Research Article

Strategic Cost Management as a Valuable Approach for Achieving Organizational Sustainability: Evidence from Industrial Businesses in Rayong

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ABSTRACT

This research investigates the influences of strategic cost management on decision making quality, competitive advantage, firm profitability and organizational sustainability. Strategic cost management includes cost driver analysis, strategic positioning analysis and value chain analysis. In this study, 330 Industrial firms in Rayong are the samples of the study. The results reveal that strategic positioning analysis and value chain analysis have a significant positive influence on decision making quality, competitive advantage, firm profitability and organizational sustainability. Also, cost driver analysis has a significant positive influence on competitive advantage, firm profitability and organizational sustainability. Moreover, decision making quality and competitive advantage have a significant positive influence on firm profitability and organizational sustainability. Likewise, firm profitability has a significant positive influence on organizational sustainability. This study enables firms' executives to be aware of how to implement, apply and utilize strategic cost management for create decision making quality and competitive advantage, initialing firm profitability and achieve organizational sustainability.

Keywords: Strategic Cost Management, Decision Making Quality, Competitive Advantage, Firm Profitability, Organizational Sustainability

บทความวิจัย

การบริหารต้นทุนเชิงกลยุทธ์เป็นวิธีการที่มีคุณค่าสำหรับการบรรลุความยั่งยืนขององค์กร : หลักฐานจากธุรกิจอุตสาหกรรมในจังหวัดระยอง

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บทคัดย่อ

การวิจัยนี้ทำการศึกษาถึงอิทธิพลของการบริหารต้นทุนเชิงกลยุทธ์ที่มีต่อคุณภาพการตัดสินใจ ความได้เปรียบทางการแข่งขัน ความสามารถในการทำกำไร และความยั่งยืนขององค์กร การบริหารต้นทุนเชิงกลยุทธ์ ประกอบด้วย การวิเคราะห์ตัวผลักดันต้นทุน การวิเคราะห์ตำแหน่งเชิงกลยุทธ์ และการวิเคราะห์ห่วงโซ่คุณค่า ในการวิจัยนี้มีกิจการอุตสาหกรรมจำนวน 330 กิจการ ในจังหวัดระยองเป็นตัวอย่างของการวิจัย ผลการวิจัยพบว่า การวิเคราะห์ตำแหน่งเชิงกลยุทธ์ และการวิเคราะห์ห่วงโซ่คุณค่ามีความสัมพันธ์เชิงบวกต่อคุณภาพการตัดสินใจ ความได้เปรียบทางการแข่งขัน ความสามารถในการทำกำไร และความยั่งยืนขององค์กร ในขณะที่การวิเคราะห์ตัวผลักดันต้นทุนมีความสัมพันธ์เชิงบวกต่อความได้เปรียบทางการแข่งขัน ความสามารถในการทำกำไร และความยั่งยืนขององค์กร นอกจากนี้คุณภาพการตัดสินใจ และความได้เปรียบทางการแข่งขันมีความสัมพันธ์เชิงบวกต่อความสามารถในการทำกำไร และความยั่งยืนขององค์กร นอกจากนั้นความสามารถในการทำกำไรมีความสัมพันธ์เชิงบวกต่อความยั่งยืนขององค์กร การวิจัยนี้ช่วยสนับสนุนให้ผู้บริหารของกิจการตระหนักถึงแนวทาง และวิธีการในการประยุกต์ใช้และการใช้ประโยชน์จากการบริหารต้นทุนเชิงกลยุทธ์เพื่อสร้างคุณภาพการตัดสินใจ และความได้เปรียบทางการแข่งขัน ก่อให้เกิดความสามารถในการทำกำไร และบรรลุความยั่งยืนขององค์กร

คำสำคัญ: การบริหารต้นทุนเชิงกลยุทธ์ คุณภาพการตัดสินใจ ความได้เปรียบทางการแข่งขัน ความสามารถในการทำกำไร ความยั่งยืนขององค์กร

Introduction

Industrial businesses have to face a rapidly changing internal and external environment and an increasing uncertainty in their requirements and restrictions (volatile, uncertain, complex and ambiguous). New challenges arise both internally, in the business itself, and externally, caused by a change of the surrounding (Mack et al., 2016). Political instabilities, a massive increase in customization, a rapid technical progress and a barely comprehensible economic dynamic worldwide raise the complexity, volatility and uncertainty of the overall system tremendously. As a result, long-term forecast of situations, conditions and markets overall is getting significantly harder and the importance of fast responsiveness increases continuously (Christensen, Raynor and McDonals, 2015). Furthermore, the associated, changing product development process requires an additional internal shift of production. Due to short, iterative development cycles with a strong customer focus, the rising agile product development process requires higher adaptability of manufacturing networks both in the development phase itself and in the production phase afterwards (Schuh et al., 2019).

Since late 20th century, many firms in the manufacturing sectors have faced dramatic changes in their business environment and many new management methods and manufacturing technologies have come into being in the fierce competitive environment in which enterprises try to survive (Fretty, 2019). Firms are forced to seek effective approaches to manage their competitive advantage, financial and non-financial performance and at the same time to increase stakeholder value. Competitive strategy oriented to external context, effective organizational structure and strategic cost management (SCM) information allows businesses to strive to success. Assurance of competitive advantage is based on decision making process of managers by using SCM information (Oboh and Ajibolade, 2017).

Strategic cost management is the application of cost management techniques for improve the strategic position of a business as well as control costs. It also contains integrating cost information with the decision-making framework to support the overall organizational strategy. It is not limited to controlling costs but using cost information for management decision making. The cost management techniques should be such that they improve the strategic position of a business apart from focusing on controlling costs. The basic aim of SCM is to help firm to achieve the sustainable competitive advantage through product differentiation and cost leadership (The Institute of Chartered Accountants of India, 2019). Prior research in accounting field focused on the study of strategic cost management in holistic view (Phornlaphatrachakorn, 2018; Henri, Boiral, and Roy, 2016). Therefore, this research expands and add the contributions to strategic cost management by focused on three dimensions of strategic cost management that have an impact to organizational outcomes.

The research is conducted with industry businesses in Rayong because these firms are under the Eastern Economic Corridor (EEC) Development Plan under scheme of Thailand 4.0 and they are main parts of Thailand's economy and they have invested their high amount of money in the businesses. The EEC Development Plan will lead an important development and transformation of Thailand's investment in social infrastructure and physical in the area. Also, Rayong remains the province with the highest Gross Provincial Product (GPP) per capita, with income at more than one million baht per person (Office of the National Economics and Social Development Council, 2020). Therefore, approaches for development are needed for the industry businesses in Rayong not only to keep up with quality standards, but also to shift the quality level of the product higher than standard and customer expectation, leading to a competitive advantage in quality. Accordingly, the main purpose of this research is to investigate the effects of strategic cost management on organizational sustainability through decision making quality, competitive advantage and firm profitability as mediating of the study to obtain empirical data used as guidelines for analysis, planning and operation.

Relevant Literature Review of Strategic Cost Management and Its Consequences

The first-time concept of SCM was mentioned by Shank in 1989. SCM refers to a bundle of techniques and activities used by management in planning and controlling short and long-term decisions, allowing to increase the value of products and to decrease costs (Santana, Diehl and Martins, 2020). SCM is the application of cost management techniques for improve the strategic position of a firm as well as control costs. It also involves integrating cost information with the decision-making framework to support the overall organizational strategy. The cost management techniques should be such that they improve the strategic position of a business apart from focusing on controlling costs. SCM lays a superior focus on continuous improvement to deliver superior quality product to the customers. SCM must be an integral part of the value chain. It needs to include all aspects of the production, design, purchase, manufacturing, service and delivery. It is significant that SCM is involved at early stages of a product development cycle to avoid heavy costs of failure (The Institute of Chartered Accountants of India, 2019). In other hand, traditional cost management system contains allocation of costs and overheads to the production and emphases largely on cost reduction and cost control. The underlying assumption was that with reduced costs (direct) and overheads a company could earn better profits. It includes comparing actual results with the standard expectations (standard costs or typically budget) and analyzing the difference. A corrective action would be taken to ensure future outcomes are within the budgeted outcomes. Hence, SCM is one of the methods of valuable

strategic management accounting and it affects companies gained competitive advantage and increased performance (Phornlaphatrachakorn, 2018; Henri, Boiral, and Roy, 2016).

The research employs three main theories: profit-maximizing and competition-based theory, survival-based theory and contingency theory, which explains the relationships between SCM and the consequences (David, 2005). The profit-maximizing and competition-based theory is based on the notion that a business organization's main objective is to maximize long term profit and developing sustainable competitive advantage over competitive rivals in the external market place. The industrial organization perspective is the basis of this theory as it views the organization's external market positioning as the critical factor for attaining and sustaining competitive advantage. The survival-based theory centers on the concept that organizations need to continuously adapt to its competitive environment in order to survive. Finally, the contingency theory draws the idea that there is no one or single best way or approach to manage organizations. Organizations should then develop appropriate managerial strategy based on the situation and condition they are experiencing. In summary, during the process of strategy development, implementation and evaluation, these main strategic management theories will be applicable to management of organizations as tools to assist them in making strategic and guided managerial decision (Omalaja and Eruola, 2011).

Strategic cost management primary revolves around three business themes - cost driver analysis, strategic positioning analysis and value chain analysis (Anderson, 2007). The conceptual model presents the relations among SCM, decision making quality, competitive advantage, firm profitability and organizational sustainability through as shown in Figure 1.

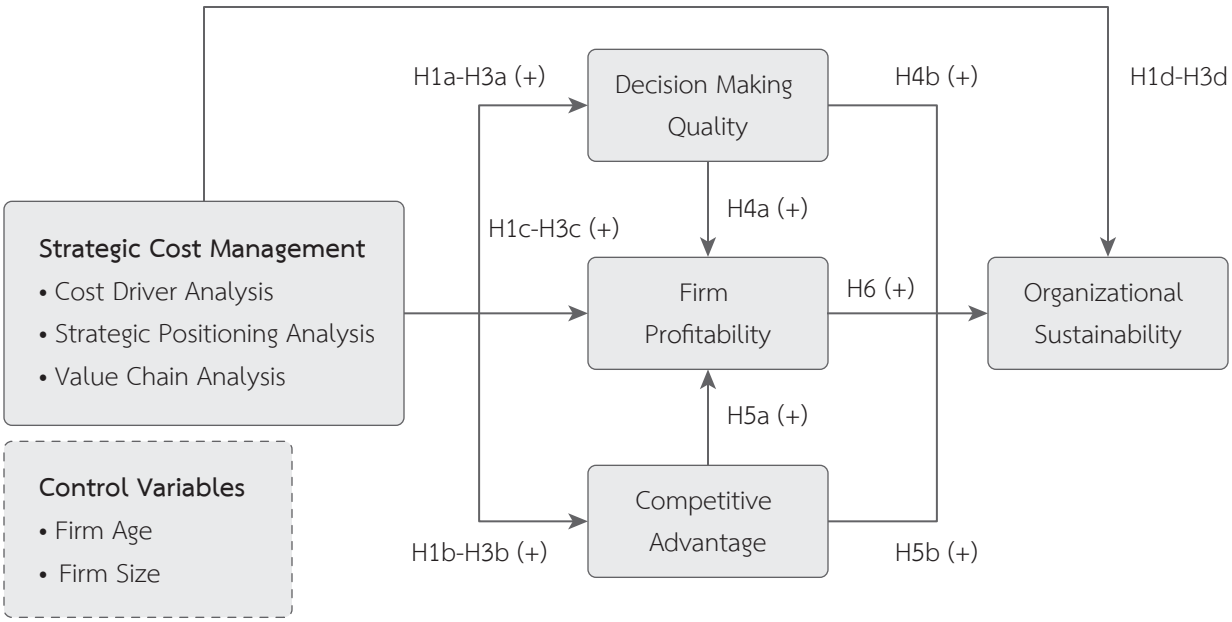

Figure 1: The conceptual model of the relationships among SCM, decision making quality, competitive advantage, firm profitability and organizational sustainability

Cost Driver Analysis

Cost is caused or driven by several factors which are interrelated. Cost is not a simple function of volume or output as considered by traditional cost accounting systems. Cost driver is any factor that causes a change in the cost of an activity resulting in the activity, which consumes fewer or greater amounts of resources (Estermann and Claeys-Kulik, 2013). Firms need to find the driver factors of cost to ensure the validity of the cost management strategy. The cost driver of a product or process often provides great opportunities for cost reduction or process improvement. Cost is driven by different interrelated factors. Understanding cost behavior means understanding the complex interplay of the set of cost drivers at work in any given situation. Cost driver analysis examines, measures and explains the financial effect of the cost driver concerned with the activity. For a firm that competes on the basis of cost leadership, management of the key cost drivers is essential (Blocher et al., 2009). The cost for the business that chooses differentiation or focus strategies is in the second priority. Activity based costing is used to distribute overheads to products and services using cost factors through multiple cost pools. On the other hand, cost driver analysis can be used to determine the target level cost in the target costing process (Yalcin, 2019).

In this research, cost driver analysis refers to a technique for analyzing the cost structure by used to examination, quantification and explanation of the monetary effects of cost drivers associated with an activity (Laseter, Heckel and Huang, 2017). The previous research of Wang et al. (2018) indicates that appropriate data about the actual costs and allocation of costs to numerous activities and cost objects, and the understanding of the origin of costs is of critical importance for each organization. Consistent with Das (2019), cost driver analysis is valuable technique which integrates the problem-solving and analytical tools for quality and process improvement. It creates information needed to reduce costs and improve profitability of the firm. Likewise, cost driver analysis is a modern accounting method that helps firms offers cost information that helps management make decisions in addition to contribute to the development of strategies to complete the competitive advantages of the firm in the short and long term (Bonnín Roca et al., 2019). Moreover, managing significant cost elements is useful in providing a competitive advantage and organizational sustainability (Yalcin, 2019). Therefore, the associations are hypothesized as follows:

H1: Cost driver analysis is positively related to a) decision making quality, b) competitive advantage, c) firm profitability, and d) organizational sustainability.

Strategic Positioning Analysis

Strategic positioning analysis is the second dimension of SCM. The strategic positioning of an organization contains the devising of the desired future position of the organization on the basis of present and foreseeable developments, and the making of plans to realize that positioning (Dang and Yeo, 2017). Strategic positioning analysis is concerned with influence of internal and external environment on the overall strategy of a business. It is important to take account of the future and to evaluate whether the current strategy is an appropriate fit with the strategic position. The following factors affect the strategic position of a business - organization values, culture and systems, internal environment (resources and competencies) and external environment. External environment can be analyses using models like PESTEL (Political, Economic, Social, Technological, Environmental and Legal factors) and Porter's 5 forces (The Institute of Chartered Accountants of India, 2019). A firm can choose to compete in the market either on the basis of cost differentiation or leadership. It means that in order to remain competitive, a company has to offer its products either at a lower cost or with a greater number of features. The key focus of the low-cost strategy is to achieve low cost relative to competitors, namely sight control of cost, cost reduction etc. To compete on cost, firms must balance price with acceptable quality. The company which adopt a differentiation strategy try to make their

customers feel that their products are different, qualitatively superior and have a great number of features than their competitors' products (Das, 2019).

In this research, strategic positioning analysis refers to an ability of firms to analysis and present of cost information suitable fit with the strategic position by concerned with impact of internal and external environment of a firm for generate value information and differently than rivals (Dimitrova, 2017). Strategic positioning analysis is the analysis and presentation of cost information for the different types of strategies used by management (cost leadership strategy or differentiation strategy) in order to increase decision making quality of manager and creating a sustainable competitive advantage (Farhiya, 2015). Mukeshimana, Nkechi and Jefferson (2019) found positively significant relationship between strategic positioning analysis and firm profitability. Through several positioning strategies such differentiation, costing and promotion, perceived quality of services as well as pricing strategy, performances are able to improve. Consistent with Birafane, Liu and Khalikov (2020), the findings support the hypothesis that strategic positioning analysis influences firm profitability. The main implication of this study is that innovative differentiation strategies together with technological resources strongly affect firm performance and competitive advantage. Moreover, Strategic positioning analysis is vital for organizations to sustainably survive in a highly dynamic working environment. Strategies are key focus for profitability in any organization as they enhance their performance and competitive advantage over their main rivals (Okeyo and Lewa, 2020). In additional, strategic positioning analysis is one of the important management accounting practices to enhance decision-making success, goal achievement and firm growth (Hannimitkulchai, Phornlaphatrachakorn and Pratoom, 2019). Respectively, the related hypotheses are postulated as the following:

H2: Strategic positioning analysis is positively related to a) decision making quality, b) competitive advantage, c) firm profitability, and d) organizational sustainability.

Value Chain Analysis

Value chain analysis relies on the basic economic principle of advantage - firms are best served by operating in sectors where they have a relative productive advantage compared to their competitors. Simultaneously, firms should ask themselves where they can distribute the greatest value to their customers. Value chain analysis is a method by which a firm identifies and analyses several activities that add value to the final product (Straková et al., 2020). The idea is to identify those activities which do not add value to the final product/service and eliminate such non-value adding activities. The analysis of value chain helps a firm gain cost leadership or improve product differentiation. Resources must be deployed in those activities that are capable of producing products valued by customers. The

idea of a value chain was first proposed by Porter (1985) to depict how customer value accumulates along a chain of activities that lead to an end product or service. The concepts, tools and techniques of value chain analysis apply to all those organizations which produce and sell a product or provide a service. The numerous activities undertaken by a firm can be broadly classified into primary activities and secondary activities. Primary activities are those which are directly involved in transforming of inputs (raw material) into outputs (finished products) or in provision of service. Secondary activities support the primary activities. However, secondary activities are not directly involved in creation of product, it doesn't mean that they are of less importance as compared to primary activities. Value chain analysis is a costing method where costs are allocated to value-added activities required to design, procure, produce, market, distribute, and service the firms' products. Companies with successful value-chain costing implementation are likely to manage their product costs efficiently and effectively with a linkage of significant and essential activities as value-added activities of business operation cycle. (Ussahawanitchakit, 2017).

In this research, value chain analysis is defined as an ability of firms to analysis internal firm activities for manage and utilize costs effectively along a whole value chain and maintain their competitive advantage in the competitive markets and environments (Simatupang, Piboonrungroj and Williams, 2017). Moreover, value chain analysis is a tool of strategic analysis that can be used to identify areas in which value can be enhanced for customer or costs can be reduced. It helps a firm to increase competitive advantage (Das, 2019). Hence, in alignment with Mohamed and Jones (2014), value chain analysis reveals which activities the firm should target its resources on to maximize the customer value and thereby develop a competitive advantage. Therefore, value chain analysis offers managers with suitable cost information about how they could allocate the firm's available resources to maximize the resource effectiveness. Consistent with Bhargava, Bafna and Shabarisha (2018), it was found that the adoption of value chain analysis can enable organizations work smartly reaping greater profits. Moreover, an analysis of the firm's value chain helps management discover which steps or activities are not competitive, where costs can be reduced, or which activity should be outsourced. Management can use the analysis to find ways to increase value for the customer at one or more steps of the value chain (Yalcin, 2019). Also, Sultan and Saurabh (2013) found that conceptualizing the value chain model as a strategy for achieving the sustainability competitive advantage and corporate sustainable development. Therefore, the associations are hypothesized as follows:

H3: Value chain analysis is positively related to a) decision making quality, b) competitive advantage, c) firm profitability, and d) organizational sustainability.

Decision Making Quality

Decision making quality refers to the ability of firms to do the appropriate thing at the appropriate time with appropriate people in situation of uncertainty (Goecks, Santos, and Korzenowski, 2020). Decision making quality encourages companies to have consistently good results, including growth, performance and sustainability. Decision making quality comprises objective metric and subjective metric. An objective metric emphasis on decision accuracy as the average revenue of the location actually chosen by decision makers relative to the revenue of the optimal location and decision efficiency as the duration the decision maker needs to solve as tasks. For a subjective metric of decision-making quality, decision confidence of the decision maker is important and it reflects to their perceived ease of tasks.

Decision making quality as a strategy in decision processes and rationales of firm to choose the best decision from several alternatives after considering factors. A manager's skill to manage depends on good decision making made through the most efficient course of action to achieve a specified objective (van der Meer et al., 2019). Quality of decisions made is very significant for the smooth functioning of an organization because organizational management is required to make a large number of decisions on a continuous basis. The firm performance is greatly influenced by these decisions. Hence, making decisions is a matter of a huge responsibility for the management not only against the firm itself, but against their employees and other stakeholders, as well (Satyendra, 2017). Accordingly, decision accuracy, efficiency and confidence are significant drivers of defining success of firms' business operations and determining their good organizational outcomes. Firms with the quality of decision-making aspect likely perform their appropriate business operations fitting with competitive situations and meet their operational and strategic goals successfully that could lead them to have good results and achieve firm profitability (Phornlaphatrachakorn, 2017). Moreover, Successful strategic decision-making implementation can enable firms to survive and sustain efficiently and effectively (Mitchell, Shepherd and Sharfman, 2011). Therefore, the associations are hypothesized as follows:

H4: Decision making quality is positively related to a) firm profitability, and b) organizational sustainability.

Competitive Advantage

The significant outcome of SCM is competitive advantage. The concept of competitive advantage is based on how the firm can distinguish itself from its competitors and achieve its own superiority and excellence. Competitiveness is the result of many interrelated and varied factors in its patterns and effects. Competitive advantage is defined as an ability of firms to sustain their long-term performance

better than their competitors in the markets (Mahdi, Nassar, and Almsafir, 2019). Likewise, Ambarwati et al. (2019) indicated that competitive advantage is the ability to achieve superior returns compared to competitors by optimizing the existing resources. In the past decades, Porter (1985) identified two dimensions of competitive advantage. These are differentiation advantages and cost advantages. Later, this framework has extended to include other dimensions to conceptualize competitive advantage. These dimensions are cost reduction, quality and innovation. In this research, competitive advantage refers to business assets, attributes, or capabilities that are hard to duplicate or exceed; and offer a superior or favorable long-term position over competitors (Ussahawanitchakit, 2017).

A company achieves competitive advantage when an attractive number of buyers prefer its products or services over the offerings of competitors and when the foundation of this preference is durable. Furthermore, competitive advantage leads to improving customer satisfaction, encouraging repeat purchase of product and attracting new buyers in markets. Competitive advantage enhances their business performance and achievement in violent markets and environments (Phornlaphatrachakorn, 2017). Similarly, Thapayom (2019) indicated that competitive advantage has a direct link with organizational sustainable performance. Besides, Guimarães, Severo and Vasconcelos (2017) found that competitive advantage is an important antecedent of firm profitability because it highlights important attributes for organizations to complete positive economic consequences. Furthermore, organizational competitiveness leads to superior market performance (e.g., customer satisfaction, perceived quality) and in turn, greater financial performance (e.g., market share, profit) (Zuñiga-Collazos, Castillo-Palacio & Padilla-Delgado, 2019). Moreover, firms with greater competitive advantage attempt to make a combination of assets that are inherent and created as well as processes that transfer assets into business results in both economic and non-economic results (Chuang and Huang, 2015). Therefore, the hypotheses are proposed as follows:

H5: Competitive advantage is positively related to a) firm profitability, and b) organizational sustainability.

Firm Profitability

A success of strategic cost management implementation is likely to increase firm profitability. In the world of business, the competition is getting stiffer and stiffer daily. Firm profitability has become an issue. In this view, the firm has to be efficient in managing time, money and energy. Firm profitability contains the actual output or results of a business as measured against its intended outputs (or goals and objectives). In this research, firm profitability refers to an outcome of firms' well operating and doing business effectively and efficiently in highly competitive markets and environments

(Phornlaphatrachakorn, 2018). Firm profitability reflects positive feedback and sales growth and also signals the achievement of greater market position with an increasing demand for firms' outputs. Here, market share, overall performance, a number of new customers, and innovative operations are considered as effective measurements of firm profitability. firm profitability is likely to provide adaptability, maintain high performance standards and achieve functional performance goals (Barnabas, Nwuche and Anyanwu, 2016). Therefore, firms with profitability tend to achieve their outstanding organizational sustainability. The hypotheses are proposed as follows:

H6: Firm profitability is positively related to organizational sustainability.

Organizational Sustainability

Organizational sustainability is the last consequence of SCM in this study. Organizational sustainability is defined as adopting business strategies and activities that meet the needs of an organization and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future (Karkoulian, Assaker and Hallak, 2016). It explicitly represents the ability of organizations to maintain their viable business operations in long-term aspects. Similarly, organizational sustainability refers to the ability of organizations to contribute to sustain development delivering simultaneously with economic, social and environmental benefits (Joo, Eom & Shin, 2017). It potentially emphasizes a suitable balanced organizational approach that considers economic development (business growth and profitability), social benefit (social justice and equity) and environmental performance (environmental protection) (Klarin, 2018). Organizations with achieving sustainability tend to outstandingly meet the needs of the present without compromising the ability of future generations to meet their own needs by maintaining longevity, continuity and capacity. Therefore, organizational sustainability becomes the highest goal achievement via implementing strategic business tool of SCM.

Research Methods

Sample Selection and Data Collection Procedure

The population is the firms in industrial business in Rayong, Thailand. This population from the online data base of the Department of Industrial Works (DIW). In this study, the firms in an industrial business in Rayong, Thailand were selected as samples of the study because these firms are under the Eastern Economic Corridor (EEC) Development Plan under scheme of Thailand 4.0 and they are main parts of Thailand's economy and they have invested their high amount of money in the businesses. The EEC Development Plan will lead an important development and transformation of Thailand's investment in social infrastructure and physical in the area. Also, Rayong remains the province with

the highest Gross Provincial Product (GPP) per capita, with income at more than one million baht per person (Office of the National Economics and Social Development Council, 2020).

This study, the population available in the database totaling 2,209 firms that are active (information drawn on July 20, 2020). The equation under the 95% confidentiality rule is used to calculate the appropriate sample size using Krejcie and Morgan (1970). Accordingly, an appropriate sample size is 328 firms. Based on prior business research, a 20% response rate for a mail survey, without an appropriate follow-up procedure, is deemed sufficient (Aaker, Kumar and Day, 2001). Thus, 1,640 mailed questionnaires are appropriate for a distributed mail survey by using accounting executives as the key informants. As a result, the questionnaires are directly distributed by random choice to 1,640 firms in Rayong, Thailand who are selected by a simple random sampling procedure. With regard to the questionnaire mailing, 95 surveys were undeliverable because some firms had moved to unknown locations. Deducting the undeliverable from the original 1,640 mailed, the valid mailing was 1,545 surveys, from which 339 responses were received. Due to nine found incomplete and with response errors, they were deducted from further analysis. As a result, completed questionnaires are 330. The effective response rate was approximately 21.36% which is considered acceptable for the response rate for a mail survey because it is greater than 20% (Aaker, Kumar, & Day, 2001). To test non-response bias and to detect and consider possible problems with non-response errors was investigated by t-test that followed to Armstrong and Overton (1977). The researcher was compared early and late responses about firm age and firm capital. The results were not significant between early and late responses. Therefore, it was implied that these received questionnaires show insignificant non-response bias for the analysis in this research.

Variable Measurement

To measure each construct in the conceptual model, all variables are anchored by five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), except firm age and firm size. In addition, Measurements of these constructs are self-developed from existing literature through considering and interpreting the definitions of the variables and using the key concepts of these variables as shown in Appendix A. The variable measurements of this study are described as follows:

Organizational sustainability is the ending dependent variable in this research. Organizational sustainability refers to adopting business strategies and activities that meet the needs of an organization and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future (Karkoulian, Assaker and Hallak, 2016). Five-item scale was developed

to assess how firms contribute to sustain development delivering simultaneously with economic, social and environmental benefits.

Cost driver analysis refers to a technique for analyzing the cost structure by used to examination, quantification and explanation of the monetary effects of cost drivers associated with an activity (Laseter, Heckel and Huang, 2017). Five-item scale was developed to assess how firms allocate costs to activity pools of operating activities that consume costs and allocate from each activity pool to individual cost objects based on their usage of activities.

Strategic positioning analysis refers to an ability of firms to analysis and present of cost information suitable fit with the strategic position by concerned with impact of internal and external environment of a firm for generate value information and differently than rivals (Dimitrova, 2017). Five-item scale was developed to assess how firms use accounting information in evaluating their potential and competitiveness, as well as determining the competitive position in the industry to achieve its goals and lead to long-term profitability.

Value chain analysis refers to an ability of firms to analysis internal firm activities for manage and utilize costs effectively along a whole value chain and maintain their competitive advantage in the competitive markets and environments (Simatupang, Piboonrungroj and Williams, 2017). Five-item scale was developed to assess how firms implement a costing method where costs are allocated to value-added activities required to design, procure, produce, market, distribute, and service the firms' products.

Decision making quality refers to the ability of firms to do the appropriate thing at the appropriate time with appropriate people in situation of uncertainty (Goecks, Santos, and Korzenowski, 2020). Five-item scale was developed to assess how firms do the appropriate thing at the appropriate time with appropriate people in situation of uncertainty, including decision accuracy, efficiency and confidence.

Competitive advantage refers to business assets, attributes, or capabilities that are hard to duplicate or exceed; and offer a superior or favorable long-term position over competitors (Ussahawanitchakit, 2017). Five-item scale was developed to assess how firms measure an outcome of effectively utilizing firms' resources and capabilities in business operations, activities and practices that outperform their competitors.

Firm profitability refers to an outcome of firms' well operating and doing business effectively and efficiently in highly competitive markets and environments (Phornlaphatrachakorn, 2018). Five-item scale was developed to assess how well firms operate in the competitive markets and environments, including achievement of objective and goal settings, growth of net profit, market share, operational efficiency, and executive satisfaction.

Control variables in this study comprise firm age and firm size (Phornlaphatrachakorn, 2018). Based on the sample data, firm age was measured by the number of years a firm has been in existence by using a dummy variable as less than 15 years = 0 and equal to or greater than 15 years = 1. Firm size was measured by the amount of money a firm has invested in doing business by using a dummy variable as less than 10 million baht = 0 and equal to or greater than 10 million baht = 1.

Test of Research Instrument

To verify a quality of the research tool in this study, factor analysis, item-total correlation and cronbach alpha are applied. Firstly, factor analysis was utilized to measure the underlying associations of a large number of items and to determine whether they can be reduced to a smaller set of factors. A higher rule-of-thumb, a cut-off value of 0.40, was adopted (Nunnally and Bernstein, 1994). All factor loadings are greater than the 0.40 cut-off and are statistically significant. Secondly, discriminant power was used to evaluate the validity of the measurements by item-total correlation. In the scale validity, item-total correlation is greater than 0.30 (Churchill, 1979). Lastly, the reliability of the measurements was assessed by Cronbach alpha coefficients. In the scale reliability, Cronbach alpha coefficients are greater than 0.70 (Nunnally and Bernstein, 1994). Therefore, the scales of all measures appear to produce internally consistent results and these measures are deemed appropriate for further analysis as shown in Table 1.

Table 1 Result of Measure Validation

Variables	Factor Loadings	Item-total correlation	Cronbach's Alpha
Cost Driver Analysis (CDA)	.727–.904	.614–.824	.898
Strategic Positioning Analysis (SPA)	.894–.945	.836–.913	.954
Value Chain Analysis (VCA)	.861–.935	.787–.890	.938
Decision Making Quality (DMQ)	.884–.970	.827–.952	.968
Competitive Advantage (CAD)	.714–.925	.602–.852	.901
Firm Profitability (FPR)	.884–.971	.826–.954	.971
Organizational Sustainability (OSU)	.808–.905	.700–.845	.908

Statistical Techniques

To empirically investigate the research relationships, the ordinary least squares (OLS) multiple regression analysis is conducted because all variables in this research were neither nominal data nor categorical data (Chan and Mak, 2012). From the conceptual model and hypotheses, the following six equation models are formulated:

$$\text{Equation 1: } DMQ = \alpha_1 + \beta_1 CDA + \beta_2 SPA + \beta_3 VCA + \beta_4 AGE + \beta_5 SIZ + \varepsilon_1$$

$$\text{Equation 2: } CAD = \alpha_2 + \beta_6 CDA + \beta_7 SPA + \beta_8 VCA + \beta_9 AGE + \beta_{10} SIZ + \varepsilon_2$$

$$\text{Equation 3: } FPR = \alpha_3 + \beta_{11} CDA + \beta_{12} SPA + \beta_{13} VCA + \beta_{14} AGE + \beta_{15} SIZ + \varepsilon_3$$

$$\text{Equation 4: } OSU = \alpha_4 + \beta_{16} CDA + \beta_{17} SPA + \beta_{18} VCA + \beta_{19} AGE + \beta_{20} SIZ + \varepsilon_4$$

$$\text{Equation 5: } FPR = \alpha_5 + \beta_{21} DMQ + \beta_{22} CAD + \beta_{23} AGE + \beta_{24} SIZ + \varepsilon_5$$

$$\text{Equation 6: } OSU = \alpha_6 + \beta_{25} DMQ + \beta_{26} CAD + \beta_{27} FPR + \beta_{28} AGE + \beta_{29} SIZ + \varepsilon_6$$

Results and Discussion

Table 2 shows descriptive statistics and correlation matrix for all variables. Correlation coefficients are ranging from 0.385–0.649. With respect to potential problems relating to multicollinearity, variance inflation factors (VIF) were used to test the intercorrelations among independent variable. In this study, the VIFs range from 1.484 to 2.078, well below the cut-off value of 10 (Hair et al., 2006), meaning that the independent variables are not correlated with each other. Thus, there are no substantial multicollinearity problems encountered in this study.

Table 2 Descriptive Statistics and Correlation Matrix

Variables	CDA	SPA	VCA	DMQ	CAD	FPR	OSU
Mean	4.135	4.091	4.158	4.053	3.878	3.936	4.149
S.D	.589	.540	.528	.559	.605	.636	.529
CDA	1						
SPA	.603***	1					
VCA	.529***	.649***	1				
DMQ	.431***	.588***	.514***	1			
CAD	.385***	.530***	.418***	.556***	1		
FPR	.435***	.530***	.507***	.559***	.573***	1	
OSU	.448***	.555***	.549***	.586***	.494***	.518***	1

*** $p < 0.01$ (two-tailed test)

Table 3 shows the results of OLS multiple regression analysis of the relationships among SCM, decision making quality, competitive advantage, firm profitability and organizational sustainability.

Table 3 Results of OLS Multiple Regression Analysis[a]

Independent Variables	Dependent Variables					
	DMQ Equation 1	CAD Equation 2	FPR Equation 3	OSU Equation 4	FPR Equation 5	OSU Equation 6
Cost Driver Analysis (CDA)	.069 (.057)	**.103*** (.060)	**.160***** (.058)	**.095*** (.057)		
Strategic Positioning Analysis (SPA)	**.408***** (.063)	**.400***** (.067)	**.273***** (.064)	**.302***** (.063)		
Value Chain Analysis (VCA)	**.210***** (.059)	**.112*** (.063)	**.256***** (.060)	**.296***** (.059)		
Decision Making Quality (DMQ)					**.349***** (.051)	**.347***** (.055)
Competitive Advantage (CAD)					**.375***** (.051)	**.175***** (.055)
Firm Profitability (FPR)						**.235***** (.055)
Firm Age (AGE)	.177 (.111)	**–.266**** (.118)	–.184 (.113)	**.244**** (.111)	–.087 (.108)	**.306***** (.108)
Firm Size (SIZ)	**–.239**** (.109)	.097 (.116)	**–.201*** (.111)	–.154 (.109)	–.163 (.107)	–.047 (.107)
Adjusted R^2	.379	.295	.355	.377	.418	.421

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$, [a] Beta coefficients with standard errors in parenthesis

To test H1a, 1b, 1c, and 1d, equation 1 to 4 were employed. The results show that cost driver analysis has a significant positive effect on competitive advantage ($\beta_6 = 0.103$, $p < 0.10$), firm profitability ($\beta_{11} = 0.160$, $p < 0.01$) and organizational sustainability ($\beta_{16} = 0.095$, $p < 0.10$). In existing literature, cost driver analysis is a potential technique for analyzing the cost structure by used to examination, quantification, and explanation of the monetary effects of cost drivers associated with an activity. It is a critical ability by providing appropriate information about the actual costs and allocation of

costs to various activities and cost objects, and the comprehension of the origin of costs is of critical importance for each organization (Wang et al., 2018). Firms with successful cost driver analysis can manage their product costs effectively and efficiently with a linkage of important and necessary activities of business operation. It generates information needed to reduce costs and improve the overall financial performance of the organization (Das, 2019). Accordingly, cost driver analysis has a potential role in enhancing competitive advantage, firm profitability and organizational sustainability. ***Therefore, Hypotheses 1b, 1c and 1d are supported***. Surprisingly, cost driver analysis has no relationship with decision making quality ($\beta_1 = 0.069$, $p > 0.10$). To reasonably explain the research result, the decision-making process to choose the best decision is based on many factors from inside and outside company. Moreover, manager's ability is key factor in order to achieve decision making quality. Therefore, cost driver analysis is a part of process to provide some information for manager's decision-making. ***Therefore, Hypothesis 1a is not supported***.

To test H2a, 2b, 2c, and 2d, equation 1 to 4 were employed. The results show that strategic positioning analysis has a significant positive effect on decision making quality ($\beta_2 = 0.408$, $p < 0.01$), competitive advantage ($\beta_7 = 0.400$, $p < 0.01$), firm profitability ($\beta_{12} = 0.273$, $p < 0.01$) and organizational sustainability ($\beta_{17} = 0.302$, $p < 0.01$). In existing literature, strategic positioning analysis concerned with impact of external and internal environment on the overall strategy of a company. It is important to take account of the future and to assess whether the current strategy is a suitable fit with the strategic position. Furthermore, it provides cost information suitable fit with the strategic position by concerned with impact of external and internal environment of a company for create value information and differently than rivals (Dimitrova, 2017). Accordingly, strategic positioning analysis is critical to encourage firms to have improving decision making quality, competitive advantage, firm profitability and organizational sustainability. ***Thus, Hypotheses 2a, 2b, 2c and 2d are supported***.

To test H3a, 3b, 3c, and 3d, equation 1 to 4 were employed. The results show that value chain analysis has a significant positive effect decision making quality ($\beta_3 = 0.210$, $p < 0.01$), competitive advantage ($\beta_8 = 0.112$, $p < 0.10$), firm profitability ($\beta_{13} = 0.256$, $p < 0.01$) and organizational sustainability ($\beta_{18} = 0.296$, $p < 0.01$). In existing literature, Value chain analysis views an organization as a link in the chain of all value creating activities associated with the provision of a product and considers any latent cost savings that lie unrealized in a firm's linkages with its suppliers and customers (Simatupang, Piboonrungroj and Williams, 2017). Firms have allocated costs to value-added activities required to design, procure, produce, market, distribute, and service their products. They can manage their product costs effectively and efficiently with a linkage of important and necessary activities of business operation.

Accordingly, value chain analysis enables firms to create decision making quality, competitive advantage, firm profitability and organizational sustainability in highly competitive markets. ***Thus, Hypotheses 3a, 3b, 3c and 3d are supported***.

To test H4a, and 4b, equation 5 and 6 were employed. The results show that decision making quality has a significant positive impact on firm profitability (β_{21} = .439, $p < 0.01$) and organizational sustainability (β_{25} = .286, $p < 0.01$). In existing literature, it helps firm to do the appropriate thing at the appropriate time with appropriate people in situation of uncertainty (Goecks, Santos, and Korzenowski, 2020). Firms with decision making quality are likely to perform their appropriate business operations fitting with competitive situations and meet their operational and strategic goals successfully that could lead them to achieve excellent outcomes (Phornlaphatrachakorn, 2017). Also, firms with the higher degree of SCM implementation provides guidance and value-added supports decision making of manager in order to help the firm success and improve stability of the firm (Feng, 2009). Accordingly, decision making quality can increase firm profitability and organizational sustainability. ***Thus, Hypotheses 4a and 4b are supported***.

To test H5a, and 5b, equation 5 and 6 were employed. The results show that competitive advantage has a significant positive impact on firm profitability (β_{22} = .439, $p < 0.01$) and organizational sustainability (β_{26} = .286, $p < 0.01$). In existing literature, competitive advantage is an outcome of effectively utilizing firms' resources and capabilities in business operations, activities and practices that outperform their competitors (Ambarwati et al., 2019). Firms with competitive advantage can attract potential customers, save time for establishing business relationship with customers, reduce transaction costs, and create premium revenue which are characteristics of maintaining competitive position. Firms with more competitive advantage are more likely to achieve their success in doing businesses in a better and longer run. Accordingly, competitive advantage is a main determinant of driving, determining and explaining organizational sustainability (Ussahawanitchakit, 2017). ***Thus, Hypotheses 5a and 5b are supported***.

Finally, the results found that firm profitability has a significant positive impact on organizational sustainability (β_{27} = .509, $p < 0.01$). It definitely encourages firms to achieve outcome of firms' well operating and doing business effectively and efficiently in highly competitive markets and environments (Phornlaphatrachakorn, 2018). It is critical to provide adaptability, maintain high performance standards and achieve functional performance goals. Firms with more profitability have potentially continued their operations and activities to sustain development delivering simultaneously with economic, social and environmental benefits. Accordingly, firm profitability is a critical antecedent and a valuable driver of organizational sustainability. ***Therefore, Hypothesis 6 is supported***.

Contributions and Directions for Future Research

Theoretical Contribution and Directions for Future Research

This study attempts to integrate three components of SCM, namely, cost driver analysis, strategic positioning analysis and value chain analysis in the same model. In congruence with the existing literature, those components play important roles in determining, driving, and explaining organizational outcome (decision making quality, competitive advantage, firm profitability and organizational sustainability). As a result, this study confirms the existing literature of SCM and its consequences and expands the contribution by focused on three dimensions of SCM that have an impact to organizational outcomes in accounting field. However, each dimension of SCM has some effect on organizational outcome. Therefore, future research should cover a reconceptualized literature review linking to SCM and its consequences in order to verify and confirm the results of current study and upgrade usable results of the study. Also, future research may need to collect more data and/or larger sample group for potentially increasing and encouraging the research results and collect data from different samples in order to build the generalizability of this study. Likewise, future research may apply either structural equation model (SEM) or partial least squared (PLS) to test the research relationships in order to verify the research results and add the contributions of the study.

Managerial Contribution

According to the results of current study, SCM can help firms increase decision making quality, competitive advantage and obtain superior profitability and sustainability. Hence, executives of firms need to invest and use their resources and assets of an organization effectively and efficiently for developing, implementing and maintaining SCM well. Likewise, they should consider SCM as a strategic tool in doing business by understanding and utilizing its characteristics and use them as key factors of organizational outcome. Successfully linking SCM to decision making quality, competitive advantage, firm profitability and organizational sustainability can be required for operating under the rigorous markets and environments. To achieve effective SCM implementation, firms need to define their visions, objectives and policies in order to support a success of its implementation. SCM can present the attention and awareness of their executives for wanting growth, stability, and sustainability in highly competitive markets and environments. Therefore, SCM becomes a valuable strategic tool for doing and operating business excellently.

Conclusion

Strategic cost management has become a value tool in helping firms achieve decision making quality, competitive advantage, firm profitability and organizational sustainability. Accordingly, the objective of this study is to investigate the effects of SCM on organizational sustainability through decision making quality, competitive advantage and firm profitability. SCM includes cost driver analysis, strategic positioning analysis and value chain analysis. In this study, 330 industrial firms in Rayong are the samples of the study. The results indicated that strategic positioning analysis and value chain analysis have a significant positive influence on decision making quality, competitive advantage, firm profitability and organizational sustainability. Also, cost driver analysis has a significant positive influence on competitive advantage, firm profitability and organizational sustainability. Moreover, decision making quality and competitive advantage have a significant positive influence on firm profitability and organizational sustainability. Likewise, firm profitability has a significant positive influence on organizational sustainability. The executives of firms need to develop, implement and improve SCM in order to create decision making quality, competitive advantage, firm profitability and generate organizational sustainability by investing appropriate valuable resources to support these techniques aspects. Future research may need to review more literature relating to these strategic cost management issues and their characteristics, relationships and effects in order to verify the current study. To expand the research results and prove the generalizability of the study, future study may need to collect data from larger samples and from different businesses and industries.

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Appendix A Measurement of All Variables

	Items
Cost Driver Analysis	
CDA1	We pay attention in classifying and separating product costs into first group as direct materials and direct labors and second group as manufacturing overheads in order to increase firms' administrations efficiently.
CDA2	We emphasize in analyzing and defining manufacturing overhead costs and assigning them into each consumption activity of firms' resources.
CDA3	We focus on searching for cost drivers of each consumption activity that help allocate these manufacturing overhead costs to products and services congruent with existing situations.
CDA4	We aim at calculating predetermined manufacturing overhead costs per cost driver that enhance firms to efficiently provide cost allocation.
CDA5	We pay attention in allocating manufacturing overhead costs to products and services following cost drivers that provide an accurate cost of firms' products and services.
Strategic Positioning Analysis	
SPA1	We emphasize the best understanding of competitor situations for presenting management accounting efficiently and effectively to the enterprises.
SPA2	We support the adoption of techniques related to the cost management used in the preparation and presentation information, which the manager uses information to gain competitive advantage over the rivals.
SPA3	We believe that a combination of cost management techniques to manage the existing an accounting system to make accurate information and quickly respond to support business strategy planning.
SPA4	We focus on developing the capacity and capability of the organization by integrating cost techniques used in order to strategy formulation optimize the management of the organization.
SPA5	We focus on developing the capacity and capability of the organization by integrating cost techniques used in order to strategically evaluation optimize the management of the organization.
Value Chain Analysis	
VCA1	We believe that value creating activity or value-added activity can enable firms to have more managerial efficiency and effectiveness.
VCA2	We pay attention to analyze all activities in an organization that are value or non-value added in order to increase operational efficiency.

	Items
Value Chain Analysis (Cont.)	
VCA3	We emphasize in deleting or decreasing firms' nonvalue-added activities for achieving a goal of cost and expense reductions.
VCA4	We attempt to integrate all value-added activities together for reducing number of activities and promoting maximize operational capabilities.
VCA5	We pay attention to continuously develop and improve value-added activities for promoting stability, survival and sustainability in future and long-term operations.
Decision Making Quality	
DMQ1	We can analysis and designs the alternatives in various situations to ensure efficiently under the intense competition and uncertainty.
DMQ2	We can compare the benefit to be gained in each alternative by using the skill and experience to maximize business benefits and achieve goals.
DMQ3	We intent the decision by selects the alternative that most benefit quickly and timely.
DMQ4	We can be selecting the best alternative in each situation, as compared to competitors, making the operation a success as well.
DMQ5	We have information for decisions in all activities better than competitors and continuous success.
Firm Profitability	
FPR1	We have strong and stable company performance.
FPR2	We have achieved the increasing profits from operations.
FPR3	We have gained the growths of market share compared with past years.
FPR4	Our performance has met the organizational objectives and goals.
FPR5	Our new and existing customers accept that we could respond their needs very well.
Competitive Advantage	
CAD1	We gain the advantages of the operational costs over the significant competitors and others.
CAD2	We have the costs of products and services being lower than their competitors.
CAD3	We could outstandingly compete the markets and environments in all situations
CAD4	We can always present high quality of products and good services to customers compared with competitors in a market.
CAD5	We can create and develop organizational innovation better than other competitors outstandingly.

	Items
Organizational Sustainability	
OSU1	We have confidence that firms will be able to do business and expand their operations, practices and activities in the future and for the long term.
OSU2	Our sales and market share have continuously grown compared with previous business operations from the past to the present.
OSU3	We have outstandingly gained a return on investment and continuously achieved better profitability than our competitors.
OSU4	We have created technical and administrative innovations in the organization that can help firms compete against competitors and address highly rigorous competitive environments in the present and future.
OSU5	We have gained acceptability from customers and markets continuously.