Contents lists available at GrowingScience

Uncertain Supply Chain Management

homepage: www.GrowingScience.com/uscm

The role of supply chain integration, management commitment and supply chain challenges on supply chain performance and MSMEs performance

Fransiska Natalia Ralahallo^{a*}, Febiyola Wijaya^b, Zainuddin Latuconsina^a, Firman^c and Baretha Meisar Titioka^b

ABSTRACT

Article history:
Received January 20, 2024
Received in revised format
January 27, 2024
Accepted February 27 2024
Available online
February 27 2024

Keywords:
MSMEs
Supply chain integration
Management commitment
Supply chain performance
Supply chain challenges
MSMEs performance

The aim of writing this research article is to determine the influence of supply chain challenges on MSMEs performance, Supply chain integration on Micro, Small, and Medium Enterprises (MSMEs) performance, Management commitment to MSMEs performance, Supply chain integration on Supply chain performance. This research method is a quantitative survey, research data was obtained by distributing online questionnaires via social media. 700 questionnaires were distributed to MSMEs owners and of the 700 questionnaires distributed, 350 respondents or 50% responded as determined by the simple random sampling method. This research adopted a quantitative method with data analysis using Structural Equation Modeling (SEM) Partial Least Square (PLS) with SmertPLS software data processing tools. The questionnaire was designed using a Likert scale of 1 to 7. The stages of data analysis were validity, reliability and hypothesis testing. or significance. The results of data analysis show that supply chain challenges have a positive and significant influence on MSMEs performance, Supply chain integration has a positive and significant influence on MSMEs performance, Management commitment has a positive and significant influence on MSMEs performance, Supply chain integration has a positive influence and significant to supply chain performance. The novelty of this research is the creation of a relationship model of supply chain integration, management commitment, supply chain performance, supply chain challenges and MSMEs performance. The implication of this research is to encourage improvements in MSMEs performance, MSMEs managers must encourage improvements or implement challenges in the supply chain. Supply chain integration and management commitment. Supply chain management is not just about managing the flow of goods, but also a holistic business strategy that can create a competitive advantage. With a deep understanding of supply chain components, challenges and strategies, companies can ensure smooth operations and meet customer expectations in a dynamic and global business environment. Implementing best practices in supply chain management is the key to building a strong foundation for business success in an era of ever-growing globalization.

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

1. Introduction

In the supply chain, the parties needed by business actors start from suppliers, manufacturers, distributors, retailers to consumers who are quality, cheap and fast (Wei et al., 2023). So, a new concept emerged, namely supply chain management. Supply chain management (SCM) is a network of companies that work together to create and deliver a product to the end user. Supply chain management can not only be implemented by large companies, but Micro, Small, and Medium Enterprises (MSMEs) can also implement it. According to Fabbes and Jahre (2008), operational management is carried out starting from the process integration stage in procuring materials and services, converting them into semi-finished goods, and sending them to consumers. The hope of implementing supply chain management is that it can provide great opportunities for business

* Corresponding author

E-mail address f ralahallo@yahoo.co.id (F. N. Ralahallo)

ISSN 2291-6830 (Online) - ISSN 2291-6822 (Print) © 2024 by the authors; licensee Growing Science, Canada. doi: 10.5267/j.uscm.2024.2.019

^aPattimura University, Indonesia

^bPoliteknik Negeri Ambon, Indonesia

^cUniversitas Negeri Padang, Indonesia

actors to develop their business advantages over existing competition. Supply chain management is an activity carried out by business actors to meet consumer expectations (Fabbes & Jahre, 2008). Supply chain management is carried out by showing the production process of an item in circulation until it reaches consumers. The scope of the supply chain includes producers, suppliers, distributors, warehouses, retailers and consumers. Supply chain coverage that can run optimally by implementing interdependent relationships will have an impact on accuracy in all aspects related to optimal supply chain management. One of the general goals that makes SCM important is to balance demand and supply to make it more effective and efficient. Several of the main problems in this supply chain relate to determining the appropriate level of outsourcing, procurement management, supplier management, managing customer relationships, identifying problems and responding to these problems, the last of which is risk management (Beth et al., 2003).

In fact, there are obstacles faced by MSMEs in implementing supply chain management in MSMEs which are caused by the complexity of the supply chain, uncertainty in demand for MSME products, lack of coordination and collaboration between various parties to maintain effective communication, risk management regarding changes in price increases, policy changes, and lack of HR capabilities that MSMEs have in mastering technology. According to Beth et al. (2003), MSMEs experience uncertainty in carrying out the production process because product demand is based on certain events, so market demand can change quickly. MSMEs experience obstacles in implementing technology-based supply chain management because the costs for training employees in the field of technology cannot be covered. However, if this problem can be overcome, the use of information and communication technology can increase efficiency and visibility. There are 3 types of technology used by MSMEs, namely internet, web and software. The use of information technology is adapted to the form and conditions of MSMEs. According to Zailani et al. (2005), MSMEs will gain benefits from the application of information technology, including the use of information technology which allows the exchange of information to take place quickly, reduces time in the production process because the ordering process is faster, better coordination, reduces human error and saves costs. The government has formulated 4 main projects in developing MSMEs which must be resolved, namely lack of funding, lack of global access, access to supplies of raw materials and production equipment and lack of assistance to MSMEs (Prajogo & Olhager, 2012). The main processes involved in supply chain management include planning, sourcing, manufacturing, delivery and returns. The planning process will involve forecasting demand, setting production levels and developing strategies to meet customer needs (Sanders & Wagner, 2011). Manufacturing is a process that converts raw materials into finished goods which includes setting production schedules, controlling quality and managing production process schedules. Delivery is the management of the transportation process, distribution to customers. The return process is the process of returning products, repairing, and recycling appropriate products to customers. Supply chain performance is influenced by information sharing, trust between suppliers, producers and consumers, long-term cooperation. Meanwhile, the company's supply chain performance is measured by the company's ability to process raw materials into finished goods and deliver them to final consumers (Flynn et al., 2010). To be able to remain competitive, companies need management who can direct and develop efforts to achieve organizational goals. This condition requires companies to improve their capabilities both in the operational and managerial fields. The role of management and the performance it shows is central because in SMEs the business owner acts as both a leader and an employee. According to Permana and Soediantono (2022), leadership performance, in this case management performance in carrying out planning, coordination, investigation, negotiation evaluation, supervision and other functions, is important. Managerial/leadership performance in MSMEs is important in overall management. Managerial performance, both directly and indirectly, is always related to every company activity to achieve company goals. Managerial performance in MSMEs plays an important role in influencing organizational performance and even represents organizational performance. Managerial performance shown by managerial skills influences the performance of micro companies. In other words, managerial performance in SMEs is also a measure of the success of MSMEs in achieving their goals.

2. Literature Review

2.1 Supply Chain Management

Supply chain management is the activity of managing all parts that handle customer demand both directly and indirectly. According to Tan et al. (1998), supply chain management is the sequence of organizations, facilities, functions, and activities involved in the production and delivery of a product or service. The sequence starts from the basic supplier of raw materials to the final customer. Supply chain management is a system that connects suppliers, producers, distributors and final consumers in a production process. These stages include ordering raw materials, processing and sending products to consumers (Beth et al., 2003). In the era of digitalization, information technology has become an important factor in increasing the efficiency and effectiveness of supply chain management. Supply chain management is a flow process from upstream to downstream from suppliers, and producers to final consumers. The effectiveness of supply chain performance is measured using several dimensions, including customer service level, operational efficiency, responsiveness, supply chain costs and product quality (Vanichchinchai, 2014). Customer service level measures the extent to which supply chain management can meet customer demands. Operational efficiency is measured by supply chain management's ability to manage resources, use capacity and manage productivity. An efficient supply chain is expected to reduce transportation costs, inventory costs and raw material inventory management costs. Product quality will increase because management is able to meet customer expectation standards. Management is also more responsive to fluctuations in customer needs and desires. The management approach between the company and its business partners is called supply chain. The supply chain is a chain that manages a

business within a company starting from the supply of raw materials to retailers and marketing to end users (consumers). Supply chain requires coordination in the form of collaboration and information (Gohil & Thakker, 2021). Coordination in the supply chain can align the company's running processes. Meanwhile, collaboration can be used to forecast, plan the production and delivery of goods. In this case, obstacles often occur in the information sector because there is often inadequate use of information technology and behaviour that is less than transparent. Delivery of goods at the right time and with the quantity and quality required by the buyer will of course have an impact on logistics performance, such as reducing inventory levels, reducing transportation costs and reducing material handling costs.

2.2 Organizational Commitment

The success of managerial performance in a field of work can be determined by the professionalism of management carried out by managers. According to Ahmed et al. (2023), management professionalism in an organization must be supported by organizational commitment. Strong organizational commitment will encourage managers to strive hard to achieve organizational goals and improve organizational performance. In other words, organizational commitment is the strength of a person's identity in involvement in a particular organization. This means that more and more management feel that the organization has good managerial characteristics, such as having good planning in the short and long term, leading/directing its employees fairly and wisely, always coordinating financial reports, and evaluating performance reports transparently, the stronger the employee's attachment to the organization or company. According to Khan et al. (2023), the stronger the manager's commitment, the greater the managerial performance in achieving organizational goals. This is following the main objective of managerial performance assessment which is related to organizational commitment. The main objective of performance appraisal is to motivate employees to achieve organizational goals and to comply with predetermined standards of behavior, to produce the desired actions and results. This means that organizational commitment drives managerial performance. Commitment shows strong belief and support for the values and goals the organization wants to achieve. According to Ruzo et al. (2023), organizational commitment is an important behavioral dimension that can be used to assess an employee's tendency to remain as a member of the organization. Organizational commitment is the identification of a person's relatively strong involvement in the organization. Organizational commitment is the desire of organizational members to maintain their membership in the organization and are willing to try hard to achieve organizational goals.

2.3 Supply chain integration

According to Kim (2013), supply chain integration approach to supply chain management involves close integration and coordination between various levels of the supply chain, such as suppliers, manufacturers, distributors, and retailers. The importance of integration and coordination is so that each party in the supply chain will not experience a shortage of goods nor will there be too many excess goods which have a direct impact on costs. In SCM, to create effective implementation, internal supply chain management integration practices are very necessary. Companies that achieve a high level of internal integration have a positive effect on company performance both in absolute and relative terms. Internal supply chain coordination is the process of synchronizing company goals from the activities of separate units (functional areas) to achieve goals efficiently. A form of coordination characterized by dependency in managing relationships through authority and responsibility. This can be seen from; the importance of informal cross-functional work teams within a company; the importance of sharing ideas; information and other sources; and the importance of work team cohesion in one company. According to Tarifa and De Burgos-Jiménez (2017), supply chain integration refers to the extent to which an organization strategically collaborates with supply chain partners and manages intra- and inter-organizational processes to achieve effective and efficient flows of products, services, information, money and decisions to provide maximum value to customers.

2.4 MSMEs Performance

Performance is the success of personnel, teams, or organizational units in realizing predetermined strategic goals with the expected behavior. Benefits of performance appraisal for management. The company is managing organizational operations effectively and efficiently through maximum employee motivation. Assist in decision making regarding employees is needed to identify employee training and development needs and to provide selection and evaluation criteria for employee training programs (Flynn et al., 2010). Feedback for employees provides a basis for distribution of rewards. MSMEs have a very strategic role in national economic development, and also play a role in distributing development results. Company performance is a complete display of the company's condition over a certain period, a result or achievement that is influenced by the company's operational activities in utilizing the resources it has. According to Deshpande (2014), supply chain performance is influenced by the exchange of information, trust between suppliers, producers and consumers, and long-term cooperation. Meanwhile, the company's supply chain performance is measured by the company's ability to process raw materials into finished goods and deliver them to final consumers. If an organization or company wants to progress or develop, it is required to have quality employees. Quality employees are employees whose performance can meet the targets or objectives set by the company (Arijanto, 2022). To obtain employees who have good performance, it is necessary to apply performance. Performance is the degree to which employees achieve job requirements efficiently and effectively. Employee performance is work achievement, namely the comparison between work results that can be seen in real terms and the work standards that have been set by the organization. Prajogo and Olhager (2012) define performance as a result achieved by employees in their work according to certain criteria that apply to a job.

2.5 Supply Chain Challenges

According to Beth et al. (2003), supply chain challenges is defined as the efficient transportation of goods and services across an international company's global supply network to maximize profits and reduce waste. It also involves an accurate and timely supply chain that allows companies to serve customers with excellent products and services. This process, when combined with effective supply chain communications, results in significant improvements in a company's profit figures. However, there are many issues that companies must face such as labor, operational and capital costs, regulatory compliance, customer preferences, and environmental issues that must be resolved for global supply chain management to work effectively. Today's consumers want to get their ordered goods immediately. Especially when it comes to purchasing goods online. They want their orders to arrive within a few days and even, if possible, arrive on the same day. According to Gohil and Thakker (2021) consumers are increasingly demanding a certain level of quality from the products they buy. Raw materials, semifinished goods and finished goods must always comply with safety requirements and other regulations. This applies to every country. Environmentally friendly products and services have become a demand for some people who care about environmental sustainability.

2.6 Supply Chain Performance

According to Flynn et al. (2010), supply chain performance is a performance regarding activities related to the flow of goods, information, and funds from suppliers to final consumers. Agro-industry supply chain performance measurement systems are needed because agro-industry can build its competitiveness through supply chain strategies. Monitoring and evaluation can be carried out if indicators are available as a reference for measurement, assessment, and evaluation. Measuring supply chain performance is about putting the right metrics in place to assess the condition of the company's supply chain. Performance management uses these metrics to support the company's strategic goals (Beth et al., 2003). To create an SCM performance measurement system, several things are needed, including: 1) Determining what will be measured and monitored to create conformity between the SCM strategy and measurement metrics. 2) Every time the measurement is carried out. Supply chain performance is a performance regarding activities related to the flow of goods, information, and funds from suppliers to final consumers. Some people argue that supply chain performance is measured by inventory that serves operational activities as a buffer. Where inventory at each stage is related to money, the operations of each stage must be synchronized so that buffer inventories can be minimized. General measures for evaluating efficiency are the amount of inventory turnover and the length of supply. For culinary businesspeople, performance assessment can be used as a tool to create strategies in running their business. The key indicators for measuring supply chain performance are responsiveness and efficiency (Fabbes & Jahre, 2008). Another opinion was expressed by Hult et al. (2007) and Prajogo and Olhager (2012) states supply chain performance indicators as competitiveness, market share, profit level, product quality.

3. Hypothesis Development

3.1 The relationship of supply chain challenges to the performance of MSMEs

According to Yadav et al. (2022), supply chain challenges have an important function on the performance of MSMEs, the challenges of implementing supply chains have a positive and significant influence on the performance of MSMEs. The challenges of supply chain uncertainty, information technology and raw material supply encourage MSMEs to adopt supply chain management to improve their performance. Challenges in supply chain management are supply uncertainty, changes in raw material supply can affect the entire supply chain. Sudden changes in product demand can create difficulties in planning and inventory. According to Gohil and Thakker (2021), businesses operating globally face challenges such as different regulations, geographic distance, and cultural differences. Rapid technological developments require investment in information systems and technology to remain competitive. Consumers are increasingly aware of their environmental impact, so companies need to consider sustainable and ethical supply chain practices. Therefore, this research will investigate the hypothesis.

Hypothesis 1: Supply chain challenges have a positive and significant influence on the performance.

3.2 The relationship between Supply Chain Integration and MSMEs performance

According to Tarifa and De Burgos-Jiménez (2017), supply chain integration has an influence on company performance, where the implementation and practice of supply chain integration for the provision of goods and services is precisely what is needed for the creative industry sector, to increase industrial competitiveness which will have an impact on business performance. Supply chain integration is very complex where many obstacles are encountered in its implementation, so its implementation requires stages starting from the planning stage to the evaluation and continuous improvement stages (Prajogo & Olhager, 2012). Industry players are starting to realize that to provide cheap, high quality and fast products, internal improvements in manufacturing and service companies are not enough, participation of suppliers, creative industry companies and distributor networks is very necessary. According to Fabbes and Jahre (2008), supply chain management integration is increasingly becoming important among manufacturing companies, especially in developing countries. Regular uncontrolled integration of processes and partners in the supply chain can lead to poor operational performance of manufacturing companies. On the other hand, the integration of various aspects of the supply chain has helped improve the performance of manufacturing companies. This shows that there is a need for manufacturing companies to integrate their internal and external capabilities (Flynn et al., 2010). Supply chain management activities to remain competitive. In SCM business processes help

reduce costs and increase the competitiveness of manufacturing companies. Therefore, this research will investigate the hypothesis.

Hypothesis 2: Supply Chain Integration has a positive and significant influence on performance.

3.3 The Relationship between Management Commitment and Performance

Commitment has an impact on the work performance of human resources, and ultimately also greatly influences the performance of an organization. A person's success and performance in the field of work is largely determined by commitment to the field of work he is involved in. Commitment to the company means that employees have benefits, including being sincere and happy when involving themselves in work, having a stronger desire to continue working at the current organization and being able to continue to contribute to the achievement of goals. Employees who have low commitment will tend to decline in their performance, will want to leave the organization, and will not try their best for effectiveness and optimization in achieving organizational goals because there is no emotional bond or feeling of obligation to contribute. Therefore, this research will investigate the hypothesis.

Hypothesis 3: *Management commitment has a positive and significant influence on performance.*

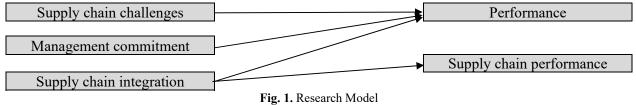
3.4 The Relationship between Supply Chain Integration and Supply Chain Performance

Supply chain management can minimize costs incurred by the company and increase the value of product quality in the eyes of customers so that the company's profitability will increase (Beth et al. ,2003) This condition is expected to improve company performance. Supply Chain Management is very important to streamline the production process and marketing process to meet consumer needs. For supply chain control to be effective, it is necessary to have a smooth flow of information and mutual trust between parts, be it suppliers, companies or consumers (Yadav et al., 2020). Therefore, this research will investigate the hypothesis.

Hypothesis 4: Supply Chain Integration has a positive and significant influence on supply chain performance.

4. Method

This research method is a quantitative survey, research data was obtained by distributing online questionnaires via social media. 700 questionnaires were distributed to MSMEs owners and of the 700 questionnaires distributed, 350 respondents or 50% responded as determined by the simple random sampling method. This research adopted a quantitative method with data analysis using Structural Equation Modeling (SEM) Partial Least Square (PLS0 with SmartPLS software data processing tools. The questionnaire was designed using Likert scale of 1 to 7. The stages of data analysis were validity, reliability, and hypothesis testing, or significance.



5. Results and Discussion

5.1 Respondent demographics

Based on the results of data analyzed from this research questionnaire, it was obtained that 75% of respondents were male and 25% female. Of the 350 respondents, 40% were aged 31-45 years, 30% were aged 26-30 years and 20% were aged 18-25 years and the remaining 10% were aged 46-60 years. Most of the respondents' education level was undergraduate, namely 60% and only 4% of respondents have a doctorate degree. As many as 50% of respondents have work experience of 1-5 years, as many as 20% have work experience of 5-10 years and only 10% have work experience of more than 15 years.

Table 1The profile of the respondents

Gender	Frequency	Percentage	Age	Frequency	Percentage	Education Level	Frequency	Percentage	Year of Work	Frequency	Percentage
Male	263	75%	18-25	70	20%	Diploma	70	20%	1-5	175	50%
Female	87	25%	26-30	105	30%	Bachelor	210	60%	5-10	70	20%
Total	350	100%	31-45	140	40%	Master	56	16%	10-15	70	20%
			46-60	35	10%	Doctor	14	4%	More Than	35	10%
			Total	350	100%	Total	350	100%	Total	350	100%

5.2 Reliability and Validity Test

The results of reliability testing show that the composite reliability value and Cronbach's alpha for all variables in this study are more than 0.70 with the conclusion that the construct is reliable and can be continued to the next analysis step. This research uses a Composite Reliability value greater than 0.60 or > 0.60 and a Cronbach's alpha value greater than 0.50 or > 0.50. The results of the outer loading test to test the validity of all indicators concluded that all indicators were valid.

The results of the reliability and validity

Variable	Composite Reliability	Cronbach`s Alpha	AVE	Remark	
SCI	0.943	0.945	0.876	Valid & Reliable	
MC	0.928	0.845	0.891	Valid & Reliable	
SCP	0.941	0.878	0.832	Valid & Reliable	
SCC	0.897	0.789	0.432	Valid & Reliable	

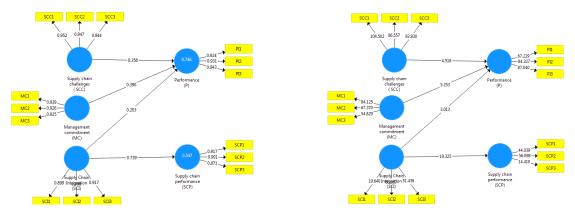


Fig. 2. Validity Testing

5.3 Hypothesis testing

In hypothesis testing or significance testing, testing the hypothesis can be seen through the t-statistic value and probability value. To test the hypothesis using statistical values, for alpha 5% the tstatistic value used is 1.96. So the criteria for accepting or rejecting the hypothesis are Ha accepted and H0 rejected if the t-statistic is > 1.96. To reject/accept the hypothesis using probability, Ha is accepted if the p value < 0.05.

Table 3Hypothesis Testing

/1 0				
Hypothesis	Original sample (O)	T-statistic	P-value	Remark
$SCC \rightarrow P$	0.358	4.518	0.000	Supported
$SCI \rightarrow P$	0.203	3.013	0.000	Supported
$MC \rightarrow P$	0.390	5,253	0.000	Supported
$SCI \rightarrow SCP$	0.739	19.325	0.000	Supported

5.3 The relationship of supply chain challenges and MSMEs performance

The results of the SmartPLS test show that the T value is 4.518 4, greater than 1.96 and the p-value is 0.000, less than 0.050, so it is concluded that supply chain challenges have a positive and significant influence on the performance of MSMEs'. These results support Gohil and Thakker (2021) and Sanders and Wagner (2011) research that supply chain challenges have a positive and significant influence on the performance of MSMEs. These results are in line with Purwanto and Juliana (2023) that supply chain challenges can encourage increased MSMEs' performance. Smart technology information is an important challenge for MSMEs' performance, government regulations are the most challenging factor that influences SME performance. The challenges of supply chain uncertainty, information technology and raw material supply encourage MSMEs' to adopt supply chain management to improve their performance. According to Beth et al. (2003), challenges in supply chain management are Supply Uncertainty, changes in raw material supply can affect the entire supply chain.

5.3 The relationship between Supply Chain Integration and MSMEs' performance

The results of the SmartPLS test show that the T value is 3.013, greater than 1.96 and the p value is 0.000, less than 0.050, so it is concluded that Supply Chain Integration has a positive and significant influence on the performance of MSMEs. These results support Prajogo and Olhager (2012) and Rudyanto et al. (2020) research that Supply Chain Integration has a positive and significant influence on the performance of MSMEs. These results are in line with Flynn et al. (2010) that Supply Chain Integration has a positive and significant influence on the performance of MSMEs. Supply chain integration contributes to

the performance of MSMEs. Supply chain management can minimize costs incurred by the company and increase the value of product quality in the eyes of customers so that the company's profitability will increase (Fabbes & Jahre, 2008). This condition is expected to improve company performance. Supply Chain Management is very important to streamline the production process and marketing process to meet consumer needs. In order for supply chain control to be effective, it is necessary to have a smooth flow of information and mutual trust between parts, be it suppliers, companies or consumers (Prajogo & Olhager, 2012).

5.4 Relationship between management commitment and MSMEs performance

The results of the SmartPLS test show that the T value is 5.253, greater than 1.96 and the p value is 0.000, less than 0.050, so it is concluded that management commitment has a positive and significant influence on MSMEs performance. These results support According to Ahmed et al. (2023) research that management commitment has a positive and significant influence on SMEs performance. These results are in line with Khan et al. (2023) that management commitment has a positive and significant influence on MSMEs performance. Top management commitment has a positive influence on MSME performance, indicating that top management commitment is a predictor of MSME performance. Top management has an important and strategic role in making strategic decisions for implementing supply chain management and MSME performance. According to Garg et al. (2023) Commitment has an impact on the work performance of human resources, and ultimately also greatly influences the performance of an organization. A person's success and performance in the field of work is largely determined by commitment to the field of work he is involved in.

5.5 The relationship between Supply Chain Integration and Supply Chain Performance

The results of the SmartPLS test show that the T value is 19.325, greater than 1.96 and the p value is 0.000, less than 0.050, so it is concluded that Supply Chain Integration has a positive and significant influence on Supply chain performance. These results support Sanders and Wagner (2011) research that Supply Chain Integration has a positive and significant influence on supply chain performance. These results are in line with Yadav et al. (2022) that Supply Chain Integration has a positive and significant influence on Supply chain performance. Supply chain integration contributes to the performance of SMEs. Supply chain management can minimize costs incurred by the company and increase the value of product quality in the eyes of customers so that the company's profitability will increase. This condition is expected to improve company performance.

6. Managerial implications

The managerial implications of this research can provide contributions and recommendations for improving supply chain performance and SME performance. The findings of this research indicate that top management has a very important role in supply chain performance in MSMEs. Implementing supply chain management requires the role and involvement of all top management. The findings of this research indicate that the government can support by providing infrastructure assistance related to high-quality and high-speed internet, which is an important facility for MSMEs.

7. Conclusion

The results of data analysis have shown that supply chain challenges have a positive and significant influence on MSMEs performance, Supply Chain Integration has a positive and significant influence on MSMEs performance, Management commitment has a positive and significant influence on MSMEs performance, Supply Chain Integration has a positive and significant influence on Supply chain performance. The novelty of this research is the creation of a relationship model of supply chain integration, management commitment, supply chain performance, supply chain challenges and MSMEs performance. The implication of this research is to encourage increased MSMEs performance, MSMES managers must encourage improvements or implement supply chain challenges. Supply chain integration and management commitment. Supply chain management is not just about managing the flow of goods, but also a holistic business strategy that can create a competitive advantage. With a deep understanding of supply chain components, challenges and strategies, companies can ensure smooth operations and meet customer expectations in a dynamic and global business environment. Implementing best practices in supply chain management is the key to building a strong foundation for business success in an era of ever-growing globalization.

References

- Ahmed, R. R., Akbar, W., Aijaz, M., Channar, Z. A., Ahmed, F., & Parmar, V. (2023). The role of green innovation on environmental and organizational performance: Moderation of human resource practices and management commitment. *Heliyon*, *9*(1), 34-36
- 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. https://doi.org/10.7777/jiemar.v3i6.410
- Beth, S., Burt, D. N., Copacino, W., Gopal, C., Lee, H. L., Lynch, R. P., & Morris, S. (2003). Supply chain challenges. building relationships. *Harvard business review*, 81(7), 64-73.

- Deshpande, A. (2012). Supply chain management dimensions, supply chain performance and organizational performance: An integrated framework. *International Journal of Business and Management*, 7(8), 2.
- Fabbes, N., & Jahre, M. (2008). Supply chain integration and performance: a review of the evidence. *The International Journal of Logistics Management*, 19(2), 130-154.
- Flynn, B. B., Huo, B., & Zhao, X. (2010). The impact of supply chain integration on performance: A contingency and configuration approach. *Journal of Operations Management*, 28(1), 58-71.
- Garg, N., Anand, P., & Vakeel, K. A. (2023). Prioritizing personality diversity: a commitment and performance based perspective. *International Journal of Educational Management*, 37(5), 1005-1023.
- Gohil, D., & Thakker, S. V. (2021). Blockchain-integrated technologies for solving supply chain challenges. *Modern Supply Chain Research and Applications*, 3(2), 78-97.
- Khan, A., Li, C., Shahzad, M., & Sampene, A. K. (2023). Green effectual orientations to shape environmental performance through green innovation and environmental management initiatives under the influence of CSR commitment. *Environmental Science and Pollution Research*, 30(1), 2205-2217.
- Kim, D. Y. (2013). Relationship between supply chain integration and performance. *Operations Management Research*, 6, 74-90
- Hult, G. T. M., Ketchen, D. J., & Arrfelt, M. (2007). Strategic supply chain management: Improving performance through a culture of competitiveness and knowledge development. *Strategic management journal*, 28(10), 1035-1052.
- 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
- Prajogo, D., & Olhager, J. (2012). Supply chain integration and performance: The effects of long-term relationships, information technology and sharing, and logistics integration. *International Journal of Production Economics*, 135(1), 514-522.
- 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.
- Rudyanto, R., Soemarni, L., Pramono, R., & Purwanto, A. (2020). The influence of antecedents of supply chain integration on company performance. *Uncertain Supply Chain Management*, 8(4), 865-874.
- Ruzo-Sanmartín, E., Abousamra, A. A., Otero-Neira, C., & Svensson, G. (2023). The impact of the relationship commitment and customer integration on supply chain performance. *Journal of Business & Industrial Marketing*, 38(4), 943-957.
- Sanders, N. R., & Wagner, S. M. (2011). Multidisciplinary and multimethod research for addressing contemporary supply chain challenges. *Journal of Business Logistics*, 32(4), 317-323.
- Tan, K. C., Kannan, V. R., & Handfield, R. B. (1998). Supply chain management: supplier performance and firm performance. *International Journal of Purchasing & Materials Management*, 34(3).
- Tarifa, J., & De Burgos-Jiménez, J. (2017). Supply chain integration and performance relationship: a moderating effects review. *The International Journal of Logistics Management*, 28(4), 1243-1271.
- Yadav, V. S., Singh, A. R., Gunasekaran, A., Raut, R. D., & Narkhede, B. E. (2022). A systematic literature review of the agro-food supply chain: Challenges, network design, and performance measurement perspectives. Sustainable Production and Consumption, 29, 685-704.
- Yadav, G., Luthra, S., Jakhar, S. K., Mangla, S. K., & Rai, D. P. (2020). A framework to overcome sustainable supply chain challenges through solution measures of industry 4.0 and circular economy: An automotive case. *Journal of Cleaner Production*, 254, 120112.
- Vanichchinchai, A. (2014). Supply chain management, supply performance and total quality management: An organizational characteristic analysis. *International Journal of Organizational Analysis*, 22(2), 126-148.
- Wei, F., Abbas, J., Alarifi, G., Zhang, Z., Adam, N. A., & de Queiroz, M. J. (2023). Role of green intellectual capital and top management commitment in organizational environmental performance and reputation: Moderating role of proenvironmental behavior. *Journal of Cleaner Production*, 405, 136847.
- Zailani, S., & Rajagopal, P. (2005). Supply chain integration and performance: US versus East Asian companies. *Supply Chain Management: An International Journal*, 10(5), 379-393.



© 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/).