, it will require more resources, which may be limited in some companies.

5.3. Brand valuation (brand value budgeting & brand monitoring)

A formal calculation of brand value accounting can underscore the view that brand-related expenditure should be viewed as an investment rather than an expense, thus highlighting the future and long-term oriented focus of this technique (Cadez & Guilding, 2007). In another study by Cadez and Guilding (2008), brand valuation is seen as the financial valuation of a brand through the assessment of brand strength factors such as: stability, leadership, market, internationality, trend, support, and protection, together with brand profits from history. In practice many companies do try to put a value to their brand, but this must be reviewed at regular intervals in order for customers to remain with the company.

6. 4th category: Competitor accounting

6.1. Competitor cost assessment

This technique can be seen from a competitive position monitoring due to its specific concern on the competitors' cost structures. Advocates of this technique, such as Simmonds (1982) and Bromwich (1990), argue that an assessment of a key competitor's relative cost position can yield an enhanced appreciation of an organization's strategic decision-making environment. Cadez and Guilding (2008) explain that this technique is to provide on a regular basis the scheduled updated estimates of a competitor's unit cost. To remain competitive and relevant in the market, companies must know who their competitors are and assess their cost status.

6.2. Competition position monitoring

This technique sees a competitive position as an intangible asset with limited earning potential. Rangone (1997) explains this technique as an analytical framework that outputs a single figure denominated quantitative assessment of a firm's competitive standing. Competitor position analysis within the industry is done by assessing and monitoring trends in competitor sales, market share, volume, unit costs, and return on sales. The resultant information from this analysis can provide a basis for the assessment of a competitor's market strategy (Cadez & Guilding, 2008). This technique is constituted by the provision of competitor information, which can be used by the company to potentially assess its own position relative to main competitors and, consequently, control or formulate its strategy (Oboh & Ajibolade, 2017). Knowing your competitors and what their strengths and weaknesses are will be useful information for any company looking to maintain its market position.

6.3. Competitor performance appraisal

Moon and Bates (1993) propose that relevant and detailed analysis of the competitors' published financial statements can be used to assess the competitors' strategic performance and identify their key sources of competitive advantage. Moon and Bates illustrate this analytical technique by investigating and interpreting the accounts of two UK retailers. Also, Cadez and Guilding (2008) said that a competitor's financial statements should be used to figure out what makes them different from their competitors. Competitor analysis from a financial point of view will not suffice to maintain competitiveness; non-financial information will be required as well.

7. 5th category: Customer accounting

7.1. Customer profitability analysis

Here, the specific individual customers or a group of customers are analyzed and the related customer specific costs and sales to the customer accounts are accordingly traced. This involves the calculation of profit earned from a specific individual customer. This will include all the common practices used to appraise profit, sales, and costs deriving from customers or segments of customers (Oboh & Ajibolade, 2017). The calculation of profit is based on costs and sales that can be traced to

a specific customer. This technique is sometimes referred to as “customer account profitability” (Cadez & Guilding, 2008). The problem with this technique will be the arbitrary allocation of costs to specific customers, which can lead to incorrect conclusions on customer profitability analysis.

7.2. Lifetime customer profitability analysis

This technique involves assessing and analyzing customer profitability for a longer time frame to include future years and thus focuses on all expected future earning capacity and future expected costs involved in servicing a specific customer (Cadez & Guilding, 2008). This approach does not calculate the annual profits that can be expected from a specific customer, but rather all future projected profits that will result from a future trading relationship with a specific customer in the future. The problem with technique will be the customer itself who might not be there in the long term. It is difficult to predict the length of time a customer will remain with the company.

7.3. Valuation of customers as assets

This technique refers to the value ascertainment of customers to the company. This could be undertaken by calculating the present value of all future earnings streams attributable to a particular customer (Cadez & Guilding, 2008). From a marketing perspective, it's quite usual to regard customers as an asset and so, companies tend to attach a value to their customer base. However, in practice, it is difficult to put a value to the customers because they are not going to be permanent with the company and the future earnings from customers are unpredictable.

All the 16 SMA techniques discussed above seem to have similar characteristics in terms of future orientation (long term) and external orientation that can be used not only for costing and competitive advantage purposes but also for strategic decision-making involving planning, control, and performance management. The adoption of these SMA techniques could provide firms with relevant information, both financial and non-financial, that can sustain their business performance in the long term, in an ever challenging and evolving environment.

7.4. Strategic management accounting practices in organizations

The adoption of SMA practices in organizations can be viewed from a variety of perspectives, including country, type of business, and the most important techniques used. Thus, this subsection provides different points of view from the different aspects of the past studies on SMA practices. According to previous research, SMA practices include strategies that enable an organization to have an effective management team capable of making strategic choices (Cadez & Guilding, 2008, 2012; Cinquini & Tenucci, 2010). Numerous studies on the practice of SMA have been conducted (Abdullah et al., 2020; Guilding et al., 2000; Tillman & Goddard, 2008; Tomkins & Carr, 1996). Tillman and Goddard, for example, examined how SMA is viewed and utilized through a case study of a big multinational firm in Germany. SMA techniques were identified as being used to make sense of strategic circumstances involving other organizational players.

Prior studies on SMA, such as Tomkins and Carr (1996), collected data from 44 German and UK firms and found that management styles and cultures have a significant impact on the choice of strategic investment techniques such as strategic costing methods. Meanwhile, a study by Al-Mawali et al. (2012) focused on contingent factors on SMA practices in Jordanian companies and discovered that perceived environmental uncertainty and market orientation have a significant influence on the extent of SMA technique usage. Cuganesan et al. (2012) did a long-term study of public-sector organizations in Australia. They found that SMA practices seem to play a role in shaping strategy and identifying specific ways in which management accounting is important in strategizing through specific organizational practices.

A recent study by Arunruangsirilert and Chonglertham (2017) showed that corporate governance characteristics significantly affect SMA in aspects of participation and usage. Thus, this study, using secondary data from companies listed on the Stock Exchange of Thailand, also found that an independent chairman and board size negatively affect both participation and usage of SMA

practices. Turner et al. (2017) contended that the adoption of SMA practices would enhance hotel properties' competitiveness and performance by developing and implementing internal policies and procedures. Thus, SMA practices reflect the consistency of their business strategies, changing competitive demands, and profitability.

Kalkhouran et al. (2017) have investigated the effects of CEO characteristics and involvement in networks on SMA practices. The data was collected from a sample of 121 service SMEs in Malaysia. The findings indicate CEO education and involvement in networks have a significant impact on SMA usage, which in turn reflects on the firm's performance. Thus, past and recent studies show that SMA practices can be influenced by many factors, such as corporate governance, managers, CEO, external environment, and networking. These studies also provided an indication of the importance of SMA practices in the development of strategies. However, there is a room of empirical studies that relates SMA practices and organizational capabilities.

Prior studies have also been focused on the adoption and benefits derived from SMA techniques. Thus, these studies have been conducted in different countries. For instance, Saudi Arabia, New Zealand, the United Kingdom, the United States, Slovenia, Australia, and Italy (Agasisti et al., 2008; Cadez & Guilding, 2008; Cinquini & Tenucci, 2010; Guilding et al., 2000). The techniques mentioned in these studies have been adopted by many public companies. Thus, many studies have been conducted in developed countries, while the number of such studies in developing countries is very low. However, recent studies have shown an increased number of studies on SMA in developing countries such as Thailand, Malaysia, and Indonesia (Abdullah et al., 2020; Doktoralina & Apollo, 2019; Kalkhouran et al., 2017; Phornlaphatrachakorn, 2019).

For instance, a study by Phornlaphatrachakorn (2019) looks at how SMA affects the profitability of businesses in Thailand that make information and communication technology products or sell them to other businesses. In this study, there are 194 businesses in Thailand that use information and communication technology. The study concludes that SMA techniques provide information richness that is linked to organizational excellence, goal achievement, and firm profitability. Meanwhile, Abdullah et al. (2020) state that the adoption of SMA techniques will generate value creation in Malaysian GLCs by enhancing industry competitiveness, increasing financial position, and generating prospects for profitability, business sustainability, and long-term performance. Thus, this shows SMA is an important source of both competitive advantage and high performance.

Despite the importance of SMA as highlighted in many scholarly studies from the past, there is a lack of evidence on how SMA inspired techniques and processes are diffused into an organization's general practices (Langfield-Smith & Parker, 2008). The study reviewed past empirical papers on SMA and found no compelling evidence to show that SMA techniques have been widely adopted, even though the aspects of SMA have influenced the thinking and language of business. In the meantime, a few surveys on SMA practices found that competitor accounting and strategic pricing are the most widely used techniques, while some suggest that SMA is not widely used in organizations because its meaning is not always clear to managers (Cravens & Gilding, 2001; Guilding et al., 2000; Tomkins & Carr, 1996). Lord (1996) suggested that the strategies and features of SMA can be found in many firms, and that this is supported by research. The study concluded that SMA is a "figment of academic imagination" due to its numerous weaknesses and a highly skeptical view of SMA. According to research and other evidence, SMA practices have been adopted by a lot of businesses over time. This shows that the techniques have been widely used in businesses.

Thus, this subsection has discussed the adoption of SMA practices in developed and developing countries, as well as types of industries such as manufacturing, and services. Besides, the discussion also involved the factors that influence the adoption of SMA practices in organizations, such as management team, environmental uncertainty, market orientation, corporate governance, strategy, company size, and other factors to adopt the SMA techniques. Many businesses have

embraced SMA techniques. These techniques include strategies for building a strategic-thinking management team and used to understand strategic situations involving other organisational stakeholders. SMA practices tend to shape strategy and identify how management accounting is vital in strategizing through organisational practices. Thus, SMA practices reflect company strategies, competitive demands, and profitability. SMA approaches enhance organisational excellence, goal achievement, and business profitability, which will increase industry competitiveness, financial position, profitability, sustainability, and long-term performance.

8. Methodology

Given the changes that have occurred in the strategic management accounting (SMA) field in the last decade, the attention of organizations to SMA techniques, and the motivations involved in adopting SMA practices, it is relevant to identify and summarize the state of the literature about the impacts of SMA practices on business. To address the research questions, this research employed the systematic literature review method based on Borges et al. (2021) and the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines by Page et al. (2021). A systematic literature review is a well-planned review of the literature designed to address specific research objectives. This method is aligned with the objectives of this study to employ a method that is both systematic and explicit, which includes procedures to identify, select, and critically evaluate the results of the studies that are included in the literature review. This strategy also aids in comprehending the breadth and depth of the existing body of work and identifying gaps to explore. The period of articles used in this systematic literature review are from the first article published on SMA in (Simmonds, 1982) by Simmonds until articles published in February 2022. Thus, this study not only considers the articles that were published in the last 5 years to avoid a lack of rigorous systematic reviews and to provide an in-depth discussion on SMA studies for the past 40 years to-date. The development of systematic literature review methodology and procedures can be divided into three distinct phases: planning the review, conducting the review, and reporting the review.

8.1. Planning the review

According to the research topics and the theoretical foundations of strategic management accounting, this study concentrated exclusively on the definition of “strategic management accounting.” Along with the primary ideas, its synonyms were defined. Web of Science and Scopus were chosen as the digital databases for this study since they were utilized by several studies in the literature. In accordance with Borges et al. (2021), the following inclusion criteria were created to examine the research questions: (i) journal and conference papers on the adoption of strategic management accounting techniques that included the terms in the title, abstract, or keywords, and (ii) journal and conference papers authored in English. Additionally, an exclusion criterion was developed for articles that use the word in an unrelated context. The following exclusion criteria were used to determine the study’s quality: (i) publications with the words referenced only in the abstract to set the background for the study; (ii) entire articles that are not available in electronic format.

As Borges et al. (2021) suggest, the data extraction procedure was designed around the research objectives and to emphasize the variations and similarities in the findings of the investigations. As a result, the following components have been identified: Source of publication; year of publication; author(s); SMA practices in an organizational context discussed in the article; strategic aspects of using SMA practices discussed in the article; motivation for adopting SMA practices; classification of the SMA techniques used in the article; research method; impacts and benefits of SMA adoption; research target industry; challenges to SMA adoption. Following data extraction, comes research synthesis. This stage allows for the employment of methods for synthesizing, integrating, and compiling the findings of various research. Therefore, impacts of strategic management accounting on business goals can be analyzed and to discover knowledge gaps in the current studies.

8.2. Conducting the review

As mentioned, the search was conducted using the scientific databases Web of Science and Scopus, which are supported by the fact that they include a predominance of articles with high scientific recognition utilizing the final strings. Drawing on the methodological frameworks, a systematic review of the literature was conducted on a tiered procedure to systematically identify and synthesize the fragmented literature on the adoption of SMA techniques. As a result, the selection process included the following stages:

- The phrase was searched in abstracts, titles, and keywords. The following information about the articles was exported during this phase: title, authors, abstract, publication year, keywords, source title, document type, and language. Thus, the exported metadata from the publications was saved to Microsoft Excel spreadsheets, and redundant studies were removed.
- The criteria for inclusion and exclusion were followed. The selected articles were exported in their entirety and the quality criteria were applied.
- Data extraction was carried out based on the complete content of each selected article.

Data collected using the same protocol was applied to both databases. A search for publications was conducted using the following keywords: “strategic management account*” or “SMA” (strategic management accounting) to describe the topic. The following areas were chosen in the Scopus database, the following domains were selected: business management and accounting; social sciences; economics, econometrics and finance, and decision sciences. Regarding the Web of Science database, the following domains were selected: business; business finance; education

Figure 1. PRISMA 2020 diagram. Adapted from Page et al. (2021).

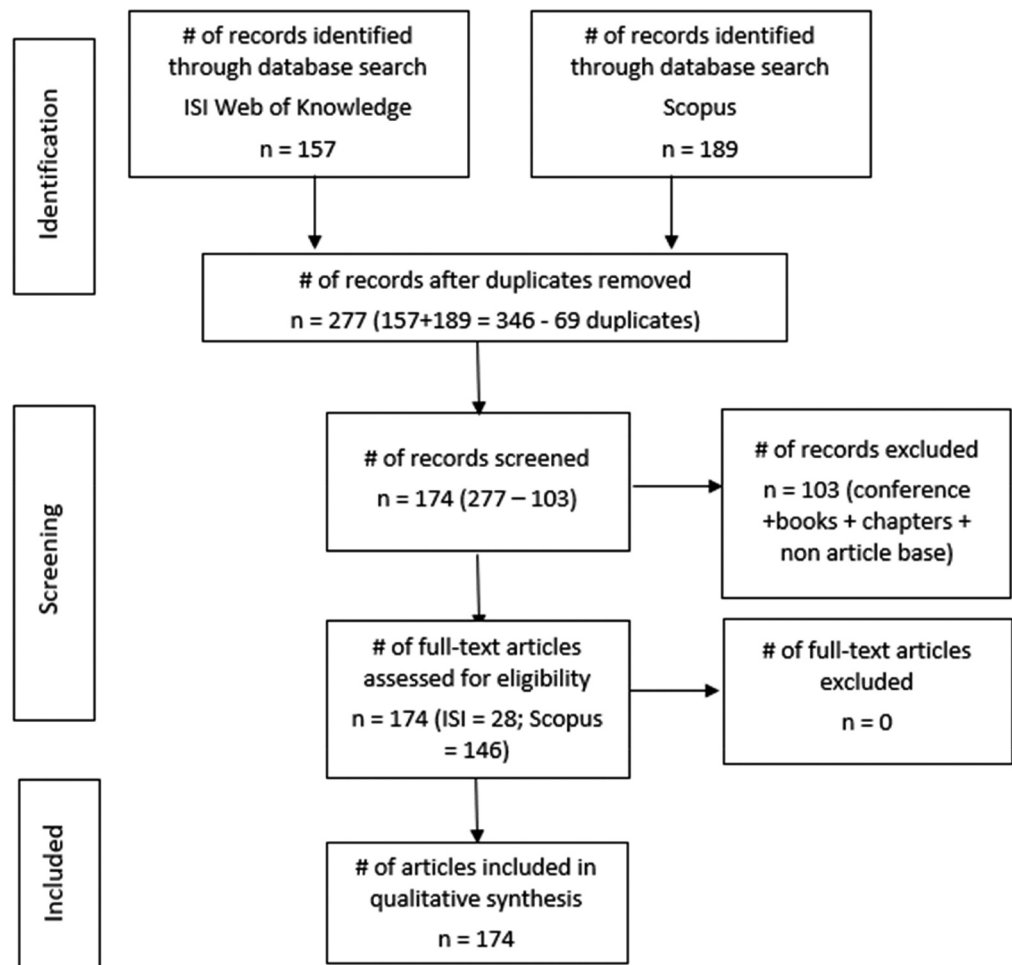
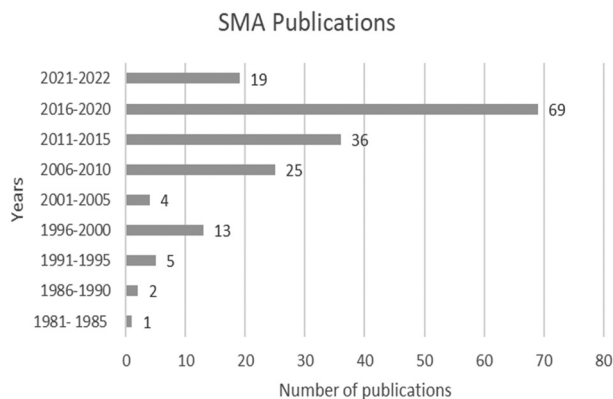


Figure 2. SMA publications by year.



scientific disciplines; educational research; economics; management; interdisciplinary social sciences; public administration; and multidisciplinary sciences.

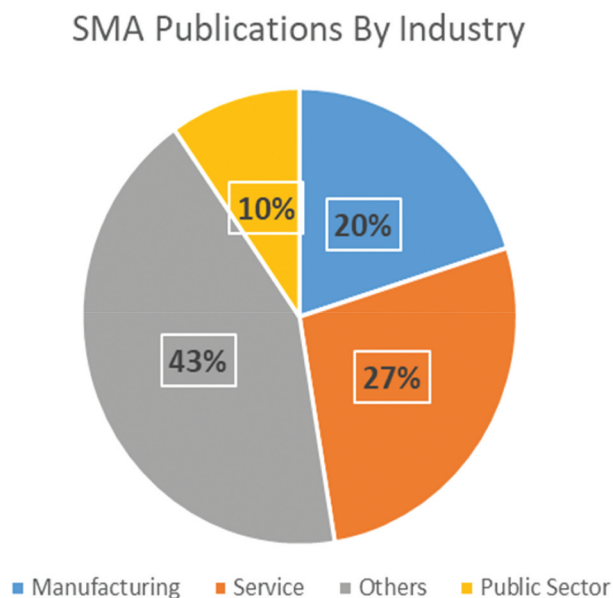
Figure 1 indicates the protocol of data collection. In the initial search, 346 articles on SMA were identified from the Web of Science (157) and Scopus (189). However, some of the articles were available in both databases. A cleaning process was carried out where the duplicates were removed from the Web of Science, given that only 174 articles were used in the final synthesis. The articles were further analyzed by the number of publications by year in Figure 2 and to identify the industries being studied (refer to Figure 3). Thus, 20 publications were excluded from the pie chart as they were conceptual papers. Figure 3 exhibits 27% of studies conducted in the service industry, 20% in manufacturing, 10% in the public sector, and 43% in general.

9. Reporting the review

9.1. Motivation of strategic management accounting adoption

SMA was described as a collection of techniques that integrated traditional management accounting information with external orientation. These include competitor analysis, business positioning, and market conditions. Simmonds (1982) emphasized that it is essential for a business to identify and understand competitors’ product information, such as cost, price, and sales volume. This

Figure 3. SMA publications by industry.



would allow the company to understand its own market positioning and develop business strategies.

A number of organizations today are applying SMA tools in their business operations even though the term SMA has limited understanding among the respondents (Guilding et al., 2000). Several motivational factors were identified for SMA adoption in organizations. The first factor is the ability to assess competitor information. As such, SMA tools enable an organization to monitor market conditions, competitors' cost structures, and pricing policies that are essential to enhance an organization competitor advantage (Marlina et al., 2020b; Roslender & Hart, 2003; Turner et al., 2017). Turner et al. (2017) suggest SMA practices are essential in enhancing an organization competitiveness in the changing business world.

SMA is also an important supporting tool for the decision-making process in an organization. Shaqqour (2020) revealed in a study that there is a positive impact of vertical and horizontal integration between SMA and operational and strategic decision-making on reducing the financial failure of industrial companies listed on the Amman Stock Exchange (ASE). SMA tools are important in aiding the decision-making process in an organization which will eventually drive organizational performance (Cadez & Guilding, 2008; Cinquini & Tenucci, 2010; Turner et al., 2017). Thus, SMA's role in supporting business decisions will be a motivational factor for its adoption in an organization.

The other motivational factor for organizations to adopt SMA is to facilitate the process of management and cost control stages of a product's life cycle, as it integrates planning, accounting, and cost analysis. In the studies by Akhmetzianov and Sokolov (2020), it was found that SMA tools such as Life Cycle Costing (LCC) and Target Costing (TC) are essential tools in the planning processes of a new product and the management of product profitability. In their studies, they also advocated the integration of several SMA tools such as LCC, TC, and DC into a single whole, which will provide additional advantages for improving the efficiency of managing product profitability.

Companies also use SMA tools to develop customer-focused business strategies, which are done using market orientation. A market orientation business strategy, according to Kohli and Jaworski (1990), can be used to produce higher customer value and increase competitiveness. Market orientation measures the intensity with which a business gets and uses information from customers, develops strategies that satisfy consumer demands, and implements that strategy by being responsive to client needs. In the study by Turner et al. (2017) in the hotel industry, it was found that SMA use was positively associated with hotel property customer performance.

One of the most important motivational factors for organizations to adopt SMA is the improvement it brings to their business performance (Bromwich & Bhimani, 1994; Cadez & Guilding, 2008; Chong & Cable, 2002; Cinquini & Tenucci, 2010; Guilding et al., 2000; Turner et al., 2017). The use of SMA tools increases an organization's performance in a variety of ways. According to Cadez and Guilding (2008), SMA tools aid in the decision-making process that leads to an improvement in an organization's business performance. While Turner et al. (2017) show that the SMA tool leads to a better assessment of an organization's competitive positioning, which improves an organization business performance. In the study by Cinquini and Tenucci (2010), SMA tools aid in the development of business strategies that positively influence an organization's performance. Organizations today are motivated to adopt SMA tools unambiguously as it clearly supports business processes which leads to improvement in competitive advantage and drive performance.

9.2. Application of strategic management accounting techniques for decision making

Numerous studies have been conducted in the past to determine the extent to which SMA techniques have been used for decision-making for organizational benefit. Decision-making processes undertaken by any firm can be done at three levels: operational, tactical, and strategic. Out of these three levels, only strategic decision-making has a future and external orientation. Simmonds (1982)

envisaged a dynamic practice of management accounting that is completely externally oriented towards a strategic facet that relates to both financial and nonfinancial information on competitors, customers, and the market environment. He believed that SMA stands on its own to operate as a unique and complete technique that should be embraced by management accountants. It stands as a foundation for making business decisions that would improve or positively affect the performance of firms through a better competitive advantage over competitors.

Strategic management accountants are no longer just information providers; rather, they can participate as integral members of the strategic decision-making team. In their study on SMA technique application in the USA, UK, and New Zealand, Guilding et al. (2000) reported a high rate of usage of SMA techniques for decision-making purposes in these countries. Cadez and Guilding (2007) conducted an empirical study to determine the extent to which selected Slovenian and Australian companies used SMA techniques for strategic decision making, strategic pricing, strategic costing, and brand valuation. The findings suggest that two techniques, strategic pricing, and strategic costing, scored above the midpoint of the measurement scale for the Slovenian companies. Meanwhile, for the Australian companies, their only strategic pricing technique scored above the midpoint. However, from a cross-country perspective, the relative rankings of the three techniques are the same. This shows that SMA techniques have been popularly used by large companies in Slovenia and Australia for strategic decision-making purposes. Cadez and Guilding (2008) findings suggest that SMA application is positively associated with a proposed strategy, deliberate formulation of strategy, size of the company, and the accountant's strategic decision-making participation activities.

A study on the practicality of SMA usage in banks in Nigeria, a developing country, shows that SMA contributes significantly to strategic decision making in competitive advantage and increased market share. The study offers value for banks in other developing economies in that it supports the argument that they can benefit from SMA usage as part of banking strategies (Oboh & Ajibolade, 2017). In another study by Guilding et al. (2000), in a survey of large companies in New Zealand, the United Kingdom, and the United States on what accounting practices may comprise SMA, they observed a wide range of application rates for a 12 SMA technique appraisal scale, of which competitor accounting and strategic pricing (strategic decision making) are the most widely used.

A study in Jordan (Shaqqour, 2020) on the vertical and horizontal integration between SMA and decision-making on reducing financial failures concludes that there is a positive impact of vertical and horizontal integration between SMA and operational and strategic decision-making on reducing financial failures of industrial companies listed on the Amman Stock Exchange (ASE). The study recommends that Jordanian companies should take more interest in adopting more developed accounting methods and tools (SMA techniques), which will reduce financial failures and boost levels of performance through better operational and strategic decision-making. In their study on the application of SMA in the consumer goods industry in Vietnam, Nguyen and Nguyen (2021) recommend that using SAM techniques can positively contribute to strategic decision-making by improving the competitiveness and performance of the said enterprises.

Vu et al. (2022) in the study concluded that the application of SMA techniques in logistics enterprises in Vietnam for making better strategic decisions has resulted in three key insights. First, SMA provides an effective tool for providing information to support Les in making their strategic decisions. Second, accountants and managers could gain significant benefits from the governance functions of SMA. Finally, factors including size and organizational structure, technological advancement, SMA implementing costs, and strategy positively impact the SMA application in both financial and non-financial aspects. This finding helps the administrators realize the importance of SMA. Thus, the SMA will be deployed and applied with appropriate sustainable development techniques in a modern, competitive environment.

9.3. The impacts of strategic management accounting on business performance

Numerous academic researchers have endorsed and adopted various SMA techniques, some linking them to company performance (Alamri, 2019; Bromwich & Bhimani, 1994; Cadez & Guilding, 2007; Chong & Cable, 2002; Guilding et al., 2000). According to some research, SMA resides between performance assessment, managerial control, and decision-making. For example, Mia and Clarke (1999) discovered that using SMA information improves performance through benchmarking and monitoring data. Meanwhile, Cadez and Guilding (2008) found that SMA has a positive impact on business performance among 193 large Slovenian companies. Cadez and Guilding (2008) explain that SMA practices provide managers with timely, accurate, and reliable information on critical success factors within and outside the organization. They claim that using SMA improved business operations and decision-making functions, resulting in improved business performance. Turner et al. (2017) asserted that implementing SMA techniques would improve hotel properties' competitiveness and performance. SMA techniques focus on both the external business environment, such as competitors and customers, and the business's long-term success and sustainability. Strategic orientation, the external business environment, competitor analysis, and long-term orientation are some of the criteria for SMA. They include both financial and non-financial analyses that show a long-term focus and an outside focus.

Cinquini and Tenucci (2010) claim that SMA is more widely used in Italy than previously thought. The results reveal a significant association between SMA practices and company strategy, which influences the firm's strategic success, which affects the firm's performance. Based on their research, SMEs are adopting SMA at a faster rate than expected. They also noted that high-complexity SMEs employ SMA techniques more extensively to improve financial performance. A study by Alamri (2019) gathered information from 435 accounting managers employed by Saudi companies listed on the Saudi Stock Exchange. The study employs hierarchical regression analysis to investigate the relationship between SMA aspects and organizational performance. The findings indicate that SMA aspects have a considerable impact on performance, as measured in the two primary areas of financial and non-financial performance. The study supports the premise that firms can improve their performance by implementing some aspects of SMA, such as the availability of appropriate structural arrangements, supportive resources, adequate information types and usages, and a positive organizational environment.

Thus, SMA practices help managers get the right, precise, and reliable information they need about important success factors inside and outside the company over a long period of time by focusing on financial and non-financial information about internal functions and information about competitors and the market. This leads to better performance.

9.4. Discussion and future research opportunities

Prior studies have shown that there are various factors that motivate managers to adopt SMA practices in their organizations. As SMA is externally oriented, the use of several SMA techniques helps organizations better understand their competitors and develop strategies to gain competitive advantage. Besides the competitors, SMA also considers other external stakeholders such as customers and the government, which will have a significant influence on the success of an organization. Managers are involved in a variety of decision-making processes on a daily basis. Valuable information gathered from SMA practices aids managers in making strategic decisions. In addition, SMA provides managers with insightful cost information to manage costs and resources effectively.

Managers' perceptions about SMA may also influence the adoption of SMA techniques in an organization. Vu et al. (2022) found that three aspects related to human resources, namely knowledge, skills, and attitudes, have a positive impact on the application of SMA. SMA should not be seen as just an accounting tool but also be seen as a human resource tool. SMA can be seen as a form of communication of the leaders' visions to influence the employees' activities towards the achievement of goals. However, Vu's study focuses only on logistic enterprises, and this

triggers more studies on the influence of human resource factors on the application of SMA. Future studies may explore further whether there are differences in perceptions of leaders towards SMA in organizations of different types, sizes, industries, and countries.

The proactiveness of organizations in addressing strategic issues may derive the most benefit from SMA utilization. Oyewo et al. (2021) found that although there is a significant relationship between SMA utilization and competitive advantage, the strength of the relationship is moderate. Another study that supports the significance of SMA on an organization competitive advantage is by Al-Tarawneh et al. (2021). However, the level of strength of the relationship is unknown. Therefore, future research may explore further what factors influence the relationship between SMA utilization and competitive advantage and the strength of the relationship between both.

Technology plays an important role in the adoption of SMA techniques. 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. Nguyen and Nguyen (2021) 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 application. Perhaps the absence of such infrastructure has hindered managers from applying SMA extensively, which provides an opportunity for researchers to explore further.

Much of the past research on SMA focuses on manufacturing sectors, and there are limited studies on service sectors, including the education industry. Marlina et al. (2020b) reviewed and criticized past studies on the relationship between SMA and university performance from 2009 to 2018. The focus of the research theme in this area has evolved for many years since 2009, with themes such as performance evaluation and graduate competence in the earlier years, and more complex themes such as stakeholder behavior, balanced approach in performance measurements and quality management systems. Marlina and Tjahjadi (2020a) have suggested that future research be used to explore new themes such as the influence of industry and other external stakeholders on the performance of universities. The significance of the findings from these studies contributes to the development of a comprehensive performance management framework unique to the higher education industry.

SMA in the public sector is also an under-researched area, despite various reforms that have taken place, which include the emphasis on strategic planning in the public sector. Research on SMA in the public sector, however, must take into consideration the unique characteristics of the organization and the complexities of the environment in which they operate. The emergence of Industry 4.0 necessitates additional research into how it affects SMA application and the extent to which SMA techniques influence business performance. Thus, SMA is a strategic, externally, and future oriented approach in managing costs and business performance. It will be interesting to explore the impact of the pandemic Covid-19 towards the adoption of SMA in various industries and countries. Therefore, will the lessons learned from the unforeseen pandemic impact on businesses motivate managers to apply SMA techniques or otherwise is worth studying. Since the pandemic, there is also a rising trend of emergence of disruptive technology businesses. Future studies may focus on the relevance of SMA in such businesses in gaining competitive advantage. In addition, future research can explore the impact of digitalization on SMA practices since there are very limited empirical studies available that investigate the factors in the perspective of digitalization and relate to SMA practices such as fintech, big data analytics, and artificial intelligence (AI). Besides, to date, there has not been any framework or model developed in connection with this area of study, leaving the gaps for further research.

10. Conclusion

The current study used a systematic literature review approach to identify the motivation to adopt SMA practices, evidence on the usage of SMA practices, a synthesis of the impacts of SMA on business goals, and knowledge gaps in the current literature about SMA practices and business goals. The study's primary contributions are an in-depth overview of peer-reviewed literature on SMA practices by highlighting its benefits, challenges, opportunities as well as future research directions that serve as a basis for future study and practice. Since its promising emergence in the last years of the past century, SMA has attracted the attention of researchers to uncover areas such as the techniques that fit the definition of SMA, the extent of usage of SMA in various types of organizations, the factors that influence the adoption of SMA, the impact of SMA adoption on organizational performance, and the challenges in implementing SMA. This systematic review shows that there are various reasons for the adoption of SMA in business organizations. The nature of SMA, which has an external orientation, provides invaluable information for decision-making purposes. The positive impacts of SMA applications on organizational performance are also evidenced by several empirical studies conducted. In spite of the significant contribution of this study, the limitations must be addressed in relation to generalization on the findings. The literature comprised of developed and developing countries, as well as a few industries that may influence the results. Nevertheless, despite the increasing amount of SMA research, particularly in the last ten years, there are still many unexplored areas including fintech revelation on SMA development and advancement using AI and big data analysis. As a result, it opens up numerous avenues for future research.

Funding

The authors received no direct funding for this research.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

Citation information

Cite this article as: Strategic management accounting practices in business: A systematic review of the literature and future research directions, Nik Herda Nik Abdullah, Shamala Krishnan, Azliza Azrah Mohd Zakaria & Grace Morris, *Cogent Business & Management* (2022), 9: 2093488.

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