Contents lists available at GrowingScience

Uncertain Supply Chain Management

homepage: www.GrowingScience.com/uscm

Linking supply chain management practices with supply chain performance and food and beverage: Evidence from SMEs' competitive advantage

Faurani Santi Singagerda^{a*}, Lilla Rahmawati^a and Ahmad Zaharuddin Sani Ahmad Sabri^b

^aFaculty of Economics and Business Institute of Informatics and Business Darmajaya, Lampung Indonesia ^bUniversiti Utara Malaysia, Malaysia

ABSTRACT

Article history:
Received September 4, 2023
Received in revised format
October 28, 2023
Accepted January 2 2024
Available online
January 2 2024

Keywords: Supply Chain Management Practices Supply Chain Performance SMEs Competitive Advantage

The development of technology and science in the Industrial Revolution 4.0 era requires companies to increase effectiveness and efficiency to maintain a competitive advantage. Supply chain management is the integration of business processes involving end customers and key suppliers whose function is to provide value to customers and stakeholders by providing products, services, and information. Implementation of supply chain management is considered an operational function or company activity that greatly determines the effectiveness and efficiency of the supply chain. This research aims to analyze the relationship between the implementation of supply chain management and the performance of small and medium enterprises (SMEs), the relationship between supply chain management, and the relationship between competitive advantage and the performance of SMEs. The research uses a quantitative descriptive approach. The quantitative approach is data in the form of numbers which are generally arranged through structured questions. The questionnaire contains statement items designed using a Likert scale from 1 to 7. The data in this study uses cross-sectional data because the data collection was carried out in a certain period. The data was obtained from distribution of online questionnaires via social media. The unit of analysis used in this research is the owners/managers of SMEs in Indonesia. The sampling technique used in this research is a non-probability sampling technique, namely purposive sampling. The total sample for this research was 432 respondents. The data management used in this research is the Structural Equation Model (SEM) method, which is a collection of statistical testing techniques on a series of relatively complex relationships, simultaneously. The data processing tool is SmartPLS 3.0. The SEM technique is used to examine and justify different hypotheses of the survey. Hypothesis testing is carried out by comparing the p-value with a confidence level (alpha) of 5% ($\alpha = 0.05$). The results of this research show that the implementation of supply chain management has a positive effect on the performance of SMEs. In addition, supply chain management has a significant effect on competitive advantage while competitive advantage has a significant effect on SME performance. This research shows that supply chain management has a positive influence on competitiveness both with performance and competitiveness. Descriptive analysis found that supply chain management indicators have sufficient value and have a big impact on performance and competitiveness.

© 2024 by the authors; licensee Growing Science, Canada.

1. Introduction

The development of technology and science in the Industrial Revolution 4.0 era requires companies to increase effectiveness and efficiency to maintain a competitive advantage. One of the factors influencing the development of the food and beverage industry in Indonesia is the increasing population. With a large population, the demand for food and beverages is increasing, so the food and beverage industry has become one of the sectors that is growing rapidly in Indonesia. Apart from that, the abundant availability of raw materials is also one of the factors that supports the development of the food and beverage

* Corresponding author

E-mail address faurani@darmajaya.ac.id (F. S. Singagerda)

ISSN 2291-6830 (Online) - ISSN 2291-6822 (Print) © 2024 by the authors; licensee Growing Science, Canada. doi: 10.5267/j.uscm.2024.1.004 industry in Indonesia. Companies in the food and beverage sector in running their business and expediting goods production activities need supply chain management to help companies allocate resources and produce products in an appropriate and balanced manner. According to Cahyono et al. (2023), good supply chain management can help companies increase production efficiency and reduce production costs, thereby increasing company profits. Apart from that, supply chain management can also help companies improve product quality and reduce the risk of product damage during the delivery process (Zhang, Chen et al., 2023). In addition, supply chain management can help companies predict market demand, so that companies can optimize production and avoid overstock or understock of goods. This will help the company avoid losses caused by products that do not sell or have too much stock. Companies that implement supply chain management in their business activities require supply chain integration to increase the efficiency and effectiveness of business processes, as well as increase customer satisfaction (Tan et al., 2023). In addition, this integration can also help companies increase visibility and transparency in the supply chain, thereby minimizing risk and increasing delivery accuracy. Supply chain integration can help food and beverage companies reduce costs, increase operational efficiency, and strengthen relationships with suppliers and customers. This integration can also help companies improve product quality and increase customer satisfaction. According to Baqleh and Alateeq (2023), supply chain integration is the key to achieve competitive advantage. In a competitive market situation, companies that can effectively integrate all elements of their supply chain can gain advantages in terms of cost, speed, and flexibility. In situations of supply uncertainty or natural disasters, supply chain integration is key to overcoming risks. In research conducted by them, they found that companies with higher supply chain integration have a better ability to respond and recover operations after disruptions. Overall, experts agree that supply chain integration is an important factor in achieving competitive advantage, increasing operational efficiency, reducing costs, increasing customer satisfaction, overcoming risks, and driving innovation (Ye et al., 2023).

Continuous business development creates competitiveness to meet consumer demand. Many requests demand quality at an economical price. All business actors will do their best to increase productivity, efficiency, and service and continue to develop excellence to survive market conditions. For small, and medium enterprises (SMEs), improving performance is very helpful because the resulting impact can support the economy. According to Arijanto (2022) which explains the important role of SMEs in the Indonesian economy, both in terms of jobs created and in terms of the number of businesses. With current technological developments, consumers are increasingly active in accessing product information and getting other information that they want. This could be a positive response to add value to SMEs. In the current era of globalization and high competition, SMEs need to develop both innovation and services to increase selling value, so that they can compete with foreign products which are now increasingly mushrooming in Indonesia. Therefore, SMEs must face challenges with their advantages or uniqueness. Supply chain management is the integration of materials and service procurement activities, conversion into semifinished goods and final products, and delivery to customers. According to Abbas et al. (2023), supply chain management is an approach applied to unite suppliers, entrepreneurs, warehouses, and other storage places (distributors, retailers, and resellers) efficiently, so that products can be produced and distributed in the right quantity, at the right location, and the right time to reduce costs and meet customer needs (Waiyawuththanapoom et al., 2023).

As many as 99.9% of the types of business sectors in Indonesia are SMEs which can absorb 97% of the workforce and contribute 57% to Gross Domestic Product (GDP). However, with the decline in the number of COVID-19 infections and the reopening of community activities, the economy has improved and recovered. In line with the rise of the Indonesian economy, the rise of SMEs still leaves problems and difficulties in moving to a higher level (Xia et al., 2023). SMEs experience various deficiencies in supply chain activities which impact their competitiveness. When compared to large-scale companies, SMEs are known to tend to be more sensitive to supply chain challenges. ALfarajat et al. (2023) and Cahyono et al. (2023) have emphasized that difficulties in implementing supply chain management are often caused by a lack of focus on understanding the relationships among different components of the supply chain. Research on supply chain management has become an important scope in facilitating strategies for companies to establish long-term competitiveness. Empirical literature states that the implementation of supply chain management, capabilities, and logistics integration plays an important role in growing a company's competitive advantage. Baqleh and Alateeq (2023) state the importance of providing supply chain management in increasing agility and learning to improve decision-making, such as during the Covid-19 pandemic crisis when supply chain management was disrupted. Apart from that, research that has been conducted previously by Arijanto (2022) proves that implementing supply chain management with human resource development based on supply chain knowledge will produce SME performance which will improve the economic mechanism in Thailand. Thus, this research will participate in adding provisions regarding supply chain management by analyzing the implementation of supply chain management mediated by human resource management practices on the performance of SMEs, which is a prerequisite for stable and sustainable longterm economic development.

2. Literature review

2.1 Implementation of Supply Chain Management

According to Chen et al. (2023), supply chain management is the integration of business processes involving end customers and main suppliers which functions to provide value to customers and stakeholders by providing products, services, and information. Implementation of supply chain management is considered an operational function or company activity that largely determines effectiveness and supply chain efficiency. Panigrahi et al. (2023) identified thirteen determinants of success

in implementing supply chain management in SMEs, some examples of which are top management commitment, information sharing, and development of reliable suppliers. With a supply chain, companies can monitor the management of the flow of information, products, and time from upstream to downstream and vice versa. The contribution of the supply chain to the company's operational performance is the integration process at stages in the supply chain such as information flow, longterm relationships with suppliers, delays, and cooperation with parties involved in the supply chain. Looking at the phenomena that often occur in society today, the products and services desired by consumers are seen from the aspects of price, quality, and speed of service so consumers always want cheap prices and good quality (Sukati et al., 2023). The important role of all parties from suppliers, manufacturers, distributors, and retailers to customers in creating cheap, high-quality, and fast products is what gave birth to a new concept, namely supply chain management. Supply chain management is the integration of materials and services procurement activities, conversion into semi-finished goods and final products, and delivery to customers. Xia et al. (2023) and Zhang, Zhao et al. (2023) state supply chain management is an approach applied to unite suppliers, entrepreneurs, warehouses, and other storage places (distributors, retailers, and resellers) efficiently, so that products can be produced and distributed in the right quantity, at the right location, and the right time to lower costs and meet customer needs. Supply chain management is the activity of processing raw materials into goods in process or semi-finished goods and finished goods and sending these products to consumers through a distribution system. This activity includes purchasing functions related to suppliers and distributors. According to Iranmanesh et al. (2023), supply chain management is a term for managing the supplier and buyer chain, which includes all processing stages from purchasing raw materials to distributing finished goods to final consumers. Supply chain management is the integration of materials and service procurement activities, conversion into semi-finished goods and final products, and delivery to customers. The goal is to build a supply chain that focuses on maximizing value for customers. The key to effective supply chain management is to help suppliers' partners meet the ever-changing market (Qureshi et al., 2023).

2.2 Competitive advantage

A company's competitive advantage is a unique combination of company capabilities and resources that act as an internal mechanism for changing a company's entrepreneurial orientation to be innovative, proactive, and willing to take risks (Soemadi et al., 2022). Competitive advantage can include various aspects, such as facilities, shares, and resources owned by the company so that the company can increase its competitiveness by using new strategies that utilize available resources. According to Tukamuhabwa et al. (2023), competitive advantage is an advantage compared to other competitors that are obtained by offering greater consumer value, either through lower prices or by providing added value and services that justify higher prices. Companies can have a competitive advantage by improving various aspects, from the quality of goods to better service than competitors. However, better quality goods and services do not necessarily mean better than other competitors. Companies need to adjust products and prices to consumer preferences so that they can be well received in the market. Companies also need to implement the right strategy in any condition, both in product development and product promotion, to continue to excel and survive the competition. Competitive advantages are also useful so that companies can achieve targets and gain profits so that they can meet consumer needs well. Socal et al. (2023) explain that competitiveness is the implementation of a strategy within a company to create a value that is difficult for its competitors to imitate and implement. Factors that influence competitiveness can be internal and external, Ye et al. (2023) provide the opinion that competitiveness is a way for a company to have a value or advantage compared to its competitors. Factors that influence competitiveness include working capital, product packaging, network, business development, and human resources (Sukati et al., 2023).

2.3 SMEs Performance

According to Panigrahi et al. (2023), performance is the economic foundation for every company. Therefore, to achieve the best performance, SMEs must face various challenges in operational facilities to obtain performance capital. According to Mukhsin and Suryanto (2022) and Panigrahi et al. (2023) company performance as actual results measured based on the company's desired results. The results of performance are influenced by operational activities in utilizing the company's resources during a certain period, therefore performance is very important for company management. Performance deeply involves the financial and non-financial results of the combined process of implementing business activities, policies, and resources. SMEs face major challenges in terms of employee satisfaction, organizational commitment, and improving organizational performance globally, especially in developing countries. According to Mukhsin and Suryanto (2022), operational performance is a measure of the extent to which an organization's operations have succeeded in achieving the goals set in terms of efficiency, effectiveness, and flexibility. According to Jahanbakhsh Javid and Amini (2023), operational performance is the level of success and effectiveness of implementing an organization's operational processes in achieving its strategic goals. According to Joshi and Sharma (2022), operational performance is an organization's achievement in carrying out daily operational activities effectively, efficiently, and on time. According to Chen et al. (2023) and Panigrahi et al. (2023), operational performance is the implementation of managerial activities which include designing, updating, monitoring, and operating production systems. In other words, operational performance is a measurement of the company's results against established standards. In a company, operational performance must be met to achieve the company's strategy, the company can measure and determine that operational performance in the company can be met. According to Jahanbakhsh Javid and Amini (2023), company performance reflects the extent to which company activities have been adjusted to achieve the goals, objectives, mission, and vision stated in strategic planning. Company performance can be measured from various aspects, such as profit, development, and rate of return on assets. A company's efficiency and effectiveness in managing its business

can be measured by how much profit it generates. Company performance can also be influenced by performance targets, which can increase personnel motivation to achieve these targets. This target can also be used as a measure of company performance, by seeing whether the company and its personnel can carry out operational activities well or not. If the company's performance is good, it will have an impact on the company's survival (Razzak, 2023).

3. Hypothesis Development

3.1 The Relationship Supply Chain Management Implementation and SMEs Performance

According to Panigrahi et al. (2023), the influence of supply chain management on SME performance is focused on manufacturing and service SMEs. Research on large-scale SMEs was also carried out by Dumitrascu et al. (2020) regarding supply chain management, competitive advantage, and performance of manufacturing SMEs. Business competition is not only for large-scale SMEs but also for small and medium businesses (Imtiaz et al., 2023). SME performance needs to be measured to compare SME performance in the past and future periods. Measuring SME performance is also used to map strategies for achieving certain targets. Hong et al. (2019) explain that SME performance is measured using two dimensions, namely operational performance, and financial performance. Research conducted by Jahanbakhsh Javid and Amini (2023) shows that supply chain management integration has a positive effect on operational performance, one of the indicators being customer relations. Effective supply chain management integration helps organizations improve relationships with customers, such as responsiveness to customer requests, meeting customer needs, and better service. Panigrahi et al. (2023) conducted research that revealed the impact of supply chain integration on various performance dimensions, including operational performance, revenue growth, and also customer relations. The study shows that supply chain integration can improve a company's competitiveness by reducing cycle times. By offering operational visibility, coordination in planning, and efficient material flow, supply chain integration enables shorter time intervals between consumer demand and product/service delivery. According to Chen et al. (2023) within the supply chain component, there are many factors that are often used in business economic activities. Supply chain management practices are considered functions or activities that determine the effectiveness and efficiency of the supply chain. According to Jahanbakhsh Javid and Amini (2023), SMEs can emphasize the complexity of implementing sustainable supply chains. Hence supply chain management practices are seen as the perfect recipe for the success of many companies in various industries. Therefore, the hypothesis in this study is as follows:

H₁: Implementation of Supply Chain Management has a positive effect on the performance of SMEs.

3.2 The relationship of supply chain management to competitive advantage.

According to Iranmanesh et al. (2023); and Panigrahi et al. (2023) to create competitive advantage in a defense industry requires individual resources working together to create integrated organizational capabilities. Companies by implementing strategies can create competitiveness, produce quality products, improve performance, maximize revenue, optimize costs, and provide process accuracy, service times, and competitive prices. Based on this, the implementation will help companies reduce production costs which must be carried out to run a sustainable business. The sustainable supply chain management variable has a high average index value, which means the sustainable supply chain management variable has a good index. By always maintaining timely delivery of materials, one can improve sustainable supply chain management. So, this will also have an impact on the company's competitive advantage. This can be achieved if the company is able to operate efficiently, with quality, quickly, flexibly, responsively, and innovatively. Panigrahi et al. (2023) show that there are a number of supply chain management practices that impact an organization's competitive advantage. In increasing competitive advantage, MRPB can be an effective tool for companies. Supply chain management may have a positive influence on the company's competitive advantage, implementing a good supply chain system encourages the aspects of the company that are needed such as getting the best raw materials, production planning and implementation, and consumer satisfaction. Based on these aspects, it will help companies encourage and create competitiveness so that companies can survive in the vast market competition. Competitive advantage in this research consists of product quality and competitive prices. Chen et al. (2023) and Whanau et al. (2022) report that supply chain management has a significant effect on competitive advantage. Effective supply chain management has the potential to increase the competitive advantage. According to Muksin et al. (2022) integrated supply chain management of supplier and customer relationships, delays and quality can maintain and strengthen the competitiveness of SMEs in winning market competition. Based on this description, the second hypothesis in this research is as follows.

H₂: Supply chain management has a significant effect on competitive advantage.

3.3 The relationship between competitive advantage and the performance of SMEs.

Lower prices, higher quality, and faster delivery, according to Sukati et al. (2023) make a connection between competitive advantage and organizational performance. In addition, literature shows evidence about the way performance achievements have resulted in competitive advantage, according to Soemadi et al. (2022) who assess that start-ups in Thailand can achieve the best performance by having competitive advantages, in addition to the role of information and communication technology and international cooperation. A company that sources its advantages from dimensions can produce lower production costs, produce products with better quality, and provide speed of delivery. Thus, it is not surprising that competitive advantage

provides a way for companies to obtain good performance. Ramakrishna et al. (2023); and Sahoo and Thakur (2023) stated that companies consider their strategies based on customer responses. They respond to company offers by promoting price sensitivity. In this way, companies can have a competitive approach. However, on the other hand, if customers value the services provided by the company, then the company utilizes data about customer orientation and competition. Continuous product innovation has been proven to increase product sales and dominate market share. Competitive advantage develops from the value that SMEs can create for customers or buyers. The key to SMEs' success amidst business competition lies in their ability to create competitive advantages. Ramakrishna et al. (2023) show that competitive advantage has a significant effect on the performance of SMEs. It can be explained that the better the competitive advantage of an SME, the better the performance of that SME. Based on this description, the third hypothesis in this research is as follows.

H₃: Competitive advantage has a significant effect on the performance of SMEs.

4. Method

This research uses a quantitative descriptive approach. The quantitative approach is data in the form of numbers which are generally arranged through structured questions. The questionnaire contains statement items designed using a Likert scale of 1 to 7. The data in this study uses cross-sectional data because the data collection was carried out in a certain period. The data was obtained from distribution of online questionnaires via social media. The unit of analysis used in this research is the owners/managers of SMEs in Indonesia. The sampling technique used in this research is a non-probability sampling technique, namely purposive sampling. The total sample for this research was 432 respondents. The data management used in this research is the Structural Equation Model (SEM) method, which is a collection of statistical testing techniques on a series of relatively complex relationships simultaneously. The data processing tool is SmartPLS 3.0. The SEM technique is used to examine and confirm the hypotheses of the survey. Hypothesis testing is carried out by comparing the p-value with a confidence level (alpha) of 5% ($\alpha = 0.05$). Fig. 1 shows the proposed structure of the study.



5. Result and Discussion

5.1 Respondents Profile

The results of the data analysis showed that the largest gender profile of respondents was 50.69 percent female and 49.31 percent male. For profile work periods of less than 3 years, the total is 32.41 percent, for 3 - 6 years, the total is 33.10 percent, for 6 - 9 years, the total is 27.78 percent, and for greater than 9 years, the total is 6.71 percent. For the High School education level, the total is 7.87 percent, the Diploma total is 31.02 percent, the Graduate total is 38.19 percent, the Master's total is 20.14 percent and the Doctor's total is 2.78 percent.

Table 1Respondent Profile

	Profile	Total	%
Gender	Male	213	49.31%
Gender	Female	219	50.69%
	< 3 Years	140	32.41%
Work Period	3 - 6 Years	143	33.10%
work Period	6 - 9 Years	120	27.78%
	> 9 Years	29	6.71%
Education	High School	34	7.87%
	Diploma	134	31.02%
	Graduate	165	38.19%
	Master	87	20.14%
	Doctor	12	2.78%

5.2 Validity testing

The study model will undergo evaluation utilizing the Partial Least Squares (PLS) technique and the SmartPLS 3.0 software. Convergent Validity is carried out by looking at the item reliability (validity indicator) which is shown by the loading factor value. The loading factor is a number that shows the correlation between the score of a question item and the score of the construct indicator that measures that construct. A loading factor value greater than 0.7 is said to be valid. In this research,

the loading factor limit used was 0.7. After processing the data using SmartPLS 3.0, the loading factor results can be shown in Fig. 1.

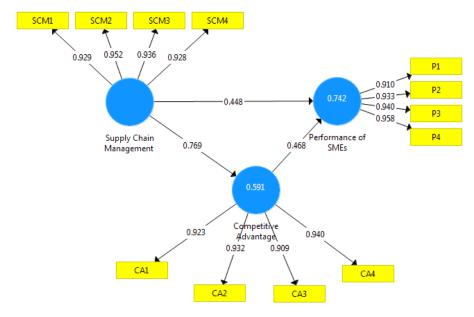


Fig. 2. Validity Testing

From the results of data processing with SmartPLS shown in Fig. 2, most indicators for each variable in this study have a loading factor value greater than 0.70 and are said to be valid. This shows that variable indicators that have a loading factor value greater than 0.70 have a high level of validity, so they meet convergent validity.

5.3 Reliability Testing

The outer model is measured by assessing convergent validity and discriminant validity. It can also be done by looking at the reliability of the construct or latent variable which is measured by the composite reliability value. A construct is declared reliable if the composite reliability has a value > 0.7, then the construct is declared reliable. Results SmartPLS output for composite reliability values can be shown in Table 2.

Table 2

Measurement Consistency and Accuracy

1.10 db dd 101110110 C C11b1b101110 y dd 110 T 110 T 110 T				
	Cronbach's Alpha	Rho_A	Composite	Average Variance
			Reliability	Extracted (AVE)
Supply Chain Management	0.932	0.924	0.912	0.515
Competitive advantage.	0.815	0.813	0.917	0.510
Performance of SMEs	0.923	0.923	0.916	0.610

5.4 Hypothesis Testing

In hypothesis testing, the examination is based on the t-statistic and probability values. In hypothesis testing, using statistical values, the t-statistic value for a 5% significance level (alpha = 0.05) is 1.960. Therefore, the acceptance or rejection criteria for the hypothesis are that Ha is accepted, and H0 is rejected when the t-statistic > 1.960. To reject/accept the hypothesis using probability, Ha is accepted if the p-value < 0.05. Based on the empirical data used in this research, hypothesis testing can be performed. The results of hypothesis testing based on path coefficient values and T-Statistics/P-values are presented below.

Table 3Hypothesis Testing

Hypothesis	T Statistics	P Value	Result
Implementation of Supply Chain Management has a positive effect on SMEs' Performance	5.779	0.000	Supported
Supply chain management has a significant effect on SMEs' competitive advantage.	18.461	0.000	Supported
Competitive advantage has a significant effect on the performance of SMEs	5.947	0.000	Supported

Hypothesis testing is carried out based on the results of Inner Model testing (structural model) which includes r-square output, parameter coefficients, and t-statistics. To see whether a hypothesis can be accepted or rejected, including paying attention to the significance values between constructs, t-statistics, and p-values. Testing This research hypothesis was carried out with the help of SmartPLS (Partial Least Square) 3.0 software. These values can be seen from the bootstrapping results. The rules of thumb used in this research are t-statistics > 1.96 with a significance level of p-value of 0.05 (5%) and the beta coefficient is positive. The value of hypothesis testing This research can be shown in Table 3 and the results of this research model can be depicted as shown in Fig. 3.

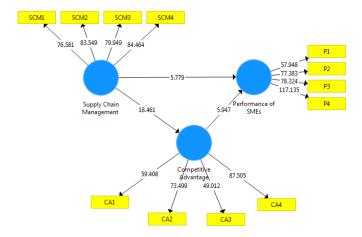


Fig. 3. Hypothesis Testing

5.4.1 Relationship between Supply Chain Management Implementation and SMEs Performance

The results of hypothesis 1 testing show that the implementation of supply chain management does not have any positive influence on the performance of SMEs. The results show that there is a p-value smaller than the significance level ($\alpha = 0.05$). From these results, it can be concluded that the supply chain management implementation variable has a positive but weak influence on the performance of SMEs. According to the results of testing hypothesis 1, the supply chain management implementation variable has a positive influence on the SME's performance variable. These results show similar results to the results previously carried out by Arijanto (2022); Baqleh and Alateeq (2023); and Cahyono et al. (2023). This result may occur since SMEs did not implement supply chain management properly and correctly. Apart from that, in theory, the role of supply chain management alone cannot produce good performance for SMEs, there needs to be a component that can help implement supply chain management to influence SMEs' performance.

The results of this research show that if SMEs can carry out supply chain integration well, they have the potential to increase efficiency in the production process, optimize stock management, reduce costs, improve product quality, and overall be able to respond better to market changes. From the discussion above, it can be concluded that there is a positive relationship between supply chain integration and operational performance. This research is supported by the results of previous research conducted by Abbas et al. (2023). By achieving optimal supply chain integration, operational performance will of course run stably and maintain the quality standards of these food SMEs. Operational performance itself is one of the successes in satisfying consumers, by increasing production and inventory costs well, any problems that exist with partners themselves can be resolved through the exchange of information. Owners, catering managers, employees/staff know that operational performance costs exceed the initial capital because the selection of raw materials from supply chain integration and operational performance of the company chooses quality that can satisfy the level of consumer needs which results in operational performance requirements exceeding the initial capital capacity. This result can be seen from the hypothesis above that the implementation of operational performance has a large, estimated value, which means there is an increase in capital in performance within the food SMEs. The capital increase can turn into profits because the operational performance level in the company is running well and creating new designs with partners who innovate (Saini et al., 2023). Products that have innovations make consumers have a high level of interest in these products. This operational performance also can deliver products to consumers on time. From the results of research, food SMEs perform well operationally, for example in selecting raw materials, processing raw materials for production, and transporting finished products to consumers. Operational performance in food catering companies provides satisfaction to consumers utilizing food SMEs maximizing their operational performance for consumers (Purwanto & Juliana, 2022)

Based on the results of research conducted by researchers, we have learned that supply chain management has a simultaneous effect on operational performance. Several assessments that make supply chain management influence the operational performance of SMEs will increase if supported by strategic supplier partnerships, customer relationships, Level of information sharing, quality of information sharing, and postponement through its supplier partnership strategy, with every product owned by the supplier, always works together to provide quality products for the community so that always

coordinates and collaborates to produce this quality. Not only that, relationships with customers/suppliers must always be maintained because through these relationships sustainable integration is created so that operational performance increases such as wider market share, and increased sales. These results are in line with research by Adnani et al. (2023) who stated that intensive use of supply chain management can produce a good competitive advantage, improve operational performance, and have a positive impact on the company. The results of hypothesis testing prove that the strategic supplier partnership affects operational performance. Strategic supplier partnerships are defined as long-term relationships between companies and suppliers. The strategic supplier partnership carried out by SMEs in this case in improving the quality of a product is always working together in creating it through quality standards being the main criteria, then solving problems together to create a sustainable program. All strategies implemented by SMEs can improve operational performance such as increasing sales, wider market share, and of course, increasing profits. This result means that increasing cooperation will improve operational performance. According to Baqleh and Alateeq (2023), cooperation is one of the best alternatives for carrying out optimal supply chain management. The reason is that organizations or companies that are in the supply chain management network need an information system that is accurate and smooth and requires trust between participants procuring goods and services. All of this cannot be achieved without good cooperation. The importance of well-developed supplier collaboration with companies is increasingly being realized by companies, not only for short-term interests but also for the long-term.

SMEs can gain a lot from long-term collaboration. This is felt in conditions when the company requires product shipments for urgent needs, the supplier can immediately fulfill the request, because the relationship has been well developed so far. These results are in accordance with Arijanto (2022) which proves that cooperation has a significant positive effect on operational performance. This supports the theory of sustainable supply chain management referring to three important aspects of sustainable development, namely social, environmental, and economic. According to Rudyanto et al. (2020) the performance of organizations that are under pressure in their contribution to the welfare of society, seeks to reduce environmental impacts to become profitable. Sustainable supply chain management is very important in measuring organizations in various industries (Seuring, 2013). Supply partners need to improve coordination processes between their key organizations. Based on the research that has been conducted, most of the research believes that supply chain factors and manufacturing industry capabilities cannot be denied as the main things that play a role in improving performance, although there are still some researchers who differ in their opinion from the conclusions of the research results obtained. This can explain the role of supplier collaboration in providing raw materials and components for the automotive industry which will have an impact on their business performance. In addition, companies can contribute to sustainable MRPB initiatives on the supplier side by monitoring and auditing supplier sustainability performance and through training and supporting goals. Supplier sustainability. According to Baqleh and Alateeq (2023), the successful performance of supply chain management is based on the indicators contained in the supply chain in the form of Collaboration with suppliers, Environmental Conservation, Green Product Design, Logistics Optimization, and Reuse of Materials. In implementing an effective supply chain, companies must make suppliers part of the company's long-term strategy in meeting consumer needs with diverse products, high product quality, reduced costs, and speed of responding to the market. Based on this, supply chain management increases opportunities to increase profits by utilizing existing assets. The company's human resources will also become more skilled and technologically literate.

5.4.2 The relationship of supply chain management to competitive advantage.

From the results of the P-Value Test in the first hypothesis, it is concluded that there is a significant positive relationship between sustainable supply chain management practices and competitive advantage, which means that the better the implementation of sustainable supply chain management, the better the competitive advantage, environment and supplier responsibility. Mutual consideration of economic, environmental, and social responsibility aspects encourages transparency in processes and collaboration with others. This value chain is to achieve collaborative excellence or shared excellence. According to Panigrahi et al. (2023), creating competitive advantage in a defense industry requires individual resources working together to create integrated organizational capabilities. SMEs by implementing the MRPB strategy can create competitiveness, produce quality products, improve performance, maximize revenue, optimize costs, and provide process accuracy, service times, and competitive prices. Based on this, the implementation of supply chain management will help companies reduce production costs which must be carried out to run a sustainable business (Saini et al., 2023). The sustainable supply chain management variable has a high average index value, which means the sustainable supply chain management variable has a good index. By always maintaining timely delivery of materials, we can improve sustainable supply chain management. So, this will also have an impact on the company's competitive advantage. This can be achieved if the company can operate efficiently, with quality, quickly, flexibly, responsively, and innovatively. Permana and Soediantono (2022) show that several supply chain management practices impact an organization's competitive advantage. In increasing competitive advantage, MRPB can be an effective tool for companies.

5.4.3 The relationship between competitive advantage and SME performance

Competitive Advantage influences organizational Performance. From the results of the P-value test in the second hypothesis, it is concluded that there is a significant influence between the practice of competitive advantage and organizational performance. The results of this research state that competitive advantage influences organizational performance. The results of this research are in line with research conducted by Mukhsin and Suryanto (2022); and Panigrahi et al. (2023) which state

that Relational Capital Efficiency (RCE) has a significant positive effect on financial performance. According to Chen et al. (2023) the COVID-19 pandemic also states that marketing expenses influence financial performance. The production costs for innovations that are too large may only become a burden on the company in terms of expenses and ultimately reduce profits. The COVID-19 pandemic is also the cause of declining sales because people are still worried about leaving their houses. Based on this, companies tend to focus more on short-term goals and results rather than thinking from a long-term perspective. In the process of achieving these short-term targets, most companies tend to spend money and allocate resources for marketing and innovation. However, in their research, Ibrahim et al. (2023) make a connection between competitive advantage and organizational performance. In addition, much of the literature shows evidence of how performance gains have resulted in competitive advantage, such as Panigrahi et al. (2023), which assesses that start-ups can achieve the best performance by having competitive advantages, in addition to the role of ICT and international cooperation. A company that sources its advantages from dimensions can produce lower production costs, produce products with better quality, and provide speedy delivery. Thus, it is not surprising that competitive advantage provides a way for companies to obtain good performance. Mtiaz et al. (2023) stated that companies consider their strategies based on customer responses. They respond to company offers by promoting price sensitivity. In this way, companies can have a competitive approach. However, on the contrary, if customers value the services provided by the company, then the company utilizes data about customer orientation and competition.

6. Managerial Implications

This research has shown that supply chain management has a positive influence on competitiveness both with performance and competitiveness. The descriptive analysis has also found that supply chain management indicators have sufficient value, and they have a big impact on performance and competitiveness. The hope for every SME, especially those that focus on food production, is to understand that one of the important aspects of a company is not just having an adequate supply chain to carry out production activities in the company, but it is important to understand that having a supply chain management in an SME or company will have a positive impact on production efficiency and competitiveness. Many SMEs are not aware that having a good supply chain system is an important aspect of achieving their goals, whereas every day every SME will carry out production activities to produce goods that will later be sold to consumers. Therefore, it is hoped that this research will provide insight to SME owners who focus on food production to have good supply chain management in the hope of creating maximum production efficiency and helping SMEs increase their competitiveness to compete in an increasingly wider market.

7. Conclusion

The results of this research have shown that the implementation of supply chain management has a positive effect on SMEs' performance, and supply chain management has a significant effect on competitive advantage. Competitive advantage has a significant effect on SME performance. The research has shown that supply chain management has a positive influence on competitiveness both with performance and competitiveness. The descriptive analysis has found that supply chain management indicators have sufficient value, and they have a big impact on performance and competitiveness. Based on all the research and discussion above, it shows that supply chain management is an important aspect that can increase the competitiveness of a company, apart from that, having better supply chain management will be in line with increasing production efficiency in a company. One of the important factors in supply chain management that needs to be in place, especially for food production SMEs, is the production process and technology used to carry out production activities. If an SME has adequate processes and technology, this will encourage a company to maximize supply chain management to increase competitiveness and production efficiency. From the results of testing the third hypothesis, the significant value for testing the positive influence of Supply Chain Integration on operational performance can be concluded that there is a positive influence of supply chain integration which is able to improve the company's operational performance. As has been done by food catering companies by involving suppliers in terms of delivery of goods, the procurement process, as well as relationships with customers in terms of communication, sharing information, and speed of the ordering process, it can make the integration of the supply chain of food catering companies with suppliers and customers run smoothly well so that in the end it can improve the company's operational performance.

References

- Abbas, H., & Tong, S. (2023). Green Supply Chain Management Practices of Firms with Competitive Strategic Alliances—A Study of the Automobile Industry. *Sustainability*, *15*(3), 2156.
- Adnani, L., Jusuf, E., Alamsyah, K., & Jamaludin, M. (2023). The role of innovation and information sharing in supply chain management and business performance of halal products in tourism destinations. *Uncertain Supply Chain Management*, 11(1), 195-202.
- ALfarajat, J. (2023). Supply chain agility and market orientation: The best approaches leading to SMEs performance. *Uncertain Supply Chain Management*, 11(3), 1065-1074.
- Arijanto, R. (2022). The role of supply chain management on competitive advantage and smes operational performance during post-pandemic and digital era. *Journal of Industrial Engineering & Management Research*, 3(6), 128-137.
- Baqleh, L. A., & Alateeq, M. M. (2023). The impact of supply chain management practices on competitive advantage: the moderating role of big data analytics. *International Journal of Professional Business Review*, 8(3), 3.

- Cahyono, Y., Purwoko, D., Koho, I., Setiani, A., Supendi, S., Setyoko, P., ... & Wijoyo, H. (2023). The role of supply chain management practices on competitive advantage and performance of halal agroindustry SMEs. *Uncertain Supply Chain Management*, 11(1), 153-160.
- Chen, H., Amoako, T., Quansah, C. E., Danso, S. A., & Jidda, D. J. (2023). Assessment of the impact of management commitment and supply chain integration on SMEs' innovation performance: Moderation role of government support. *Heliyon*, 9(5).
- Ibrahim, E., Khraisat, Q., Alghizzawi, M., Omain, S. Z., Humaid, A. M., & Ismail, N. B. (2023). The Impact of Outsourcing Model on Supply Chain Efficiency and Performance in SMEs: A Case of the Hospitality Industry. *International Journal of Professional Business Review*, 8(6), 6.
- Imtiaz, M., Hamid, A. B. A., Nadarajah, D., Mehmood, S. A., & Ahmad, M. K. (2023). Enhancing SME performance through Supply Chain Collaboration and Moderation of Supply Chain Technology Implementation. *Brazilian Journal of Operations & Production Management*, 20(2), 1494-1494.
- Iranmanesh, M., Maroufkhani, P., Asadi, S., Ghobakhloo, M., Dwivedi, Y. K., & Tseng, M. L. (2023). Effects of supply chain transparency, alignment, adaptability, and agility on blockchain adoption in supply chain among SMEs. *Computers & industrial engineering*, 176, 108931.
- Jahanbakhsh Javid, N., & Amini, M. (2023). Evaluating the effect of supply chain management practice on the implementation of halal agroindustry and competitive advantage for small and medium enterprises. *International Journal of Computer Science and Information Technology*, 15(2023), 8997-9008.
- Joshi, S., & Sharma, M. (2022). Impact of sustainable supply chain management on the performance of SMEs amidst COVID-19 pandemic: an Indian perspective. *International Journal of Logistics Economics and Globalisation*, 9(3), 248-276.
- Mukhsin, M., & Suryanto, T. (2022). The effect of sustainable supply chain management on company performance mediated by competitive advantage. *Sustainability*, 14(2), 818.
- Panigrahi, R. R., Shrivastava, A. K., Qureshi, K. M., Mewada, B. G., Alghamdi, S. Y., Almakayeel, N., ... & Qureshi, M. R. N. (2023). AI Chatbot Adoption in SMEs for Sustainable Manufacturing Supply Chain Performance: A Mediational Research in an Emerging Country. Sustainability, 15(18), 13743.
- Permana, A. I., & Soediantono, D. (2022). The Role of Eco Supply Chain on Environment and Operational Performance of Indonesian Defense Industry. *Journal of Industrial Engineering & Management Research*, 3(3), 73 84. https://doi.org/10.7777/jiemar.v3i3.284
- Purwanto, A & Juliana, J. (2022). The effect of supplier performance and transformational supply chain leadership style on supply chain performance in manufacturing companies. *Uncertain Supply Chain Management*, 10(2), 511-516.
- Qureshi, K. M., Mewada, B. G., Buniya, M. K., & Qureshi, M. R. N. M. (2023). Analyzing Critical Success Factors of Lean 4.0 Implementation in Small and Medium Enterprises for Sustainable Manufacturing Supply Chain for Industry 4.0 Using PLS-SEM. *Sustainability*, 15(6), 5528.
- Razzak, M. R. (2023). The mediating effect of productivity between sustainable supply chain management practices and competitive advantage: Evidence from apparel manufacturing in Bangladesh. *Management of Environmental Quality: An International Journal*, 34(2), 428-445.
- Ramakrishna, Y., Alzoubi, H., & Indiran, L. (2023). An empirical investigation of the effect of sustainable and smart supply practices on improving the supply chain organizational performance in SMEs in India. *Uncertain Supply Chain Management*, 11(3), 991-1000.
- Rudyanto, L. S., Pramono, R., & Purwanto, A. (2020). The influence of antecedents of supply chain integration on company performance. *Uncertain Supply Chain Management*, 8(4).34-43
- Sahoo, P. B. B., & Thakur, V. (2023). Enhancing the performance of Indian micro, small and medium enterprises by implementing supply chain finance: challenges emerging from COVID-19 pandemic. *Benchmarking: An International Journal*, 30(6), 2110-2138.
- Saini, N., Malik, K., & Sharma, S. (2023). Transformation of Supply Chain Management to Green Supply Chain Management: Certain Investigations for Research and Applications. *Cleaner Materials*, 7, 100172.
- Soemadi, R. R. A., Nadeak, M., & Novitasari, D. (2022). The Role of Supply Chain Management Practices on Competitive Advantage and Performance of Agroindustry SMEs. *International Journal of Social and Management Studies*, 3(5), 188-197
- Sukati, I., Awain, A. M. S. B., & Ismaeel, R. I. (2023). The Role of Supply Chain Innovation for the New Normal on the Relationship between SCM Practices and SMEs Performance. *International Journal of Information Systems and Supply Chain Management (IJISSCM)*, 16(1), 1-15.
- Socal, M. P., Ahn, K., Greene, J. A., & Anderson, G. F. (2023). Competition And Vulnerabilities In The Global Supply Chain For US Generic Active Pharmaceutical Ingredients: The study examines the competition and vulnerabilities in the global supply chain for US generic active pharmaceutical ingredients. *Health Affairs*, 42(3), 407-415.
- Tan, C. L., Tei, Z., Yeo, S. F., Lai, K. H., Kumar, A., & Chung, L. (2023). Nexus among blockchain visibility, supply chain integration, and supply chain performance in the digital transformation era. *Industrial Management & Data Systems*, 123(1), 229-252.
- Tukamuhabwa, B. R., Mutebi, H., & Ojok, B. A. (2023). Supply Chain Performance in the Wooden Furniture Industry: The Effect of Institutional Pressures and Supply Chain Integration in a Developing Country Context. *Journal of African Business*, 1-22.

- Waiyawuththanapoom, P., Aunyawong, W., Poolsawad, K., Thumawongchai, V., Boonrattanakittibhumi, C., & Jermsittiparsert, K. (2023). The relationship between supply chain management activities and firm performance with the mediating and moderating effect. *Uncertain Supply Chain Management*, 11(1), 375-382.
- Ye, Y., Yang, L., Huo, B., & Zhao, X. (2023). The impact of supply chain social capital on supply chain performance: a longitudinal analysis. *Journal of Business & Industrial Marketing*, 38(5), 1176-1190.
- Xia, T., Wang, Y., Lv, L., Shen, L., & Cheng, T. C. E. (2023). Financing decisions of the low-carbon supply chain under chain-to-chain competition. *International Journal of Production Research*, 61(18), 6153-6176.
- Zhang, Q., Chen, J., & Lin, J. (2023). Interaction between innovation choice and market-entry timing in a competitive fashion supply chain. *International Journal of Production Research*, 61(5), 1606-1623.
- Zhang, X., Zhao, Q., Zhang, J., & Yue, X. (2023). Logistics Service Supply Chain Vertical Integration Decisions under Service Efficiency Competition. *Sustainability*, 15(5), 3915.



© 2024 by the authors; licensee Growing Science, Canada. This is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC-BY) license (http://creativecommons.org/licenses/by/4.0/).