

THE EFFECT OF FINTECH ADOPTION AND DIGITAL ACCOUNTING ON THE FINANCIAL SUSTAINABILITY OF MSMEs IN MEDAN CITY

^{1*}Tri Dharma Sipayung

Email: darmacom29@gmail.com

²Apriani M Sibarani

Email: ma2grangel@gmail.com

³Saur Melianna Sipayung

Email: saurpayung12@gmail.com

^{1,2}Department of Accounting, Faculty of Economics, Universitas Methodist Indonesia

³Department of Management, Faculty of Economics, Universitas Methodist Indonesia

*Corresponding author: darmacom29@gmail.com

ABSTRACT

This study examines the effect of Fintech Adoption and Digital Accounting on the Financial Sustainability of micro, small, and medium enterprises (MSMEs) in Medan City. An associative quantitative design was applied to a survey of 120 MSME owners and managers in the culinary, fashion, retail trade, and service sectors, selected through purposive sampling. 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. Fintech Adoption had a positive and significant effect on Financial Sustainability ($\beta = 0.412$; $t = 4.873$; $p < 0.001$), and Digital Accounting also had a positive and significant effect ($\beta = 0.358$; $t = 4.126$; $p < 0.001$). Together, the two variables explained 43.4% of the variance in Financial Sustainability, with medium effect sizes ($f^2 = 0.236$ and 0.178 , respectively). The findings suggest that digital financial services and digital bookkeeping reinforce MSME financial sustainability, so support programs in Medan should promote both together rather than treating them as separate agendas.

Keywords: *Fintech Adoption, Digital Accounting, Financial Sustainability, MSMEs, Medan*

ABSTRAK

Penelitian ini meneliti pengaruh Adopsi Fintech dan Akuntansi Digital terhadap Keberlanjutan Keuangan usaha mikro, kecil, dan menengah (UMKM) di Kota Medan. Desain kuantitatif asosiatif diterapkan pada survei terhadap 120 pemilik dan manajer UMKM di sektor kuliner, mode, perdagangan ritel, dan jasa, yang dipilih melalui sampling bertujuan. Data dikumpulkan dengan kuesioner skala Likert lima poin dan dianalisis menggunakan pemodelan persamaan struktur kuadrat terkecil parsial (PLS-SEM) di SmartPLS 4. Model pengukuran ini memenuhi semua kriteria validitas dan keandalan. Adopsi *Fintech* memberikan efek positif dan signifikan terhadap Keberlanjutan Keuangan ($\beta = 0,412$; $t = 4,873$; $p < 0,001$), dan Akuntansi Digital juga memberikan efek positif dan signifikan ($\beta = 0,358$; $t = 4,126$; $p < 0,001$). Kedua variabel ini secara keseluruhan menjelaskan 43,4% varians dalam Keberlanjutan Keuangan, dengan ukuran efek sedang ($f^2 = 0,236$ dan $0,178$, masing-masing). Temuan menunjukkan bahwa layanan keuangan digital dan pembukuan digital memperkuat keberlanjutan keuangan UMKM, sehingga program dukungan di Medan harus mempromosikan keduanya secara bersama-sama daripada memperlakukannya sebagai agenda terpisah.

Kata Kunci: *Adopsi Fintech, Akuntansi Digital, Keberlanjutan Keuangan, UMKM, Medan*

I. INTRODUCTION

Micro, small, and medium enterprises (MSMEs) are the backbone of the Indonesian economy, and Medan, one of the largest economic hubs outside Java, is home to many in the culinary, fashion,

retail, and service sectors. For such businesses, survival depends on more than just sales. It relies on *financial sustainability*: the ability to maintain profits, maintain healthy cash flow, meet financial obligations, and withstand shocks over time. Many MSMEs still struggle with this because their financial management is informal. Irawan et al. (2026), studying MSMEs in Bandar Lampung, described a persistent reliance on manual financial systems that impacts sustainability outcomes, a pattern also well known among MSMEs in other cities in Indonesia.

Two digital practices are expected to address this issue. The first is *Fintech Adoption*, the use of digital payment, financing, and financial management services in everyday business. Fintech offers MSMEs efficient access to financing, digital transaction records, and faster and more transparent payments (Irawan et al., 2026). Pitaloka and Afandy (2025), from 190 Indonesian MSMEs that have adopted fintech, found that fintech significantly impacts financial sustainability performance, in part through competitiveness. Irawan et al. (2026), using 200 MSMEs, also reported a strong relationship between fintech adoption and sustainability performance. Related research has examined the drivers of fintech adoption among Indonesian MSMEs (Nugraha et al., 2022) and whether fintech adoption and financial literacy improve corporate sustainability performance (Siddik et al., 2023).

The second practice is *Digital Accounting*, which is the use of digital applications and software to record, process, report, and use financial information. Digital accounting systems enable the reporting and processing of large transaction volumes and generate data needed for analysis, but SMEs have been slow to adopt them (Lutfi et al., 2022b). In a sample of 183 Jordanian SMEs, Lutfi et al. (2022b) found that the use of digital accounting systems had a positive and significant effect on their performance. In a related study, Lutfi et al. (2022a) showed that the implementation of accounting information systems triggers sustainable business performance, noting that only about 14% of Jordanian SMEs have implemented such internal reporting systems.

Despite these insights, fintech and digital accounting are typically studied separately, and evidence on digital accounting largely originates outside Indonesia. To the author's knowledge, evidence estimating the effects of both practices on financial sustainability within a single model for MSMEs in Medan is still limited. Table 1 summarizes previous studies that provide the empirical basis for this research

Table 1. Summary of Previous Studies

Researcher (Year)	Variables	Method	Results
Pitaloka & Afandy (2025)	Fintech adoption, competitiveness, and financial sustainability performance of Indonesian MSMEs	PLS-SEM (SmartPLS 4); 190 respondents	Fintech significantly impacts competitiveness and financial sustainability performance; competitiveness mediates this relationship.
Irawan et al. (2026)	Financial literacy, government support, fintech adoption, and the sustainability performance of MSMEs in Bandar Lampung	SEM-PLS; 200 MSMEs	Fintech adoption is closely linked to sustainability performance; several factors determine fintech adoption.
Lutfi et al. (2022a)	Antecedents of AIS implementation and sustainable business performance of Jordanian SMEs	Survey; TOE framework and resource dependency theory	AIS implementation, driven by external pressure, compatibility, financial support, top management support, and external assistance, drives sustainable business performance.
Lutfi et al. (2022b)	The use of digital accounting systems, DAS performance, and the moderating effect of COVID-19 in Jordanian SMEs	PLS-SEM; 183 SMEs	Watershed use has a positive and significant effect on watershed performance; COVID-19 moderates this relationship.

Source: Compiled by the authors (2026)

The objectives of this study are (1) to analyze the effect of Fintech Adoption on Financial Sustainability, (2) to analyze the effect of Digital Accounting on Financial Sustainability, and (3) to assess the joint explanatory power and relative contribution of both variables. Theoretically, this study integrates the technology adoption view with the resource-based view of digital financial practices in one explanatory model. Practically, this study provides a basis for MSME owners, local governments, and financial institutions in Medan to design support that combines digital financial services with digital bookkeeping.

II. LITERATURE REVIEW

Theoretical Basis: Technology Acceptance and Resource-Based View

The Technology Acceptance Model explains why people adopt technology through perceived usefulness and ease of use (Davis et al., 1989). In this study, the adoption behavior itself, namely the actual use of fintech and digital accounting, is treated as an observed practice, and its consequences for the business are the primary focus. Lutfi et al. (2022b) combine a resource-based view with a technology–organization–environment framework to study digital accounting in SMEs, treating the system as a resource whose effective use improves performance. By this logic, Fintech Adoption and Digital Accounting are treated here as digital financial resources that, when actually used, strengthen the financial sustainability of the business

Fintech Adoption

In this study, *Fintech Adoption* is defined as the extent to which MSME owners use digital financial services, such as digital payments, digital financing, and digital financial management features, in routine business operations (author's operational definition). Fintech provides MSMEs with easier access to digital financial services and increases productivity and transaction efficiency (Pitaloka & Afandy, 2025). This construct is measured by five indicators (FA1–FA5). The use of digital payments such as QRIS and e-wallets (FA1) and the use of digital financing or online loans (FA2) reflect access to payment and funding channels. The use of digital financial management features such as balance monitoring and transfers (FA3), frequency and intensity of use (FA4), and integration of fintech into routine business transactions (FA5) reflect how deeply these services are embedded in daily operations. Higher scores indicate a higher level of Fintech adoption

Digital Accounting

Digital accounting is defined as the extent to which an MSME uses digital applications or software to record, process, report, and use financial information (the author's operational definition). Digital accounting systems enable a large number of transactions to be processed and generate data necessary 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. This construct is measured by five indicators (DA1–DA5): use of digital accounting applications for bookkeeping (DA1), automatic transaction recording (DA2), preparation of digital financial reports such as profit and loss and cash flow statements (DA3), real-time access to and secure storage of financial data (DA4), and use of accounting information in business decision-making (DA5)

Financial Sustainability

Financial sustainability is defined as the ability of MSMEs to maintain stable profitability and healthy liquidity, meet their financial obligations, and withstand financial shocks over time (the author's operational definition). This aligns with the financial dimension of sustainability performance studied in previous MSME research (Pitaloka & Afandy, 2025; Irawan et al., 2026) and focuses on whether a business can continue operating on a strong financial foundation. This construct is measured by six indicators (FS1–FS6): profitability stability (FS1), healthy cash flow and liquidity (FS2), sales growth (FS3), ability to meet financial obligations (FS4), capital adequacy and access to funding (FS5), and resilience to sudden revenue declines (FS6)

Conceptual Framework

Based on the discussion above, the conceptual framework positions *Fintech Adoption* (FA) and *Digital Accounting* (DA) as exogenous variables, each of which influences *Financial Sustainability*

(FS). These two exogenous variables are allowed to correlate, as businesses using digital financial services likely also maintain digital records, but this correlation is not hypothesized. Figure 1 presents the research model.

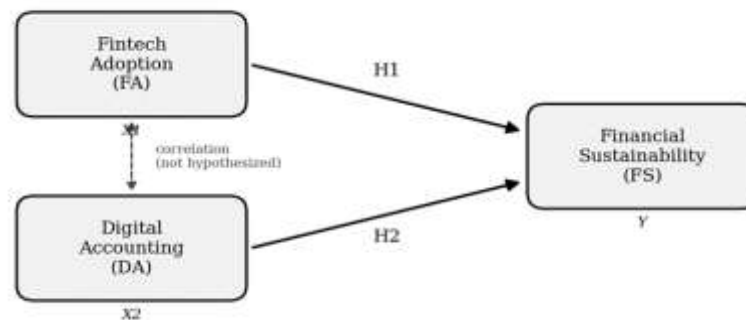


Figure 1. Research Model

Hypothesis Development

Fintech Adoption and Financial Sustainability

Fintech can strengthen financial sustainability in various ways. Digital payments shorten the time between sales and cash receipts and leave traceable transaction records; digital financing expands access to working capital; and digital financial management features facilitate balance monitoring and fund management. Pitaloka and Afandy (2025) reported that fintech adoption significantly impacts the financial sustainability performance of Indonesian MSMEs, and Irawan et al. (2026) found a strong relationship between fintech adoption and sustainability performance. The first hypothesis is therefore formulated as follows.

From a *Prospect Theory* perspective, *fintech adoption* serves as a debiasing tool that reduces bias in financial behavior because decisions are based on data, not false perceptions of profit and loss. Empirically, Pitaloka and Afandy (2025) reported that fintech adoption has a positive and significant effect on the financial sustainability performance of Indonesian MSMEs, and Irawan et al. (2026) also found a strong relationship between fintech adoption and sustainability performance. This means that the higher the level of fintech adoption, the better the MSMEs' ability to maintain liquidity, solvency, and long-term growth.

H₁: Fintech Adoption has a positive and significant influence on Financial Sustainability MSMEs in Medan City.

Digital Accounting and Financial Sustainability

Accurate and timely financial information helps owners control costs, plan cash flow, and make informed decisions, all of which support financial sustainability. Lutfi et al. (2022b) showed that the use of digital accounting systems has a positive and significant impact on system performance in SMEs, and Lutfi et al. (2022a) showed that the implementation of accounting information systems triggers sustainable business performance. Extending this evidence to the financial outcomes of SMEs in Medan, the second hypothesis is formulated as follows.

Quality information helps owners achieve three key sustainability functions. First, controlling costs by identifying inefficient expense items in real time. With an AI-integrated digital AIS, cost anomalies can be detected automatically, rather than waiting for end-of-month reports. Second, planning cash flow by predicting future liquidity needs through historical trend analysis and data-driven projections, thereby reducing the risk of default. Third, making informed decisions based on data, not intuition. Decisions such as pricing, expansion, or applying for fintech financing become more rational because they are supported by traceable transaction evidence.

Without a reliable system, MSME owners in Medan tend to maintain fragmented *mental accounting*, where cash management is recorded separately cash for expenses, cash for debt, cash for

family without a holistic picture. This fragmented recording pattern creates the illusion of liquidity and hinders fund consolidation for sustainable growth. Therefore, an accurate and timely AIS acts as an integrator, bringing these mental accounts together into a cohesive financial *dashboard*, ultimately laying the foundation for long-term financial sustainability.

H₂: Digital Accounting has a positive and significant influence on the Financial Sustainability of MSMEs in Medan City

III. RESEARCH METHODS

This study uses a quantitative approach with a causal associative design to examine the effects of *Fintech* and Digital Accounting Adoption on Financial Sustainability. Primary data were collected through a survey using a closed-ended questionnaire at a single point in time (*cross-sectional*).

The population consists of MSMEs owned or managed by individuals in Medan City in the culinary, fashion, retail, 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 been operating for at least one year; (2) the business uses at least one fintech service, such as digital payments or online financing; and (3) the business maintains its financial records, at least in part, with a digital application or software. The sample size follows the general rule of thumb of five to ten observations per indicator (also applied by Irawan et al., 2026). With 16 indicators, the range of respondents was 80 to 160 people, and the final sample consisted of 120 respondents. Data were collected from July 2026 to September 2026 through online questionnaires and in-person assistance.

All variables were 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 instruments and figures reported in the Results section are used for illustrative purposes only and should be replaced with actual field data output.

Table 2. Definitions and Operational Indicators

Variables	Operational Definition	Indicator	Library
<i>Fintech Adoption</i> (FA)	The extent to which owners use digital financial services in routine business operations.	5 indicators: digital payments, digital financing, digital financial management features, frequency and intensity of use, and integration into routine transactions.	Developed based on Pitaloka & Afandy (2025); Irawan et al. (2026)
<i>Digital Accounting</i> (DA)	The extent to which a business uses digital applications or software to record, process, report, and use financial information.	5 indicators: digital bookkeeping applications, automatic transaction recording, digital financial reports, real-time and secure data access, and the use of accounting information in decision-making.	Developed based on Lutfi et al. (2022a, 2022b)
<i>Financial Sustainability</i> (FS)	The ability to maintain stable profitability and liquidity, meet financial obligations, and withstand shocks over time.	6 indicators: profit stability, cash flow and liquidity, sales growth, ability to meet obligations, capital adequacy and access to funding, and resilience to revenue declines.	Developed based on Pitaloka & Afandy (2025); Irawan et al. (2026)

Source: Compiled by the authors (2026)

Data were analyzed using partial least squares structural equation modeling (PLS-SEM) in SmartPLS 4. This approach was chosen because it is prediction-oriented, involves latent constructs measured by multiple indicators, and does not require normally distributed data (Hair et al., 2019). The measurement model was evaluated through convergent validity (external loadings ≥ 0.70 and AVE ≥ 0.50), reliability (composite reliability and Cronbach's alpha ≥ 0.70), and discriminant validity using the Fornell–Larcker criteria (Fornell & Larcker, 1981) and the heterotrait–monotrait ratio (HTMT < 0.90 ; Henseler et al., 2015).

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

IV. RESULTS AND DISCUSSION

Results

Respondent Profile

A total of 120 MSME owners and managers in Medan City participated in this survey (Table 3). The culinary sector dominated the sample (52 respondents; 43.3%), followed by retail trade (26; 21.7%), fashion (24; 20.0%), and services (18; 15.0%). Most businesses were micro-enterprises (78; 65.0%), followed by small (36; 30.0%) and medium-sized enterprises (6; 5.0%). In terms of business age, 40 businesses (33.3%) had been operating for one to three years, 44 (36.7%) more than three to five years, and 36 (30.0%) more than five years. Regarding education, 48 respondents (40.0%) had completed high school, 62 (51.7%) had a diploma or bachelor's degree, and 10 (8.3%) had a postgraduate degree. Therefore, the sample primarily consisted of micro- and small culinary and retail businesses managed by relatively educated owners.

Table 3. Respondent Characteristics (N = 120)

Characteristics	Category	Frequency	Percentage (%)
Business sector	Culinary	52	43.3
	Retail trade	26	21.7
	Fashion	24	20.0
	Services	18	15.0
Business scale	Micro	78	65.0
	Small	36	30.0
	Intermediate	6	5.0
Business age	1–3 years	40	33.3
	> 3–5 years	44	36.7
	> 5 years	36	30.0
Education	Senior High School	48	40.0
	Diploma/Bachelor's Degree	62	51.7
	Postgraduate	10	8.3

Source: Primary data, processed (2026)

Descriptive Statistics

Table 4 presents descriptive statistics. All three constructs fall into the "high" category on a five-point scale (3.41–4.20). *Fintech Adoption* recorded the highest mean ($M = 3.92$; $SD = 0.62$), followed by *Financial Sustainability* ($M = 3.85$; $SD = 0.58$) and *Digital Accounting* ($M = 3.68$; $SD = 0.71$). *Digital Accounting* had the lowest mean and the widest distribution, as well as the lowest individual score in the data (1.80). This indicates that digital bookkeeping is the least developed practice and the most variable across businesses, in line with the finding that SMEs are slow to adopt digital accounting systems (Lutfi et al., 2022b).

Table 4. Descriptive Statistics (N = 120)

Variables	Min	Max	Average	Standard Deviation
Fintech Adoption (FA)	2.20	5.00	3.92	0.62
Digital Accounting (DA)	1.80	5.00	3.68	0.71
Financial Sustainability (FS)	2.33	5.00	3.85	0.58

Source: Primary data, processed (2026)

Measurement Model Assessment

The reflective measurement model met all conventional criteria (Table 5). All external loadings ranged from 0.738 to 0.874, above the threshold of 0.70. The AVE of each construct (0.641–0.665) exceeded 0.50, indicating convergent validity. Composite reliability (0.899–0.917) and Cronbach's

alpha (0.898–0.917) were above 0.70 for all constructs, indicating internal consistency (Hair et al., 2019). Discriminant validity was met (Table 6): the square root of each construct's AVE was greater than its correlation with the other constructs (Fornell & Larcker, 1981), and all HTMT values (highest = 0.577) were below 0.90 (Henseler et al., 2015)

Table 5. Validity and Reliability Test Results

Variables	External load	AVE	Composite reliability	Cronbach's Alpha
<i>Fintech Adoption</i>	0.761–0.869	0.665	0.908	0.908
<i>Digital Accounting</i>	0.742–0.852	0.641	0.899	0.898
<i>Financial Sustainability</i>	0.738–0.874	0.650	0.917	0.917

Source: SmartPLS 4 output, processed (2026)

Table 6. Discriminant Validity (Fornell–Larcker Criterion)

Variables	FA	DA	FS
Fintech Adoption (FA)	0.816		
Digital Accounting (DA)	0.460	0.801	
Financial Sustainability (FS)	0.577	0.548	0.806

Note: bold diagonal = square root of AVE. HTMT: FA–DA = 0.460; FA–FS = 0.577; DA–FS = 0.548. Source: SmartPLS 4 output, processed (2026)

Structural Model and Hypothesis Testing

The structural model was evaluated by bootstrapping using 5,000 subsamples (Table 7). The inner VIF value was 1.268, well below the threshold of 3, so collinearity between the two predictors is not a problem. The model explained $R^2 = 0.434$ of the variance in *Financial Sustainability*, and the SRMR was 0.058, below the 0.08 guideline. As a general rule, R^2 values of 0.25, 0.50, and 0.75 are considered weak, moderate, and substantial, respectively (Hair et al., 2019), so the explanatory power of this model falls between weak and moderate.

Both hypotheses are supported. *Fintech Adoption* has a positive and significant effect on *Financial Sustainability* (H1: $\beta = 0.412$; $t = 4.873$; $p < 0.001$), and *Digital Accounting* also has a positive and significant effect on *Financial Sustainability* (H2: $\beta = 0.358$; $t = 4.126$; $p < 0.001$). The effect sizes are moderate for both variables ($f^2 = 0.236$ for *Fintech Adoption* and 0.178 for *Digital Accounting*; values of 0.02, 0.15, and 0.35 are conventionally read as small, medium, and large, respectively). The coefficient for *Fintech Adoption* is slightly larger, but the difference between the two coefficients was not formally tested, so the two variables should be considered to make comparable contributions

Table 7. Hypothesis Testing Results

Hypothesis	Track	β	t statistics	p-value	f^2	Decision
H1	FA → FS	0.412	4,873	< 0.001	0.236	Accepted
H2	DA → FS	0.358	4,126	< 0.001	0.178	Accepted

Note: 5% significance level; 95% confidence interval: H1 [0.246; 0.578], H2 [0.188; 0.528]; R^2 (FS) = 0.434.

Source: SmartPLS 4 output, processed (2026)

DISCUSSION

Overview: Two Digital Practices, One Financial Result

The results of the study indicate that both digital practices are positively and significantly related to the financial sustainability of MSMEs in Medan. Both variables have a moderate correlation ($r = 0.46$), but each still has a different and statistically significant effect when other variables are controlled, and together they explain 43.4% of the variance in *Financial Sustainability*. In other words, the use of digital financial services and digital financial records complement each other, not replace each other. The remaining 56.6% of the variance is explained by factors outside the model, such as financial literacy, market conditions, and government support

Fintech Adoption and Financial Sustainability (H₁)

Fintech adoption has a positive and significant effect on *financial sustainability* ($\beta = 0.412$). This finding aligns with Pitaloka and Afandy (2025), who found that fintech significantly impacts the financial sustainability performance of Indonesian MSMEs, and Irawan et al. (2026), who reported a strong relationship between fintech adoption and sustainability performance. Several mechanisms may explain these results. Digital payments, such as QRIS, shorten the time between sales and cash receipts and leave traceable transaction records, thus supporting liquidity and cash flow stability. Digital financing channels can expand access to working capital, which is crucial for businesses that have traditionally relied on informal funding. Digital financial management features facilitate balance monitoring and the separation of business funds from personal funds. These mechanisms align with the *financial sustainability indicators* used here: cash flow, ability to meet obligations, access to capital, and resilience to revenue declines. Because the fintech indicators in this study focus on actual usage, these results suggest that benefits are achieved when fintech is embedded in daily operations, rather than simply installed.

Digital Accounting and Financial Sustainability (H₂)

Digital Accounting also has a positive and significant effect on *Financial Sustainability* ($\beta = 0.358$). This result is consistent with Lutfi et al. (2022b), who found that the use of digital accounting systems has a positive and significant effect on system performance in SMEs, and with Lutfi et al. (2022a), who showed that the implementation of accounting information systems drives sustainable business performance. These studies were conducted on SMEs in Jordan, so this study extends the evidence to MSMEs in a city in Indonesia, although differences in context and construct definition require caution in comparing the magnitude of the effect. A plausible explanation is that accurate and timely records enable owners to identify profitable products, control costs, anticipate cash shortages, and prepare financial reports required by lenders. These benefits align closely with the stability of profits, cash flow, and the ability to meet obligations. *Digital Accounting* has the lowest mean and widest distribution in the sample ($M = 3.68$; $SD = 0.71$), which indicates that the benefits of this practice have not been fully felt by many MSMEs and there is still room to expand it.

Complementarity and Relative Contribution

The two predictors likely reinforce each other in practice. Fintech generates a continuous stream of digital transaction data, while digital accounting transforms that data into usable information for decision-making. Businesses that adopt fintech but continue to record manually may gain payment and financing benefits, but fail to convert transaction data into insights, while businesses that maintain digital records without using digital payments still have to enter most of their data manually. This interpretation is consistent with the moderate correlation and comparable effect sizes, but it is an interpretation, not a tested interaction. Future research could examine whether the two practices interact.

Theoretical Implications

This study contributes to the technology adoption and resource-based perspective literature in two ways. First, it demonstrates that digital financial resources can be analyzed jointly, and that the actual use of both fintech and digital accounting is associated with better financial outcomes in MSMEs. Second, it presents evidence on digital accounting, which has been largely studied in other country contexts (Lutfi et al., 2022a, 2022b), alongside evidence on fintech in Indonesia (Pitaloka & Afandy, 2025; Irawan et al., 2026) within a single city-specific model.

Practical Implications

For MSME owners in Medan, this study suggests that digital payments and financing should be integrated with simple digital bookkeeping routines to convert transaction data into financial information. For local government agencies, fintech providers, and supporting institutions, digitalization programs should combine fintech introduction with accounting application training, rather than treating them as separate programs. Because *Digital Accounting* showed the lowest scores and was the most widespread, training should be prioritized for owners who still rely on manual records. Fintech providers can also add simple bookkeeping and reporting features to their services to lower barriers to digital accounting.

Limitations and Further Research

Several limitations should be noted. The *cross-sectional design* only supports associations consistent with the hypothesized direction. All variables are self-reported by a single respondent, which may introduce social desirability bias and common method bias, and *financial sustainability* is measured through perceptions, not audited financial statements. Purposeful sampling, single-city coverage, and the dominance of culinary businesses limit generalizability. The model also does not include variables that may influence adoption and outcomes, such as financial literacy, government support, and digital infrastructure. Furthermore, the empirical figures in this manuscript are illustrative and should be replaced with real-world data. Future research could (a) include financial literacy and government support as antecedents or moderators, (b) test for mediating factors, such as competitiveness, (c) use a longitudinal design or objective financial data, (d) test for interactions between *fintech adoption* and *digital accounting*, and (e) use a larger, multi-city sample.

V. CONCLUSION

This study examines the effect of Fintech Adoption and Digital Accounting on the Financial Sustainability of 120 MSMEs in Medan City. Fintech Adoption has a positive and significant effect on Financial Sustainability ($\beta = 0.412$; $p < 0.001$), and Digital Accounting also has a positive and significant effect ($\beta = 0.358$; $p < 0.001$). Both hypotheses are supported. The two variables together explain 43.4% of the variance in Financial Sustainability, with a medium effect size for each, indicating that digital financial services and digital bookkeeping provide comparable and complementary contributions.

In theory, this study suggests that actual use of digital financial resources is associated with stronger financial sustainability among MSMEs, and fintech and digital accounting are best analyzed together. Practically, three recommendations are as follows: First, MSME owners should combine fintech services with digital bookkeeping. Second, the local government and mentoring institutions in Medan should combine fintech orientation with accounting training, prioritizing owners who still maintain manual records. Third, future research should incorporate financial literacy and government support, test mediation or interaction effects, and use longitudinal or objective financial data from a larger sample of cities

BIBLIOGRAPHY

- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982–1003. <https://doi.org/10.1287/mnsc.35.8.982>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Girsang, M., Damanik, E., & Ananta, C. T. (2025). The Influence of Digital Entrepreneurial Orientation on the Performance of MSMEs in Medan City. *Jurnal Ilmiah Accusi*, 7(2), 545-558.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). A primer on partial least squares structural equation modeling (PLS-SEM) (3rd ed.). Sage. ISBN 978-1-5443-9640-8.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Irawan, I., Fadhlili, A., Diwasya, I. R., & Astuti, S. (2026). Financial literacy, government support, and fintech adoption as drivers of SME sustainability performance. *Academia Open*, 11(1). <https://doi.org/10.21070/acopen.11.2026.13046>

- Lutfi, A., Alkelani, S. N., Al-Khasawneh, M. A., Alshira'h, A. F., Alshirah, M. H., Almaiah, M. A., Alrawad, M., Alsyouf, A., Saad, M., & Ibrahim, N. (2022b). Influence of digital accounting system usage on SMEs performance: The moderating effect of COVID-19. *Sustainability*, 14(22), 15048. <https://doi.org/10.3390/su142215048>
- Lutfi, A., Al-Khasawneh, A. L., Almaiah, M. A., Alsyouf, A., & Alrawad, M. (2022a). Business sustainability of small and medium enterprises during the COVID-19 pandemic: The role of AIS implementation. *Sustainability*, 14(9), 5362. <https://doi.org/10.3390/su14095362>
- Martina, S., & Girsang, C. I. (2025). An Analysis of The Influence of Digital Accounting System Integration and Financial Literacy on The Financial Performance of MSMEs In the Era of Industry 4.0. *Jurnal Ilmiah Accusi*, 7(1), 135-144.
- Nugraha, D. P., Setiawan, B., Nathan, R. J., & Fekete-Farkas, M. (2022). Fintech adoption drivers for innovation for SMEs in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(4), 208. <https://doi.org/10.3390/joitmc8040208>
- Pitaloka, D. A., & Afandy, C. (2025). From fintech to competitiveness: Financial sustainability performance of MSMEs in the digital era. *Management Analysis Journal*, 14(2), 177–187. <https://doi.org/10.15294/maj.v14i2.27535>
- Siddik, A. B., Rahman, M. N., & Yong, L. (2023). Do fintech adoption and financial literacy improve corporate sustainability performance? *Journal of Cleaner Production*, 421. <https://doi.org/10.1016/j.jclepro.2023.137658>
- Simanjuntak, G. Y., Simanjuntak, R. M., Sibarani, A. M., Panjaitan, R. Y., & Silitonga, I. M. (2025). The Influence of Timeliness in Digital Financial Reporting (E-Reporting) on Market Reaction at the Indonesia Stock Exchange: The Mediating Role of Information Asymmetry. *Jurnal Ilmiah Accusi*, 7(2), 404-423