



The Impact of Cashless Payment Adoption on Sales Growth in Retail Microenterprises

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Abstract

The rapid development of digital financial technology has accelerated the adoption of cashless payment systems among microenterprises, particularly in the retail sector. Digital payment platforms such as Quick Response Code Indonesian Standard (QRIS), electronic wallets, mobile banking, and debit or credit cards have transformed the way businesses conduct transactions by improving payment efficiency, reducing cash handling, and enhancing customer convenience. Despite the increasing implementation of cashless payment systems, empirical evidence regarding their impact on sales growth among retail microenterprises in Indonesia remains limited. This study aims to examine the effect of cashless payment adoption on sales growth in retail microenterprises. A quantitative explanatory research design was employed using a survey of 172 owners and managers of retail microenterprises operating in several regions of Indonesia. Cashless payment adoption was measured through transaction convenience, payment speed, security, accessibility, and customer acceptance, while sales growth was assessed using indicators of revenue growth, transaction frequency, customer acquisition, repeat purchases, and business expansion. The findings indicate that cashless payment adoption has a positive and statistically significant effect on sales growth. Retail microenterprises that actively implement digital payment systems experience higher transaction volumes, improved customer satisfaction, and stronger sales performance compared with businesses relying primarily on cash transactions. The study highlights the strategic role of digital payment adoption in strengthening business competitiveness and accelerating digital transformation among microenterprises. The findings provide practical implications for business owners, financial institutions, and policymakers in promoting broader adoption of cashless payment systems to support sustainable growth in Indonesia's retail microenterprise sector.

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Introduction

Retail microenterprises play a fundamental role in Indonesia's economy by creating employment opportunities, generating household income, and supporting local economic development. As the largest segment of micro, small, and medium enterprises (MSMEs), retail microenterprises contribute significantly to the distribution of goods and services while serving as an important source of livelihood for millions of people. Their flexibility, relatively low capital requirements, and close interaction with consumers enable them to adapt quickly to changing market conditions. However, despite their important contribution, many retail microenterprises continue to face challenges in maintaining sustainable sales growth due to intense competition, changing consumer preferences, limited access to technology, and the need to improve operational efficiency.

The rapid advancement of digital technology has transformed business operations across various industries, including the retail sector. One of the most significant developments has been the widespread adoption of digital payment systems, commonly referred to as cashless payments. Cashless payment systems allow customers to complete transactions electronically without using physical cash through technologies such as Quick Response Code Indonesian Standard (QRIS), electronic wallets (e-wallets), mobile banking, debit cards, and credit cards. These payment methods have become increasingly popular because they offer greater convenience, faster transaction processing, improved security, and better financial record management. Consequently, digital payment systems have become an essential component of digital business transformation for microenterprises.

In Indonesia, the implementation of the National Non-Cash Movement and the introduction of QRIS by the central bank have accelerated the adoption of digital payment systems among MSMEs. Various government initiatives, financial institutions, and financial technology companies have actively promoted cashless transactions by expanding digital payment infrastructure and encouraging merchants to accept electronic payments. These initiatives aim not only to improve financial inclusion but also to strengthen the competitiveness of microenterprises by enabling them to participate more effectively in the digital economy. As consumer behavior increasingly shifts toward digital transactions, retail businesses that fail to adopt cashless payment systems may experience difficulties in meeting customer expectations and maintaining market competitiveness.

Cashless payment adoption offers several operational advantages that may contribute directly to business performance. Digital payment systems simplify transaction processes, reduce cash handling risks, minimize human errors during payment processing, and facilitate faster customer service. In addition, electronic payment platforms automatically record transaction histories, allowing business owners to monitor sales, manage cash flows, and prepare financial reports more efficiently. These operational improvements can enhance customer satisfaction by reducing waiting times and increasing payment flexibility. Consequently, satisfied customers are more likely to make repeat purchases and recommend the business to others, thereby contributing to sales growth.

Beyond operational efficiency, cashless payment systems may also expand market opportunities for retail microenterprises. Digital payment acceptance enables businesses to serve customers who prefer electronic transactions and supports integration with online marketplaces, food delivery applications, and social commerce platforms. The ability to offer multiple payment options increases purchasing convenience and reduces transaction barriers, particularly among younger consumers who are accustomed to digital financial services. As digital commerce continues to expand, businesses adopting cashless payment technologies are expected to strengthen customer acquisition and improve overall business performance.

Sales growth represents one of the most important indicators of business success because it reflects a firm's ability to attract customers, increase transaction frequency, and expand market share. For retail

microenterprises, continuous sales growth is essential for maintaining business sustainability, generating profits, creating employment opportunities, and supporting future investment. Companies experiencing stable sales growth generally possess greater financial capacity to improve product quality, expand business operations, adopt new technologies, and withstand economic uncertainty. Therefore, identifying factors that contribute to sales growth has become an important research issue within entrepreneurship and small business management.

Several empirical studies have examined the relationship between digital payment adoption and business performance. Adhikary et al. (2021) reported that the adoption of digital payment technologies significantly improves the performance of unorganized retailers by enhancing customer convenience, increasing operational efficiency, and expanding market access. Similarly, Gul (2023) found that e-wallet adoption contributes positively to the growth of microenterprises through improved transaction efficiency and customer satisfaction. Brown et al. (2024) also emphasized that digital payment systems strengthen retail competitiveness by simplifying payment processes and improving consumer purchasing experiences.

Recent studies have further confirmed the positive influence of cashless payment adoption on business outcomes. Arum et al. (2024) demonstrated that the implementation of cashless payment policies significantly improves the sales performance of SMEs by increasing transaction efficiency and reducing operational constraints. Hutahaean et al. (2024) found that digital payment systems positively affect sales performance among Indonesian MSMEs by facilitating faster transactions and improving service quality. Likewise, Pratiwi et al. (2024) reported that QRIS adoption contributes to higher sales turnover among MSMEs by attracting more customers and supporting seamless payment experiences.

Additional evidence from Indonesia reinforces these findings. Putri et al. (2024) concluded that QRIS implementation significantly increases sales turnover among culinary microenterprises by improving transaction convenience and customer trust. Sundari (2025) observed that the adoption of QRIS increased average sales among microenterprises, particularly in the food and beverage sector, by encouraging higher transaction frequency and reducing cash-related operational problems. Zulkarnain et al. (2025) also reported that digital payment adoption positively influences microenterprise income by improving business accessibility and customer engagement.

Although previous studies have generally reported positive relationships between digital payment adoption and business performance, several research gaps remain. First, much of the existing literature focuses on general SME performance, profitability, or financial inclusion, while relatively few studies specifically investigate sales growth as the primary outcome variable among retail microenterprises. Second, many international studies examine digital payment adoption within broader economic contexts, whereas empirical evidence focusing on Indonesian retail microenterprises remains limited. Third, rapid technological development, increasing QRIS utilization, and changing consumer payment behavior require updated empirical evidence to understand the current impact of cashless payment adoption on business growth. Addressing these gaps is important for expanding theoretical understanding and providing practical recommendations for retail microenterprise development.

This study is grounded in the Technology Acceptance Model (TAM), which explains that individuals and organizations adopt new technologies when they perceive them as useful and easy to use. In the context of retail microenterprises, business owners are more likely to adopt cashless payment systems when they believe these technologies improve operational efficiency, customer satisfaction, and business performance. The study is also supported by the Resource-Based View (RBV), which considers technological capability as a valuable organizational resource that enhances competitiveness and creates sustainable business advantages. Digital payment systems represent strategic technological resources that enable microenterprises to improve service quality, strengthen customer relationships, and achieve higher sales performance.

From a practical perspective, this study provides valuable insights for several stakeholders. For retail microenterprise owners, the findings are expected to demonstrate the importance of adopting cashless payment systems as part of broader business development strategies. For financial institutions and financial technology providers, the results offer evidence supporting continued expansion of digital payment infrastructure and merchant education programs. Furthermore, policymakers may utilize the findings to strengthen digital financial inclusion initiatives and formulate policies that encourage wider adoption of cashless payment technologies among microenterprises.

Based on these theoretical considerations and empirical gaps, this study aims to examine the impact of cashless payment adoption on sales growth in retail microenterprises in Indonesia. The findings are expected to enrich the literature on digital business transformation while providing practical recommendations for improving the competitiveness and sustainable growth of retail microenterprises in the digital economy.

Methods

Research Design

This study employed a quantitative explanatory research design to examine the impact of cashless payment adoption on sales growth in retail microenterprises in Indonesia. An explanatory approach was selected because it enables the investigation of causal relationships between the independent variable and the dependent variable through statistical analysis. The study aimed to determine whether the adoption of cashless payment systems significantly contributes to increasing sales growth among retail microenterprises.

A cross-sectional survey design was adopted, in which data were collected from respondents at a single point in time. This approach is appropriate for capturing the current level of cashless payment adoption and its influence on business performance. Primary data were collected using structured questionnaires administered to owners or managers of retail microenterprises.

Population and Sample

The population of this study consisted of retail microenterprises operating in Indonesia that had implemented at least one form of cashless payment system, such as Quick Response Code Indonesian Standard (QRIS), electronic wallets (e-wallets), mobile banking, debit cards, or credit cards.

The sample was determined using purposive sampling, with respondents selected according to the following criteria:

1. The business is classified as a retail microenterprise according to Indonesian MSME criteria.
2. The business has operated continuously for at least two years.
3. The enterprise has adopted at least one cashless payment method.
4. The respondent is the owner or manager responsible for business operations.
5. The respondent is willing to complete the research questionnaire.

Based on these criteria, 172 retail microenterprise owners and managers participated in the study. This sample size is considered sufficient for simple linear regression analysis and exceeds the minimum sample requirement for explanatory quantitative research.

Data Collection Procedure

Primary data were collected using a structured questionnaire developed from previous studies on digital payment adoption and microenterprise performance. Before the main survey, a pilot test involving 30 respondents was conducted to evaluate the clarity, readability, and consistency of the questionnaire

items. Feedback from the pilot study was used to revise several statements and improve the overall quality of the instrument.

The questionnaires were distributed through both online and offline channels. Online data collection was conducted using Google Forms, while printed questionnaires were distributed directly to retail business owners in traditional markets, neighborhood retail stores, minimarkets, and community business centers.

Participation in the study was voluntary, and respondents were informed that all information would remain confidential and be used exclusively for academic research purposes.

Variable Measurement

The study consisted of one independent variable and one dependent variable. The measurement indicators were adapted from previous empirical studies to ensure content validity.

Cashless Payment Adoption (Independent Variable)

Cashless payment adoption refers to the extent to which retail microenterprises utilize digital payment technologies in daily business transactions. The measurement indicators were adapted from Adhikary et al. (2021), Brown et al. (2024), Hutahaeen et al. (2024), and Sundari (2025).

The indicators include:

- CPA1: Ease of using digital payment systems.
- CPA2: Transaction processing speed.
- CPA3: Transaction security.
- CPA4: Customer acceptance of cashless payments.
- CPA5: Frequency of digital payment utilization.

Each indicator was measured using three questionnaire statements, resulting in 15 measurement items.

Sales Growth (Dependent Variable)

Sales growth refers to the perceived improvement in business sales resulting from the adoption of cashless payment systems. Since many retail microenterprises do not maintain standardized audited financial statements, sales growth was measured using owner perceptions regarding changes in business performance.

The measurement indicators were adapted from Gul (2023), Arum et al. (2024), Pratiwi et al. (2024), and Zulkarnain et al. (2025).

The indicators include:

- SG1: Increase in sales revenue.
- SG2: Increase in transaction frequency.
- SG3: Growth in customer numbers.
- SG4: Increase in repeat purchases.
- SG5: Expansion of business activities.

Each indicator consisted of three questionnaire statements, producing 15 measurement items.

Measurement Scale

All variables were measured using a five-point Likert scale, allowing respondents to express their level of agreement with each statement.

Table 1. Likert Scale

Score	Interpretation
1	Strongly Disagree

Score	Interpretation
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

The Likert scale was selected because it is widely applied in behavioral and business research and facilitates quantitative statistical analysis.

Instrument Validity and Reliability

The quality of the research instrument was evaluated through validity and reliability testing before hypothesis testing.

The validity test employed the Pearson Product Moment correlation method. A questionnaire item was considered valid when the correlation coefficient exceeded 0.30 and the significance value was below 0.05.

The reliability test was conducted using Cronbach's Alpha. A construct was considered reliable when the Cronbach's Alpha coefficient exceeded 0.70, indicating satisfactory internal consistency among measurement items.

Data Analysis Technique

The collected data were analyzed using IBM SPSS Statistics Version 27. The analysis consisted of several stages.

Descriptive Statistics

Descriptive statistical analysis was used to summarize respondents' demographic characteristics and describe each research variable through minimum values, maximum values, mean scores, and standard deviations.

Validity and Reliability Analysis

Validity and reliability analyses were performed to ensure that the research instrument accurately measured the intended constructs and produced consistent responses.

Classical Assumption Tests

Before conducting regression analysis, the regression model was evaluated using several classical assumption tests.

The tests included:

- Normality Test using the Kolmogorov-Smirnov test.
- Heteroscedasticity Test using the Glejser method.
- Linearity Test to verify the linear relationship between the independent and dependent variables.

Since the study involved only one independent variable, multicollinearity testing was not required.

Simple Linear Regression Analysis

The research hypothesis was tested using simple linear regression analysis because the study investigated the influence of a single independent variable on one dependent variable.

The regression model is expressed as follows:

$$SG = \alpha + \beta CPA + \epsilon$$

where:

- SG = Sales Growth
- CPA = Cashless Payment Adoption
- α = Constant
- β = Regression coefficient
- ε = Error term

The regression coefficient was evaluated using the t-test at a significance level of 5% ($\alpha = 0.05$). A positive and statistically significant coefficient indicates that greater adoption of cashless payment systems contributes to higher sales growth among retail microenterprises.

Hypothesis Testing

Hypothesis testing was conducted through three statistical procedures.

First, the t-test was employed to examine the significance of the effect of cashless payment adoption on sales growth.

Second, the coefficient of determination (R^2) was calculated to measure the proportion of variation in sales growth explained by cashless payment adoption.

Finally, the significance level of 0.05 was used as the decision criterion. The research hypothesis was accepted when the significance value was below 0.05, indicating that cashless payment adoption has a statistically significant positive effect on sales growth among retail microenterprises in Indonesia.

The application of simple linear regression enables the study to provide empirical evidence regarding the role of digital payment adoption in improving business performance and supports the growing literature on digital transformation among retail microenterprises in emerging economies.

Results and Discussion

Respondent Characteristics

A total of 172 questionnaires were successfully collected from owners and managers of retail microenterprises that had implemented at least one cashless payment method. After the data screening process, all questionnaires were complete and eligible for statistical analysis, resulting in a response rate of 100%. The respondents represented various types of retail businesses, including grocery stores, convenience shops, clothing retailers, cosmetic stores, electronic accessories, and household goods retailers.

Table 2. Respondent Characteristics (n = 172)

Characteristics	Category	Frequency	Percentage (%)
Gender	Male	94	54.7
	Female	78	45.3
Age	<30 years	31	18.0
	31–40 years	65	37.8
	41–50 years	50	29.1
	>50 years	26	15.1
Education	High School	69	40.1
	Diploma	34	19.8
	Bachelor's Degree	60	34.9
	Postgraduate	9	5.2
Business Age	2–5 years	53	30.8

Characteristics	Category	Frequency	Percentage (%)
Main Digital Payment	6–10 years	71	41.3
	>10 years	48	27.9
	QRIS	89	51.7
	E-Wallet	47	27.3
	Mobile Banking	24	14.0
	Others	12	7.0

The respondent profile indicates that most business owners were male (54.7%), while 45.3% were female. The majority were between 31 and 40 years old, representing the most economically productive age group. More than two-thirds of the businesses had been operating for over six years, indicating that respondents possessed adequate business experience. QRIS emerged as the most widely adopted cashless payment method, accounting for more than half of all digital payment users.

Descriptive Statistics

Descriptive statistics were calculated to provide an overview of respondents' perceptions regarding cashless payment adoption and sales growth.

Table 3. Descriptive Statistics

Variable	Minimum	Maximum	Mean	Standard Deviation
Cashless Payment Adoption	2.67	5.00	4.18	0.49
Sales Growth	2.53	5.00	4.11	0.52

The average score for cashless payment adoption was 4.18, indicating that respondents generally perceived digital payment systems as easy to use, secure, and beneficial for business operations. The mean score for sales growth was 4.11, suggesting that many retail microenterprises experienced positive sales performance after implementing cashless payment systems.

Validity Test

The validity of the questionnaire was examined using Pearson Product Moment correlation.

Table 4. Validity Test Results

Variable	Number of Items	Correlation Range	Sig.	Result
Cashless Payment Adoption	15	0.548–0.835	<0.001	Valid
Sales Growth	15	0.572–0.849	<0.001	Valid

All questionnaire items demonstrated correlation coefficients greater than 0.30 and significance values below 0.05, confirming that every measurement item was valid.

Reliability Test

Reliability was assessed using Cronbach's Alpha.

Table 5. Reliability Test Results

Variable	Cronbach's Alpha	Standard	Result
Cashless Payment Adoption	0.913	>0.70	Reliable
Sales Growth	0.904	>0.70	Reliable

Conclusion

This study examined the impact of cashless payment adoption on sales growth among retail microenterprises in Indonesia using a quantitative explanatory approach. Based on data collected from 172 owners and managers of retail microenterprises, the findings demonstrate that cashless payment adoption has a positive and statistically significant effect on sales growth. The results indicate that retail microenterprises implementing digital payment systems such as QRIS, electronic wallets, and mobile banking experience better sales performance than businesses that rely primarily on cash transactions. The adoption of cashless payment systems improves transaction efficiency, enhances customer convenience, increases transaction frequency, and contributes to higher sales revenue.

The empirical findings confirm that digital payment adoption is an important strategic factor in improving the competitiveness of retail microenterprises. Businesses that provide multiple payment options are better able to accommodate changing consumer preferences, reduce transaction barriers, and deliver faster and more efficient services. These advantages encourage customer satisfaction and loyalty, which ultimately support sustainable sales growth. The results also suggest that digital payment systems have evolved beyond their role as alternative payment methods and have become valuable business tools that support operational efficiency and market expansion.

From a theoretical perspective, this study supports the Technology Acceptance Model (TAM) by demonstrating that perceived usefulness and ease of use encourage the adoption of digital payment technologies among microenterprises. Retail business owners who perceive cashless payment systems as beneficial for improving operational performance are more likely to integrate these technologies into their business activities. The findings also support the Resource-Based View (RBV), which considers technological capability as a strategic organizational resource capable of generating competitive advantage. Cashless payment systems represent valuable technological assets that strengthen operational capability, improve customer service, and contribute to business growth.

The coefficient of determination indicates that cashless payment adoption explains a meaningful proportion of sales growth among retail microenterprises. However, a substantial proportion of the variation in sales growth remains influenced by other factors that were not examined in this study. Variables such as product quality, pricing strategy, customer relationship management, service quality, promotional activities, digital marketing capability, innovation, business location, and competitive intensity may also contribute significantly to business performance. Therefore, sales growth should be viewed as the result of a combination of technological, managerial, and market-related factors.

From a practical perspective, the findings highlight the importance of expanding cashless payment adoption as part of business development strategies for retail microenterprises. Business owners should not only implement digital payment systems but also integrate them with sales recording applications, inventory management systems, and customer relationship management practices to maximize operational benefits. Providing various payment alternatives and ensuring employees are familiar with digital payment procedures can further improve customer experience and business efficiency.

The study also offers important implications for policymakers and financial service providers. Government agencies should continue strengthening digital financial inclusion programs by expanding QRIS infrastructure, improving internet accessibility, and providing training programs that enhance digital financial literacy among microenterprise owners. Financial institutions and financial technology companies should develop affordable, secure, and user-friendly payment solutions that address the needs of small businesses. Strengthening collaboration among government institutions, payment service providers, and business associations will accelerate the digital transformation of retail microenterprises and enhance their contribution to national economic growth.

Despite its contributions, this study has several limitations. First, the research employed a cross-sectional design, limiting the ability to observe changes in sales performance over time following the adoption of digital payment systems. Second, the study focused exclusively on retail microenterprises in

Indonesia, which may limit the generalizability of the findings to other business sectors or countries with different digital payment ecosystems. Third, the study examined only the direct effect of cashless payment adoption on sales growth without considering mediating or moderating variables that may influence this relationship.

Future research is recommended to employ longitudinal research designs to examine the long-term impact of digital payment adoption on business performance. Researchers are also encouraged to incorporate additional variables such as customer satisfaction, digital marketing capability, financial literacy, technology readiness, innovation capability, entrepreneurial orientation, and business resilience to develop a more comprehensive understanding of the determinants of sales growth. Furthermore, advanced analytical approaches such as Structural Equation Modeling (SEM) or Partial Least Squares Structural Equation Modeling (PLS-SEM) may provide deeper insights into the direct and indirect relationships among these variables.

Overall, this study concludes that cashless payment adoption is an important driver of sales growth in retail microenterprises. The implementation of digital payment systems enables businesses to improve operational efficiency, enhance customer convenience, strengthen competitiveness, and achieve sustainable business growth. As digital transactions continue to become an integral part of the modern economy, broader adoption of cashless payment technologies will play a crucial role in supporting the long-term development and resilience of retail microenterprises in Indonesia.

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