Research.

Analysis of E-Commerce and E-Wallet Adoption Levels on the Existence of MSMEs in Traditional Markets

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Abstract. The MSME sector plays an important role in a country's economy. This research was conducted to analyze the level of E-commerce and E-wallet Adoption by Conventional MSME Actors in Traditional Markets in Yogyakarta City. Another goal is to analyze the reasons for acceptance or rejection of E-commerce and E-wallet adoption. The data used in this study are qualitative. This research uses purposive sampling to determine 15 MSME traders in the Big Three Tradiosonal Markets in Yogyakarta City as sources to be interviewed. The results show that 80% of MSME traders are open to adopting E-wallets and only 20% of traders involve E-commerce in their business. The results also revealed more reasons to accept than reasons to reject the adoption of E-commerce and E-wallet in business. For problems in the field, recommendations are given in the form of familiarizing the use of technology in business, developing services and facilities that are easy to apply and for E-wallet service providers to pay attention to the effectiveness of their services to reduce the waiting time for liquid funds from the Qris payment method.

*Keywords: **E-commerce, E-wallet, MSMEs, Yogyakarta***

INTRODUCTION

Background

According to a report issued by the SME Finance Forum, the total number of officially registered Micro, Small, and Medium Enterprises (MSMEs) across 238 countries reached an astonishing 316,885,061 units as of 2019 (SME Finance Forum, 2019). MSMEs are prevalent in many countries due to their relatively low and affordable capital requirements, making them accessible to a large portion of the population. Indirectly, MSMEs are perceived as capable of maintaining national economic stability. In their book, Alansori and Listyaningsih (2020) state that MSMEs play a significant role in poverty alleviation by creating employment opportunities.

Hence, the sustainability of MSMEs must become a strategic concern, particularly in Yogyakarta City, one of the most visited cities in Indonesia. The Special Region of Yogyakarta, known as a center of education and culture, possesses distinctive trade characteristics, supported by the presence of various traditional markets. These include Beringharjo Market—the oldest and largest market in the city, Keranggan Market—renowned for daily household needs, and Demangan Market—specializing in fresh vegetables.

The rapid advancement of technology has extended globally, including Indonesia (Juliswara & Muryanto, 2022). Innovations in technology have impacted sectors such as education, social interaction, and commerce. In the commercial domain, the emergence

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of e-commerce platforms like Shopee, Blibli, Tokopedia, and other marketplaces has triggered widespread consumer engagement in online shopping. Furthermore, the growth of e-commerce is complemented by the rise of digital wallets (e-wallets), such as Shopeepay, DANA, OVO, Gopay, and DOKU (Fasa, Ramadhani, & Suharto, 2022).

The transition from conventional to online business models is far from straightforward (Prayudhi & Yuniarti, 2023). Various factors must be considered, particularly because traditional markets serve as vital economic pillars in Yogyakarta City. Therefore, it is crucial to understand the impact of e-commerce and e-wallet adoption on the sustainability of conventional traders operating in traditional markets. This issue is particularly significant not only in terms of the future of MSMEs but also in preserving the community's sociocultural traditions. It is essential to pursue a harmonious integration between modern digital systems and conventional practices.

The analysis presented in this study is intended to assess the extent to which local communities are receptive to technology within conventional transaction environments. Moreover, this research seeks to identify the underlying reasons behind the acceptance or rejection of e-commerce and e-wallet technologies among traditional market traders. The findings are expected to contribute valuable insights for stakeholders concerned with MSME development and digital transformation in traditional markets.

Research Questions

1. What is the level of adoption of e-commerce and e-wallet technologies among MSME traders in traditional markets of Yogyakarta City?

2. What are the underlying reasons for MSME traders' acceptance or rejection of e-commerce and e-wallet adoption in their businesses?

LITERATURE REVIEW

Theoretical Framework

This study employs two key theoretical frameworks to explain the phenomena addressed within the scope of the research problem. The first is the Diffusion of Innovation Theory, as proposed by Rogers (2003), and the second is the Technology Acceptance Model (TAM**)**, introduced by Davis (1989). The central premise of both theories is the process by which technological innovations are disseminated and adopted within a society. These theories are selected for their analytical relevance and their ability to offer comprehensive perspectives for the researcher. As Sutjipto and Pinariya (2019) argue, the successful implementation of an idea requires a strong theoretical foundation.
The relevance of these two theories to the present study lies in their complementary explanatory power. Rogers' theory facilitates a conceptual understanding of the stages or processes involved in the adoption of e-commerce and e-wallet systems by traditional market traders. Meanwhile, Davis' TAM provides insights into the reasons behind the acceptance or rejection of such technologies by these traders. Specifically, TAM allows the researcher to analyze behavioral intentions by examining perceived usefulness and perceived ease of use, which are critical determinants of technology adoption in business practices.

Diffusion of Innovation Theory
The Diffusion of Innovation Theory was introduced by Everett M. Rogers in his seminal work *Diffusion of Innovations*, published in 2003. It is undeniable that the progression of time is accompanied by various innovations across multiple sectors. According to Rogers, diffusion refers to the process through which a developing innovation is communicated and eventually accepted by a broader segment of society. Such changes are not instantly embraced; rather, the acceptance of innovation by society occurs gradually.

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Rogers defines innovation as not only a physical product, but also as an activity or an idea that introduces novelty. Diffusion, in this context, is understood as the systematic process of introducing or communicating an innovation to a social system (Rogers, 2003). In more detail, Rogers identifies four key elements that influence the openness of society toward innovation: time, innovation, social system, and communication channels. These four dimensions are interrelated and mutually influential. The element of time encompasses several stages in the diffusion process: *knowledge*, *persuasion*, *decision*, *implementation*, and *confirmation*. Each stage reflects a sequential path from initial awareness to sustained adoption.

The second element, innovation, is evaluated based on five perceived attributes:

1. Relative advantage – the degree to which an innovation is perceived as better than the idea it replaces;
2. Compatibility – the degree to which an innovation aligns with the values, past experiences, and needs of potential adopters;
3. Complexity – the degree to which an innovation is perceived as difficult to understand or use;
4. Trialability – the extent to which an innovation can be experimented with on a limited basis;
5. Observability – the degree to which the results of an innovation are visible to others.

The third element, the social system, refers to groups and individuals within society who collectively serve as the context in which the innovation is implemented. The social system acts as the environment where acceptance or resistance to innovation occurs.

Finally, the communication channels function as the means by which information about the innovation is transferred from the communicator to the audience. These channels are essential for the dissemination and understanding of the innovation throughout the social system.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was introduced by Davis and has been widely adopted by scholars to explain how individuals and societies come to accept technological advancements. TAM is grounded in two primary constructs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). These constructs indirectly influence a user's attitude and behavioral intention, which ultimately determine whether a person will adopt a particular technology (Davis, 1989).

Perceived Usefulness (PU)

Perceived Usefulness (PU) refers to an individual's belief in the utility of a technology and the extent to which its use enhances their performance (Davis, 1989). This construct captures a user's confidence in relying on technology as a means of improving work outcomes. According to Davis, four core components characterize PU:

1. Efficiency – the ability to complete tasks more quickly and effectively using the technology.
2. Productivity – increased capacity to perform a greater volume of work, as the technology enhances operational effectiveness.
3. Work quality – improved accuracy and precision in the execution of tasks.
4. Competitive advantage – the technology offers better performance outcomes compared to conventional methods.

Perceived Ease of Use (PEOU)

Perceived Ease of Use (PEOU) is defined as the degree to which a person believes that using a particular technology will be effortless (Davis, 1989). When a technology is perceived as easy to operate and access, it is more likely to be adopted by users. Davis identifies four critical aspects of PEOU:

1. Ease of learning – the system or application is simple to understand and quick to master.
2. Interactive simplicity – the interface allows for seamless and intuitive interaction between user and system.

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3. Flexibility – the technology can be accessed and used conveniently at any time and location.
4. Minimal interference – the system functions with few disruptions, ensuring a smooth user experience.

Findings from previous studies on similar topics serve as a valuable reference for the author to conduct further research in the context of Yogyakarta City. The identification of research gaps in earlier studies provides an opportunity for this research to address and complement those limitations. Consequently, the current study is expected to be developed systematically and integrated with existing scholarly works. The core findings from prior research are summarized in the following table.

Table 1
Literature Review Summary

Title	Researcher(s)	Method	Findings & Conclusion	Research Gap
Utilizing the Digital Economy for Marketing and Service in Culinary MSMEs During the Covid-19 Pandemic (Case Study on Dimsum Likeearth, Sukabumi City)	M. Andri Juniansyah (2022)	Qualitative descriptive research. Instruments: observation and documentation. Subjects: MSMEs that survived during the Covid-19 pandemic.	Dimsum Likeearth MSME sustained its business through social media promotions (WhatsApp, Instagram) and food delivery services via GoFood and GrabFood.	Focused on the food sector during the pandemic; subjects already had e-commerce accounts.
The Implementation of E-commerce in Small Enterprises to Stimulate Economic Growth in Bandung	Wangsaredja & Dzarin Gifarian (2015)	Quantitative method with descriptive statistical analysis.	1) Small businesses have not maximized the use of e-commerce due to low turnover. 2) E-commerce usage significantly contributes to economic growth.	Limited scope on small-scale enterprises; lacks broader perspective.
The Development of E-commerce to Boost Indonesia's Economic Growth	Widagdo (2016)	Literature review supported by interviews with e-commerce merchants.	E-commerce has a positive and significant effect on business and society in regions with good internet access; limited in poorly	Interviews were limited to one merchant and one consumer; relies heavily on literature.

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Title	Researcher(s)	Method	Findings & Conclusion connected areas.	Research Gap
Analysis of the Impact of Fintech and E-commerce Development on the Economy	Nurcahya & Dewi (2019)	Qualitative descriptive study. Interview subjects included farmers, students, MSMEs, and other online consumers.	Technological developments had minimal influence at the time, though most respondents had adopted e-commerce. Trust issues remain between buyers and sellers who have never met.	Did not explore the specific barriers faced by traders in adopting fintech and e-commerce.

RESEARCH METHODOLOGY

This study adopts a qualitative approach, utilizing a case study design focused on traders operating within traditional markets in Yogyakarta City. The thematic analysis method, data triangulation, and narrative descriptive techniques are employed to conduct an in-depth examination of the collected data. Secondary data were obtained from credible sources such as government reports and previous research studies.

Primary data collection was conducted through direct interviews with selected Micro, Small, and Medium Enterprise (MSME) traders. The case study method is widely used by researchers to enable a deep investigation into the root of a research problem, as it focuses on a specific issue or phenomenon (Fitrah & Luthfiyah, 2017). Through the case study approach, the researcher is able to observe and analyze firsthand the level of adoption and the traders' responses toward the use of e-commerce and e-wallet technologies in their business transactions.

The sample selection for interviews employed the Simple Random Sampling technique. This sampling method provides equal opportunity for each member of the population to be selected, thus allowing for better representation of the targeted population (Arieska & Herdiani, 2018).

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Research Procedures

The primary method of data collection in this study was interview-based inquiry. Interviews were conducted to address the formulated research questions. The respondents consisted of MSME traders whose annual sales turnover did not exceed IDR 1,000,000,000 (one billion rupiah), thereby classifying them as micro-scale enterprises, regardless of whether they had adopted e-commerce or e-wallet platforms.

The interview questions were structured around the indicators derived from the theoretical frameworks previously discussed (Diffusion of Innovation and Technology Acceptance Model). In addition to interviews, the researcher also conducted field observations to directly examine the interaction between sellers and buyers within the market environment.

Once data collection was completed, the analysis proceeded using thematic analysis, supported by data triangulation and narrative description. This multi-method approach enabled the researcher to interpret and synthesize findings while aligning them with the concepts proposed by Davis and Rogers.

Table 2.
Interview Questions

No	Indicator	Interview Question
1	Time > Knowledge & Decision	1. Are you aware of the types of e-commerce marketplaces and e-wallets that are widely used by the public? (Taqiyuddin & Abdurrahman, 2022) 2. When did you decide to start using e-commerce and e-wallet services? (Saragih & Rikumahu, 2022)
2	Innovation > Self-Adaptation	3. Do you find using e-commerce and e-wallet platforms easy or difficult?
3	Communication Channel	4. In your opinion, do customers easily find the products they want through e-commerce and e-wallet platforms? (Purnama et al., 2021)
4	Social System	5. How does your business environment (partners or customers) perceive the use of e-commerce and e-wallets? Are they widely used? (Rahayu & Day, 2016)
5	Perceived Usefulness	6. How were your sales levels before and after the introduction of e-commerce and e-wallets in your business environment?
6	Perceived Ease of Use	7. Are there any challenges that make it difficult for you to use e-commerce and e-wallets in your business?

The primary focus of this research is Micro, Small, and Medium Enterprises (MSMEs) operating in three major traditional markets located in the central area of Yogyakarta City: Keranggan Tugu Market, Demangan Market, and Beringharjo Market. The MSMEs under study are classified as micro-enterprises, characterized by an annual turnover not exceeding IDR 1,000,000,000 (one billion rupiah).

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In general, MSMEs in these traditional markets are not unfamiliar with the presence of technology within their daily transaction environments. Many of them have had some level of exposure to digital tools, although the extent of adoption may vary.

The MSMEs selected for this study share several distinct characteristics:

- They are family-run businesses, often passed down through generations;
- They operate with limited capital;
- Most are managed independently without hired employees;
- Business activities are conducted in small rental kiosks provided by market management;
- Their product offerings are diverse, catering to a wide range of consumer needs.

These unique traits reflect both the opportunities and constraints faced by traditional traders as they navigate digital transformation in a culturally rich and commercially dynamic urban center like Yogyakarta.

RESULTS AND DISCUSSION

The analysis of research findings is intended to answer the research questions previously formulated. Data collected from field interviews have been summarized in the following table for ease of interpretation. The researcher has categorized the responses based on the key indicators discussed earlier in the theoretical framework.

This categorization is aligned with the indicators presented in Table 2 (Interview Questions) and is compared with the respondents' answers in the Interview Results Table, allowing a structured approach to interpreting themes and drawing conclusions from the participants' perspectives.

Table 3
Respondents' Knowledge and Adoption Time of E-commerce and E-wallet

No	Initials	Years in Business	E-commerce or E-wallet Used	Familiar with Popular Platforms?	Time to Adoption Decision
1	TF	8	Qris	Yes	Last 2 Years
2	AF	2	Shopee and Qris	Yes	Last 2 Years
3	SN	10	Shopee and Qris	Yes	Last 3 Years
4	A	4	Shopee and Qris	Yes	Last 4 Years
5	AM	15	-	Yes	-
6	H	12	Qris and Bank Transfer	Yes	Last 2 Years
7	SH	20	-	Yes	-
8	IT	20	Qris	Yes	Last 2 Years
9	I	10	-	Yes	-
10	S	25	Qris	Yes	Last 4 Years
11	PA	9	Qris	Yes	Last 1 Year
12	IY	30	Qris	Yes	Last 3 Months
13	IS	45	Qris	Yes	Last 1 Year
14	IRW	4	Qris	Yes	Last 1 Month
15	IYN	20	Qris	Yes	Last 1 Year

Based on field data, micro-enterprise actors have shown openness to evolving modes of modern transactions. This is evidenced by the adoption rate of e-wallets among conventional traders in Yogyakarta's traditional markets, which reached 80% (12 out of 15 respondents). In contrast, the adoption rate of e-commerce is significantly lower, accounting for only 20% (3 out of 15 respondents).

Table 3 also reveals that the decision to adopt QRIS payment systems occurred mostly within the past 2 to 1 years, likely influenced by behavioral shifts in the economy during the COVID-19 pandemic. Notably, three MSME actors identified as AM, SH, and I—who

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have been running their businesses for 10 to 20 years—chose not to adopt either e-commerce or e-wallet platforms.

Table 4
Ease of Use in E-commerce and E-wallet Platforms

No	Initials	Years in Business	Type of E-commerce or E-wallet Used	Is the Use of E-commerce/E-wallet Difficult?
1	TF	8	Qris	Easy
2	AF	2	Shopee and Qris	Easy
3	SN	10	Shopee and Qris	Easy
4	A	4	Shopee and Qris	Easy
5	AM	15	-	Difficult
6	H	12	Qris and Bank Transfer	Easy
7	SH	20	-	Difficult
8	IT	20	Qris	Easy
9	I	10	-	Difficult
10	S	25	Qris	Easy
11	PA	9	Qris	Easy
12	IY	30	Qris	Easy
13	IS	45	Qris	Easy
14	IRW	4	Qris	Easy
15	IYN	20	Qris	Easy

Micro-scale MSME actors interviewed revealed that, in comparison, the use of e-commerce platforms is perceived as more complicated than the more practical use of e-wallets. A total of 80% of respondents stated that using e-wallets is easy. Three MSME actors—AM (48 years old), SH (55), and I (40)—who do not use either e-wallet or e-commerce services, reported that their age poses a challenge in adopting these platforms. Their reluctance is primarily due to limited technological experience and lack of digital literacy.

Table 5 Utilization of E-commerce/E-wallet as a Marketing Tool

No	Initials	Years in Business	Type of E-commerce or E-wallet Used	Do E-commerce/E-wallet Help Customers Find Products Easily?
1	TF	8	Qris	Easy
2	AF	2	Shopee and Qris	Easy
3	SN	10	Shopee and Qris	Easy
4	A	4	Shopee and Qris	Easy
5	AM	15	-	-
6	H	12	Qris and Bank Transfer	Easy
7	SH	20	-	-
8	IT	20	Qris	Easy
9	I	10	-	-
10	S	25	Qris	Easy
11	PA	9	Qris	Easy
12	IY	30	Qris	Easy
13	IS	45	Qris	Easy
14	IRW	4	Qris	Easy
15	IYN	20	Qris	Easy

The majority of respondents acknowledged that utilizing e-commerce can significantly ease product marketing, particularly for reaching broader markets. However, only three MSME actors have adopted e-commerce (Shopee marketplace) as part of their business strategies. Other respondents cited challenges with complex features of e-commerce

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platforms, making them difficult to use, especially for MSME actors unfamiliar with digital technologies.

Furthermore, the three MSME actors who have not adopted any form of digital technology expressed a preference for traditional markets, arguing that it is easier to find and evaluate product quality in person. They also expressed concerns about the lack of guarantees commonly associated with online purchases.

Table 6
Influence of Social Systems on the Adoption of E-commerce/E-wallet

No	Initials	Years in Business	Type of E-commerce or E-wallet Used	Do Business Partners/Customers Use E-commerce or E-wallet?
1	TF	8	Qris	Yes
2	AF	2	Shopee and Qris	Yes
3	SN	10	Shopee and Qris	Yes
4	A	4	Shopee and Qris	Yes
5	AM	15	-	No
6	H	12	Qris and Bank Transfer	Yes
7	SH	20	-	No
8	IT	20	Qris	Yes
9	I	10	-	No
10	S	25	Qris	Yes
11	PA	9	Qris	Yes
12	IY	30	Qris	Yes
13	IS	45	Qris	Yes
14	IRW	4	Qris	Yes
15	IYN	20	Qris	Yes

The MSME actors participating in the study indicated that the growing habit of using e-commerce and e-wallets among society for online shopping and digital transactions has encouraged them to adopt similar platforms such as Shopee and QRIS for their own business operations. Suppliers and customers of these MSMEs also frequently use QRIS payments, making business transactions more efficient and streamlined.

This highlights the critical role of the social system in influencing the modernization of local business practices and in driving the broader evolution toward a digital economy.

Table 7
Perceived Usefulness of E-commerce/E-wallet in Business

No	Initials	Years in Business	Type of E-commerce or E-wallet Used	Sales Level After E-commerce and E-wallet Adoption
1	TF	8	Qris	Increased
2	AF	2	Shopee and Qris	Increased
3	SN	10	Shopee and Qris	Increased
4	A	4	Shopee and Qris	Increased
5	AM	15	-	Decreased
6	H	12	Qris and Bank Transfer	Increased
7	SH	20	-	Decreased
8	IT	20	Qris	Increased
9	I	10	-	Decreased
10	S	25	Qris	Increased
11	PA	9	Qris	Increased
12	IY	30	Qris	Increased
13	IS	45	Qris	Increased

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14	IRW	4	Qris	Increased
15	IYN	20	Qris	Increased

According to field interviews, several traders reported improved sales performance after adopting QRIS as a payment method, particularly in the post-COVID-19 context. Others noted that the presence of e-commerce and e-wallet systems has not significantly affected their businesses, as many customers still prefer to use cash for purchases at traditional markets.

Trader 'IT' stated that customers return to his store due to the superior quality of products offered, compared to what is available on online marketplaces. Meanwhile, trader 'AF' mentioned that sales through the Shopee marketplace are inconsistent, with more stable income derived from conventional in-person transactions in the market.

Table 8
Perceived Ease of Use of E-commerce/E-wallet

No	Initials	Years in Business	Type of E-commerce or E-wallet Used	Are There Challenges in Using E-commerce/E-wallet?
1	TF	8	Qris	Yes
2	AF	2	Shopee and Qris	No
3	SN	10	Shopee and Qris	Yes
4	A	4	Shopee and Qris	Yes
5	AM	15	-	Yes
6	H	12	Qris and Bank Transfer	Yes
7	SH	20	-	Yes
8	IT	20	Qris	Yes
9	I	10	-	Yes
10	S	25	Qris	Yes
11	PA	9	Qris	Yes
12	IY	30	Qris	Yes
13	IS	45	Qris	Yes
14	IRW	4	Qris	Yes
15	IYN	20	Qris	Yes

Field data indicates that 93% of respondents experience challenges in using e-commerce and e-wallet platforms for their businesses. Despite this, most traders have found ways to effectively address these obstacles. A common complaint involves the delay in receiving QRIS payments, which in some cases can take several hours or even days to process, in contrast to bank transfers that are completed instantly.

Moreover, traders who have not adopted e-commerce platforms expressed hesitation due to unfamiliarity with managing online businesses. Many are also unwilling to hire online shop administrators given their relatively low sales revenue, making digital operations seem unfeasible for their current scale.

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Discussion

1. *Analysis of E-commerce and E-wallet Adoption Among MSME Traders in Traditional Markets of Yogyakarta City*

To answer this research question, random sampling was conducted in three major traditional markets in Yogyakarta City. Among the 15 micro-scale MSME traders interviewed, 80% demonstrated openness toward modern business transactions by adopting e-wallet payments through QRIS. Although the adoption rate of e-commerce platforms only reached 20%, it is hoped that this figure will improve as traders recognize the potential of digital commerce.

Respondents who have implemented e-commerce and e-wallet platforms stated that their decision was driven by the opportunity to market their products beyond Yogyakarta. They found that platforms like Shopee and QRIS offer them access to wider markets and support business transactions.

In contrast, traders who have not adopted online selling methods generally follow conventional practices passed down through generations, such as sourcing goods with family members and conducting in-person sales. This traditional model offers a sense of familiarity and comfort, which limits their motivation to adopt digital solutions.

Field data revealed that most adoptions of e-commerce and e-wallets occurred within the last 1 to 2 years, primarily focusing on QRIS-based payments. During interviews, many traders expressed a preference for cash transactions, which they perceive as immediate and reliable. Nevertheless, they acknowledged the need to adapt to an increasingly digital economy.

2. *Analysis of Reasons Behind MSME Traders' Acceptance or Rejection of E-commerce and E-wallet Adoption*

a. Broader Business Market

Traders who adopted the Shopee marketplace shared that it helped them reach customers beyond Yogyakarta. Informants AF, SN, and A noted that managing both direct and online sales allowed them to multitask effectively, although they acknowledged needing better marketing strategies to compete with larger stores. Many respondents noted that customers now frequently request QRIS payments, prompting traders to diversify their payment options. As trader TF mentioned, 'In addition to cash transactions, traders must be ready to accept online payments.'

b. Perceived Usefulness and Ease of Use

The majority of MSMEs (80%) described QRIS payments as highly practical due to the barcode scan feature. Only three traders—AM, SH, and I—stated that cash remained the easiest payment method. This finding is consistent with Farhan & Shifa (2023), who reported high enthusiasm among MSME participants in PKM programs learning to use QRIS. The authors emphasized that familiarity with QRIS begins with personal use before business adoption.

c. Social System Influence

Most traders admitted they began using e-commerce and e-wallet systems to align with the shifting consumer economy. As trader TF stated, 'Before using QRIS, I had to reject many student buyers.' Similar sentiments were echoed by SN, A, H, PA, IRW, and IYN. These findings align with Rogers' Diffusion of Innovation theory, which emphasizes that a social system is a crucial element in the adoption

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process. Social influence and support networks can significantly shape decisions to adopt new technologies.

This is also supported by Rahayu & Day (2016), who concluded that pressure from business partners and government support for online transaction facilities positively impact the adoption of e-commerce and e-wallet systems among Indonesian MSMEs.

a. Limited Knowledge in Operating E-commerce Platforms

Interviews revealed that limited digital literacy hinders many traders from embracing e-commerce. Only 20% of respondents reported using Shopee for online sales. Traders such as TF, AM, and SH described the platform as overly complex and feature-heavy, making it difficult to use. These findings contrast with Fauzia (2016), who noted that even beginner entrepreneurs found e-commerce platforms manageable and effective in reaching suppliers and running businesses from home. This suggests that e-commerce does not require deep expertise to be implemented successfully.

b. Time Constraints

Several MSMEs reported that time-related challenges hinder the adoption of e-commerce and e-wallets. QRIS payment processing delays were a common complaint. Trader TF noted, 'I have to wait hours for the funds to reach my account,' a view shared by A, H, S, and IS.

Other traders cited time constraints in managing both in-store and online operations. Trader A said, 'I can't run two businesses at once.' Trader H remarked, 'I hesitate to pay for an online business admin because the revenue isn't worth it.' Similar views were shared by TF, S, and IS, who said they couldn't constantly monitor their phones for incoming orders while managing their stalls.

CONCLUSION

The utilization of technology in conventional business practices has significantly impacted Indonesia's economy, particularly in the Yogyakarta region. Based on interviews with 15 MSME actors across three major traditional markets in Yogyakarta City, it was found that 80% of micro-scale MSMEs are receptive to innovation, especially in adopting e-wallet solutions such as QRIS and bank transfers. Micro, Small, and Medium Enterprises (MSMEs) must adapt their business models to align with the evolving lifestyles of consumers, which are gradually shifting from conventional transactions to more modern systems.

However, enthusiasm toward e-commerce adoption among traders is not as strong as for e-wallets. This is evident in the relatively low e-commerce adoption rate of only 20%. Most MSMEs sampled in this study expressed that e-wallets are more practical and easier to use compared to e-commerce platforms. The research identified several motivating factors behind the adoption of e-commerce and e-wallet technologies: (1) access to broader markets, (2) perceived ease of use, and (3) influence of social systems. Conversely, barriers to adoption include: (1) limited knowledge in operating e-commerce platforms and (2) time constraints.

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In summary, the number of reasons supporting the adoption of e-commerce and e-wallet solutions outweigh those opposing it. Undeniably, when utilized correctly and consistently, e-business has the potential to sustain and enhance business operations for MSMEs.

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