

The Effect of E-Commerce, Digital Payments, and Islamic Financial Literacy on MSME Performance in Medan Tembung

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ABSTRACT

This study aims to analyze the effect of E-Commerce, Digital Payments, and Financial Literacy on the performance of Micro, Small, and Medium Enterprises (MSMEs) in Medan Tembung. This study employed a quantitative approach using a survey method through questionnaires distributed to 30 MSME respondents selected using purposive sampling. The data were analyzed using validity tests, reliability tests, classical assumption tests, multiple linear regression analysis, t-test, F-test, and the coefficient of determination. The results show that, partially, E-Commerce, Digital Payments, and Financial Literacy have a positive and significant effect on MSME performance. Simultaneously, the three independent variables also have a significant effect on MSME performance. Among the three independent variables, Financial Literacy has the most dominant influence. The coefficient of determination of 0.700 indicates that 70% of the variation in MSME performance can be explained by E-Commerce, Digital Payments, and Financial Literacy, while the remaining 30% is influenced by other factors outside the research model. These findings emphasize the importance of digital technology utilization and improving financial literacy in enhancing MSME performance in the digital era.

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are one of the important pillars of the Indonesian economy, making a significant contribution to Gross Domestic Product (GDP) and employment. However, changes in consumer behavior, which are increasingly oriented toward online transactions, require MSMEs to adapt in order to remain competitive and sustainable. E-commerce, or electronic commerce, has become one of the solutions widely adopted by MSME owners to increase their income. This is also reflected in the Qur'an, Surah Al-Baqarah, verse 198, which states:

لَيْسَ عَلَيْكُمْ جُنَاحٌ أَنْ تَبْتَغُوا فَضْلًا مِنْ رَبِّكُمْ فَإِذَا أَفَضْتُمْ مِنْ عَرَفَتٍ فَأَذْكُرُوا اللَّهَ عِنْدَ الْمَشْعَرِ الْحَرَامِ وَاذْكُرُوهُ كَمَا هَدَيْكُمْ وَإِنْ كُنْتُمْ مِنْ قَبْلِهِ لَمَنِ الضَّالِّينَ ﴿١٩٨﴾

“There is no blame upon you for seeking the bounty of your Lord [during the pilgrimage]. But when you depart from Arafat, remember Allah at Al-Mash'ar Al-Haram.

And remember Him as He has guided you, for indeed, you were before that among those who were astray.” Previous research has shown that the implementation of e-commerce can increase sales turnover and expand market access for MSMEs (Ayem et al., 2024). In the digital era, e-commerce provides business owners with greater convenience in reaching consumers across different locations without geographical limitations. This is particularly important during the COVID-19 pandemic, which compelled many businesses to shift their activities to online platforms (Hafitasari et al., 2022).

In addition to e-commerce, digital payment methods also play a crucial role in supporting MSME transactions. Digital payments not only accelerate the transaction process but also increase convenience for consumers. With various payment options, such as digital wallets and bank transfers, MSME owners can conduct transactions more easily and manage their business finances more efficiently (Lailatul Fitroh, 2021). Research has demonstrated that the use of digital payments is positively associated with increased MSME income because it facilitates consumers in making purchases (Gustina et al., 2022).

Islamic financial literacy is also an important aspect in this context. Many MSME owners operating in Sharia-based sectors need to understand Islamic financial principles in order to manage their businesses effectively. Knowledge of Islamic financial literacy can assist business owners in making appropriate decisions regarding investment and capital management. Previous research indicates that improved Islamic financial literacy contributes to the financial success of Sharia-based MSMEs (Yusvita Aprilyan et al., 2022).

Despite the various opportunities offered by digitalization, MSME owners also face several challenges in implementing e-commerce and digital payment systems. Common obstacles include limited knowledge of digital technology, inadequate internet infrastructure, and resistance to shifting from traditional business models to digital-based business practices (Hafitasari et al., 2022). Therefore, training programs and support from the government and relevant institutions are needed to assist MSMEs in adapting to these changes.

This study aims to explore the relationship between e-commerce, digital payments, and Islamic financial literacy and MSME income. By understanding these factors, the study is expected to provide insights for policymakers and business owners in formulating more effective strategies to increase MSME income in the digital era (Lailatul Fitroh, 2021). In addition, this research is expected to contribute to the development of the literature on e-commerce and MSMEs in Indonesia.

A substantial proportion of Micro, Small, and Medium Enterprise (MSME) owners in Medan Tembung have not yet integrated e-commerce into their business development. The relatively low adoption of digital technology, including digital payment systems, reflects the limited utilization of innovations that could potentially improve operational efficiency and business competitiveness. Furthermore, low levels of Islamic financial literacy remain a challenge in managing business finances in accordance with Islamic principles. Understanding Islamic financial concepts is particularly important for MSME owners in the Medan Tembung area, considering their significant role in driving the local economy.

To provide an overview of the development of MSMEs in Medan Tembung District, the following data present the number of MSMEs over the past three years. The data indicate an increase in the number of MSME owners from year to year, reflecting the growth of business activities in the area. However, the increase in the number of MSMEs has not been fully accompanied by the optimal utilization of digital technologies, such as e-commerce and

digital payments, or by adequate understanding of Islamic financial literacy in business management. Therefore, the following data provide an important basis for assessing the urgency of examining the influence of e-commerce, digital payments, and Islamic financial literacy on MSME income in Medan Tembung District.

RESEARCH METHODS

This study employed a quantitative research approach. The population consisted of MSME owners operating in Tembung, Medan City. The study involved 30 respondents who were MSME owners. Data were collected through questionnaires, in which each statement or question was measured using a five-point Likert scale. The scale was used to assess the respondents' level of agreement, ranging from strongly disagree to strongly agree, with scores ranging from 1 to 5. The collected data were subsequently analyzed through several stages, including descriptive analysis, instrument testing, classical assumption testing, hypothesis testing, and multiple linear regression analysis.

RESULTS AND DISCUSSION

Results Descriptive Analysis

Respondent Characteristics

The analysis of respondent characteristics was conducted to provide a description of the profiles of the individuals included in the sample. The characteristics examined included gender, age, type of business, and length of business operation. Presenting the characteristics of respondents is important to provide information regarding the background of the respondents who served as the research subjects. The results of the respondent characteristics based on gender are presented in the following table.

Table 1 Respondent Characteristics by Gender

Gender	Frequency	Percentage
Male	9	30%
Female	21	70%
Total	30	100%

Source: Primary Data Analysis, 2026

Based on the table, of the 30 respondents who participated in the study, 21 respondents, or 70%, were female, while 9 respondents, or 30%, were male. Thus, the composition of respondents in this study was predominantly female.

Table 2 Respondent Characteristics by Age

Age	Frequency	Percentage
20–30 years	8	26.7%
31–40 years	18	60%
41–50 years	4	13.3%
Total	30	100%

Source: Primary Data Analysis, 2026

Based on age characteristics, the majority of respondents were between 31 and 40 years old, comprising 18 respondents or 60%. Respondents aged 20–30 years accounted for 8 respondents or 26.7%, while those aged 41–50 years accounted for 4 respondents or 13.3%. This composition indicates that the majority of MSME owners participating in this study were within the productive-age group.

Table 3 Respondent Characteristics by Type of Business

Type of Business	Frequency	Percentage
Culinary	18	60%
Goods	10	33.3%
Services	2	6.7%
Total	30	100%

Source: Primary Data Analysis, 2026

Based on the type of business operated, the majority of respondents were engaged in the culinary sector, comprising 18 respondents or 60%. Furthermore, 10 respondents or 33.3% operated businesses in the goods sector, while 2 respondents or 6.7% were engaged in the services sector. These findings indicate that culinary businesses were the most dominant type of business among the respondents.

Table 4 Respondent Characteristics by Length of Business Operation

Length of Business Operation	Frequency	Percentage
< 1 year	2	6.7%
1–5 years	14	46.7%
6–10 years	12	40%
> 10 years	2	6.7%
Total	30	100%

Source: Primary Data Analysis, 2026

Based on the length of business operation, the largest proportion of respondents belonged to the 1–5-year category, consisting of 14 respondents or 46.7%. This was followed by 12 respondents or 40% who had operated their businesses for 6–10 years. Meanwhile, respondents who had operated their businesses for less than one year and more than ten years each accounted for 2 respondents or 6.7%. This composition indicates that most respondents had operated their businesses for more than one year and therefore had experience in managing their business activities.

Overall, the characteristics of the respondents indicate that the sample was predominantly female, with most respondents operating culinary businesses, belonging to the productive-age group, and having more than one year of business experience. These characteristics provide an overview of the background of the respondents included in the study.

Descriptive Statistics of Research Variables

Based on the questionnaire responses collected from the respondents, descriptive statistical analysis was conducted for each research variable. The analysis was based on respondents' answers to each questionnaire item using a five-point rating scale.

Discussion

The Effect of E-Commerce on the Performance of MSMEs in Medan Tembung

The partial test results indicate that E-Commerce obtained a calculated t-value of $3.492 > 2.056$, with a significance value of $0.002 < 0.05$, indicating that H_0 is rejected and H_a is accepted. This means that E-Commerce has a positive and significant effect on the performance of MSMEs in Medan Tembung. The utilization of E-Commerce enables MSME owners to expand their marketing reach, access a broader consumer base, and increase sales opportunities. These findings are supported by Ayem et al. (2024), who stated that E-Commerce can increase sales turnover and expand market access for MSMEs. Hafitasari et al. (2022), Insani (2021), Hidayah (2023), and Azis Ilmi (2023) also demonstrated that E-Commerce provides convenience in marketing, transactions, and business development. Therefore, the findings of this study reinforce the view that the utilization of E-Commerce is associated with improved MSME performance.

The Effect of Digital Payments on the Performance of MSMEs in Medan Tembung

The partial test results show that Digital Payments obtained a calculated t-value of $3.337 > 2.056$, with a significance value of $0.003 < 0.05$, indicating that H_0 is rejected and H_a is accepted. Thus, Digital Payments have a positive and significant effect on the performance of MSMEs in Medan Tembung. The regression coefficient of 0.296 indicates that an increase in the utilization of Digital Payments is associated with an increase in MSME performance. Digital Payments provide convenience, speed, and efficiency in transaction processes while offering consumers alternative payment methods. Although the descriptive analysis indicates that Digital Payments are at a moderate level, this variable still demonstrates a significant effect on business performance. This finding is consistent with the studies of Lailatul Fitroh (2021), Gustina et al. (2022), Rahmayati et al. (2022), Pohan et al. (2024), and Nasution et al. (2025), which demonstrate that digital payment systems can facilitate transactions, improve operational efficiency, and support MSME development.

The Effect of Islamic Financial Literacy on the Performance of MSMEs in Medan Tembung

The partial test results indicate that Islamic Financial Literacy obtained a calculated t-value of $3.942 > 2.056$, with a significance value of $0.001 < 0.05$, indicating that H_0 is rejected and H_a is accepted. This means that Islamic Financial Literacy has a positive and significant effect on the performance of MSMEs in Medan Tembung. The regression coefficient of 0.391 is the highest compared with E-Commerce (0.375) and Digital Payments (0.296), indicating that Islamic Financial Literacy has the strongest relative effect in the research model. These findings indicate that the ability to understand and manage finances based on Islamic principles can support the management of business income and expenditure, financial planning, and business decision-making. This finding is consistent with Yusvita Aprilyan et al. (2022), Menne (2023), and Pida and Imsar (2022), who demonstrated that Islamic financial literacy and financial literacy are associated with the management and

development of MSMEs. Therefore, better Islamic Financial Literacy is associated with better MSME performance.

The Simultaneous Effect of E-Commerce, Digital Payments, and Islamic Financial Literacy on the Performance of MSMEs in Medan Tembung

The simultaneous test results show that the calculated F-value is $20.262 > 2.98$, with a significance value of $< 0.001 < 0.05$, indicating that H_0 is rejected and H_a is accepted. This means that E-Commerce, Digital Payments, and Islamic Financial Literacy simultaneously have a significant effect on the performance of MSMEs in Medan Tembung. The R-squared value of 0.700 indicates that the three independent variables jointly explain 70% of the variation in MSME performance, while the remaining 30% is associated with other factors outside the research model. Collectively, E-Commerce contributes to marketing and market expansion, Digital Payments facilitate transaction processes, while Islamic Financial Literacy supports financial management within the business. These findings are consistent with Ayem et al. (2024), Gustina et al. (2022), and Pida and Imsar (2022), thereby strengthening the evidence that E-Commerce, Digital Payments, and Islamic Financial Literacy jointly contribute to MSME performance in Medan Tembung.

CONCLUSION AND SUGGESTION

Conclusion

Based on the results of the study on the Influence of E-Commerce, Digital Payments, and Islamic Financial Literacy on the Performance of MSMEs in Medan Tembung, several conclusions can be drawn as follows:

1. E-Commerce has a positive and significant effect on the performance of MSMEs in Medan Tembung. The partial test results show that the calculated t-value is 3.492, which is greater than the critical t-value of 2.056 ($3.492 > 2.056$), with a significance value of $0.001 < 0.05$. These results indicate that greater utilization of e-commerce is associated with better MSME performance. The utilization of e-commerce provides business owners with opportunities to expand their marketing reach and improve access to consumers.
2. Digital Payments have a positive and significant effect on the performance of MSMEs in Medan Tembung. This is indicated by the calculated t-value of 3.337, which is greater than the critical t-value of 2.056 ($3.337 > 2.056$), with a significance value of $0.014 < 0.05$. This finding indicates that the use of digital payments is associated with improved MSME performance through greater convenience and efficiency in business transaction processes.
3. Islamic Financial Literacy has a positive and significant effect on the performance of MSMEs in Medan Tembung. The partial test results show a calculated t-value of 3.942, which is greater than the critical t-value of 2.056 ($3.942 > 2.056$), with a significance value of $0.001 < 0.05$. In addition, Islamic Financial Literacy has a *Standardized Beta* coefficient of 0.452, which is the highest value compared with E-Commerce at 0.414 and Digital Payments at 0.375. This indicates that Islamic Financial Literacy has the strongest relative influence in the research model.

Therefore, better understanding of financial management based on Islamic principles is associated with better MSME performance.

4. E-Commerce, Digital Payments, and Islamic Financial Literacy simultaneously have a significant effect on the performance of MSMEs in Medan Tembung. The F-test results show a calculated F-value of 20.262, which is greater than the critical F-value of 2.98 ($20.262 > 2.98$), with a significance value of $< 0.001 < 0.05$. The R-squared value of 0.700 indicates that the three independent variables jointly explain 70% of the variation in MSME performance, while the remaining 30% is associated with other factors not included in the research model. Thus, E-Commerce, Digital Payments, and Islamic Financial Literacy jointly constitute significant factors influencing the performance of MSMEs in Medan Tembung.

Suggestions

Based on the findings and conclusions of this study, several suggestions can be proposed as follows:

1. **For MSME owners**, it is recommended that they optimize the use of e-commerce platforms as a means of marketing and selling products. MSME owners are expected to utilize digital platforms more consistently to expand market reach, attract new consumers, and increase business performance.
2. **For MSME owners**, the use of digital payment systems should be further improved. Providing various digital payment options can facilitate transactions, improve consumer convenience, and increase the efficiency of business operations. MSME owners are also encouraged to improve their understanding of digital payment systems to ensure their effective and secure implementation.
3. **For MSME owners**, Islamic financial literacy should be continuously improved through training, seminars, or other financial education programs. A better understanding of Islamic financial principles is expected to assist MSME owners in managing capital, making financing decisions, managing cash flows, and planning business finances in accordance with Sharia principles. This recommendation is particularly important because Islamic financial literacy demonstrated the strongest relative influence among the independent variables examined in this study.
4. **For the government and related institutions**, it is recommended to provide continuous support for MSMEs through digitalization training, digital marketing assistance, digital payment education, and Islamic financial literacy programs. Such programs should be designed according to the needs and capabilities of MSME owners so that digital transformation can be implemented effectively and sustainably.
5. **For future researchers**, it is recommended to expand the research model by incorporating other variables that may influence MSME performance, such as entrepreneurial orientation, innovation, access to financing, digital literacy, business experience, and market orientation. Future studies may also involve a larger number of

respondents and broader research areas to obtain more representative findings and strengthen the generalizability of the results.

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