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THE EFFECT OF E-WALLET, QRIS, AND DIGITAL ACCOUNTING UTILIZATION ON THE FINANCIAL MANAGEMENT QUALITY OF MSMEs IN MEDAN CITY 2024 – 2025

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ABSTRACT

This study examines the effect of E-Wallet Utilization, QRIS Utilization, and Digital Accounting Utilization on the Financial Management Quality of micro, small, and medium enterprises (MSMEs) in Medan City in 2024–2025, a period in which QRIS merchant acceptance in Indonesia passed 40 million. An associative quantitative design was applied to a survey of 150 MSME owners and managers in the culinary, retail trade, fashion, and service sectors, selected through purposive sampling and asked to rate their practices over the 2024–2025 business years. Data were collected with a five-point Likert-scale questionnaire and analyzed using partial least squares structural equation modeling (PLS-SEM) in SmartPLS 4. The measurement model met all validity and reliability criteria. E-Wallet Utilization ($\beta = 0.243$; $t = 3.539$; $p < 0.001$), QRIS Utilization ($\beta = 0.256$; $t = 3.616$; $p < 0.001$), and Digital Accounting Utilization ($\beta = 0.385$; $t = 5.673$; $p < 0.001$) each had a positive and significant effect on Financial Management Quality. Together, the three variables explained 49.8% of the variance in Financial Management Quality. Digital Accounting Utilization had a medium effect size ($f^2 = 0.220$), while E-Wallet Utilization ($f^2 = 0.086$) and QRIS Utilization ($f^2 = 0.090$) had small effect sizes. The findings suggest that digital payment tools support better financial management, but the largest gain comes from digital bookkeeping, so digitalization programs for MSMEs in Medan should pair payment tools with accounting training.

Keywords: E-Wallet Utilization, QRIS Utilization, Digital Accounting Utilization, Financial Management Quality, MSMEs, Medan, 2024 – 2025

ABSTRAK

Penelitian ini mengkaji pengaruh penggunaan dompet digital (E-Wallet), QRIS, dan akuntansi digital terhadap kualitas pengelolaan keuangan pada usaha mikro, kecil, dan menengah (UMKM) di Kota Medan selama periode 2024–2025 masa di mana jumlah merchant yang menerima pembayaran QRIS di Indonesia telah melampaui 40 juta. Studi kuantitatif asosiatif ini melibatkan 150 pemilik dan manajer UMKM di sektor kuliner, perdagangan ritel, fesyen, dan jasa, yang dipilih melalui teknik *purposive sampling*. Responden diminta untuk menilai praktik pengelolaan keuangan mereka selama tahun bisnis 2024–2025. Data dikumpulkan menggunakan kuesioner dengan skala Likert lima poin dan dianalisis

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dengan metode *partial least squares structural equation modeling* (PLS-SEM) menggunakan perangkat lunak SmartPLS 4. Model pengukuran telah memenuhi seluruh kriteria validitas dan reliabilitas. Hasil penelitian menunjukkan bahwa penggunaan dompet digital ($\beta = 0{,}243$; $t = 3{,}539$; $p < 0{,}001$), QRIS ($\beta = 0{,}256$; $t = 3{,}616$; $p < 0{,}001$), dan akuntansi digital ($\beta = 0{,}385$; $t = 5{,}673$; $p < 0{,}001$) masing-masing memberikan pengaruh positif dan signifikan terhadap kualitas pengelolaan keuangan. Secara bersama-sama, ketiga variabel tersebut menjelaskan 49,8% varians dalam kualitas pengelolaan keuangan. Penggunaan akuntansi digital memiliki ukuran pengaruh (*effect size*) menengah ($f^2 = 0{,}220$), sementara penggunaan dompet digital ($f^2 = 0{,}086$) dan QRIS ($f^2 = 0{,}090$) memiliki ukuran pengaruh kecil. Temuan ini mengindikasikan bahwa perangkat pembayaran digital mendukung pengelolaan keuangan yang lebih baik; namun, manfaat terbesar diperoleh dari pembukuan digital. Oleh karena itu, program digitalisasi bagi UMKM di Kota Medan sebaiknya mengombinasikan penggunaan alat pembayaran digital dengan pelatihan akuntansi.

Kata Kunci: Penggunaan Dompet Digital, Penggunaan QRIS, Penggunaan Akuntansi Digital, Kualitas Pengelolaan Keuangan, UMKM, Medan, 2024 – 2025

I. INTRODUCTION

Micro, small, and medium enterprises (MSMEs) are the backbone of the Indonesian economy, and Medan, one of the largest economic centers outside Java, is home to many of them in the culinary, retail, fashion, and service sectors. For such businesses, sound financial management is a basic condition for survival: owners need accurate records, a workable budget, close control over cash, and reliable information for pricing, purchasing, and borrowing decisions. Many MSMEs still struggle in these areas because their financial practices are informal, with handwritten or fragmented records and business money mixed with personal money. Irawan et al. (2026), studying MSMEs in Bandar Lampung, describe a persistent reliance on manual financial systems, a pattern that is also familiar to MSMEs in other Indonesian cities.

The years 2024 and 2025 were a period of rapid expansion in Indonesia's digital payment infrastructure. Bank Indonesia reported that QRIS recorded 10.33 billion transactions as of September 2025, with 58 million users and 41 million merchants nationwide, and that more than 90 percent of these merchants were MSMEs (ANTARA, 2025). By December 2025 the number of QRIS merchants had reached 42 million, and QRIS transaction volume was growing at 143.64 percent year on year (VOI, 2025). For an MSME owner, accepting QRIS or an e-wallet therefore no longer depends on whether the infrastructure exists. The open question is whether the payment data these tools produce are turned into better financial management.

Local evidence points in the same direction but stops short of the payment tools. Sembiring et al. (2025) surveyed 81 MSMEs in Medan and examined five determinants of digital transformation, namely motivation, business model, digital capability, organizational culture, and human resources. Each had a positive and significant effect on the quality of MSME financial reports. Sihombing et al. (2026) surveyed 93 MSMEs in Medan that already used a digital accounting information system and reported a positive and significant effect of its utilization on financial report quality, while noting that the use of such systems among MSMEs is still low. Both studies concentrate on financial reports and on digital accounting or general digital capability; neither places e-wallets and QRIS next to digital accounting in the same model.

Two digital payment tools have spread quickly among MSMEs. *E-wallets*, such as GoPay, OVO, DANA, and ShopeePay, allow owners to receive and make payments through a mobile application. The Quick Response Code Indonesian Standard (*QRIS*) was introduced by Bank Indonesia as a national QR standard intended to simplify cashless transactions (Yamani & Lenap, 2025). Evidence on these tools is growing. Yamani and Lenap (2025), studying 60 MSMEs in Mataram City, found that QRIS implementation had a positive and significant effect on both financial recording and financial performance, which suggests that digital payments encourage more organized records. Using a national dataset of 31,724 MSME observations, Putri et al. (2026) reported that e-wallet adoption was associated with about 119 additional transactions per month and with lower reliance on family labor, which they

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interpret as a gain in operational efficiency. Gunawan et al. (2023) used the Technology Acceptance Model to explain the use of QRIS for daily payment transactions.

The third practice is *digital accounting*, the use of applications and software to record, process, report, and use financial information. Digital accounting systems can process large numbers of transactions and generate the data needed for analysis, yet small firms are slow to adopt them (Lutfi et al., 2022b). In a sample of 183 Jordanian SMEs, Lutfi et al. (2022b) found that the use of a digital accounting system had a positive and significant effect on performance, and Lutfi et al. (2022a) showed that implementing an accounting information system supports sustainable business performance. In Bekasi City, Haryanto et al. (2025) reported that accounting information systems and digital wallets both had a positive effect on MSME performance.

Despite these insights, most studies use financial performance, transaction volume, financial report quality, or business performance as the outcome, and they usually examine e-wallets, QRIS, and digital accounting separately. To the authors' knowledge, evidence that estimates the effects of all three practices on the quality of financial management itself, within one model for MSMEs in Medan during 2024–2025, remains limited. Table 1 summarizes previous studies that provide the empirical basis for this research.

Table 1. Summary of Previous Studies

Researcher (Year)	Variables	Method	Findings
Yamani & Lenap (2025)	QRIS implementation, financial recording, and financial performance of MSMEs in Mataram City	Regression (SPSS); 60 MSMEs	QRIS implementation had a positive and significant effect on financial recording and financial performance.
Putri et al. (2026)	E-wallet adoption, monthly transaction volume, and labor composition of online MSMEs in Indonesia	Propensity score matching; 31,724 MSME observations	E-wallet adoption was associated with about 119 more transactions per month and lower reliance on family labor.
Haryanto et al. (2025)	Accounting information system, e-commerce, digital wallet, and MSME performance in Bekasi City	Empirical study of MSMEs	Accounting information systems and digital wallets had a positive effect on performance; e-commerce had no significant effect.
Lutfi et al. (2022b)	Digital accounting system usage, system performance, and the moderating effect of COVID-19 in Jordanian SMEs	PLS-SEM; 183 SMEs	Digital accounting system usage had a positive and significant effect on performance; COVID-19 moderated this relationship.
Sembiring et al. (2025)	Determinants of digital transformation (motivation, business model, digital capability, organizational culture, human resources) and financial report quality of MSMEs in Medan	Simple and multiple linear regression (EViews 12); 81 MSMEs	Each determinant had a positive and significant effect on financial report quality, and the determinants were jointly significant.
Sihombing et al. (2026)	Digital accounting information system utilization and financial report quality of MSMEs in Medan	Simple linear regression with robust standard errors and bootstrapping; 93 MSMEs	Utilization had a positive and significant effect on financial report quality ($R^2 = 0.590$).
Irawan et al. (2026)	Financial literacy, government support, user innovation, fintech adoption, and sustainability performance of MSMEs in Bandar Lampung	SEM-PLS; 200 MSMEs	Fintech adoption showed a strong association with sustainability performance.

Source: Compiled by the authors (2026)

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The objectives of this study are (1) to analyze the effect of E-Wallet Utilization on Financial Management Quality, (2) to analyze the effect of QRIS Utilization on Financial Management Quality, (3) to analyze the effect of Digital Accounting Utilization on Financial Management Quality, and (4) to assess the joint explanatory power and the relative contribution of the three variables, all for MSMEs in Medan City in 2024–2025. Theoretically, the study integrates a technology-adoption view with a resource-based view of digital financial practices in a single explanatory model that uses the quality of financial management as the outcome. Practically, it gives MSME owners, the local government, banks, and e-wallet providers in Medan a basis for designing support that links digital payment tools with digital bookkeeping.

II. LITERATURE REVIEW

Theoretical Foundation: Technology Acceptance and the Resource-Based View

Research on why people and firms adopt technology is dominated by the Technology Acceptance Model and its descendants. Venkatesh et al. (2016) reviewed the literature on the Unified Theory of Acceptance and Use of Technology (UTAUT) and its extensions and argued for a multi-level framework that takes the research context into account. That context matters here. In Indonesian payment research, extended UTAUT models have been applied to the use of QRIS (Paramita & Cahyadi, 2024), and an extended UTAUT2 model with trust has been applied to consumers' post-adoption of e-wallets (Zaid Kilani et al., 2023). Studies of this kind explain who adopts a payment tool and who keeps using it. In this study the adoption behavior itself, that is, the actual use of e-wallets, QRIS, and digital accounting, is treated as an observed practice, and its consequence for the quality of financial management is the main focus.

The resource-based view explains what happens next. Barney et al. (2021) restate resource-based theory within a value creation framework, which clarifies how the resources of a firm create economic value. Lutfi et al. (2022b) combined this view with a technology–organization–environment framework to study digital accounting in SMEs, treating the system as a resource whose effective use improves performance. Following this logic, E-Wallet Utilization, QRIS Utilization, and Digital Accounting Utilization are treated here as digital financial resources that, when genuinely used, strengthen the way an MSME manages its money. The two perspectives are complementary: the technology-acceptance literature accounts for why the resources are in place, and the resource-based view accounts for why their use should translate into better outcomes.

Financial Management Quality in MSMEs

Financial Management Quality is defined as the extent to which an MSME records its transactions accurately, plans and controls its money, keeps business and personal finances separate, and uses financial information to make decisions (the authors' operational definition). The construct therefore describes the quality of the financial management process rather than profit alone, in line with the view that digital payment systems can strengthen the financial governance of MSMEs (Yamani & Lenap, 2025). Most MSMEs do not publish audited statements, so the quality of their financial management is visible mainly in the routines that produce and use financial information. The same routines underlie the quality of financial reports examined for Medan by Sembiring et al. (2025) and Sihombing et al. (2026), but this study measures the process rather than the finished report.

It is measured with six indicators (FMQ1–FMQ6): accuracy and completeness of financial records (FMQ1), budgeting and planning (FMQ2), monitoring of cash flow (FMQ3), separation of business and personal finances (FMQ4), timely preparation of financial reports (FMQ5), and use of financial information in decisions on pricing, purchasing, and financing (FMQ6). A higher score indicates better financial management.

E-Wallet Utilization

In this study, *E-Wallet Utilization* is defined as the extent to which an MSME uses e-wallet applications to receive, make, and monitor business payments in routine operations (the authors' operational definition). E-wallets reduce cash handling and are associated with greater transaction efficiency among MSMEs (Putri et al., 2026). Putri et al. (2026) also found that e-wallet adoption was

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associated with fewer family workers, which they read as a sign that digital systems take over part of the routine work of payment and record keeping. Research on e-wallet use has so far focused mostly on adoption and continued use (Zaid Kilani et al., 2023) and on transaction volume and performance, and much less on what owners do with the transaction trail once it exists.

The construct is measured with five indicators (EW1–EW5): receiving customer payments through e-wallets (EW1), paying suppliers and operating expenses through e-wallets (EW2), using transaction history and balance features (EW3), frequency of use (EW4), and integration of e-wallets into routine business transactions (EW5). A higher score indicates a higher level of e-wallet utilization.

QRIS Utilization

QRIS Utilization is defined as the extent to which an MSME accepts customer payments through QRIS and uses the resulting transaction information in its operating routines (the authors' operational definition). QRIS is widely used by small merchants in Indonesia: more than 90 percent of QRIS merchants are MSMEs (ANTARA, 2025). Yamani and Lenap (2025) found that QRIS implementation encouraged more organized financial records among MSMEs in Mataram City. Gunawan et al. (2023) and Paramita and Cahyadi (2024) examined the acceptance and use of QRIS through the Technology Acceptance Model and an extended UTAUT model, and Ramayanti et al. (2025) examined the factors behind the intention to use QRIS in Indonesia. The acceptance literature is therefore well developed; the link from QRIS use to financial management quality is the part that remains thin.

The construct is measured with five indicators (QR1–QR5): displaying QRIS at the point of sale (QR1), the share of sales received through QRIS (QR2), using QRIS notifications and transaction reports to check daily sales (QR3), regular settlement of QRIS proceeds into the business account (QR4), and consistent use across all sales channels (QR5). Higher scores indicate more intensive use of QRIS.

Digital Accounting Utilization

Digital Accounting Utilization is defined as the extent to which an MSME uses digital applications or software to record, process, report, and use financial information (the authors' operational definition). Digital accounting systems allow a large number of transactions to be processed and generate the data needed for analysis (Lutfi et al., 2022b). For MSMEs, which often keep handwritten or fragmented records, digital accounting can improve the accuracy and timeliness of financial information. In Medan, Sihombing et al. (2026) found that utilization of a digital accounting information system was positively and significantly related to the quality of financial reports, and they describe such utilization as still limited among local MSMEs.

The construct is measured with five indicators (DA1–DA5): use of a digital accounting application for bookkeeping (DA1), automatic recording of transactions (DA2), preparation of digital financial statements such as income statements and cash flow reports (DA3), real-time access to and secure storage of financial data (DA4), and use of accounting information in business decisions (DA5).

Conceptual Framework

Based on the discussion above, the conceptual framework positions *E-Wallet Utilization* (EW), *QRIS Utilization* (QR), and *Digital Accounting Utilization* (DA) as exogenous variables that each affect *Financial Management Quality* (FMQ). The exogenous variables are allowed to correlate, because businesses that use digital payment tools are also likely to use digital records, but these correlations are not hypothesized. Figure 1 presents the research model.

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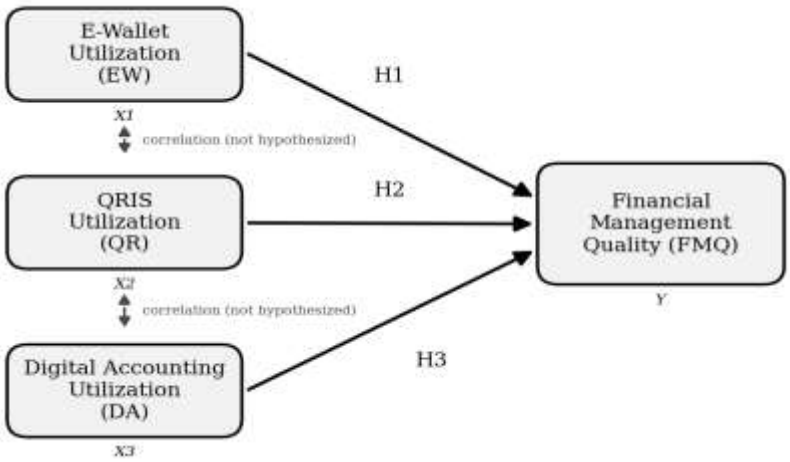


Figure 1. Research Model

Hypothesis Development

E-Wallet Utilization and Financial Management Quality

E-wallets can strengthen financial management in several ways. Every payment leaves a digital trace that can be matched against the business's own records, which supports the accuracy and completeness of those records. Receiving and paying through the same application also makes the balance easier to see and helps owners keep business money apart from personal money. Putri et al. (2026) found that e-wallet adoption was associated with more transactions and less reliance on family labor, which the authors read as a sign of efficiency, and they argue that digital payment systems streamline financial administration and record keeping. On this basis, the first hypothesis is formulated as follows.

H_1: *E-Wallet Utilization* has a positive and significant effect on *Financial Management Quality* of MSMEs in Medan City

QRIS Utilization and Financial Management Quality

QRIS gives MSMEs a standard way to accept payments, and each payment produces a notification and a settlement record that can be checked against daily sales. Compared with cash, this makes it harder for sales to go unrecorded and easier to reconcile the day's takings, which supports orderly recording and cash control. Yamani and Lenap (2025) found that QRIS implementation had a positive and significant effect on financial recording and financial performance of MSMEs in Mataram City, and concluded that digital payment systems play a strategic role in improving MSME financial governance. Extending this evidence to the quality of financial management in Medan, the second hypothesis is formulated as follows.

H_2: *QRIS Utilization* has a positive and significant effect on *Financial Management Quality* of MSMEs in Medan City.

Digital Accounting Utilization and Financial Management Quality

Digital accounting addresses the core of financial management directly. Accurate and timely information helps owners control costs, plan cash flow, prepare the financial reports requested by lenders, and make decisions on prices and purchases. Lutfi et al. (2022b) showed that the use of a digital accounting system has a positive and significant effect on performance in SMEs, Lutfi et al. (2022a) showed that implementing an accounting information system supports sustainable business performance, and Haryanto et al. (2025) reported a positive effect of accounting information systems on MSME performance in Bekasi City. For Medan, Sihombing et al. (2026) found that digital accounting utilization is positively related to financial report quality. Because the quality of financial management

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depends on the same activities that digital accounting supports, namely recording, reporting, and using information, the third hypothesis is formulated as follows.

H_3: *Digital Accounting Utilization* has a positive and significant effect on *Financial Management Quality* of MSMEs in Medan City

III. RESEARCH METHOD

Research Design and Scope

This study uses a quantitative approach with an associative causal design to test the effect of E-Wallet Utilization, QRIS Utilization, and Digital Accounting Utilization on Financial Management Quality. Primary data were collected through a survey using a closed-ended questionnaire at a single point in time (*cross-sectional*). The temporal scope of the study is 2024–2025: respondents were asked to rate how their business used e-wallets, QRIS, and digital accounting, and how it managed its finances, during the 2024–2025 business years. This window coincides with a period of rapid growth in QRIS acceptance in Indonesia (ANTARA, 2025; VOI, 2025).

Population and Sample

The population consists of MSMEs owned or managed by individuals in Medan City in the culinary, retail trade, fashion, and service sectors. Respondents are owners or managers who make financial decisions. The sample was determined through purposive sampling with the following criteria: (1) the business has operated for at least one year and was operating during 2024–2025; (2) the business accepts or makes payments through at least one digital payment tool, either an e-wallet or QRIS; and (3) the business keeps its financial records, at least in part, with a digital application or software. The sample size follows the rule of thumb of five to ten observations per indicator (also applied by Irawan et al., 2026). With 21 indicators, the range of respondents is 105 to 210, and the final sample consists of 150 respondents. Data were collected from July 2026 to September 2026 through an online questionnaire and direct assistance.

Instrument and Measurement

All variables are measured on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). All indicators are reflective and were developed by the authors from the literature listed in Table 2. The indicators of each construct are listed in Table 3. The instrument and the figures reported in the Results section are used for illustration only and must be replaced with the output of actual field data.

Table 2. Operational Definitions and Indicators

Variable	Operational Definition	Indicators	References
E-Wallet Utilization (EW)	The extent to which an MSME uses e-wallet applications to receive, make, and monitor business payments in routine operations.	5 indicators: receiving customer payments, paying suppliers and expenses, transaction history and balance features, frequency of use, and integration into routine transactions.	Developed from Putri et al. (2026)
QRIS Utilization (QR)	The extent to which an MSME accepts customer payments through QRIS and uses the resulting transaction information in its operating routines.	5 indicators: QRIS displayed at the point of sale, share of sales received through QRIS, use of notifications and reports to check sales, regular settlement into the business account, and use across sales channels.	Developed from Yamani & Lenap (2025); Gunawan et al. (2023)
Digital Accounting Utilization (DA)	The extent to which an MSME uses digital applications or software to record, process, report, and use financial information.	5 indicators: digital bookkeeping application, automatic transaction recording, digital financial statements, real-time and secure data access, and use of accounting information in decisions.	Developed from Lutfi et al. (2022a, 2022b); Haryanto et al. (2025)
Financial Management Quality (FMQ)	The extent to which an MSME records transactions accurately,	6 indicators: accuracy of records, budgeting and planning, cash flow monitoring, separation of business and	Developed from Yamani & Lenap

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	plans and controls its money, separates business and personal finances, and uses financial information in decisions.	personal finances, timely financial reports, and use of financial information in decisions.	(2025); Irawan et al. (2026)

Source: Compiled by the authors (2026)

Table 3. Measurement Indicators

Variable	Code	Indicator
E-Wallet Utilization	EW1	Receiving customer payments through e-wallets
	EW2	Paying suppliers and operating expenses through e-wallets
	EW3	Using transaction history and balance features
	EW4	Frequency of e-wallet use
	EW5	Integration of e-wallets into routine business transactions
QRIS Utilization	QR1	Displaying QRIS at the point of sale
	QR2	Share of sales received through QRIS
	QR3	Using QRIS notifications and transaction reports to check daily sales
	QR4	Regular settlement of QRIS proceeds into the business account
	QR5	Consistent use of QRIS across all sales channels
Digital Accounting Utilization	DA1	Use of a digital accounting application for bookkeeping
	DA2	Automatic recording of transactions
	DA3	Preparation of digital financial statements (income statement, cash flow report)
	DA4	Real-time access to and secure storage of financial data
	DA5	Use of accounting information in business decisions
Financial Management Quality	FMQ1	Accuracy and completeness of financial records
	FMQ2	Budgeting and planning
	FMQ3	Monitoring of cash flow
	FMQ4	Separation of business and personal finances
	FMQ5	Timely preparation of financial reports
	FMQ6	Use of financial information in decisions on pricing, purchasing, and financing

Source: Compiled by the authors (2026)

Data Analysis

The data were analyzed using partial least squares structural equation modeling (PLS-SEM) in SmartPLS 4. This approach was chosen because the model is prediction-oriented, involves latent constructs measured by several indicators, and does not require normally distributed data (Hair et al., 2019). The measurement model was evaluated through convergent validity (outer loading ≥ 0.70 and AVE ≥ 0.50), reliability (composite reliability and Cronbach's alpha ≥ 0.70), and discriminant validity using the Fornell–Larcker criterion (Hair et al., 2019) and the heterotrait–monotrait ratio (HTMT < 0.90; Franke & Sarstedt, 2019).

The structural model was evaluated through collinearity (inner VIF), the coefficient of determination (R^2), effect size (f^2), path coefficients, and SRMR (Hair et al., 2022). Hypotheses were tested through bootstrapping with 5,000 subsamples at the 5% significance level (two-tailed).

IV. RESULTS AND DISCUSSION

Results

Respondent Profile

A total of 150 MSME owners and managers in Medan City participated in the survey (Table 4). The culinary sector dominated the sample (66 respondents; 44.0%), followed by retail trade (33; 22.0%), fashion (27; 18.0%), and services (24; 16.0%). Most businesses were micro enterprises (96; 64.0%),

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followed by small enterprises (47; 31.3%) and medium enterprises (7; 4.7%). In terms of business age, 51 businesses (34.0%) had operated for one to three years, 54 (36.0%) for more than three to five years, and 45 (30.0%) for more than five years. Regarding education, 58 respondents (38.7%) had completed senior high school, 80 (53.3%) held a diploma or bachelor's degree, and 12 (8.0%) held a postgraduate degree. The sample therefore consists mainly of micro and small culinary and retail businesses run by relatively well-educated owners.

Table 4. Respondent Characteristics (N = 150)

Characteristic	Category	Frequency	Percentage (%)
Business sector	Culinary	66	44.0
	Retail trade	33	22.0
	Fashion	27	18.0
	Services	24	16.0
Business scale	Micro	96	64.0
	Small	47	31.3
	Medium	7	4.7
Business age	1–3 years	51	34.0
	> 3–5 years	54	36.0
	> 5 years	45	30.0
Education	Senior high school	58	38.7
	Diploma/Bachelor	80	53.3
	Postgraduate	12	8.0

Source: Primary data, processed (2026)

Descriptive Statistics

Table 5 presents the descriptive statistics. All four constructs fall in the "high" category on the five-point scale (3.41–4.20). *QRIS Utilization* recorded the highest mean (M = 4.12; SD = 0.55), followed by *E-Wallet Utilization* (M = 3.96; SD = 0.59), *Financial Management Quality* (M = 3.81; SD = 0.60), and *Digital Accounting Utilization* (M = 3.64; SD = 0.72). *Digital Accounting Utilization* had the lowest mean and the widest dispersion, as well as the lowest individual score in the data (1.80). This indicates that digital bookkeeping is the least developed and most uneven practice across businesses, in line with the finding that SMEs are slow to adopt digital accounting systems (Lutfi et al., 2022b) and with the observation that digital accounting use among MSMEs in Medan is still limited (Sihombing et al., 2026).

Table 5. Descriptive Statistics (N = 150)

Variable	Min	Max	Mean	Std. Dev.
E-Wallet Utilization (EW)	2.40	5.00	3.96	0.59
QRIS Utilization (QR)	2.60	5.00	4.12	0.55
Digital Accounting Utilization (DA)	1.80	5.00	3.64	0.72
Financial Management Quality (FMQ)	2.17	5.00	3.81	0.60

Source: Primary data, processed (2026)

Measurement Model Assessment

The reflective measurement model met all conventional criteria (Table 6). All outer loadings ranged from 0.759 to 0.861, above the 0.70 threshold. The AVE of every construct (0.627–0.672) exceeded 0.50, indicating convergent validity. Composite reliability (0.894–0.913) and Cronbach's alpha (0.893–0.913) were above 0.70 for all constructs, indicating internal consistency (Hair et al., 2019). Discriminant validity was established (Table 7): the square root of each construct's AVE was larger than its correlations with the other constructs (Hair et al., 2019), and all HTMT values (highest = 0.664) were below 0.90 (Franke & Sarstedt, 2019).

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Table 6. Validity and Reliability Test Results

Variable	Outer loading	AVE	Composite reliability	Cronbach's alpha
E-Wallet Utilization	0.781–0.846	0.660	0.906	0.906
QRIS Utilization	0.775–0.861	0.672	0.911	0.911
Digital Accounting Utilization	0.759–0.834	0.627	0.894	0.893
Financial Management Quality	0.763–0.837	0.636	0.913	0.913

Source: SmartPLS 4 output, processed (2026)

Table 7. Discriminant Validity (Fornell–Larcker Criterion)

Variable	EW	QR	DA	FMQ
E-Wallet Utilization (EW)	**0.812**			
QRIS Utilization (QR)	0.480	**0.820**		
Digital Accounting Utilization (DA)	0.400	0.460	**0.792**	
Financial Management Quality (FMQ)	0.520	0.550	0.600	**0.798**

Note: bold diagonal = square root of AVE. HTMT: EW–QR = 0.528; EW–DA = 0.445; EW–FMQ = 0.572; QR–DA = 0.510; QR–FMQ = 0.603; DA–FMQ = 0.664. Source: SmartPLS 4 output, processed (2026)

Structural Model and Hypothesis Testing

The structural model was evaluated using bootstrapping with 5,000 subsamples (Table 8). The inner VIF values were between 1.339 and 1.462, far below the threshold of 3, so collinearity among the three predictors was not a concern. The model explained $R^2 = 0.498$ of the variance in *Financial Management Quality* (adjusted $R^2 = 0.488$), and the SRMR was 0.051, below the guideline of 0.08. As a rule of thumb, R^2 values of 0.25, 0.50, and 0.75 are regarded as weak, moderate, and substantial, respectively (Hair et al., 2019), so the explanatory power of the model is close to the moderate level.

All three hypotheses were supported. *E-Wallet Utilization* had a positive and significant effect on *Financial Management Quality* (H1: $\beta = 0.243$; $t = 3.539$; $p < 0.001$), *QRIS Utilization* also had a positive and significant effect (H2: $\beta = 0.256$; $t = 3.616$; $p < 0.001$), and *Digital Accounting Utilization* had the strongest positive and significant effect (H3: $\beta = 0.385$; $t = 5.673$; $p < 0.001$). The effect size was medium for *Digital Accounting Utilization* ($f^2 = 0.220$) and small for *E-Wallet Utilization* ($f^2 = 0.086$) and *QRIS Utilization* ($f^2 = 0.090$); values of 0.02, 0.15, and 0.35 are conventionally read as small, medium, and large. The coefficients of *E-Wallet Utilization* and *QRIS Utilization* are close to each other, and the differences among the three coefficients were not tested formally.

Table 8. Hypothesis Testing Results

Hypothesis	Path	β	t-statistic	p-value	f^2	Decision
H1	EW → FMQ	0.243	3.539	< 0.001	0.086	Supported
H2	QR → FMQ	0.256	3.616	< 0.001	0.090	Supported
H3	DA → FMQ	0.385	5.673	< 0.001	0.220	Supported

Note: 5% significance level; 95% confidence intervals: H1 [0.108, 0.378], H2 [0.117, 0.395], H3 [0.252, 0.518]; R^2 (FMQ) = 0.498. Source: SmartPLS 4 output, processed (2026)

DISCUSSION

Overview: Three Digital Practices, One Management Outcome

The results show that e-wallet use, QRIS use, and digital accounting use are each positively and significantly related to the quality of financial management of MSMEs in Medan in 2024–2025. The three variables are moderately correlated ($r = 0.40–0.60$), yet each keeps a distinct and statistically significant effect when the others are controlled, and together they explain 49.8% of the variance in *Financial Management Quality*. The remaining 50.2% is explained by factors outside the model, such as financial literacy, the owner's education, business size, and the support received from banks and mentoring programs. Consistent with broader evidence that digital financial tools support MSME financial outcomes (Irawan et al., 2026; Pitaloka & Afandy, 2025), the findings suggest that digital tools matter for how MSMEs manage their money, and that their effect differs by type of tool.

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E-Wallet Utilization and Financial Management Quality (H1)

E-Wallet Utilization had a positive and significant effect on *Financial Management Quality* (β = 0.243). This agrees with Putri et al. (2026), who linked e-wallet adoption to higher transaction volume and operational efficiency among MSMEs. A plausible explanation is that e-wallets leave a transaction trail and a visible balance, which makes it easier for owners to record what was received and paid and to separate business funds from personal funds. The effect size is small ($f^2 = 0.086$), which is reasonable because an e-wallet mainly captures the movement of money; it does not classify transactions, prepare reports, or support budgeting by itself. The benefit therefore depends on whether owners use the transaction history, which is why the history indicator (EW3) is part of the construct.

QRIS Utilization and Financial Management Quality (H2)

QRIS Utilization also had a positive and significant effect (β = 0.256), consistent with Yamani and Lenap (2025), who found that QRIS implementation improved financial recording and performance among MSMEs in Mataram City. QRIS payments arrive with a notification and a settlement record, so owners can compare the day's sales with what was actually received, which supports orderly recording and cash control. QRIS had the highest mean in the sample (M = 4.12), meaning that most respondents already use it intensively. This fits the national picture of widespread QRIS acceptance among MSMEs (ANTARA, 2025). Because almost everyone uses QRIS, the differences in management quality are more likely to depend on what owners do with the resulting data than on whether they accept QRIS, which may explain why the effect size remains small ($f^2 = 0.090$).

Digital Accounting Utilization and Financial Management Quality (H3)

Digital Accounting Utilization had the strongest effect on *Financial Management Quality* (β = 0.385; $f^2 = 0.220$). This is consistent with Lutfi et al. (2022a, 2022b), who found positive effects of accounting information systems and digital accounting systems on performance in Jordanian SMEs, with Haryanto et al. (2025) for MSMEs in Bekasi City, and in direction with the Medan evidence on financial report quality (Sembiring et al., 2025; Sihombing et al., 2026). Those studies were conducted in different contexts and with different constructs, so their effect sizes should not be compared directly with those here. In particular, Sihombing et al. (2026) used a single predictor and a different outcome, so their R^2 of 0.590 is not comparable with the R^2 of this three-predictor model. The result is also intuitive: record keeping, reporting, and the use of information are the core activities of financial management, and digital accounting supports exactly these activities. *Digital Accounting Utilization* had the lowest mean and the widest dispersion in the sample (M = 3.64; SD = 0.72), which suggests that many MSMEs have not yet realized this benefit and that the room for improvement is largest here.

Complementarity and Relative Contribution

The three practices probably reinforce each other. E-wallets and QRIS generate a continuous flow of digital transaction data, while digital accounting turns that data into records, reports, and information for decisions. A business that accepts digital payments but still records by hand may gain convenience without gaining management quality, whereas a business with a bookkeeping application but mostly cash sales must still enter much of its data manually. This interpretation is consistent with the moderate correlations and the larger effect of digital accounting, but it is an interpretation rather than a tested interaction, and future research can test whether the practices interact.

Theoretical Implications

The study contributes to the technology-adoption literature and the resource-based view in two ways. First, it shows that digital payment tools and digital accounting can be analyzed together as digital financial resources, and that the actual use of each is associated with better financial management among MSMEs. Second, it extends the evidence on e-wallets, QRIS, and digital accounting, which has mostly examined performance, transactions, or recording separately (Putri et al., 2026; Yamani & Lenap, 2025; Lutfi et al., 2022b), to the quality of financial management itself in a single model for a specific city and period.

Practical Implications

For MSME owners in Medan, the results suggest that payment tools should be combined with a simple digital bookkeeping routine, so that payment data become financial information. A concrete

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first step is to reconcile the day's QRIS and e-wallet settlements with the sales recorded in a bookkeeping application, and to keep business and personal accounts apart.

For the local government, banks, e-wallet providers, and mentoring institutions, digitalization programs should pair the introduction of e-wallets and QRIS with training in accounting applications, instead of treating them as separate programs. This matters all the more because Bank Indonesia is aiming for 45 million QRIS merchants and 60 million users in 2026 (VOI, 2025), so acceptance will keep spreading whether or not owners know how to use the data. Because *Digital Accounting Utilization* had the largest effect and the lowest, most uneven usage, training should be prioritized for owners who still rely on manual records. Payment providers could also add simple recording and reporting features to their services to lower the barrier to digital accounting.

Limitations and Future Research

Several limitations should be noted. The *cross-sectional* design supports only associations consistent with the hypothesized direction. All variables were self-reported by one respondent per business, which may introduce social desirability and common method bias, and *Financial Management Quality* was measured through perceptions rather than audited financial statements. Because respondents rated practices over the 2024–2025 business years, the data are retrospective and may be affected by recall. Purposive sampling, a single city, and the dominance of culinary businesses limit generalization. High QRIS acceptance in the sample may also have narrowed the variation in *QRIS Utilization*. The model excludes variables that may influence both adoption and outcomes, such as financial literacy, owner education, business size, and digital infrastructure. In addition, the empirical figures in this manuscript are illustrative and must be replaced with real field data.

Future research can (a) include financial literacy and owner characteristics as antecedents or moderators, (b) test mediating roles such as transaction efficiency, (c) use longitudinal designs or objective financial records, ideally following the same MSMEs across 2024, 2025, and later years, (d) test the interaction between payment tools and digital accounting, and (e) use larger multi-city samples.

CONCLUSION

This study examined the effect of E-Wallet Utilization, QRIS Utilization, and Digital Accounting Utilization on the Financial Management Quality of 150 MSMEs in Medan City in 2024–2025. E-Wallet Utilization ($\beta = 0.243$; $p < 0.001$), QRIS Utilization ($\beta = 0.256$; $p < 0.001$), and Digital Accounting Utilization ($\beta = 0.385$; $p < 0.001$) each had a positive and significant effect on Financial Management Quality, so all three hypotheses were supported. Together, the variables explained 49.8% of the variance in Financial Management Quality, with a medium effect size for Digital Accounting Utilization and small effect sizes for the two payment tools, which indicates that digital payments and digital bookkeeping contribute differently to the quality of financial management.

Theoretically, the study shows that the actual use of digital financial resources is associated with better financial management among MSMEs, and that payment tools and digital accounting are best analyzed together. Practically, three recommendations follow. First, MSME owners should combine e-wallets and QRIS with digital bookkeeping. Second, the local government and mentoring institutions in Medan should pair payment-tool introduction with accounting training, prioritizing owners who still keep manual records. Third, future research should replace the illustrative figures with real field data and test mediating and moderating variables, a longitudinal design, and larger multi-city samples.

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