

Analysis of Supply Chain Management Practises in Food and Beverages MSMEs in Purwokerto

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ABSTRACT. The purpose of this study was to determine whether supply chain management has a practical effect on the performance of food and beverage MSMEs in Purwokerto. The research sample consisted of 100 MSME actors. Sample collection used an online questionnaire. The analysis used in this study used Smart PLS 3.0. The results stated that SCMP did not have a direct positive effect on MSME performance, but it positively affected digital adaptation. Digital Adaptation did not significantly affect MSME performance or mediate the relationship between SCMP and MSME performance. The limitation of this study is that the scope of this study is limited to food and beverage MSMEs in Purwokerto, which may affect the ability to generalize the findings to other sectors or regions with different characteristics. Theoretically, this study contributes to the existing literature by challenging the alleged positive relationship between SCMP, Digital Adaptation, and MSME performance. Practically, these findings indicate that MSMEs should not assume that implementing SCMP and adopting digital technology will automatically improve performance. Further research is recommended to use a broader and more diverse sample across industries and regions to improve the generalization of findings.

Keyword: Supply Chain Management; MSMEs Performance; Digital Adaptability

JEL Classification: M11;L26;O33

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) in the food and beverage sector are an integral part of the economic vitality of Purwokerto, Indonesia. These businesses contribute significantly to job creation and local economic development (Yuwono et al., 2022). According to Deliana (2023), food and beverage MSMEs in Purwokerto have experienced substantial growth due to increased domestic demand and the influx of tourism. The region's strategic location and cultural heritage have fostered a vibrant culinary scene, making it a center for gastronomic exploration (Yuwono et al., 2025). Despite their important role, MSMEs often struggle (Fadilah et al., 2024) with challenges such as limited access to capital (Pratama & Pangestu, 2024), technology (Yuwono, Tajudin, et al., 2024), and markets (Yuwono et al., 2024). The employment of MSMEs in 2023 in Banyumas Regency shows that MSMEs employ 14,073 workers in Purwokerto, underlining their important role in socio-economic development (Indrawati, 2024).

Table 1. The workforce of MSMEs in 2023 in Purwokerto

No	District	Number
1	West Purwokerto	4.081
2	South Purwokerto	2.400
3	East Purwokerto	3.620
4	North Purwokerto	3.972
	Total amount	14.073

Source: LPSE Banyumas 2024

Previous research has shown gaps in the adoption of Supply Chain Management Practises (SCMP) among MSMEs due to barriers such as limited resources, lack of expertise, and inadequate technological infrastructure (Yuwono, Suroso, et al., 2024). For example, Gunasekaran et al. (2015) highlight that MSMEs often face challenges in effectively integrating supply chain processes. Complexity will reduce the supply chain resilience and inturn it necessitates organisations to build proactive management strategies to achieve competitive gains through innovation and responsiveness. Overcoming these obstacles is essential to utilizing SCMP to improve the performance of food and beverage MSMEs. SCMP positively affects sustainable supply chain performance, particularly from the economic and social perspective, as a route for a firm's commercial success rather than a moral obligation (Zailani et al., 2012).

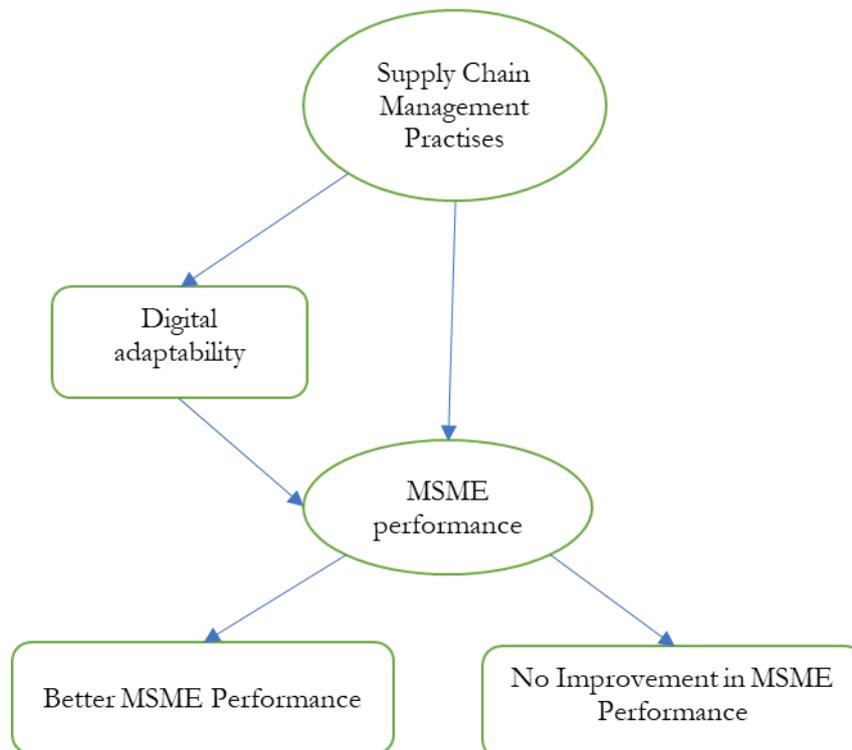
SCMP's importance to the performance of food and beverage MSMEs is increasingly recognized in a competitive business environment (Kumar & Rahman, 2016). Digital adaptation is an important mediating variable that enhances this relationship by enabling companies to integrate technology into their supply chain processes (Ibarra et al., 2018). Asante-Darko & Osei (2024) suggest the need to explore mediators, such as firm capabilities in the relationship between sustainable SCMP and firm performance, highlighting digital adaptability as a potential area of investigation. Although advances in digital technology have transformed supply chains globally (Tjahjono et al., 2017), there is a research gap on its impact on the performance of MSMEs in the food and beverage sector in Purwokerto. Addressing this gap is critical to developing strategies that leverage digital tools to improve efficiency and competitiveness.

Digital adaptation, which includes technology readiness, digital literacy, and innovation capacity, is an important mediating variable in SCMP (Müller et al., 2018a). This enables MSMEs to respond quickly to market changes and integrate advanced technology into their operations, improving performance (Yuwono, Triwibowo, et al., 2024). The importance of digital adaptation in SCMP is underscored by its potential to streamline processes, reduce costs, and increase customer satisfaction (Indra Rachmawati et al., 2022). Previous research has examined other mediators, such as organizational culture and supplier relationships (Chow et al., 2008; Flynn et al., 2010). However, there is still little research on digital adaptability as a mediator in food and beverage MSMEs. This mediating variable is suggested for use based on the recommendations of Benitez et al. (2020). This study aims to analyze the SCMP in food and beverage MSMEs in Purwokerto, focusing on the mediating role of digital adaptability, with the expected contribution of improving academic understanding and providing practical solutions for MSMEs. Based on the previous literature, we test the following hypotheses:

- H1. Supply Chain Management Practises positively affects MSMEs Performance.
- H2. Supply Chain Management Practises positively affects Digital Adaptability
- H3. Digital Adaptability positively affect MSMEs Performance.
- H4. Digital Adaptability mediate the relationship between Supply Chain Management Practises and MSMEs performance.

METHODS

Data was collected from Food and Beverage MSMEs in Purwokerto through an online questionnaire. Of the 150 questionnaires sent, only 100 were returned. The data was analyzed using the Smart PLS version 3.0 program.



Source: Authors' own creation

Figure 1. Analytical framework

The questionnaire used a Likert scale with the following answer options: (1) strongly disagree, (2) disagree, (3) somewhat agree, (4) agree, and (5) strongly agree. Furthermore, the concept was tested using the structural model proposed by. Figure 1 explains the analytical framework for this study. This framework hypothesizes that Supply Chain Management Practices in MSMEs mediated by digital adaptability can result in superior MSME performance compared to MSMEs that do not develop digital adaptability in Supply Chain Management Practices.

RESULT AND DISCUSSION

Validity testing and discriminant validity are assessed using the loading factor value, while discriminant validity is evaluated based on the average variance extracted value. After conducting a validity test for SCMP, Digital Adaptability, and MSME performance, the results show that all indicators have a loading factor value above 0.70. Furthermore, after two invalid indicators were eliminated, the Average Variance of each variable was calculated. The extracted findings have an Average Variance Extracted (AVE) value of 0.689, 0.818, and 0.936, which indicates that all of these values are above 0.50. This research tool is reliable. Reliability testing is carried out by assessing the composite reliability (CR) value. In this study, the CR values for the SCMP, Digital Adaptability, and MSME performance variables were 0.869, 0.931, and 0.978, respectively. These values indicate that each variable is reliable, as it exceeds the threshold of 0.70. Based on the data shown in Table 2, it can be concluded that the instrument is reliable.

Table 2. Data Quality Test

Variable	Item	Loading Factor	Result	CR	AVE	Result
Supply Chain Management Practises	SCMP1	0.840	Valid	0.869	0.689	Reliable
	SCMP2	0.825				
	SCMP3	0.826				
Digital Adaptability	DA1	0.906	Valid	0.931	0.818	Reliable
	DA2	0.871				
	DA3	0.935				
MSMEs Performance	PERFORM1	0.976	Valid	0.978	0.936	Reliable
	PERFORM2	0.985				
	PERFORM3	0.942				

Source: Authors' own work

The process of hypothesis testing using structural model testing is illustrated in Figure 2. The figure is the result of bootstrapping testing, involving 500 resamplings performed using the Smartpls 3.0 application. Figure 2 illustrates that this study covers several hypotheses to be tested using empirical data collected from the field. Supply Chain Management Practices directly impact the performance of MSMEs. The effect of Supply Chain Management Practices on MSME performance is influenced by Digital Adaptability, which acts as an intermediary.

Table 4. Indirrect Effect

Hypotheses	Mediation
Indirect Effect (T-Statistic)	Digital Adaptability
Supply Chain Management Practises and MSMEs Performance	1.077

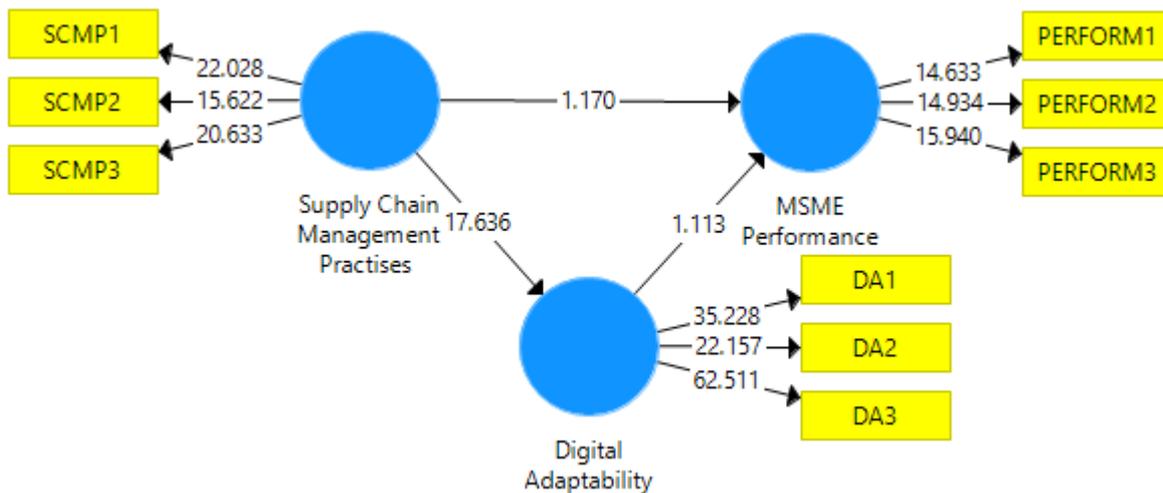
Source: Authors' own work

Table 3. Dirrect Effect

Dirrect Effect		Sample Mean	T-Statistic	T-Critical	Result
H1	Supply Chain Management Practises → MSMEs Performance	-0.241	1.170	1.984	Accepted Null Hypotheses
H2	Supply Chain Management Practises → Digital Adaptability	0.809	17.636		Rejected Null Hypotheses
H3	Digital Adaptability → MSMEs Performance	0.216	1.113		Accepted Null Hypotheses

Source: Authors' own work

The findings of this study are presented in Tables 3 and 4. In summary, the impact of Supply Chain Management Practices on MSME performance is statistically insignificant ($t = 1.170 < 1.984$). In addition, the effect of Supply Chain Management Practices on Digital Adaptability is statistically significant ($t = 17.636 > 1.984$). Furthermore, the direct impact of Digital Adaptability on MSME performance is also not statistically significant ($t = 1.130 < 1.984$). In addition, Table 4 is used to determine the impact of the mediating variable (Digital Adaptability) on the relationship between Supply Chain Management Practices and MSME Performance ($t = 1.077 > 1.984$). Based on these results, it can be concluded that the proposed hypothesis is not supported. This means that the null hypothesis stating that there is no improvement in MSME performance is accepted.



Source: Authors' own creation

Figure 2. Structural equation modeling results

DISCUSSION

SCMP have no positive effect on MSME Performance, is supported, which shows that SCMP does not significantly improve the performance of food and beverage MSMEs in Purwokerto. Several factors can cause this negative result. One reason is that MSMEs may lack the resources and capabilities to effectively implement SCMP dimensions such as Strategic Supplier

Partnerships, Information Sharing, and Process Integration. According to Sukati et al. (2012), small companies often face challenges building strategic partnerships due to limited bargaining power and resources. In addition, inadequate information technology infrastructure hinders efficient information sharing and process integration, as highlighted by Kheng (2012). These results differ from the findings of Lenny Koh et al. (2007), who reported a positive relationship between SCMP and firm performance in larger organizations with more resources. In contrast, Thakkar et al. (2009) agree with our findings, suggesting that SCMP may not result in significant performance improvements for MSMEs without appropriate support and adaptation to their specific context. The contribution of this study lies in emphasizing the need for a tailored SCMP approach that considers the unique constraints of MSMEs, providing valuable insights for practitioners and policymakers aiming to improve MSME performance through supply chain initiatives.

SCMP affect Digital Adaptation, this shows that the effective implementation of SCMP increases the ability of MSMEs to adapt to digital technology. This positive effect can be attributed to the interrelationship between the SCMP dimensions of Strategic Supplier Partnerships, Information Sharing, and Process Integration—which often require digital tools ((Ivanov et al., 2019). For example, information sharing and process integration are greatly facilitated by digital platforms, thus strengthening digital adaptability. Gunasekaran et al. (2019) support this finding, stating that supply chain practices drive technological innovation and digital integration. In addition, Queiroz & Fosso Wamba (2019) argue that SCMP can lead to increased digital capabilities as companies seek to improve collaboration and efficiency. However, Vial (2019) notes that digital adaptability also depends on organizational readiness and culture, which implies that SCMP alone may not be enough without a supportive internal environment. The contribution of this study lies in highlighting the role of SCMP as a catalyst for digital adaptability in MSMEs, suggesting that improving supply chain practices can be a strategic path to embracing digital transformation.

Digital Adaptability has no positive effect on MSME Performance, these unexpected results show that despite adopting digital technology - as measured by Technology Adoption, Employee Digital Skills, and Innovation Culture - MSMEs have not experienced significant improvements in Sales Growth, Profit Growth, or Asset Growth. One possible explanation is that MSMEs may face challenges in utilizing digital tools effectively to drive performance due to limited expertise or strategic alignment issues (Nambisan et al., 2019). In addition, the costs associated with technology adoption may not result in direct benefits, resulting in a neutral or negative impact on short-term performance (Mata & Quesada, 2014). These findings differ from studies such as Grandon & Pearson (2004), who found a positive relationship between e-commerce adoption and SME performance. However, these findings align with Awa et al. (2015), who argue that technology adoption does not automatically lead to improved performance without adequate organizational support and process integration. The contribution of this research is significant because it underlines the complexity of digital transformation in MSMEs, highlighting the need for a comprehensive strategy that goes beyond technology adoption but also includes capacity building and alignment with business objectives.

One reason may be that the direct benefits of SCMP on performance do not always require digital adaptation in the context of MSMEs, perhaps due to the nature of the operation or customer base (Hong et al., 2018). In addition, the lack of adequate digital infrastructure or employee digital skills can prevent digital adaptation from increasing the impact of SCMP on performance (Pérez-López & Alegre, 2012). These results differ from the study by Zeng & Glaister (2018), which identified digital adaptability as a significant mediator in larger companies. However, these results align with Müller et al., (2018), which shows that the mediating role of digital capabilities depends

on the size and readiness of the organization. The contribution of this study is noteworthy because it provides insights into the dynamics of SCMP and Digital Adaptation Capabilities in MSMEs, emphasizing that simply adopting digital tools is not enough without addressing broader organizational and contextual factors to achieve performance improvements.

CONCLUSION

This study examines the impact of SCMP on the performance of food and beverage MSMEs in Purwokerto, considering Digital Adaptation as a potential mediating variable. The research findings reveal that SCMP does not have a positive direct effect on MSME performance, indicating that the efforts of Strategic Supplier Partnerships, Information Sharing, and Process Integration are not translated into increased Sales Growth, Profit Growth, or Asset Growth. However, SCMP positively influences Digital Adaptation, indicating that strong supply chain practices facilitate the adoption of digital technology, improve employees' digital skills, and foster a culture of innovation. Despite this positive influence, Digital Adaptability does not significantly impact MSME performance or mediate the relationship between SCMP and performance. These results highlight that although supply chain practices can increase digital readiness, this does not necessarily improve performance outcomes in the context under study.

Several limitations need to be acknowledged. First, the scope of this study is limited to food and beverage MSMEs in Purwokerto, which may affect the ability to generalize the findings to other sectors or regions with different characteristics. Second, the cross-sectional research design provides a brief picture of time and does not consider changes over time, thus potentially ignoring the dynamic aspects of SCMP and digital adaptation. Third, data were collected using self-reported questionnaires, which may be subject to biases such as social desirability or inaccurate self-assessment. In addition, this study does not control for external factors such as market conditions, intensity of competition, or regulatory changes that can affect MSME performance. These limitations suggest caution in interpreting the study results and indicate the need for more comprehensive research in the future.

Theoretically, this study contributes to the existing literature by challenging the alleged positive relationship between SCMP, Digital Adaptation, and MSME performance. This study shows that the effectiveness of supply chain practices and digital initiatives may depend on certain contextual factors in MSMEs. Practically, these findings indicate that MSMEs should not assume that implementing SCMP and adopting digital technology will automatically improve performance. Instead, there is a need to align these practices with the company's capabilities and strategic goals. Policymakers and industry associations can use this insight to develop targeted support programs to address MSMEs' unique challenges, such as providing training to improve digital skills and creating platforms for more effective supply chain collaboration. This tailored approach can help MSMEs to utilize SCMP and digital tools better to improve performance.

Future research can explore the underlying reasons why SCMP and Digital Adaptation do not have a positive impact on MSME performance in this context. Longitudinal studies would be helpful to assess how this relationship develops over time and whether the effects may be lagged. Including a more extensive and diverse sample across industries and regions can increase the generalizability of the findings. In addition, qualitative studies involving interviews or case studies can provide deeper insights into organizational challenges and external factors that influence the effectiveness of SCMP and digital adaptation. Investigating moderating variables such as organizational culture, leadership support, or external market conditions can also explain how

SCMP and Digital Adaptation can positively influence performance. This research can contribute to a more nuanced understanding and support the development of strategies tailored to the needs of MSMEs.

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