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Analysis of Supply Chain Management Implementation on MSME Performance

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ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) play a critical role in both global and national economies, significantly contributing to job creation, gross domestic product (GDP), and innovation. In Indonesia, MSMEs contribute more than 60% of the GDP and provide over 97% of employment, highlighting the importance of this sector in supporting inclusive and sustainable economic growth. This study intends to analyze the implementation of supply chain management on the performance of MSMEs. 97 MSMEs were involved in this study, which will be randomly selected as the sample. Data were evaluated using descriptive statistical methods and regression analysis. This study confirms that commitment, trust, and information technology all have a favorable impact on the supply chain performance of MSMEs..

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1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play an important role in both the global and national economies, contributing considerably to job creation, gross domestic product (GDP), and innovation. In Indonesia, MSMEs contribute more than 60% of the GDP and provide over 97% of employment, underscoring the sector's importance in supporting inclusive and sustainable economic growth. However, amidst increasing market competition and global economic dynamics, MSMEs face increasingly complex challenges in managing their operations [1]. Supply chain management has developed a significant focus in efforts to improve business performance across various sectors, including the MSME sector, this is crucial to the global economy. However, MSMEs often encounter unique challenges that set them apart from large enterprises, such as limited resources and capabilities in adopting effective supply chain management practices [2], [3].

In recent decades, literature has shown that effective supply chain management implementation can provide significant competitive advantages for companies, including operational efficiency, customer satisfaction, and flexibility in responding to market changes. However, there are still shortcomings in research specifically exploring how MSMEs can overcome these barriers and optimize their performance through supply chain management. Therefore, this research focuses on an in-depth analysis of supply chain

management implementation among MSMEs, aiming to provide clearer insights and practical solutions for enhancing their performance.

Although MSMEs make significant contributions to the economy, they often face various issues in managing their supply chains, hindering their overall performance. One of the main issues is the limited access to adequate technology and infrastructure, resulting in inefficiencies in day-to-day operations. Additionally, many MSMEs lack sufficient knowledge and skills in supply chain management, making it difficult for them to plan, coordinate, and control the stream of products and information. This is exacerbated by limited capital and experienced human resources, making MSMEs vulnerable to market interruptions and fluctuations. The impact of ineffective supply chain management can be seen in various forms, such as high operational costs, long delivery times, and inconsistent product quality, significantly reducing MSMEs' competitiveness in an increasingly competitive market.

Therefore, addressing these issues is a critical step in ensuring the survival and growth of MSMEs in the future. This research aims to identify and analyze these problems, as well as offer practical solutions that can be implemented by MSMEs to fix up their supply chain performance. Research on supply chain management has been undertaken extensively, but most of it focuses on large or multinational companies with better resources and infrastructure. This research answers a gap in the literature. by providing insights specifically tailored to MSMEs and offering practical recommendations for improving their efficiency and supply chain performance. Through this approach, it is hoped that the research results will help MSMEs become more competitive and sustainable in facing the increasingly complex market dynamics.

2. LITERATURE REVIEW

2.1 Commitment

Implementing SCM has a substantial impact on the MSMEs performance [4]–[6]. SCM approaches such as customer relationship management, supplier relationship management, goal alignment, and information exchange have a favorable impact on both company and supply chain performance. [7]. Additionally, competitive advantage, SCM practices, and innovation collectively affect MSMEs' business performance, with SCM practices showing a significant influence [8]. Furthermore, the influence of SCM on competitive advantage and organizational performance is evident, emphasizing the importance of SCM in enhancing overall performance. Overall, effective SCM practices play a crucial role in improving MSMEs' performance by fostering collaboration, enhancing relationships with partners, and ultimately driving business success.

Literature reviews indicate that supply chain performance in MSMEs is significantly affected by commitment, trust, and human resource capabilities [9]. Organizational commitment, which includes dedication and loyalty to common goals, directly contributes to improving supply chain efficiency and effectiveness. Research [10] found that commitment has a significant positive relationship with supply chain performance through enhanced collaboration and coordination among supply chain members. Therefore, the first proposed hypothesis is:

H1: Commitment has a positive influence on supply chain performance in MSMEs.

2.2 Trust

Trust is the belief or expectation of one's reliability, truthfulness, capability, or integrity of another person or entity. In business, trust means customers, employees, and business partners have confidence that the company will fulfill its promises, act honestly, and safeguard the interests of all parties involved. Trust is built through consistent, transparent, and reliable actions over time. It is a vital foundation for healthy and sustainable business

relationships [11]. In the context of MSMEs, trust has a significant effect on business performance. After customers have high trust in MSMEs, they are more likely to become loyal customers, make repeat purchases, and recommend the business to others. This customer trust increases revenue and enables MSMEs to grow and expand. Additionally, trust fosters better cooperation with suppliers and business partners, which can open new opportunities and improve operational efficiency [12].

Trust is also crucial in internal relationships within MSMEs. Employees who trust management and feel they are treated fairly and honestly will be more motivated and productive. They are likely to give their best performance and contribute positively to company goals. Additionally, trust within the organization creates a harmonious work environment, reduces conflicts, and enhances job satisfaction. Therefore, building and maintaining trust are key elements for the long-term success and performance of MSMEs. Thus, the second hypothesis proposed is:

H2: Trust has a positive influence on supply chain performance in MSMEs.

2.3 Information Technology

Furthermore, human resource capabilities in terms of skills, knowledge, and competencies also play a vital role in improving performance of supply chain. Study by [13] shows that continuous development and training of human resources significantly assist to improving supply chain performance through better innovation and adaptation to market changes. Information Technology (IT) is a field that involves the use of computers, software, networks, and other electronic systems to manage, process, store, and disseminate information. IT encompasses various features such as computer hardware, software applications, data management, and network infrastructure. In the business world, IT is used to improve operational efficiency, accelerate communication processes, and support better data-driven decision-making.

In the context of MSMEs, the implementation of Information Technology can have a significant impact on business performance. IT allows MSMEs to automate many repetitive tasks, thus saving time and dropping operational costs [14]. For example, the use of computerized inventory management systems can help MSMEs track inventory in real-time, reduce human errors, and ensure that inventory is always available as needed. Additionally, IT facilitates more efficient accounting processes and financial reporting, allowing business owners to focus more on growth and development strategies [15].

Information Technology also opens up new opportunities for MSMEs to improve their competitiveness in the market. By leveraging e-commerce platforms and digital marketing, MSMEs can reach a wider audience and penetrate previously inaccessible markets. IT also enables MSMEs to collect and analyze customer data, which can be used to identify trends, understand customer needs, and better tailor their products or services. Thus, IT is not only a tool for improving efficiency but also a driver of innovation and growth for MSMEs, which ultimately can enhance their business performance. Then, the third proposed hypothesis is:

H3: Information technology has a positive influence

3. METHODS

This study adopts a quantitative approach and focuses on small-scale MSMEs in the city of Magelang. According to data from the Department of Cooperatives and MSMEs of Central Java Province, there are 944 small-scale businesses in the city of Magelang. Due to constraints in time and budget, a sample representing the research population was particular with a confidence level of 90% and margin of error of 10% using Equation 1

to calculate the sample size. Thus, a total sample size of 97 MSMEs will be randomly selected. The data was evaluated using descriptive statistics as well as regression analysis.

4. RESULTS AND DISCUSSION

4.1 Result

a. Validity Test

The validity of the instrument was assessed using Pearson product-moment correlation analysis to observe the relationship between item ratings and the summed scores of the variables under consideration. This method helps determine whether each item score correlates positively with the overall score and whether this relationship is stronger than chance. The significance level (df) of the research can be calculated using a formula. The r-table value indicates 0.1680 at a significance level of 5% (df = 97-2 = 95) (One-Tailed). The results of the validity test are shown in Table 1.

Table 1. Correlation of Validity Testing

Variable/Item	r Value	R Table (*Two Tale*)	Valid / No
Commitment			
X1	0,445	0,1680	Valid
X2	0,546	0,1680	Valid
X3	0,655	0,1680	Valid
Trust			
X4	0,557	0,1680	Valid
X5	0,783	0,1680	Valid
X6	0,543	0,1680	Valid
Information Technology			
X7	0,557	0,1680	Valid
X8	0,783	0,1680	Valid
X9	0,543	0,1680	Valid
MSME Supply Chain Performance			
Y1	0,783	0,1680	Valid
Y2	0,551	0,1680	Valid
Y3	0,598	0,1680	Valid

Source: processed primary research data

b. Reliability Test

We performed a consistency analysis to assess the reliability of our hypotheses and our capacity to regulate the variables under consideration. We contend that the underlying variables are consistent if a substantial amount of data consistently answers the same questions across time. Cronbach's alpha (α) is a statistic used in statistics to assess the dependability of a concept or study variable. If the dependent variable has a Cronbach's alpha better than 0.60 [16], we can confidently pronounce it dependable. The results of the SPSS reliability analysis can be seen in Table 2.

Table 2. Reliability of Questionnaire Testing

Variable	*Value Cronbach's Alpha*	Information
X1	0,789	Reliable
X2	0,745	Reliable
X3	0,779	Reliable
X4	0,775	Reliable
X5	0,770	Reliable
X6	0,773	Reliable

X7	0,779	Reliable
X8	0,775	Reliable
X9	0,778	Reliable
Y1	0,775	Reliable
Y2	0,775	Reliable
Y3	0,773	Reliable

Source: processed primary research data.

Because their Cronbach's alpha values are greater than 0.600, the modern investigation can be deemed reliable according to the available indication.

c. Normality Test

Conferring to Yoshida (2010), The K-S test, often known as the Kolmogorov-Smirnov test, is a tool for data analysis. If the K-S test statistic result exceeds 0.05 (>0.05), the residual data distribution in the analysis has been standardized. The results of the normality test can be seen in Table 3.

Table 3. Normality Test Results

Information	***Unstandardized Residual***
N	100
Kolmogorov-Smirnov Z	1,03
Asymp. Sig. (2-tailed)	0,111

Source: processed primary research data.

Ho is accepted because the two-sided significance value is greater than 0.05, as stated in table 3 (0.111).

d. Multicollinearity Test

If the data does not create predictor variables with values greater than 0.5, it does not exhibit multicollinearity. VIF values less than 10 and tolerance values close to 1 indicate that there is no multicollinearity in the multiple linear regression [17]. The findings of the cointegration test are offered in the Table 4.

Table. 4. Multicollinearity Test Results

Variable	***Collinearity Statistics***	
	Tolerance	**VIF**
Commitment	0,133	3,442
Trust	0,154	3,641
Information Technology	0,158	3,554

Source: processed primary research data.

Based on the table above, there are no symptoms of multicollinearity because no variables have a VIF greater than 10 and tolerance values less than 0.10.

e. Heteroscedasticity Test

The heteroscedasticity test is used to determine the occurrence of variance inequality in the residuals across data in the same regression model. The results of using the Glacier method to detect the occurrence of heteroscedasticity are exposed in Table 5.

Table.5. Heteroscedasticity Test Results

Variable	*Coefficients*	
	T	Sig.
Constanta	0,335	0,445
Commitment	0,557	0,341
Trust	0,523	0,443
Information Technology	0,541	0,328

Source: processed primary research data

As realized in the table 5, the significance levels are greater than 0.05, indicating that there is no heteroscedasticity.

f. Multiple Regression Test

The multiple regression model calculated by SPSS to determine the impact of corporate profitability and financial leverage on financial performance is provided in Table 6.

Table 6. Multiple Linear Regression

Variable	Coefficients		
	B.	T.	Significancy
Constanta	0,332	0,442	0,541
Commitment	0,113	4,776	0,000
Trust	0,211	5,313	0,000
Information Technology	0,355	5,764	0,000

Source: processed primary research data.

Based on the analysis output results displayed in table 6, the multiple regression results are as follows: Y = 0.332 + 0.113 X1 + 0.211 X2 + 0.355 X3 + e

4.2 Discussion

a. Commitment has a positive influence on supply chain performance in SMEs.

The research findings indicate that commitment has a positive influence on supply chain performance in SMEs, as evidenced by the calculated P-Value of 0.000, which is smaller than the alpha value of 0.05, thus the first hypothesis is accepted. Commitment has a significant positive influence on the supply chain performance of MSMEs. The commitment from MSME owners and management ensures that every element in the supply chain, from raw material to end products, is carried out with high dedication and seriousness. When MSME leaders demonstrate strong commitment, they tend to set high standards for quality, reliability, and operational efficiency. This encourages all parties involved in the supply chain, including suppliers and distributors, to work better and more consistently.

Moreover, commitment also fosters closer trust and collaboration among all parties involved in the supply chain. Suppliers who perceive commitment from MSMEs in building long-term and mutually beneficial relationships will be more motivated to provide high-quality raw materials consistently and on time. Similarly, distributors who sense the dedication and seriousness of MSMEs are more likely to maintain integrity and reliability in delivering products to the market. Thus, strong commitment ensures that every part of the supply chain operates optimally and supports each other to achieve common goals.

Commitment also plays a vital role in the implementation of

innovation and continuous improvement in the supply chain. MSME owners who are highly committed will be more open to new technologies and more efficient working methods. They will invest in employee training and development, as well as in information technology systems that can enhance transparency and coordination in the supply chain. As a result, MSMEs may better meet customer expectations while also lowering operational expenses and increasing profitability. Thus, commitment acts as a key driver that enhances the overall performance of the supply chain in MSMEs.

b. Trust has a positive influence on supply chain performance in SMEs.

The research findings indicate that trust has a positive influence on supply chain performance in SMEs, as evidenced by the calculated P-Value of 0.000, which is smaller than the alpha value of 0.05, thus the second hypothesis is accepted. Trust has a significant positive influence on the supply chain performance of MSMEs. When trust is established among all parties involved in the supply chain, from raw materials to end products, collaboration and coordination become more effective. This trust ensures that every party acts with transparency and integrity, minimizing the risk of errors and delays. For example, suppliers who trust that MSMEs will honor payment agreements on time will be more motivated to provide consistently high-quality raw materials.

Moreover, trust also enables more open and honest communication among all parties in the supply chain. With trust, suppliers and distributors feel more comfortable sharing important information that can help MSMEs overcome operational challenges and adjust strategies quickly. This creates a proactive work environment, where issues can be identified and resolved rapidly before they negatively impact the supply chain performance. Trust also helps build stable and mutually beneficial long-term relationships, ultimately enhancing general efficiency and effectiveness of the supply chain.

Furthermore, trust plays a crucial role in driving innovation and sustainable improvements in MSMEs' supply chains. When supply chain partners trust each other, they are more willing to share new technologies and best practices that can enhance performance. For instance, suppliers may be willing to adopt more advanced inventory management technology if they trust that MSMEs are also committed to investing in innovation. Thus, trust not only enhances daily operations but also creates a foundation for long-term growth and improvement, which is essential for the success of MSMEs in competitive markets.

c. Information technology has a positive influence on supply chain performance in SMEs.

The research findings indicate that information technology has a positive influence on supply chain performance in SMEs, as evidenced by the calculated P-Value of 0.000, which is smaller than the alpha value of 0.05, thus the third hypothesis is accepted. Information technology has a significant positive influence on the supply chain performance of MSMEs. Through the implementation of information technology, MSMEs can automate various operational processes that were previously time-consuming and prone to human errors. For example, IT-based inventory management systems allow real-time stock monitoring, thus reducing the risk of inventory shortages or excesses.

Accounting software and order processing also accelerate transactions and enhance accuracy, ultimately improving the overall efficiency and effectiveness of the supply chain.

Furthermore, information technology enhances visibility and transparency in the supply chain. Through digital platforms, all parties involved in the supply chain can access relevant information regarding shipment status, raw material availability, and market demand. This improved visibility enables quicker and more informed decision-making, as well as helps identify and address potential bottlenecks before they become major issues. For instance, if there is a delay in raw material delivery, MSMEs can promptly communicate this with suppliers and seek alternative solutions to ensure smooth production.

Information technology also allows MSMEs to build stronger and more integrated relationships with their suppliers and customers. Through customer relationship management (CRM) systems and online collaboration platforms, MSMEs can communicate more effectively with their business partners, securely share data, and collaborate in planning and managing the supply chain. By leveraging information technology, MSMEs can optimize their operations, improve customer satisfaction, and gain a competitive edge in an increasingly digital market. These stronger relationships foster trust and cooperation, which improves the overall performance of the supply chain.

5. CONCLUSION

In conclusion, commitment has a positive influence on supply chain performance in MSMEs, trust has a positive influence on supply chain performance in MSMEs, and information technology has a positive influence on supply chain performance in MSMEs. This study has limitations in the small sample size, which is only 97 MSMEs, thus limiting the generalizability of the findings. We provide suggestions for future research to use expanded sample sizes and cover wider geographic areas. Additionally, it is recommended to include additional variables to assess supply chain performance in MSMEs more comprehensively.

REFERENCES

[1] I. Agustina, H. Khuan, B. Aditi, S. A. Sitorus, and T. P. Nugrahanti, "Renewable energy mix enhancement: the power of foreign investment and green policies," *Int. J. Energy Econ. Policy*, vol. 13, no. 6, pp. 370–380, 2023.

[2] W. Liu, Y. Liang, X. Bao, J. Qin, and M. K. Lim, "China's logistics development trends in the post COVID-19 era," *Int. J. …*, 2022, doi: 10.1080/13675567.2020.1837760.

[3] H. Ashari, T. P. Nugrahanti, and B. J. Santoso, "The role of microfinance institutions during the COVID-19 pandemic," *Glob. Bus. Econ. Rev.*, vol. 30, no. 2, pp. 210–233, 2024.

[4] M. I. Mostafiz, F. U. Ahmed, F. Ibrahim, and S. Y. Tarba, "Innovation and commercialisation: the role of the international dynamic marketing capability in Malaysian international entrepreneurial firms," *Int. Mark. Rev.*, vol. 41, no. 1, pp. 199–236, 2023, doi: 10.1108/IMR-10-2022-0241.

[5] A. F. Yahya and F. Fitriyani, "Women's Social Enterprise Organizational Performance Analysis: A Road to Sustainability," *BASKARA J. Bus. Entrep.*, vol. 5, no. 2, pp. 221–231, 2023.

[6] T. P. Nugrahanti and A. S. Jahja, "Audit judgment performance: The effect of performance incentives, obedience pressures and ethical perceptions," *J. Environ. Account. Manag.*, vol. 6, no. 3, pp. 225–234, 2018.

[7] E. J. Khatib and R. Barco, "Optimization of 5G networks for smart logistics," *Energies*, 2021.

[8] S. Dey, A. Sreenivasulu, G. T. N. Veerendra, K. V Rao, and ..., "Renewable energy present status and future potentials in India: An overview," *… and Green Development*. Elsevier, 2022.

[9] G. Bentum-Micah, L. Cai, S. A. Atuahene, M. A. Ameyaw, V. Bondzie-Micah, and S. S. Adu-Yeboah, "Health provider administration functions, patient satisfaction, and loyalty: Their mediation by patient healthcare service

quality perceptions," *J. Psychol. Africa*, vol. 34, no. 1, pp. 65–72, 2024.

[10] S. Supriandi and Y. Iskandar, "Faktor-Faktor Yang Mempengaruhi Minat Berwirausaha: Sebuah Studi Literatur," in *SENMABIS: Conference Series*, 2021, vol. 1, no. 1, pp. 96–107.

[11] F. O. Agyapong, A. Agyapong, and K. Poku, "Nexus between social capital and performance of micro and small firms in an emerging economy: The mediating role of innovation," *Cogent Bus. Manag.*, vol. 4, no. 1, p. 1309784, 2017.

[12] M. Attaran and A. Gunasekaran, *Applications of blockchain technology in business: challenges and opportunities*. books.google.com, 2019.

[13] M. Phiri, "Exploring digital marketing resources, capabilities and market performance of small to medium agro-processors. A conceptual model," *J. Bus. Retail Manag. Res.*, vol. 14, no. 2, 2020.

[14] P. K. Agyapong, M. Iwamura, D. Staehle, and ..., "Design considerations for a 5G network architecture," *IEEE …*, 2014.

[15] M. Matharu, N. Gupta, and V. Swarnakar, "Efforts are made but food wastage is still going on: a study of motivation factors for food waste reduction among household consumers," *Asia-Pacific J. Bus. Adm.*, vol. 14, no. 2, pp. 244–264, 2022, doi: 10.1108/APJBA-07-2021-0303.

[16] M. Tenenhaus, V. E. Vinzi, Y.-M. Chatelin, and C. Lauro, "PLS path modeling," *Comput. Stat. Data Anal.*, vol. 48, no. 1, pp. 159–205, 2005.

[17] I. Ghozali, "Aplikasi Analisis Multivariative Dengan Program IBM SPSS 25 Edisi 9," *Badan Penerbit Univ. Diponegoro*, 2018.