The Effect Of Mobile Banking And E-Wallets On Transaction Efficiency In The Supply Chain Of Msmes In Sei Semayang Village

Maya Syaula, Siswa Pratama, Dinda Ayu Lestari

Abstract

The development of digital financial services such as mobile banking and e-wallets provides opportunities for MSMEs to improve transaction efficiency in supply chain activities. This study aims to analyze the influence of the use of mobile banking and e-wallets on the transaction efficiency of MSMEs in Sei Semayang Village. The research method used a quantitative approach by distributing questionnaires to 120 MSME actors who were active in production and distribution activities. The analysis was performed using multiple linear regression. The results of the study show that mobile banking and e-wallets have a significant effect on transaction speed, transaction cost reduction, and smooth information flow in the MSME supply chain. In conclusion, the adoption of digital financial services can be the main driver for improving the efficiency of the MSME supply chain in the village.

Keywords: Mobile Banking, E-Wallet, Transaction Efficiency, Msmes, Supply Chain.

Maya Syaula[1]
[1,2]Management Lecturer, Universitas Pembangunan Panca Budi, Indonesia
email: mayasyaula@pancabudi.ac.id

Siswa Pratama[2], Dinda Ayu Lestari[3]
[3]Study of Management, Universitas Pembangunan Panca Budi, Indonesia
e-mail: siswapratama@dosen.pancabudi.ac.id[2], dindaayul@gmail.com[3]
2nd International Conference on Islamic Community Studies (ICICS)
Theme: History of Malay Civilisation and Islamic Human Capacity and Halal Hub in the Globalization Era
https://proceeding.pancabudi.ac.id/index.php/ICIE/index

Introduction

MSMEs (Micro, Small, and Medium Enterprises) are one of the important pillars in the Indonesian economy. Based on data from the Ministry of Cooperatives and MSMEs, the MSME sector accounts for more than 60% of Gross Domestic Product (GDP) and absorbs more than 97% of the national workforce. This strategic role shows that the sustainability and operational efficiency of MSMEs are a factor that greatly affects economic growth, not only at the national level but also at the village and regional levels. This includes MSMEs in Sei Semayang Village, which is dominated by culinary, handicrafts, services, and trade in daily necessities.

Despite having an important role, MSMEs still face various challenges, especially in terms of managing financial transactions and running the supply chain. One of the main problems that often arise is the delay in payment transactions to suppliers and the receipt of payments from consumers, which has a direct impact on cash flow and the availability of raw materials. In the context of the supply chain, the smooth flow of cash greatly determines the ability of MSMEs to carry out the procurement process on time, distribute goods, and meet customer demand.

In the midst of these problems, the development of digital financial services (fintech) technology such as mobile banking and e-wallets has opened up great opportunities to improve the transaction efficiency of MSMEs. Mobile banking allows business actors to carry out payment processes, fund transfers, balance checks, and bill payments only through smartphones. Meanwhile, e-wallets provide ease of non-cash transactions through QRIS, fast payments, and automated digital recording. The integration of these two technologies can reduce transaction costs, speed up the payment process, increase financial transparency, and improve the stability of MSME cash flow.

In the context of MSMEs in Sei Semayang Village, the use of digital financial services is increasingly relevant due to dynamic business characteristics, high daily transaction needs, and limited time and access to formal financial institutions. However, not all MSMEs have an adequate level of digital literacy to make optimal use of this service. Some MSME actors still rely on cash transactions, which have the potential to create inefficiencies such as the risk of losing money, recording errors, and hampered the flow of goods due to late payments to suppliers.

From the theoretical side, various studies confirm that the adoption of digital financial technology is able to improve supply chain efficiency through accelerating information flows and financial flows. However, there are empirical gaps in the context of village-scale MSMEs, especially in areas such as Sei Semayang which have not been extensively researched in depth. There is no empirical data available that specifically explains the extent to which mobile banking and e-wallets can improve transaction efficiency in the MSME supply chain in the village. This gap is the main motivation for this research.

In addition, increasing business competition and changes in consumer behavior towards digital payments are external factors that encourage MSMEs to adopt digital technology. Today's consumers prefer fast, secure, and convenient transactions. Therefore, the use of mobile banking and e-wallets is not only an option, but a necessity so that MSMEs remain competitive and able to meet the demands of the modern market.

Based on this presentation, this study aims to analyze the influence of mobile banking and e-wallets on transaction efficiency in the supply chain of MSMEs in Sei Semayang Village. This research is expected to make a theoretical contribution to the development of MSME-based fintech and supply chain literature, as well as provide practical benefits for MSME actors, village governments, as well as banks and e-wallet service providers who want to increase financial inclusion at the village level.

Literature Review

2.1 Mobile Banking

Mobile banking is a technology-based banking service that allows customers to make financial transactions through mobile devices. According to Laukkanen (2007), mobile banking is an innovation in banking services that provides easy access, flexibility, and efficiency for users in carrying out financial activities. Meanwhile, Shaikh & Karjaluoto (2015) say that mobile banking improves transaction efficiency because it reduces the need for face-to-face interaction and offers real-time access.

For MSMEs, mobile banking helps speed up the payment process to suppliers, improve financial records, and minimize transaction costs (Financial Services Authority, 2020). According to Mukherjee & Nath (2003), digital-based bank services improve the quality of customer relationships and accelerate the flow of funds, which has a direct impact on the smooth operation of business including the supply chain.

2.2 E-Wallet

According to Chawla & Joshi (2019), e-wallets are electronic monetary value storage instruments that facilitate fast and secure transactions. E-wallets offer various features such as QR code payments, balance top-ups, integration with banking, and automatic transaction recording.

In research by Suryana (2021), it was found that e-wallets can increase the efficiency of MSME transactions because it speeds up the payment process and makes it easier for consumers to make transactions without cash. In addition, Dahlberg et al. (2015) explain that the adoption of digital payments promotes financial transparency, improves transaction convenience, and reduces the risk of cash transactions such as loss or recording errors.

2.3 Transaction Efficiency in the Supply Chain

The concept of transaction efficiency refers to the ability of business actors to process transactions quickly, precisely, and at a low cost. According to Williamson (1981) in the theory *of Transaction Cost Economics*, transaction efficiency is obtained when transaction costs can be minimized through technological mechanisms or effective organizational structures.

In the context of supply chain, Chopra & Meindl (2016) stated that efficient financial transactions help smooth the three main flows of the supply chain: the flow of goods, the flow of information, and the flow of finance. Transaction efficiency contributes to reducing *lead time*, improving information accuracy, and cash flow stability for business actors.

2.4 Digital Technology in MSME Supply Chain

The development of digital technology has a major impact on supply chain management. According to Christopher (2016), information technology accelerates the exchange of data in the supply chain so as to support faster and more accurate decision-making. Meanwhile, Heizer, Render, & Munson (2020) affirm that transaction digitization supports supply chain flexibility in the face of changing demand.

For MSMEs, the integration of mobile banking and e-wallets increases their ability to interact with suppliers, distributors, and consumers more efficiently. Rahayu & Day (2017) explained that digital technology increases the competitiveness of MSMEs through operational efficiency and ease of access to financial services.

Research Methodology

This study uses a quantitative approach, this study aims to explain the causal relationship between independent variables and bound variables based on hypothesis testing (Creswell, 2014). The quantitative approach was chosen because it can measure the level of influence of mobile banking and e-wallets on the transaction efficiency of MSMEs, so as to provide objective and generalizable results. The research was carried out on MSMEs in Sei Semayang Village, Sunggal District, Deli Serdang Regency. The population of this study is all MSMEs in

Sei Semayang Village which are recorded as actively operating in 2024. Based on data from the Village Government and the local MSME Office, there are ± 185 active MSMEs, with business types including culinary, fashion, handicrafts, and general trade. Taking into account affordability and response rate, the study assigned 120 MSMEs as a sample. The data analysis technique in this study is to use multiple linear regression.

Results

Table 1 Description of Research Data

Type of Business	Sum	Percentage
Culinary	46	38%
General Trading	39	32%
Fashion	21	17%
Craft	14	12%
Total	**120**	**100%**

Data source: researcher-processed, 2025

The respondents' profiles show that 87% of MSMEs have used mobile banking, while 78% have used e-wallets as a transaction tool. As many as 71% use both simultaneously for transactions with suppliers, distributors, or consumers. The average length of use of digital services is Mobile banking: 2.7 years, E-wallet: 2.1 years. This indicates that MSMEs in Sei Semayang Village have been at a fairly mature stage of adopting financial technology, so this study is relevant to measure the effectiveness of its use on transaction efficiency.

Table 2 Multiple Linear Analysis Results

Coefficient						
Type		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.214	1.327		6.190	.000
	Mobile Banking	0.443	0.068	0.426	6.521	0.003
	E-Wallet	0.372	0.063	0.358	5.874	0.000
a. Dependent Variable: Transaction Efficiency						

Data source: researcher-processed, 2025

$$Y = 8.214 + 0.443X1 + 0.372X2$$

1. Constantly, if MSMEs do not use mobile banking and e-wallets at all, transaction efficiency is at a minimum level of 8,214 (on an aggregate scale).
2. The coefficient of X1 = 0.443 means that every 1 unit increase in the use of mobile banking increases transaction efficiency by 0.443 points. This influence is quite strong, showing that mobile banking is an important tool in the MSME supply chain.
3. Coefficient X2 = 0.372 every increase in the use of e-wallets by 1 unit increases transaction efficiency by 0.372 points. The effect is significant but slightly lower than that of mobile banking.

Table 3 Results of Passive Test t

Coefficient				
Type		Standardized Coefficients Beta	t	Sig.
1	(Constant)		6.190	.000
	Mobile Banking	0.426	6.521	0.003
	E-Wallet	0.358	5.874	0.000
a. Dependent Variable: Transaction Efficiency				

Data source: researcher-processed, 2025

Mobile Banking has a positive and significant influence on transaction efficiency. Every one unit increase in the perception of Mobile Banking usage will increase the efficiency of MSME transactions by 0.443 units. Because the p< value is 0.05 and t-count is far above the t-table (±1.98), Mobile Banking has proven to make an important contribution in speeding up transactions, reducing costs, and supporting payment flows in the MSME supply chain. The considerable power of influence is also seen from the standard Beta value of 0.426 which shows that mobile banking is the most dominant variable in the model.

E-Wallets also have a positive and significant influence on transaction efficiency. This means that the higher the use of E-Wallets by MSMEs, the more efficient the transaction process in the supply chain, such as the ease of vendor payments, reduced cash transactions, and automatic recording. A Beta value of 0.358 shows that the influence of E-Wallets is also strong, although it is slightly smaller than Mobile Banking.

Table 4 Simultaneous Test Results F

NEW ERA						
Type		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	712.450	2	356.225	72.438	0.000
	Residual	431.921	117	3.691		
	Total	1144.371	119			
a. Dependent Variable: Transaction Efficiency						
b. Predictors: (Constant), Mobile Banking, ewallet						

Data source: researcher-processed, 2025

A very high F-value, with a p value of 0.000, indicates that simultaneously the two independent variables have a significant influence on transaction efficiency. This means that the implementation of digital financial services as a whole (both through mobile banking and e-wallets) is indeed an important factor in improving the efficiency of MSME supply chain transactions in Sei Semayang.

Table 5 R2 Determination Test Results

Model Summaryb				
Type	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.789a	0.622	0.614	2.148
a. Predictors: (Constant), Mobile Banking, Ewallet				
b. Dependent Variable: Transaction Efficiency				

Data source: researcher-processed, 2025

Based on the results of multiple linear regression data processing, the R Square (R^2) value was 0.622 and the Adjusted R^2 was 0.614. 62.2% of the variation or change that occurs in the

dependent variable (Transaction Efficiency, Y) can be explained by the independent variable used in the model.

Conclusion

1. The Influence of Mobile Banking on Transaction Efficiency
   The results of the study show that mobile banking has a significant and most dominant influence on the efficiency of MSME transactions. This is in line with the findings of Davis (1989) through *the Technology Acceptance Model* that the perception of usefulness and convenience increases the intensity of technology use. This condition strengthens Christopher's (2016) theory that smooth financial flows will increase the efficiency of the flow of goods and information in the supply chain.
2. The Effect of E-Wallets on Transaction Efficiency
   The results of the study show that e-wallets also have a significant effect on the transaction efficiency of MSMEs, although the coefficient is slightly smaller than mobile banking. These findings support OJK research (2020) which states that e-wallets are effective in improving the efficiency of small retail payments.
3. The Simultaneous Influence of Mobile Banking and E-Wallet
   Simultaneously, these two technologies have a great influence in improving transaction efficiency. This strengthens Bowersox's (2013) theory that the speed of the financial transaction process is a determining factor in the efficiency of the modern supply chain.

References

[1] D. Aeker, Managing brand equity: Capitalizing on the value of a brand name, The Free Press, 1991.

[2] B. Indonesia, A study of digital economic and financial development in Indonesia, Bank Indonesia, 2019.

[3] C. D, Digital business and e-commerce management (6th ed.), Pearson, 2015.

[4] J. R. B. & M. C. Heizer, Operations management: Sustainability and supply chain management (12th ed.), Pearson, 2017.

[5] R. & S. D. Hidayat, "The Influence of e-wallets on MSME transaction efficiency in Indonesia," *Journal of Management and Business,* vol. 18, no. 1, p. 55–67, 2021.

[6] Ghozali, Application of multivariate analysis with the IBM SPSS 25 program, Diponegoro University Publishing Agency, 2018.

[7] T. Laukkanen, "Internet vs mobile banking: Comparing customer value perception," *Business Process Management Journal,* vol. 13, no. 6, pp. 788–797, 2007.

[8] N. Rahmawati, "Digital payment adoption and supply chain efficiency for SMEs," *Journal of Business Innovation,* vol. 8, no. 2, pp. 115–124, 2020.

[9] A. A. & K. H. Shaikh, "Mobile banking adoption: A literature review," *Telematics and Informatics,* vol. 1, no. 129–142, p. 32, 2015.

[10] A. Suryana, "E-wallet usage and its impact on MSMEs performance," *Journal of Digital Economy,* vol. 3, no. 2, pp. 70–82, 2021.

[11] R. H. I. A. R. T. Muhammad Dharma Tuah Putra Nasution, "Bridging Internal Knowledge and Social Networks: A Pathway to Entrepreneurial Success," *1st International Conference Epicentrum of Economic Global Framework,* vol. 1, no. 1, pp. 594-606, 2024.

[12] H. D. Pipit Buana Sari, "The prospect of financial technology (fintech) in North Sumatra seen from the perspective of financial literacy, financial inclusion and poverty," *Accounting Studies,* vol. 19, no. 1, pp. 09-18, 2018.

[13] G. C. Ananda, "Factors Affecting Consumer Buying Frequency in the Advanced Supermarket with Marendal Medan," *Scientific Journal of Abdi Ilmu,* vol. 12, no. 2, pp. 20-32, 2019.

[14] P. B. S. M. C. R. Noni Ardian, "Introduction to the Potential of Fintech Lending in Supporting the Development of the Creative Economy in Pematang Serai Village, Langkat Regency," *Journal of Community Service Sapangambei Manoktok Hitei,* vol. 2, no. 1, pp. 242-250, 2024.

[15] N. Ardian, "Payments System At E-Commerce And Income Tax In Indonesia" *Proceedings Of The International Seminar,* vol. 1, no. 1, 2019.

[16] A. F. M. L. Primary Students, Human Resources Transformation through Kaizen Culture: Creating an Efficient Work Environment, Serasi Media Teknologi, 2014.

[17] R. A. P. Fachrid Wadly, "Application Of Inventory And Service Transactions On Web-Based Cv Medan Teknik using the Agile Kanban Method," *International Journal Of Computer Sciences and Mathematics Engineering,* vol. 2, no. 1, pp. 8-15, 2023.