



The Effect of Digitalization on the Financial Performance of MSMEs in Yogyakarta

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ABSTRACT

This study seeks to examine the impact of digital marketing and digital payment on the financial performance of Micro, Small, and Medium Enterprises (MSMEs) in the Special Region of Yogyakarta. This study is driven by the swift digital transformation and growing technology use among MSMEs, yet its effect on financial performance has been inconsistent in previous research. This study utilizes a quantitative methodology, employing a survey technique via questionnaires administered to 100 MSME proprietors in the Special Region of Yogyakarta. Multiple linear regression analysis was conducted utilizing SPSS to evaluate the hypotheses. The findings demonstrate that digital marketing positively and significantly influences the financial performance of MSMEs. Likewise, digital payment exerts a beneficial and substantial impact on financial performance. Both independent variables concurrently exert a considerable impact on the financial performance of MSMEs. The findings indicate that the implementation of digital marketing techniques and digital payment systems enhances sales growth and operational efficiency in MSMEs. The results underscore the necessity of improving digital literacy and maximizing technology use to bolster MSME sustainability in the digital economy.

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INTRODUCTION

Digitalization has become integral to global development, including in Indonesia, prompting debate over its benefits and risks (Savvakis et al., 2024). Digital transformation is regarded as a key strategy for improving efficiency and competitiveness in developing economies (Chaerunisak et al., 2024), and for Indonesian MSMEs it has been shown to expand market reach and strengthen competitiveness through online marketing and digital payment (Purnomo, 2024; Pradana et al., 2024; Sihotang, 2025; Anggraini et al., 2025). Under Law No. 20 of 2008, MSMEs are productive economic activities that strengthen Indonesia's economic structure; they contribute more than 60% of GDP and absorb around 97% of the workforce (Salsabila et al., 2025), underscoring why MSME performance is central to national economic stability.

The Special Region of Yogyakarta (DIY) recorded 344,757 MSME units in 2024 (Bappeda DIY, 2024), driven by its character as a city of students, culture, tourism, and creative industry (Oentoro & Wiyatiningsih, 2022; Tarigan & Larasati, 2025). DIY also has a relatively high digital-literacy index of 3.64 (on a 1–5 scale) in 2022, though this represents a slight decline from the previous year (Bappeda DIY, 2024), indicating that digital adoption remains uneven among MSMEs.

MSME digitalization in DIY is generally realized through digital marketing and digital payment. While these are conceptually expected to raise sales, cost efficiency, and financial management, field findings show a gap: increased digital activity is not always followed by higher revenue, and some

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MSMEs instead face added costs from promotion fees, platform cuts, and capacity demands, indicating that digitalization's effect on financial performance remains inconsistent.

Prior studies report mixed results. Some find that digital marketing and digital payment positively affect operational efficiency, market access, and profitability (Purnomo, 2024; Pradana et al., 2024; Morisson & Fikri, 2025; Panduwinata et al., 2025), while others find technology adoption concentrated on marketing rather than financial management, limiting its benefit for financial performance (Anggraini et al., 2025; Indriastuti & Kartika, 2022), or find that digitalization can add costs — such as paid promotion and platform fees — that pressure short-term financial stability (Morisson & Fikri, 2025; Pradana et al., 2024). Differences in digital readiness and business characteristics further explain this variation (Anggraini et al., 2025; Indriastuti & Kartika, 2022).

Given this inconsistency, a research gap remains on how digital marketing and digital payment affect MSME financial performance in DIY, given its creative-economy, tourism, and digital-literacy characteristics. This study focuses on digital marketing and digital payment because both are the most commonly adopted, easily observed forms of MSME digitalization with a direct link to financial performance (Pradana et al., 2024; Morisson & Fikri, 2025; Panduwinata et al., 2025).

Accordingly, this study addresses two research questions: (1) does digital marketing have a positive and significant effect on MSME financial performance in DIY, and (2) does digital payment have a positive and significant effect on MSME financial performance in DIY. The study aims to analyze both effects, and is expected to enrich academic understanding of MSME digitalization and provide a conceptual and empirical basis for future research on digital-technology adoption and MSME financial performance.

LITERATURE REVIEW

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis (1986, 1989) as an adaptation of the Theory of Reasoned Action, explains technology acceptance through two main constructs: Perceived Usefulness (PU) — the degree to which a technology is believed to improve performance — and Perceived Ease of Use (PEOU) — the degree to which it is believed to require little effort. Both shape user attitude, which drives behavioral intention and, ultimately, actual use (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989).

Among MSMEs, PU is reflected in owners' belief that digitalization — such as social media, digital platforms, or digital payment — can increase sales and improve financial performance, while PEOU reflects how easily such technology can be adopted without extensive technical skill. TAM is therefore a relevant framework for explaining how MSME owners' perceived usefulness and ease of use of digital technology shape adoption, and ultimately, financial performance (Bustaman et al., 2023).

Digital Marketing

The Government of Indonesia regulates MSMEs through Law No. 20 of 2008, classifying businesses into micro, small, and medium enterprises based on asset and turnover thresholds, and supports them through empowerment programs, financing, and business guarantees.

Digital marketing is a marketing approach that uses digital technology — social media, e-commerce, and other online channels — to deliver information, build brand awareness, and drive transactions (Chaffey & Ellis-Chadwick, 2019). Within TAM, MSMEs adopt digital marketing on a sustained basis when they perceive it as useful for expanding market reach and easy to operate, which together shape their financial performance through increased brand awareness, purchase frequency, and customer loyalty (Saraswati & Yuliarti, 2025).

In this study, digital marketing was measured via questionnaire, observation, and structured interviews with MSE actors, following Nugroho and Kusumasari (2025), through two indicators: social-media use for promotion (soft and hard selling) and marketplace use (e.g., Shopee, TikTok Shop), reflecting MSMEs' ability to manage digital sales activity and expand market reach (Table 3).

Digital Payment

Digital payment is a payment method conducted through digital devices, categorized as chip-based (offline-capable) or server-based, such as mobile and internet banking (Titasari, 2023). In 2019, Bank Indonesia introduced QRIS, a unified QR-code-based payment standard that eases non-cash transactions and supports economic growth (Setiawan & Mahyuni, 2020); by December 2021, 351,949 merchants in DIY had adopted QRIS (Titasari, 2023). Within TAM, MSMEs adopt digital payment when they perceive it as useful — faster transactions, reduced cash handling, improved security — and easy to use, which drives sustained adoption and improved business performance (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989).

Digital payment was measured via primary data from MSME actors, following Seta et al. (2025), through five indicators: ease of use, transaction speed, transaction security, customer acceptance, and transaction efficiency (Table 4).

MSME Financial Performance

MSME financial performance reflects the ability to manage financial resources to sustain operations and drive growth, encompassing liquidity, profitability, and performance change over time; sound financial management improves stability, access to financing, and competitiveness (Nussy & Litamahuputty, 2025).

Following Anggraini et al. (2025), MSME financial performance was measured through two indicators: revenue/sales growth (turnover, sales volume, market expansion, revenue stability) and cost efficiency (control of operating, production, and distribution costs) (Table 5).

Previous Research

This study draws on prior research examining digitalization's effect on MSME performance across various contexts, summarized in Table 1.

Table 1. Previous Research

No	Researcher(s)	Research Variables	Findings
1	Savvakis, Kenourgios, & Trakadas (2024)	DV: MSME Financial Performance; IV: Digitalization	Digitalization has a positive and significant effect on MSME financial performance and mitigates the negative impact of COVID-19.
2	Chaerunisak et al. (2024)	DV: MSME Financial Performance; IV: (1) Business Digitalization (E-commerce), (2) Financial Inclusion	Business digitalization and financial inclusion positively affect MSME performance via e-commerce, expanding markets, raising sales, and easing access to financing.
3	Ridhwan et al. (2024)	DV: Business Performance and Business Innovation; IV: Financial Digitalization	Financial digitalization has a positive and significant effect on MSME business performance and innovation in Indonesia.
4	Titasari (2023)	DV: MSME Revenue; IV: E-commerce, Digital Payment	E-commerce and digital payment have a positive and significant effect on MSME revenue in DIY, both simultaneously and partially.
5	Nussy & Litamahuputty (2025)	DV: MSME Financial Performance; IV: Accounting Digitalization	Accounting digitalization positively affects MSME financial performance post-COVID-19 through improved profitability, liquidity, and operational efficiency; the effect is stronger for MSMEs with higher digital maturity.
6	Sharabati et al. (2024)	DV: MSME Performance; IV: Digital Marketing (online ads, social media, SEO, customer engagement)	Digital marketing has a positive and significant effect on SME performance by driving digital transformation and market expansion.
7	Nirmala, Ratnawati, Suyati, & Wibowo (2025)	DV: MSME Business Performance; IV: (1) Financial Literacy, (2) Digital Payment, (3) E-commerce Use, (4) Accounting Information Systems	E-commerce and accounting information systems positively and significantly affect MSME performance; financial literacy has a positive but non-significant effect, while digital payment has a negative and non-significant effect.

No	Researcher(s)	Research Variables	Findings
8	Nugroho & Kusumasari (2025)	DV: QRIS Mobile Banking Use; IV: Influence on the Use of Digital Payment	Digital marketing affects the use of QRIS digital payment through mobile banking.

Hypothesis Development

Effect of Digital Marketing on MSME Financial Performance

Digital marketing enables MSMEs to improve promotional effectiveness, expand market reach, and strengthen competitiveness. Within TAM, MSMEs adopt digital marketing when it is perceived as useful for improving sales performance and easy to operate. Empirical studies confirm this positive effect on MSME performance through market expansion and improved economic outcomes (Sharabati et al., 2024; Dewangga et al., 2025; Nirmalasari et al., 2024).

H1: Digital marketing has a positive and significant effect on MSME financial performance.

Effect of Digital Payment on MSME Financial Performance

Digital payment supports faster, safer, and better-documented transactions. Within TAM, its adoption is driven by perceived usefulness — improved transaction efficiency and cash-flow speed — and perceived ease of use. Prior studies confirm that digital payment positively affects business performance and innovation (Ridhwan et al., 2024; Titasari, 2023; Savvakis et al., 2024; Nirmala et al., 2025).

H2: Digital payment has a positive and significant effect on MSME financial performance.

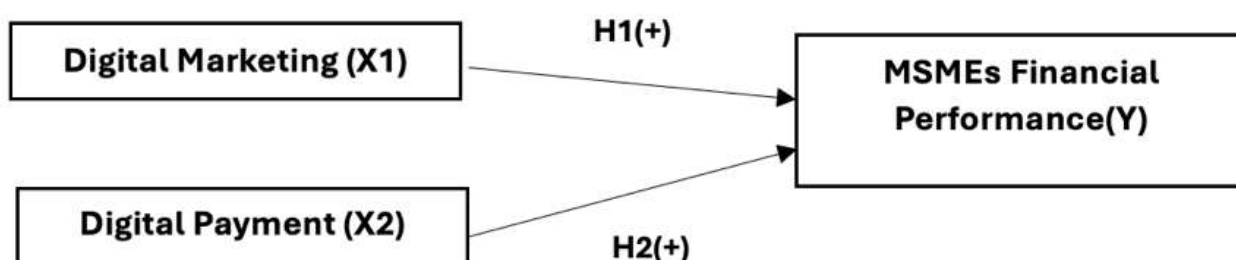


Figure 2. Research Framework

METHOD

This study used a quantitative, causal-associative research design based on primary data, testing the effect of digital marketing and digital payment on MSME financial performance under actual field conditions.

The population comprised all MSEs operating in DIY's five regencies/city — Yogyakarta City, Sleman, Bantul, Kulon Progo, and Gunungkidul — selected for their developed entrepreneurial ecosystem and accelerating MSME digitalization.

A purposive sampling technique was used, selecting MSMEs that: (1) have operated in DIY for at least five years; (2) apply digital marketing via social media or e-commerce; (3) use digital payment for transactions; and (4) have an owner/manager who understands the business's financial condition.

Sample size was determined using the Slovin formula, $n = N / (1 + Ne^2)$, with $N = 344,757$ MSMEs in DIY (Bappeda DIY, 2024) and a 10% margin of error (Sandri et al., 2025):

$$n = N / (1 + Ne^2)$$

where: n = sample size; N = population size; e = margin of error.

$$n = 344,757 / (1 + 3,447.57) \approx 99.98, \text{ rounded to 100 respondents — considered adequate per Seabrook (2025) for a two-predictor regression model.}$$

Respondent distribution (Table 2) reflects regional MSME concentration: Yogyakarta City, Sleman, and Bantul — centers of tourism, education, and creative industry — received more respondents, while Kulon Progo and Gunungkidul, more rural in character, received fewer.

Table 2. Sample Distribution

Region	Number of Respondents	Rationale
Yogyakarta City	30	MSME, tourism, and digital center
Sleman Regency	25	Tourism area & campus hub
Bantul Regency	25	Creative MSMEs & production centers
Kulon Progo Regency	10	Dispersed, rural MSMEs
Gunungkidul Regency	10	Limited MSMEs, geographically dispersed

This study used primary data obtained directly from MSME actors in DIY, to capture actual, objective conditions regarding digital marketing, digital payment, and financial performance. Data were collected in stages: initial observation and unstructured interviews to understand field conditions, followed by questionnaire distribution — directly and through MSME communities across DIY's regencies/city — to ensure respondents met the research criteria.

The questionnaire measured digital marketing, digital payment, and MSME financial performance using a 5-point Likert scale.

Operational Definition of Research Variables

Independent Variables

Digital Marketing (X1) is defined as the level of digital-technology use in MSME marketing activity, measured through two indicators: social-media use and marketplace use (Table 3).

Table 3. Operational Definition of the Digital Marketing Variable (X1)

Indicator	Sub-indicator	Code	Questionnaire item	Scale
Social media use for promotion	Soft selling	DM1	Uses social media to inform customers educationally	Likert 1–5
		DM2	Promotional content is persuasive, not pushy	Likert 1–5
		DM3	Shares product stories/testimonials via social media	Likert 1–5
	Hard selling	DM4	Offers products directly via social media	Likert 1–5
		DM5	Promotes discounts/special offers via social media	Likert 1–5
		DM6	Promotional content clearly invites purchase	Likert 1–5
Marketplace	Marketplace use	DM7	Uses marketplace as primary/supporting sales channel	Likert 1–5
		DM8	Marketplace reaches consumers outside local area	Likert 1–5
		DM9	Products displayed comprehensively on marketplace	Likert 1–5
	Storefront & product management	DM10	Regularly updates price/stock on marketplace	Likert 1–5
		DM11	Manages storefront display attractively	Likert 1–5
		DM12	Product descriptions are easy to understand	Likert 1–5
	Use of promotional features	DM13	Uses marketplace promotional features to boost sales	Likert 1–5
		DM14	Uses video/livestream to promote products	Likert 1–5
		DM15	Promotional features increase buying interest	Likert 1–5
	Order and customer-interaction management	DM16	Manages customer orders well via marketplace	Likert 1–5
		DM17	Marketplace eases communication with customers	Likert 1–5
		DM18	Payment/delivery systems ease the sales process	Likert 1–5

Digital Payment (X2) is defined as the level of digital payment system use in MSME transaction activity, measured through five indicators: ease of use, transaction speed, transaction security, customer acceptance, and transaction efficiency (Table 4).

Table 4. Operational Definition of the Digital Payment Variable (X2)

Indicator	Sub-indicator	Code	Questionnaire item	Scale
Ease of use	Ease of understanding the system	DP1	Payment system is easy to understand	Likert 1–5
	Ease of transaction operation	DP2	No difficulty receiving digital payments	Likert 1–5
		DP3	Eases day-to-day transaction activity	Likert 1–5
Transaction speed	Speed of the payment process	DP4	Payment process is quick	Likert 1–5
	Real-time transaction	DP5	Processed in real time	Likert 1–5
		DP6	Speeds up customer service	Likert 1–5
Transaction security	Protection of transaction data	DP7	Feels safe using digital payment	Likert 1–5
	Security of payment funds	DP8	System protects transaction data well	Likert 1–5
		DP9	Minimizes risk of error/fraud	Likert 1–5
Customer acceptance	Customer willingness	DP10	Most customers willing to use digital payment	Likert 1–5
	Customer comfort	DP11	Customers comfortable with digital payment	Likert 1–5
		DP12	Increases customer satisfaction	Likert 1–5
Transaction efficiency	Time and cost efficiency	DP13	Saves time in transactions	Likert 1–5
	Ease of transaction recording	DP14	Helps reduce operating costs	Likert 1–5
		DP15	Eases recording/management of finances	Likert 1–5

Dependent Variable

MSME Financial Performance (Y) is defined as MSMEs' ability to manage and generate optimal financial outcomes, measured through two indicators: revenue/sales growth and cost efficiency (Daud et al., 2022; Nussy & Litamahuputty, 2025; Anggraini et al., 2025), detailed in Table 5.

Table 5. Operational Definition of the MSME Financial Performance Variable (Y)

Indicator	Sub-indicator	Code	Questionnaire item	Scale
Revenue/Sales growth	Increased sales turnover	KK1	Sales turnover has increased over time	Likert 1–5
	Increased sales volume	KK2	Products sold have increased vs. previous period	Likert 1–5
	Market expansion	KK3	Reached a wider market than before	Likert 1–5
	Revenue stability	KK4	Revenue is relatively stable	Likert 1–5
Cost efficiency	Operating-cost control	KK5	Operating costs are well controlled	Likert 1–5
	Production-cost efficiency	KK6	Reduces production costs without lowering quality	Likert 1–5
	Distribution-cost efficiency	KK7	Manages distribution/delivery costs efficiently	Likert 1–5

RESULT

MSME Respondent Characteristics in the Special Region of Yogyakarta

Table 6 Demographic, Operational, and Digital Adoption Profile of MSME Respondents

Variable / Dimension	Sub-category	Frequency (n)	Percentage (%)
Demographic Profile			
Gender	Male	48	48.0
	Female	52	52.0
Age	< 25 years	6	6.0
	25–34 years	28	28.0
	35–44 years	34	34.0
	45–54 years	22	22.0
	≥ 55 years	10	10.0
Business & Operational Profile			
Business Type / Sector	Culinary	38	38.0
	Handicraft / Creative Industry	25	25.0
	Fashion	17	17.0
	Services	15	15.0
	Other	5	5.0
Business Duration	5–7 years	36	36.0
	8–10 years	41	41.0
	> 10 years	23	23.0
Administrative Location	Yogyakarta City	30	30.0
	Sleman Regency	25	25.0
	Bantul Regency	25	25.0
	Kulon Progo Regency	10	10.0
	Gunungkidul Regency	10	10.0
Average Monthly Turnover	< IDR 10 million	22	22.0
	IDR 10–25 million	39	39.0
	IDR 25–50 million	27	27.0
	> IDR 50 million	12	12.0
Digital Technology Adoption			
Digital Platforms Used*	WhatsApp Business	84	84.0
	TikTok	71	71.0
	Instagram	65	65.0
	Shopee	52	52.0
	Facebook	33	33.0
	Other	8	8.0
Digital Payment Methods Used*	QRIS	79	79.0
	E-wallet (OVO, DANA, GoPay, etc.)	68	68.0
	Mobile Banking	52	52.0

Note. N = 100. IDR = Indonesian Rupiah (approx. USD 1 ≈ IDR 15,500–16,000). *Multiple responses allowed; total percentages may exceed 100%. Source: Primary data processed (2026).

Table 6 summarizes the demographic background, business operations, and digital technology adoption patterns among the 100 MSME respondents surveyed across the Special Region of Yogyakarta (DIY).

Demographic Characteristics. As presented in Table 6, gender representation was relatively balanced, with female entrepreneurs accounting for a slight majority (52.0%) compared to their male counterparts (48.0%). This finding highlights the substantial participation of women in managing and sustaining enterprise operations in DIY, particularly in the creative and culinary sectors. In terms of age structure, the respondents were heavily concentrated in the prime productive age categories. The

35–44 age cohort constituted the largest segment (34.0%), followed by the 25–34 age group (28.0%) and the 45–54 age group (22.0%). Conversely, youth entrepreneurs aged under 25 (6.0%) and senior entrepreneurs aged 55 and above (10.0%) represented smaller proportions, underscoring that MSMEs in the region are predominantly steered by mature business actors possessing established experience and strategic decision-making capacity.

Business and Operational Profile. Sectoral distribution indicates that the culinary sector remains the dominant business field (38.0%), closely followed by handicraft and creative industries (25.0%), fashion (17.0%), and services (15.0%). This composition reflects Yogyakarta's prominent status as a national cultural and tourism hub, where local demand for food, heritage crafts, and creative merchandise remains consistently robust. Regarding business longevity, the vast majority of surveyed enterprises have traversed the vulnerable start-up phase: 41.0% have been active for 8–10 years, 36.0% for 5–7 years, and 23.0% for more than a decade. Geographically, respondents were predominantly located in urban and suburban commercial epicenters, including Yogyakarta City (30.0%), Sleman (25.0%), and Bantul (25.0%), whereas rural districts—Kulon Progo and Gunungkidul—accounted for 10.0% each. Financially, two-thirds of respondents (66.0%) generated an average monthly revenue between IDR 10 million and IDR 50 million, confirming that the surveyed enterprises largely occupy the transition phase between micro- and small-scale operations.

Digital Technology Adoption. The findings demonstrate widespread multi-platform integration in marketing and transaction handling. WhatsApp Business emerged as the primary operational channel (84.0%), functioning as the main infrastructure for direct customer interaction and order processing. For promotional and commercial discovery, video- and content-driven platforms such as TikTok (71.0%) and Instagram (65.0%) were favored over traditional marketplaces like Shopee (52.0%) and Facebook (33.0%). In parallel, financial digitization has achieved notable penetration: QRIS was the most prevalent digital payment method utilized by 79.0% of respondents, accompanied by e-wallets (68.0%) and mobile banking (52.0%). This strong adoption underscores the readiness of MSMEs in DIY to align with national digital payment modernization initiatives.

Data Analysis

Descriptive Statistics

Table 14 shows Digital Marketing ($M = 3.50$, $SD = 0.45$) and Digital Payment ($M = 3.61$, $SD = 0.43$) are both in the fairly good category, as is MSME Financial Performance ($M = 3.55$, $SD = 0.39$) — all above the Likert-scale midpoint.

Table 14. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Digital Marketing	100	2.56	4.50	3.5039	.45493
Digital Payment	100	2.20	4.73	3.6087	.42784
MSME Financial Performance	100	2.75	4.25	3.5463	.39073

Source: Primary data, processed 2026

Instrument Quality Test

Validity Test

All items for digital marketing, digital payment, and MSME financial performance have $\text{Sig.} < 0.05$ (Table 15), so all are declared valid.

Table 15. Validity Test

Variable	Number of Items	Range of r-value	Sig. (p-value)	Description
Digital Marketing (X1)	18	0.516 – 0.856	< 0.001	All items valid
Digital Payment (X2)	15	0.414 – 0.803	< 0.001	All items valid
MSME Financial Performance (Y)	7	0.346 – 0.807	< 0.001	All items valid

Source: Primary data, processed 2026

Reliability Test

All variables show Cronbach's Alpha > 0.60 — digital marketing 0.966, digital payment 0.942, MSME financial performance 0.884 (Table 16) — indicating high reliability.

Table 16. Reliability Test

Variable	Cronbach's Alpha	Number of Items	Description
Digital Marketing (X1)	0.966	18	Highly Reliable
Digital Payment (X2)	0.942	15	Highly Reliable
MSME Financial Performance (Y)	0.884	7	Reliable

Source: Primary data, processed 2026

All three classical assumption tests confirm that the regression model is valid. The Kolmogorov–Smirnov test yields an Asymp. Sig. of 0.081 (Monte Carlo Sig. = 0.083), both above 0.05, indicating normally distributed residuals; the Tolerance (0.999) and VIF (1.001) values for both independent variables show no multicollinearity; and the Glejser test yields significance values of 0.168 for digital marketing and 0.846 for digital payment, both above 0.05, indicating no heteroscedasticity. The model therefore satisfies all classical assumptions required for valid interpretation of the multiple linear regression results.

Multiple Linear Regression Analysis

Multiple linear regression tested the effect of Digital Marketing (X1) and Digital Payment (X2) on MSME Financial Performance (Y), yielding the equation:

$$Y = 2.449 + 0.178X1 + 0.272X2$$

Table 20. t-test

Independent Variable	Coefficient (B)	Std. Error	Beta	t-value	Sig.
(Constant)	2.449	2.591	–	0.945	0.347
Digital Marketing (X1)	0.178	0.027	0.466	6.550	0.000
Digital Payment (X2)	0.272	0.035	0.558	7.847	0.000

Source: Primary data, processed 2026

Table 21. F-test

Model	Sum of Squares	df	Mean Square	F-value	Sig.
Regression	493.564	2	246.782	50.529	< 0.001
Residual	473.746	97	4.884		
Total	967.310	99			

Source: Primary data, processed 2026

Hypothesis Test Results

H1: Digital Marketing affects MSME Performance — Sig. = 0.000 (< 0.05), accepted.

H2: Digital Payment affects MSME Performance — Sig. = 0.000 (< 0.05), accepted.

Table 22. Coefficient of Determination (R²)

Model	R	R Square (R ²)	Adjusted R Square	Std. Error of the Estimate
1	0.714	0.510	0.500	2.20997

Source: Primary data, processed 2026

DISCUSSION

This section discusses the results in the same sequence as the tables presented: the partial effects of each independent variable (Table 20), the simultaneous effect of both variables together (Table 21), and the overall explanatory power of the model (Table 22). Read together, these results indicate that digitalization is not a peripheral factor but a substantial driver of how MSMEs in the Special Region of Yogyakarta (DIY) translate everyday operational choices into financial outcomes. The Technology Acceptance Model (TAM) is used throughout as the lens for interpreting why these effects take the shape and magnitude that they do.

Effect of Digital Marketing on MSME Financial Performance (Table 20)

Table 20 shows that digital marketing has a positive and significant effect on MSME financial performance ($\beta = 0.178$, $t = 6.550$, $p = 0.000$). This confirms that MSMEs which use digital media more actively for promotion tend to report better financial achievement. The finding is consistent with the descriptive profile of respondents, in which WhatsApp Business (84.0%), TikTok (71.0%), Instagram (65.0%), and Shopee (52.0%) were the platforms most widely adopted, and with the dominance of culinary businesses (38.0%) whose products benefit from visual, story-driven promotion. Within TAM, this pattern is best explained through perceived usefulness: MSME owners who see a clear link between posting content, running a marketplace storefront, and attracting new customers are more likely to sustain their use of these tools, which in turn compounds into higher sales and wider market reach over time.

The distinction between soft-selling and hard-selling approaches captured in the instrument is also worth noting. Soft-selling content — educational posts, product stories, and customer testimonials — builds trust and brand recall, while hard-selling content — direct offers, discounts, and calls to purchase — converts that attention into transactions. The presence of both indicators in the digital marketing construct suggests that MSMEs in DIY are not using digital media as a single-purpose broadcasting channel but are combining awareness-building and conversion-driving tactics, a pattern that mirrors the strategic use of video and livestream content documented by Sun et al. (2019) in the context of social commerce. This result is also in line with Sharabati et al. (2024), Dewangga et al. (2025), and Nurmalasari et al. (2024), who similarly find digital marketing to be a significant and economically meaningful contributor to MSME performance.

Effect of Digital Payment on MSME Financial Performance (Table 20)

Still referring to Table 20, digital payment exerts an even stronger positive and significant effect on MSME financial performance ($\beta = 0.272$, $t = 7.847$, $p = 0.000$), making it the more dominant of the two predictors. This result aligns closely with the respondent profile: QRIS was used by 79.0% of respondents, e-wallets by 68.0%, and mobile banking by 52.0%, reflecting a payment ecosystem that has moved well beyond early adoption. Within TAM, digital payment's strength can be traced to both of the model's core constructs operating simultaneously. Perceived usefulness is high because QRIS and e-wallets speed up transactions, reduce the need to handle and reconcile physical cash, and make daily revenue easier to record — directly supporting the cost-efficiency dimension of the financial-performance construct used in this study. Perceived ease of use is equally high because these systems require little technical skill once a merchant account is set up, lowering the barrier for continued, everyday use.

This finding is consistent with Ridhwan et al. (2024), who link financial digitalization to improved business performance and innovation; with Titasari (2023), who documents a significant effect of digital payment on MSME revenue in this same region; and with Savvakis et al. (2024) and Khoirunnisa et al. (2025), who both connect payment-system digitalization to improved resilience and performance. It is worth contrasting this result with Nirmala et al. (2025), who found digital payment to have a negative and non-significant effect on MSME performance in their sample. The most likely explanation for this divergence lies in the digital-readiness of the respective research settings: DIY records a comparatively high digital-literacy index of 3.64 out of 5 (Bappeda DIY, 2024), and its consumer base — heavily composed of students and tourists — is already accustomed to non-cash transactions. Where digital literacy is lower or the consumer base is less digitally oriented, the same technology may fail to translate into a performance gain, which is precisely the boundary condition

TAM predicts: perceived usefulness and ease of use are properties of the user-technology fit, not of the technology alone.

Comparing the two coefficients in Table 20 also helps explain why digital payment outweighs digital marketing. Marketing activity works indirectly: it generates visibility and purchase intent, but the resulting sale must still be completed through a transaction process before it registers as financial performance. Digital payment, by contrast, sits directly at that point of conversion. This does not diminish the relevance of digital marketing — it remains a significant contributor in its own right — but it does help explain the relative ordering of the two effects found in this study.

Simultaneous Effect of Digital Marketing and Digital Payment (Table 21)

Table 21 confirms that digital marketing and digital payment jointly, and significantly, explain variation in MSME financial performance ($F = 50.529$, $p < 0.001$). This simultaneous result supports the view that promotion and transaction convenience function as complementary rather than substitutable levers: an MSME that only markets well but cannot process payments efficiently, or one that offers frictionless payment but struggles to attract customers, is likely to under-perform relative to one that strengthens both fronts at once.

Explanatory Power of the Model (Table 22)

Finally, Table 22 reports an adjusted R^2 of 0.510, indicating that the two variables together account for 51.0% of the variation in MSME financial performance. This is a substantial share for a two-predictor behavioural model. At the same time, the remaining 49.0% of unexplained variance is a reminder that digitalization operates alongside — not in place of — more traditional determinants of MSME performance, such as financial literacy, access to capital, competitive intensity within a sector, and the seasonal rhythms of DIY's tourism-driven demand. The non-significant constant (2.449, $p = 0.347$) reported in Table 20 should also be read in light of this model fit: it indicates only that the regression line's intercept is not statistically distinguishable from zero once the two predictors are included — a common outcome in Likert-scale-based models — rather than a claim that MSMEs achieve no financial performance without digital adoption.

Convergence and Divergence with Prior Literature

Read together, the pattern of findings in this study sits closer to the more optimistic strand of the MSME digitalization literature — Purnomo (2024), Pradana et al. (2024), Morisson and Fikri (2025), and Panduwinata et al. (2025) — than to studies reporting weak or inconsistent effects. Anggraini et al. (2025) and Indriastuti and Kartika (2022), for instance, found that MSME digitalization often remains concentrated on marketing and communication, with limited integration into financial management, which dampens its effect on financial performance. The present results suggest that DIY's MSMEs have progressed further along that integration path: digital payment use is not merely a marketing add-on but is embedded in day-to-day financial recording and cash-flow management, which is precisely the mechanism through which Rahayu and Day (2015) and Salemin et al. (2017) argue digitalization must operate before it can meaningfully improve performance — namely, through organizational readiness, managerial support, and adequate infrastructure.

The Role of DIY's Digital and Economic Ecosystem

The Special Region of Yogyakarta offers a distinctive setting for these dynamics to play out. Its economy is anchored in tourism, education, and the creative industries, and its population includes a large, transient base of students and visitors whose consumption habits already lean toward cashless payment and social-media-driven discovery. The concentration of respondents in Yogyakarta City, Sleman, and Bantul — the province's economic, educational, and tourism centres — versus the smaller, more rural samples from Kulon Progo and Gunungkidul, is consistent with prior evidence that urban MSMEs enjoy stronger digital infrastructure and readiness than their rural counterparts (Tambunan, 2019; Rahayu & Day, 2015). This regional texture helps explain why the effects observed here are as strong as they are: DIY is, in effect, a relatively favourable environment for digital marketing and digital payment to convert into financial performance, and the results should be interpreted with that context in mind rather than assumed to generalize uniformly to MSMEs operating in less digitally mature regions of Indonesia.

Theoretical Reflection through the Technology Acceptance Model

Beyond confirming the two hypotheses, these findings extend TAM's relevance from the individual level — where it was originally developed to explain a person's intention to use a given technology — to the firm level, where the cumulative effect of perceived usefulness and perceived ease of use across an MSME's marketing and payment practices manifests as measurable financial performance. This aggregation is consistent with Bustaman et al. (2023) and with Hamidah (2024), both of whom link perceived usefulness and ease of use to broader patterns of digital adoption and literacy among MSME actors. It also suggests a natural extension for future TAM-based research in this setting: the customer-acceptance indicator embedded in the digital-payment construct hints that adoption is not solely a function of the MSME owner's own perceptions, but also of whether their customers are willing and able to use the same technology — a social or network dimension that classical TAM does not explicitly model, but which appears, in this context, to reinforce rather than compete with it.

CONCLUSION

This study shows that digitalization plays a real role in improving the financial performance of MSMEs in the Special Region of Yogyakarta. Digital marketing is proven to have a positive and significant effect on financial performance, indicating that the use of digital media as a means of promotion and as a marketplace is no longer merely an additional option but has become a relevant strategy for increasing sales and expanding market reach, with more digitally active MSMEs tending to perform better financially. Digital payment likewise has a positive and significant effect, even stronger than that of digital marketing, as the convenience of transacting through QRIS, e-wallets, and mobile banking directly supports smoother cash flow and operational efficiency. Together, digital marketing and digital payment make a joint contribution to improving MSME financial performance, confirming that digitalization cannot be viewed partially but rather as a mutually supporting system between promotion and transactions. Overall, these results reinforce the assumptions of the Technology Acceptance Model (TAM), showing that when business actors perceive the usefulness and ease of use of technology, that technology is adopted and translates into improved business performance.

Building on these findings, several recommendations can be offered. MSME actors are encouraged not merely to use digital media as a formality but to apply it strategically and consistently, optimizing promotional content and digital-payment features to improve business effectiveness. Regional governments and related agencies should provide sustained support through training, mentoring, and improved digital literacy so that MSMEs are better prepared to face technology-based competition, while future researchers are encouraged to incorporate other relevant variables and broaden the research area to obtain a more comprehensive picture of digital transformation's effect on MSME performance.

Theoretically, this study reinforces TAM within the MSME context by showing that perceived usefulness and ease of use of digital technology contribute to improved financial performance; practically, it demonstrates that digitalization is a strategic necessity — not merely a trend — for MSMEs operating in dynamic, digital-oriented markets such as DIY. Even so, the study has certain limitations: it focuses only on MSMEs in the Special Region of Yogyakarta, so the results may not necessarily reflect conditions in other regions with different characteristics; the variables examined are limited to digital marketing and digital payment, even though MSME financial performance can also be shaped by factors such as financial literacy, product innovation, business capital, and competitive conditions; and the cross-sectional nature of the data, collected at a single point in time, means the dynamics of business performance over the long term cannot yet be captured. Future research is therefore encouraged to expand beyond DIY, adopt longitudinal designs, incorporate variables such as financial literacy, product innovation, or business capital, and explore comparative or sector-specific studies, as well as digitalization's effect on business resilience and long-term competitiveness.

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