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The Use of Digital Payments in Batik MSMEs at Beringharjo Market Yogyakarta

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Abstract:
This study aims to (1) analyze digital payment usage's impact on Batik MSME sales, (2) identify obstacles faced by Batik MSMEs, (3) explore strategies to overcome the digital payment adoption gap, and (4) examine its effect on the accuracy and relevance of Batik MSME financial information. Employing a qualitative phenomenological approach, it explores individuals' lived experiences. Subjects are Batik MSMEs (population: 14; sample: 5 via purposive sampling). Data were gathered through participatory observation, in-depth interviews, and documentation, with validity ensured via source and method triangulation. Analysis involved data collection, reduction, and presentation. Findings show: (1) Positive sales impacts for Batik Daradasih, Batik Ana, and Batik Iis, but not for Batik Atik and Batik Anis due to limited digital literacy, location, and customer interest. (2) Poor signal hinders transactions. (3) Merchants seek government-provided Wi-Fi, POS systems, and training. (4) Improved financial information at the former three; low at the latter due to poor digital understanding.

Keywords: *Digital payment; Batik MSMEs; Digital Literacy*

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INTRODUCTION

Yogyakarta is a city of tourism, students, and culture with a population of 8,358,666 in 2025. Most areas in Yogyakarta are still rural with a strong culture, resulting in a lack of knowledge in using technology, including mobile banking. However, over time, the number of mobile banking users has increased rapidly (Statistik, 2022). The increase in the use of QRIS has had a positive impact on economic growth in the Special Region of Yogyakarta. Therefore, with more people using digital transactions, economic growth will be faster than when using cash (Bramantyo, 2024).

Beringharjo Market has become a center for batik trading because many batik merchants have been selling their wares there since ancient times (Meitika Candra Lantiva, 2025). Tourists can find various types of batik, ranging from hand-drawn batik, stamped batik, and modern batik with varying quality and motifs. The western part of Beringharjo Market has 1,600 merchants, 80% of whom are batik and clothing merchants, while the remaining 20% are merchants selling bags, gold jewelry, traditional snacks, and Dutch colonial antiques in the form of old coins (Santosa, 2023). Although Legi Market is the oldest market, Beringharjo Market is the second oldest market as a complete trading center with various products. Pasar Beringharjo has a strategic position in the Malioboro area, which has long been an economic and cultural icon of the people of Yogyakarta (Andika, 2022).

Beringharjo Market is much more visited than Legi Market. The latest data from 2025 shows that tourist visits to Beringharjo Market reached 27,627 people during the Eid al-Fitr holiday, a drastic increase from the previous year's approximately 15,000 visitors (Aditya, 2023). The QRIS payment method has been implemented in several traditional markets in Yogyakarta, one of which is Beringharjo Market. Currently, there are around 1,300 merchants out of a total of 5,280 merchants in Beringharjo Market who have utilized QRIS from state-owned banks (Rusqiyati, 2022). During the Beringharjo Great Sale (BGS) event from October 2024 to January 2025, the average transaction via QRIS reached IDR 8.9 billion per month, with a total accumulation of around IDR 26.8 billion.

Despite adopting technology, some merchants still accept cash payments, while others have adopted digital payments (Utami, 2025). Based on the researcher's observations, tourists visit more batik shops located on the first floor from stalls 1 to 20. This market is the center of batik in Yogyakarta, ranging from printed batik, stamped batik, and hand-drawn batik. Data from the Yogyakarta Cooperative and SME Office states that there are 14 batik MSMEs in Beringharjo Market. Based on an interview with a source from *Batik Daradasih*, he stated that he has been using digital payments for five years (Ligon, Malick, Sheth, & Trachtman, 2019; Pal et al., 2018; Pleno, 2024).

Since using digital payments and m-banking, payments have been much easier than using cash (Franciska & Sahayaselvi, 2017; Hasan, 2020; Markoska, Ivanochko, & ml., 2018; Prodanova, San-Martín, & Jiménez, 2015; Sripalawat, Thongmak, & Ngramyarn, 2015). Bookkeeping is easier to understand, and the value of purchase transactions has increased significantly, yielding a 15% profit compared to cash payments. The method of using digital payments is also easy to understand. Similarly, *Batik Ana*, which was just established in 2023, has adapted to using digital payments because it is simpler and can attract more customers to use QRIS than cash payments. Transaction recording is not complicated and easy to understand. There are no nominal discrepancies because everything is recorded in the application. Buyers are more likely to use QRIS so they can buy more clothing products, which also increases sales turnover. *Batik Iis* has experienced the same thing, in that she has been using digital payments for quite some time and feels that her financial reports are secure and under control, allowing her to manage her business finances.

However, not all businesses can adapt quickly. Some MSMEs, such as *Batik Atik & Usaha Jualan Batik*, which has two batik MSMEs with the same business owner, and *Batik Anis*, stated that they still experience difficulties in digital financial recording and understanding the use of payment applications when using digital payments. The main obstacles encountered are low financial literacy, unstable internet connections, and dependence on cash habits. In addition, there are still business owners who refuse to use digital payments because they consider them complicated and are unfamiliar with the technology (Alshbili, Elamer, Elamer, Moustafa, & Moustafa, 2020; Nave & Ferreira, 2019).

Observations show that of the 14 batik MSMEs in Beringharjo Market, only 6 MSMEs actively use digital payments, while the rest do not. This is supported by the theory of innovation diffusion proposed by Everett M. Rogers, which explains the process of how and to what extent batik MSME actors in Beringharjo Market accept or reject the use of digital payments as a form of technological innovation. Through this theory, researchers can understand the stages of innovation adoption undergone by MSME actors, the factors that influence the speed of adoption, and the categories of MSME adopters.

Thus, although digital payments can increase profits, these benefits have not been fully realized, especially in the batik MSME segment, such as batik traders in Beringharjo Market. This is due to the gap between the adoption of digital payment technology and the ability of MSMEs to manage digital financial information and adequate infrastructure support. Financial literacy issues and technical constraints are obstacles that need to be addressed so that digitization does not stop at the adoption of payment tools but is truly capable of improving the overall financial performance of MSMEs.

Based on the background of the problem, the following research questions were formulated: How does the use of digital payments affect the sales of batik MSMEs in Beringharjo Market, Yogyakarta? What are the obstacles faced by batik MSMEs in Beringharjo Market, Yogyakarta? What are the strategies to overcome the gap between the adoption of digital payments and optimal digital financial management in batik MSMEs in Beringharjo Market, Yogyakarta? How does the use of digital payments affect the accuracy and relevance of financial information for batik MSMEs in Beringharjo Market, Yogyakarta?

RESEARCH METHOD

The type of research used is qualitative with a phenomenological approach. The subject of this study is *Batik* MSMEs. The researcher used purposive sampling techniques by fulfilling the criteria of five informants from six MSMEs. The research was conducted at Beringharjo Market in Yogyakarta, involving six Batik MSMEs. The data collection techniques used were participatory observation, in-depth interviews, and documentation. The data validity techniques used were source triangulation and method triangulation. The data analysis techniques used were data collection, data reduction, data presentation, and conclusion drawing.

RESULTS AND DISCUSSION

The impact of digital payments on batik MSME sales at Beringharjo Market in Yogyakarta

The results of the study show that the use of digital payments at Batik Daradasih, Batik Ana, and Batik Iis has had a significant positive impact on sales growth. Facilities such as QRIS make transactions faster and more convenient for customers, especially the younger generation and tourists. The results of the interviews show that digital payments are generally a driving factor in sales growth. Batik Ana stated that: "Since using QRIS, my transactions have continued to increase by about 15% instead of using cash, many buyers prefer to use QRIS because they feel more practical and usually those who often use QRIS are young people and tourists because it is safer and more trustworthy. Usually, on weekends, sales through digital payments can be double compared to ordinary days" (Wawancara AR, 2025). These findings confirm the high Relative Advantage attribute of digital payment innovations. This attribute is considered high because its benefits clearly exceed those of the previous cash system. Facilities such as QRIS make transactions faster and more convenient for customers, especially the younger generation and tourists, and prevent potential loss of sales.

However, different results were seen in Batik Atik and Batik Anis, which have not experienced a significant increase in sales. This phenomenon illustrates that the adoption of innovation does not only depend on technology, but also on other factors such as consumer interest, business location, and promotional strategies. “I think it's the same, using digital payments and cash payments is also empty of enthusiasts. Most customers ask to use qris, yes I just give it and I think the profit is small. If I write down a record of expenses and income, I also record it so that I don't forget even though it's automatically in the application." (Wawancara SP,2025).

Batik Atik and Batik Anis, which show that the success of digital payments is also influenced by customer interest, location, and business strategy. Overall, digital payments provide benefits, but their effectiveness varies among MSMEs. This shows that complexity increases at the data management and reporting stages due to difficulties in integrating digital reports and manual recording practices. It is this complexity at the reporting stage that prevents digital payments from delivering significant managerial benefits, thereby negating any impact on overall profitability. This is reinforced by previous research (Prihandoko et al., 2024) which states that QRIS plays a positive role in increasing the income/sales of MSMEs, which has the potential to increase profitability if costs can be managed properly. This means that digital payments (QRIS) can be a driver of turnover/sales growth, which is one of the requirements for increasing profitability.

Challenges faced by Batik MSMEs at Beringharjo Market in Yogyakarta

The results of the study show that the obstacle experienced by MSME sellers is internet signal instability. This condition often causes digital payment transactions to fail or take a long time, which ultimately disrupts the smooth running of the buying and selling process. To overcome this problem, some MSME owners redirect customers to customer service or switch payment methods. “The problem is in the signal, here the signal is unstable. So if the customer buys it and continues to pay, it fails because of the internet, I ask customer service for help. Sometimes the payment process likes to fail or takes a long time. In addition, we also have to educate customers who are not used to it. There are some customers who are hesitant and don't believe it, they are afraid that the money will not reach us." (Interview RNA, 2025). Beringharjo Market in Yogyakarta provides QRIS to facilitate payment transactions. Unstable internet connections can be caused by the large number of people in one area, which can cause cellular networks to become congested. This reduces the speed and stability of connections received by both merchants and buyers. As a result, buyers' payment applications fail to scan QR codes.

Based on interviews with five batik MSME owners, it can be concluded that the main challenges in the adoption and utilization of digital payments are infrastructure problems, transaction constraints, and human resource challenges. All informants face the same main obstacle, namely unstable internet signals. This is the root cause of the main problem that hinders the smooth running of digital transactions. This condition often causes digital payment transactions to fail or take a long time, which ultimately disrupts the smooth running of the buying and selling process. To overcome this problem, some MSME owners redirect customers to customer service or switch payment methods. The obstacles faced by Batik MSMEs in Beringharjo Market show that environmental factors infrastructure and human resources literacy simultaneously damage the Compatibility attribute and increase the Complexity of digital payments. This hinders QRIS from transitioning from a mere payment tool to a tool for improving the accuracy and efficiency of optimal financial reports.

This is reinforced by the findings (Hakim, 2025) which state that the creation of QRIS faces administrative and technical challenges, such as standard alignment between service providers and adequate internet access requirements. Nevertheless, QRIS is expected to facilitate business actors' access to payment digitization facilities, thereby increasing business efficiency and effectiveness.

Strategies to address the gap between digital payment adoption and optimal digital financial management among batik MSMEs in Beringharjo Market, Yogyakarta

The results of the study show that as a strategy to overcome the adoption gap, the government is expected to provide point of sales (POS) applications and payment receipt printers so that sellers do not experience difficulties when managing financial data. AD, owner of Batik Daradasih, stated that: “The strategy that the government hopes to have is to subsidize us to provide a digital cashier system (POS) so that it is easier to integrate directly with digital, and we also hope that there will be printed receipts of notes as well" (Interview AD, 2025). In addition, IY, owner of Batik Iis, stated that: “saya berharap pemerintah dapat bekerjasama untuk menyediakan Wi-Fi untuk mendukung transaksi digital mbak, terus juga perlu meningkatkan pengetahuan tentang digital payment” (Wawancara IY, 2025).

Strategies that can be implemented to overcome barriers to digital payments include the government providing Wi-Fi to support internet signals so that they do not become a hindrance to digital payment transactions, as well as providing point of sale (POS) applications and receipt facilities to facilitate payment system integration and make it easier to enter sales data and provide proof of payment to customers. Merchants need to educate customers who do not yet understand digital payments, especially older people who are not familiar with technology.

Digital payments and POS applications offer a relative advantage because they increase efficiency, transaction speed, and accuracy compared to manual bookkeeping. Their compatibility lies in their ability to integrate with MSMEs’ business processes, while complexity can be reduced through government-provided training and education programs. The trialability of POS systems, if facilitated through pilot projects or subsidies, can encourage MSME actors to try the system before full implementation. Lastly, the observability of successful MSMEs using digital systems can motivate others to adopt similar innovations.

Therefore, the government's role in providing Wi-Fi infrastructure, POS systems, and digital literacy training aligns with Rogers’ DOI theory as efforts to reduce complexity and increase the relative advantage and observability of the innovation. These supports can accelerate the diffusion process of digital financial technology adoption among Batik MSMEs in Beringharjo Market. This is reinforced by previous research by (Nurhidayat dkk., 2025) which states that this system can help speed up transaction recording, reduce errors, and improve efficiency in financial reporting.

With the implementation of this system, it is hoped that Warung Seblak Tonjong and other MSMEs can more easily adapt to digital technology in business management. In addition, previous research by (Anggraeni & Kustini, 2025) states that the POS application has succeeded in increasing the digital financial literacy of the community, expanding access to financial services, and opening up new business opportunities through the PosPay Kios partnership. This program supports the creation of financial inclusion and sustainable local economic empowerment.

The use of digital payments on the accuracy and relevance of financial information for batik MSMEs in Beringharjo Market, Yogyakarta

The results of the study show that digital payments are relevant to the financial information of Batik Daradasih, Batik Ana, and Batik Iis merchants. Based on the results of the interview conducted by the researcher, Informant AD, as the owner of Batik Daradasih, stated that: "dalam pencatatan pelaporan keuangannya sudah cukup baik ya, semua sudah tercatat dalam sistem terus juga tidak ada yang salah dalam mencatat pemasukan dan pengeluaran. Keuntungannya juga kita tau oh dapatnya segini begitu mbak" (Wawancara AD,2025). Meanwhile, digital payments are not yet relevant to the financial information of Batik Atik and Batik Anis merchants due to their low financial and digital literacy. ANW, owner of Anis batik, stated that: "sI don't understand the digital report, so I still write a manual so that I don't get confused but sometimes it's too late to record it" (ANW Interview, 2025).

This statement shows that ANW still does not understand how to use the digital reports generated by the payment application. This results in financial records still being kept manually, and recording errors are not uncommon. Thus, the accuracy of financial reports still depends on individual record-keeping, not on the available automated system. This phenomenon can also be explained through Rogers' Diffusion of Innovation (DOI) Theory (1983), which emphasizes that innovation adoption such as digital payment and financial information systems depends on the level of users' understanding and perception of its complexity and relative advantage. MSME actors with higher digital literacy, such as Batik Daradasih, Batik Ana, and Batik Iis, perceive digital payment systems as less complex and more advantageous for recording transactions accurately. Conversely, MSME actors with lower literacy, such as Batik Atik and Batik Anis, perceive the innovation as complex, leading to delayed adoption and continued reliance on manual records.

This is reinforced by findings from (Sochimin, 2025) stating that low financial literacy causes many MSMEs to have difficulty accessing capital, not optimally utilizing digital financial services, and tend to still rely on internal funding. The contributing factors are the lack of awareness about financial products, limited knowledge and skills in managing business finances, and low utilization of digital technology in business. MSME financial literacy is still low and uneven, requiring education programs, digitization, and fintech support to improve literacy and financial inclusion.

CONCLUSION

This study concludes that digital payments like QRIS positively impact sales and financial record-keeping accuracy for batik MSMEs in Beringharjo Market, particularly those actively using technology, though unstable internet signals and low digital literacy hinder optimal adoption for others. Government support through stable Wi-Fi, POS systems, receipt printers, and regular training on digital and financial literacy is essential, alongside MSME efforts to enhance digital promotion and sales strategies. For future research, longitudinal studies could track the long-term effects of infrastructure improvements and training programs on MSME performance, comparing Beringharjo Market with other traditional markets in Yogyakarta to identify scalable best practices.

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