

Digital Readiness as a Catalyst in Linking Halal Practices, Digital Payment, and MSME Financial Performance

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ABSTRACT

Purpose – This study examines how halal practices and digital payment adoption influence the financial performance of micro and small enterprises in Bekasi City, Indonesia, an urban MSME environment characterized by increasing halal awareness and rapid digital payment adoption. The increasing integration of halal standards and digital technology in business operations raises questions about how these factors jointly contribute to performance, particularly in transaction-intensive sectors.

Design/methodology/approach – A quantitative approach was employed using survey data collected from 167 micro and small enterprise owners in Bekasi City, West Java, Indonesia. Data were analyzed using Structural Equation Modeling (SEM) to test direct, mediating, and moderating relationships among variables.

Finding/Results – The results show that halal practices positively affect financial performance, while digital payment does not have a direct effect. Transaction efficiency significantly improves financial performance and mediates the effects of halal practices and digital payment on financial performance. In addition, digital readiness strengthens the relationships between halal practices and transaction efficiency as well as between digital payment and transaction efficiency, indicating that the benefits of these initiatives become stronger when MSMEs possess higher levels of digital capability.

Originality/Value – This study highlights the critical role of transaction efficiency as the key mechanism through which halal practices and digital payment create financial value. It also emphasizes digital readiness as an organizational capability that strengthens the transformation of operational and technological resources into improved MSME financial performance.

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1. Introduction

The rapid acceleration of digital transformation among micro, small, and medium enterprises (MSMEs) has reshaped how businesses create value and enhance financial performance, particularly in the culinary sector, which is characterized by high transaction intensity and strong consumer engagement. At the same time, the global halal industry continues to grow significantly, with rising demand (Hamdi & Nurwahidin, 2025), making compliance with halal standards not only a religious obligation but also an important business strategy for maintaining and expanding market share (Adinugraha et al., 2024). Indonesia, as one of the countries with the largest Muslim populations in the world, provides a strategic context for culinary MSMEs to capitalize on this opportunity through halal practices and the adoption of digital payment systems. Nevertheless, many MSMEs still struggle to translate these two initiatives into significant improvements in financial performance, highlighting the importance of understanding how halal practices and digital payment jointly create business value and under what organizational conditions these strategies become financially effective. These challenges are particularly visible in urban MSME environments where halal market expansion and digital transformation occur simultaneously.

Bekasi provides a particularly relevant context for this study because it represents an urban MSME environment where the expansion of halal-oriented consumer markets and the rapid adoption of digital payment systems occur simultaneously. Bekasi hosts a substantial number of micro and small enterprises, with the culinary sector representing one of the most active business segments (Ikhsan et al., 2024; Laurencia, 2022; Saputera et al., 2021). In addition, the expansion of QRIS-based payment systems and national MSME digitalization programs has accelerated the adoption of digital payment technologies among small businesses (Asmita & Suryantara, 2024; Hermawan & Septiani, 2025). At the same time, the implementation of Indonesia's mandatory halal certification policy has increased awareness of halal compliance and encouraged MSMEs to strengthen halal business practices. However, despite relatively high exposure to digital technology and halal market opportunities, many MSMEs still face operational limitations in transforming these resources into improved financial performance. This context is theoretically important because it reflects the broader challenge faced by urban MSMEs in emerging economies, where technological adoption and halal market participation do not automatically generate business value without adequate operational integration and digital capability.

Previous studies have offered important and valuable findings. However, their results remain fragmented and have not yet been integrated into a comprehensive framework. Halal practices function as a quality signal that can reduce consumer uncertainty and strengthen market trust (Anam et al., 2018), thereby potentially increasing sales outcomes. In parallel, the literature on digital payment adoption suggests that digital transactions can reduce payment frictions, improve cash flow, and expand market reach (Putrevu & Mertzanis, 2023), contributing to overall business performance. Prior studies indicate that digitalization positively affects MSME performance (Indriastuti & Kartika, 2022; Rosyidiana & Narsa, 2024; Umar et al., 2024), underscoring the importance of digital elements in modern business management. Despite these findings, halal practices and digital payment adoption are still predominantly examined as separate operational initiatives with independent effects on financial performance, rather than as interconnected resources that may reinforce one another in creating business value.

However, most previous research has examined halal compliance and digital payment adoption as independent strategies with separate effects on MSME financial performance,

without considering the potential interaction between them. This perspective may overlook the possibility that halal credibility and digital convenience complement one another and create a stronger value proposition when implemented together. Halal practices contribute to operational standardization, consistency, and consumer trust, whereas digital payment systems improve transaction speed, reduce payment barriers, and facilitate process integration. When implemented simultaneously, these two resources may strengthen transaction efficiency by creating more reliable, faster, and organized transaction processes within MSMEs. Drawing on transaction cost economics, transaction efficiency, reflected in faster transaction completion, lower operational costs, and reduced payment barriers, may serve as the key operational mechanism through which halal practices and digital payment are translated into financial performance. Yet, this relationship has rarely been tested empirically.

Moreover, not all MSMEs are equally positioned to benefit from these two strategies. The concept of digital readiness, encompassing technological infrastructure, human resource skills, and an organizational mindset supportive of technology use, is likely a key factor determining whether transaction efficiency can be converted into optimal financial outcomes. Research by Adinugraha et al. (2024) indicates that the integration of the halal industry and the digital economy presents both opportunities and challenges, including the need for adequate technological preparedness so that MSMEs can leverage digitalization to expand market access and improve operational efficiency. In this context, digital readiness should not merely be understood as technological adoption capability, but as an organizational capability that enables MSMEs to integrate halal operational standards and digital transaction systems into efficient business processes.

In response to these gaps, this study develops and tests an integrated moderated mediation model that explains how operational and technological resources are translated into financial value within MSMEs. Rather than treating halal practices and digital payment usage as isolated operational initiatives, this study conceptualizes them as complementary strategic resources whose effectiveness depends on the firm's ability to convert them into transaction efficiency. Drawing on Transaction Cost Economics and Dynamic Capabilities Theory, transaction efficiency is positioned as the key operational mechanism through which halal compliance and digital payment adoption generate financial outcomes, while technological readiness is conceptualized as an organizational capability that determines the extent to which these resources can be utilized effectively. This perspective extends the existing literature by proposing that halal legitimacy and digital technology do not automatically improve MSME financial performance, instead, their value emerges when firms possess the capability to integrate these resources into efficient operational processes. This study therefore shifts the discussion from a direct-effect perspective toward a process-oriented explanation of how MSMEs create financial value in the digital halal economy.

This study therefore aims to analyze the direct and complementary effects of halal practices and digital payment usage on MSME financial performance, examine the mediating role of transaction efficiency, and investigate the moderating role of technological readiness in strengthening these relationships. By integrating the perspectives of halal business strategy, digital transformation, and operational efficiency, this research contributes to the growing literature on the digital halal economy through a more comprehensive explanation of how MSMEs create financial value in increasingly digitalized markets. The findings are also expected to provide practical insights for MSME owners and policymakers regarding the

importance of aligning halal compliance, digital payment adoption, and digital readiness as interconnected strategic capabilities for sustainable business performance.

2. Literature Review & Hypothesis Development

2.1. Dynamic Capabilities Theory

This study is grounded in Dynamic Capabilities Theory (DCT) to explain how micro, small, and medium enterprises (MSMEs) are able to configure and leverage operational practices and digital technologies to achieve better financial performance. DCT emphasizes that performance advantages are not merely determined by the possession of resources, but by an organization's ability to integrate, build, and reconfigure operational practices and routines in response to changes in the business environment (Teece, 2018). Halal practices and the use of digital payments in MSMEs can be understood as operational routines that have the potential to enhance economic value when managed adaptively. However, not all MSMEs possess the same capability to transform these practices into superior financial performance.

Digital readiness is viewed as a dynamic capability that strengthens the effect of halal practices and digital payments on financial performance. Based on DCT, digital readiness does not directly create economic value; rather, it determines the extent to which MSMEs are able to convert operational efficiency into tangible financial outcomes. MSMEs with higher levels of digital readiness tend to be more effective in integrating halal practices and digital payment systems into their business processes, utilizing real-time transaction data, and quickly adjusting operational strategies. DCT provides a strong theoretical foundation to explain the moderating role of digital readiness in strengthening the relationship between transaction efficiency and the financial performance of MSMEs.

2.2. Transaction Cost Economics

This study employs Transaction Cost Economics (TCE) to explain the operational mechanisms linking halal practices and digital payment usage to financial performance. TCE argues that organizational performance is strongly influenced by its ability to minimize transaction costs, including search costs, negotiation costs, monitoring costs, and enforcement costs (Williamson, 2007). Transaction efficiency serves as an important indicator of reduced transaction costs in MSMEs. Standardized halal practices can reduce uncertainty in production and distribution processes, while digital payments can accelerate payment processes, reduce administrative errors, and lower operational costs associated with cash transactions.

Previous empirical research shows that the digitalization of transaction processes contributes to improved operational efficiency and financial performance of small businesses by reducing transaction frictions and increasing cash flow speed (Amin et al., 2017). From a TCE perspective, halal practices and digital payments do not directly improve financial performance; rather, they operate through increased transaction efficiency as a mediating mechanism. Higher transaction efficiency enables MSMEs to reduce costs, enhance productivity, and allocate resources more optimally, ultimately leading to improved financial performance.

2.3. Halal Practices and Financial Performance

Halal practices are defined as a set of procedures, standards, and operational activities that ensure all stages of production, processing, storage, distribution, and product presentation comply with halal requirements according to Islamic principles (Alzeer et al., 2020; Othman & Md Naw, 2025; Silalahi et al., 2021). Halal practices function not only as religious compliance but also as a means of enhancing consumer trust and product competitiveness (Aslan, 2023;

Janah & Yazid, 2024), which in turn may influence MSMEs' financial performance. Financial performance reflects a firm's success in managing economic resources efficiently and effectively, as indicated by revenue growth and financial stability (Ahinful et al., 2023; Coelho et al., 2023).

Research by Aslan (2023) indicates that halal certification or halal practices integrated into business processes can enhance market trust and expand consumer access, potentially contributing to revenue growth in small and medium enterprises. This aligns with prior studies demonstrating a positive effect of compliance with halal standards on business sustainability and performance (Hidayat & Witta, 2024; Sunarta et al., 2025). Based on this argument, the first hypothesis of this study is:

H1: Halal practices positively influence the financial performance of MSMEs.

2.4. Digital Payment and Financial Performance

Digital payment refers to a technology-based payment system that enables financial transactions to be conducted electronically, in real time, and in an integrated manner, thereby reducing cash usage as well as transaction frictions and costs (Alfarizi & Ngatindriatun, 2022; Hazar & Babuşcu, 2023; Moro-Visconti & Cesaretti, 2023). The use of digital payment systems can increase transaction speed, expand market reach, and facilitate financial recording and reporting processes (Minarni, 2025; Putrevu & Mertzanis, 2023). Previous studies find that the use of digital payments such as QRIS has a positive impact on MSME business performance by accelerating payment settlement and improving financial recording processes (Fauziah et al., 2025; Wahyudin et al., 2022; Zakariya & Arifin, 2025). Based on this explanation, the second hypothesis of this study is:

H2: Digital payments positively influence the financial performance of MSMEs.

2.5. Transaction Efficiency and Financial Performance

Transaction efficiency refers to the ease and smoothness of business transactions, reflected in payment speed, low administrative costs, accuracy of transaction recording, and minimal obstacles or errors in the payment process (Calderon, 2025; Masroor et al., 2023; Raj et al., 2024). Transaction efficiency is an important indicator of organizational operational advancement. Low transaction costs and fast processes enable MSMEs to allocate resources more optimally, enhance productivity, and reduce operational burdens.

Previous research indicates that the adoption of digital payments improves transaction efficiency, which is subsequently associated with better financial management and business performance (Li, 2024; Mustapha et al., 2025; Musyaffi et al., 2024). In addition, digital transformation in financial management has been reported to improve record accuracy and financial transparency, not only accelerating processes but also strengthening trust in MSMEs (Alonge et al., 2024; Miaoquan et al., 2023). These findings support the argument that transaction efficiency positively contributes to financial performance. Thus, the third hypothesis is:

H3: Transaction efficiency positively influences the financial performance of MSMEs.

2.6. Halal Practices and Transaction Efficiency

Standardized halal practices encourage MSMEs' operational processes to become more structured, documented, and consistent throughout all stages of the value chain, from raw material selection to product presentation. This standardization plays a significant role in reducing process barriers such as unclear procedures, operational errors, and coordination costs that often arise within MSME supply chains. Consistent implementation of halal

practices reduces transaction uncertainty, lowers the need for repeated monitoring, and minimizes unproductive transaction costs (M. I. Khan et al., 2022; Mohamed et al., 2021).

Halal practices are not merely a form of Sharia compliance but also serve as an operational mechanism that enhances both internal and external transaction efficiency of MSMEs (Muhamed et al., 2023; Sunarta et al., 2025). When implemented consistently and in a standardized manner, halal practices directly influence transaction efficiency by increasing process regularity and certainty. Clear procedures in raw material management, processing, and distribution reduce uncertainty, operational errors, and the need for repetitive coordination and supervision (Aufi et al., 2024; Othman & Md Nawawi, 2025). These conditions lower transaction costs and process barriers, allowing both internal and external transactions to proceed more quickly and efficiently (Ab Talib et al., 2016; M. I. Khan et al., 2022; S. Khan et al., 2019). Therefore, the proposed hypothesis is:

H4: Halal practices positively influence transaction efficiency.

2.7. Digital Payment and Transaction Efficiency

The adoption of digital payments, such as QRIS, digital wallets, and fintech services, can reduce barriers commonly encountered in traditional transaction processes. Digital payment systems reduce dependence on cash, minimize payment queues, and decrease manual recording errors, enabling transactions to be conducted more quickly, accurately, and at lower cost (Gomber et al., 2017; Sahay et al., 2020). Several studies show that MSMEs adopting digital payments experience improved transaction efficiency and smoother operational processes, reflected in faster cash flow and reduced administrative costs (Harun et al., 2025; Li, 2024; Minarni, 2025; Pratama et al., 2023).

Furthermore, digital payments enable the integration of transactions with real-time financial recording and reporting systems, further strengthening transaction efficiency (Calderon, 2025; Kantheti & Bvuma, 2024; Ojeh et al., 2025). This capability facilitates MSMEs in monitoring transactions, managing cash flow, and responding more quickly to market demand. Recent studies emphasize that digital payment functions not only as a transaction tool but also as an operational strategy that enhances business process coordination and internal efficiency in small enterprises (Bindeeba et al., 2025; Minarni, 2025; Putrevu & Mertzanis, 2023). Thus, the use of digital payments can be understood as a key operational factor that directly drives improvements in MSME transaction efficiency. Based on this explanation, the following hypothesis is proposed:

H5: Digital payment has a positive effect on transaction efficiency.

2.8. Transaction Efficiency as Mediator

Transaction efficiency is an important mechanism explaining how halal practices and the use of digital payments are translated into improved MSME financial performance. Based on TCE, reductions in transaction costs—such as coordination costs, information search costs, and process irregularities—enable MSMEs to utilize their resources more effectively and accelerate cash cycles, which subsequently leads to better financial performance (Hendrawan et al., 2024). Empirically, research in the context of digitalization shows that digital transformation contributes to enhanced operational efficiency by reducing internal and external costs associated with business processes, thereby contributing to stronger business outcomes (Chen et al., 2023). These findings are relevant for MSMEs, where halal practices and digital payments can collectively reduce transaction barriers and improve business workflows.

As halal practices and digital payments can strengthen internal organizational efficiency, transaction efficiency is expected to mediate the relationship between these two strategies and

MSME financial performance. Transaction efficiency becomes important because it explains the variability in the impact of halal practices and digital payments on financial performance. Other studies indicate that the integration of digitally based business processes significantly enhances internal and operational efficiency, which in turn positively affects business performance outcomes (Meng & Gong, 2024). In this study, transaction efficiency functions as a linkage or intermediary that bridges halal practices and digital payment with financial performance outcomes, implying that the refinement of internal processes is a crucial prerequisite for overall business performance improvement. Based on this explanation, the following hypotheses are proposed:

H6: Transaction efficiency mediates the relationship between halal practices and MSME financial performance.

H7: Transaction efficiency mediates the relationship between digital payment and MSME financial performance.

2.9. Digital Readiness as Moderator

Digital readiness reflects an organization's capacity to integrate digital technology into operational processes and strategic decision-making. In MSMEs, digital readiness includes the availability of technological infrastructure, the digital competence of business owners and employees, and managerial orientation toward technology utilization. Previous research shows that digital readiness determines the extent to which MSMEs can obtain tangible benefits from the use of digital technologies, including digital payment systems and business process digitalization, particularly in improving operational efficiency and transaction smoothness (Abdi et al., 2022; Anatan & Nur, 2023; Khin & Ho, 2018). MSMEs with higher digital readiness are more capable of effectively integrating technology into operational routines, thereby optimizing the reduction of transaction barriers.

Within the DCT framework, digital readiness is viewed as an organizational capability to adapt, reconfigure, and integrate operational practices in response to changes in the business environment, such as technological developments, shifting consumer preferences, or market dynamics. Digital readiness not only facilitates the adoption of halal practices and digital payments but also strengthens their impact on transaction efficiency. Previous studies highlight that digital capability plays a crucial role in optimizing the effects of standards-based operational practices and technology adoption on MSME internal process efficiency (Abdi et al., 2022; Alfarizi et al., 2023; Anatan & Nur, 2023). Without adequate digital readiness, halal practices and digital payments may be implemented partially and without integration, thereby limiting their impact on transaction efficiency.

Furthermore, empirical research shows that digital readiness strengthens the relationship between technology adoption and operational efficiency by enabling automation, data integration, and better process coordination (Atieh et al., 2025; Cheema et al., 2025; Wang et al., 2025). MSMEs with high levels of digital readiness are more likely to maximize the benefits of halal practices through more structured documentation and process control systems, as well as leverage digital payments to accelerate and simplify transactions. Thus, digital readiness functions as a moderating factor that strengthens the influence of halal practices and digital payment usage on MSME transaction efficiency.

Digital readiness is positioned as a capability that strengthens the influence of halal practices and digital payment on transaction efficiency. The relationships between halal practices and transaction efficiency, as well as between digital payment usage and transaction efficiency, are

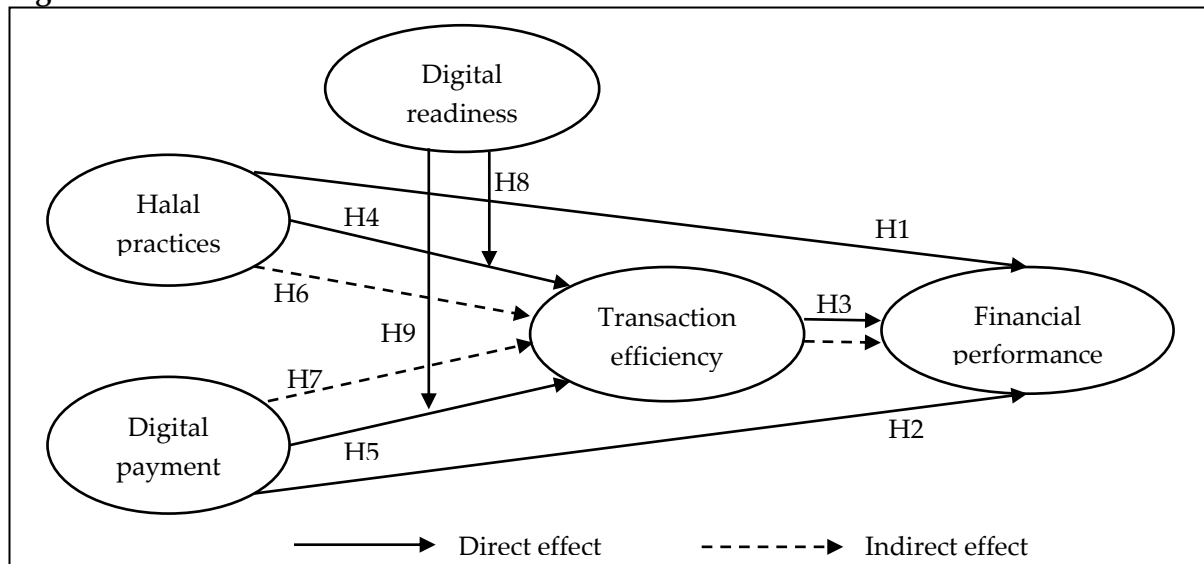
expected to be stronger among MSMEs with high levels of digital readiness compared to those with low digital readiness. Therefore, the following hypotheses are proposed:

H8: Digital readiness moderates the relationship between halal practices and MSME transaction efficiency, such that the relationship becomes stronger at higher levels of digital readiness.

H9: Digital readiness moderates the relationship between digital payment and MSME transaction efficiency, such that the relationship becomes stronger at higher levels of digital readiness.

Based on the development of the hypotheses described above, this study proposes a conceptual framework that integrates halal practices and digital payment usage as primary determinants of transaction efficiency, which subsequently impacts MSME financial performance. In addition, digital readiness acts as a capability that strengthens the relationships between halal practices and digital payment with transaction efficiency. The relationships among variables, as well as the proposed mediating and moderating roles, are visually summarized in the research model presented in Figure 1.

Figure 1. Research model



Source: Author's own work (2026)

3. Methodology

This study employed a quantitative approach with a cross-sectional survey design. This design was selected to examine causal relationships among variables within a specific time period, particularly to analyze the mediating role of transaction efficiency and the moderating role of digital readiness in the relationship between halal practices, digital payment usage, and MSME financial performance.

The population of this study consisted of micro and small business owners operating in Bekasi City, West Java. Bekasi City was selected because it represents an urban MSME ecosystem characterized by increasing halal market awareness and rapid digital payment adoption, particularly within the culinary sector. Culinary MSMEs in Bekasi operate in a highly competitive urban business environment with strong exposure to digital transaction systems and evolving consumer preferences toward halal-oriented products. This context provides a relevant empirical setting for examining how halal practices, digital payment adoption,

transaction efficiency, and digital readiness interact in shaping MSME financial performance. Furthermore, the characteristics of Bekasi MSMEs reflect broader transformation challenges faced by urban MSMEs in emerging economies, particularly in integrating operational legitimacy and digital technology into sustainable business value creation. The respondents were business owners or primary managers who have authority in operational and financial decision-making. This criterion was used to ensure that respondents possessed adequate understanding of halal practices, digital payment usage, and the financial condition of their businesses.

Primary data were collected through the direct distribution of questionnaires. The data collection process was conducted over four months, from January to March 2026. The offline method was selected to increase the response rate and to ensure that respondents were active business operators. Questionnaires were distributed directly to business owners across various districts in Bekasi City using a convenience sampling approach, taking into account respondent availability and willingness to participate. During the data collection period, a total of 167 complete and usable questionnaires were obtained. This number met the minimum requirements for SEM-based analysis, particularly for models incorporating mediation and moderation.

The research instrument consisted of a structured questionnaire using a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree). The halal practices variable was measured through indicators reflecting the consistency of implementing halal standards in business operations. This variable was represented by four statement items adapted from Othman and Md Nawawi (2025). The digital payment usage variable was measured based on the extent of electronic payment system utilization in business transactions and consisted of four statement items adapted from Zayyani and Suryani (2025). Transaction efficiency was measured through respondents' perceptions of transaction speed, convenience, and cost, represented by four statement items (Calderon, 2025). Financial performance consisted of four statement items adapted from previous research (Dwiputri et al., 2023) and was measured subjectively through perceived improvements in sales, profit, and cash flow. Digital readiness was measured through indicators of technological infrastructure, digital competence, and managerial orientation toward technology. This variable consisted of four statement items (Alqam et al., 2025).

Data analysis was conducted using the covariance-based structural equation modeling (CB-SEM) approach using IBM SPSS AMOS to test direct relationships, mediation effects, and moderation effects within the research model. The model parameters were estimated using the Maximum Likelihood Estimation (MLE) method, which is widely employed in SEM studies due to its robustness in estimating complex relationships among latent constructs. Model fit was evaluated using multiple goodness-of-fit indices, including probability value (> 0.05), CMIN/df (< 3.00), GFI (> 0.90), RMSEA (< 0.08), TLI (> 0.90), NFI (> 0.90), and AGFI (> 0.90).

The mediating role of transaction efficiency was examined by assessing the significance of indirect effects between halal practices, digital payment, and financial performance. Indirect effects were tested using a bootstrapping procedure with 5,000 resamples and bias-corrected confidence intervals. Mediation was considered significant when the indirect effect was statistically significant at $p < 0.05$.

The moderating role of digital readiness was tested using interaction terms between digital readiness and the independent variables (halal practices and digital payment). The interaction

constructs were incorporated into the structural model to examine whether digital readiness strengthened the effects of halal practices and digital payment on transaction efficiency. A significant interaction coefficient ($p < 0.05$) indicated the presence of a moderating effect. Although convenience sampling enabled efficient access to active MSME owners and increased the response rate, this approach may limit the generalizability of the findings because respondents were selected based on accessibility and willingness to participate rather than through probability-based sampling. Therefore, the findings should be interpreted with caution when generalizing to broader MSME populations outside the study context.

4. Result and Discussion

4.1. Result

This section presents the demographic characteristics of the respondents to provide a general overview of the profile of the micro and small business owners who served as the study sample. This demographic information is important for understanding the social and economic context of the respondents, which may influence the implementation of halal practices, the use of digital payments, and digital readiness in managing their businesses.

Table 1. Descriptive Analysis of The Respondent Characteristics

Demographics	Categories	n = 167	Percentage (%)
Gender	Male	91	54.49
	Female	76	45.51
Age	< 25 years	28	16.77
	25 – 30 years	33	19.76
	31 – 36 years	69	41.32
	37 – 42 years	30	17.96
	> 42 years	7	4.19
Education	No formal education	15	8.98
	High school and lower	114	68.26
	Undergraduate	33	19.76
	Postgraduate	5	2.99
Length of business	< 5 years	60	35.93
	5 – 9 years	71	42.51
	10 – 14 years	33	19.76
	> 14 years	3	1.80
Income (per month)	< Rp 5,000,000	23	13.77
	Rp 5,000,000 – Rp 10,000,000	44	26.35
	Rp 11,000,000 – Rp 20,000,000	78	46.71
	> Rp 20,000,000	22	13.17

Source: Processed data, 2026

Table 1 shows that the majority of respondents are male (54.49%), although the proportion of females is also fairly significant (45.51%). Most respondents fall within the productive age range of 31–36 years (41.32%), indicating that business actors are predominantly in an active working phase and are adaptable to technological changes. In terms of education, the majority of respondents have a high school education or lower (68.26%), reflecting common characteristics of micro and small business owners.

Based on business tenure, most respondents have been running their businesses for 5–9 years (42.51%), indicating a relatively stable level of business continuity. Regarding income, the

majority of respondents earn a monthly revenue in the range of IDR 11,000,000–IDR 20,000,000 (46.71%). Overall, these characteristics portray the profile of active, experienced micro and small business owners with the potential to adopt digitally-based operational practices.

After describing the respondents' characteristics, the next step is to test the quality of the research instruments through construct validity and reliability testing. This test aims to ensure that each indicator accurately and consistently reflects the variable being measured before conducting structural model analysis.

Table 2. Validity and Reliability Test Results

Variable	Items code	Statement item	Standardized loading	AVE	CR
Halal practices	HP1	My business always uses halal raw materials.	0.964	0.929	0.981
	HP2	My production process complies with halal standards.	0.960		
	HP3	My equipment and materials are managed in accordance with halal regulations.	0.968		
	HP4	I ensure that all business activities adhere to halal principles.	0.964		
Digital payment	DP1	My business uses digital payments for easy and convenient transactions.	0.953	0.916	0.978
	DP2	Digital payments help improve the efficiency of my business transactions.	0.961		
	DP3	Digital payments simplify the management and recording of my business finances.	0.948		
	DP4	I believe the digital payment system my business uses are secure and reliable.	0.966		
Transaction efficiency	TE1	Transactions in my business can be completed quickly.	0.956	0.926	0.980
	TE2	Transactions in my business are processed easily.	0.970		
	TE3	The costs incurred in each business transaction are relatively low.	0.951		
	TE4	Transactions in my business rarely experience obstacles or errors.	0.972		
Financial performance	FP1	My business has experienced increased sales after improving operational processes.	0.966	0.923	0.980
	FP2	My business expense management has become more efficient.	0.960		
	FP3	My business profits have increased along with improvements to the transaction system.	0.963		

Variable	Items code	Statement item	Standardized loading	AVE	CR
Digital readiness	FP4	My business cash flow has become smoother.	0.954	0.892	0.971
	DR1	My business has the equipment for digital transactions.	0.975		
	DR2	I am capable of using digital technology in my business.	0.915		
	DR3	I am willing to learn new technologies.	0.905		
	DR4	I use technology in my business activities.	0.980		

Source: Processed data, 2026

The test results indicate that all indicators have standardized loading values above 0.90, demonstrating excellent convergent validity. The Average Variance Extracted (AVE) values for each variable also exceed the minimum threshold of 0.50, indicating that the constructs adequately explain the variance of their indicators. In addition, the Composite Reliability (CR) values for all variables are above 0.70, reflecting a high level of internal reliability. Therefore, all variables in this study are considered valid and reliable for use in structural model analysis. After ensuring the quality of the measurement instruments, the next step is to evaluate the overall model fit through goodness-of-fit testing. This test is conducted to assess whether the proposed research model is consistent with the empirical data obtained.

Table 3. Goodness of Fit Measures of The Full Model

Parameter	Cut-off value	Result	Interpretation
Probability	> 0.05	0.057	Good fit
Chi-square	Expected to be low	208.835	Marginal fit
CMIN/df	< 3.00	1.173	Good fit
GFI	> 0.90	0.936	Good fit
RMSEA	< 0.06	0.026	Good fit
TLI	≥ 0.90	0.997	Good fit
NFI	> 0.90	0.985	Good fit
AGFI	> 0.90	0.909	Good fit

Source: Processed data, 2026

Based on Table 3, most of the goodness-of-fit indicators meet the recommended criteria. The Probability value of 0.057 (> 0.05) indicates that the model has a good fit. The CMIN/df value of 1.173 is also below the maximum threshold of 3.00, suggesting that the model is fit.

Furthermore, the GFI (0.936), TLI (0.997), NFI (0.985), and AGFI (0.909) values are all above 0.90, while the RMSEA value of 0.026 (< 0.06) indicates an excellent level of model fit. Overall, these results suggest that the structural model is appropriate for hypothesis testing. After the model was confirmed to be fit, hypothesis testing was conducted to analyze the direct, mediating, and moderating relationships among variables in the research model. The results of these tests are presented in Table 4.

Table 4. Hypothesis Test Results

Hypothesis	Path coefficient	P-value	Conclusion
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H1	Halal practices have a positive impact on the financial performance of MSMEs.	0.432	< 0.001	Supported
H2	Digital payments have a positive impact on the financial performance of MSMEs.	-0.059	0.561	Not supported
H3	Transaction efficiency has a positive effect on MSME financial performance.	0.685	< 0.001	Supported
H4	Halal practices have a positive effect on transaction efficiency.	0.201	< 0.001	Supported
H5	Digital payments have a positive effect on transaction efficiency.	0.776	< 0.001	Supported
H6	Transaction efficiency mediates the relationship between halal practices and MSME financial performance.	0.140	< 0.001	Supported
H7	Transaction efficiency mediates the relationship between digital payments and MSME financial performance.	0.454	< 0.001	Supported
H8	Digital readiness moderates the relationship between halal practices and MSME transaction efficiency, making the relationship stronger at high levels of digital readiness.	0.001	0.001	Supported
H9	Digital readiness moderates the relationship between digital payments and MSME transaction efficiency, making the relationship stronger at high levels of digital readiness.	0.001	< 0.001	Supported

Source: Processed data, 2026

The test results indicate that halal practices have a positive effect on MSME financial performance (H1 supported), whereas the direct effect of digital payment on financial performance is not significant (H2 not supported). These findings suggest that the benefits of digital payment for financial performance do not occur directly. Transaction efficiency is shown to have a positive effect on financial performance (H3 supported) and is positively influenced by halal practices (H4) and digital payment (H5). These results confirm the role of transaction efficiency as a key mechanism in the research model.

Furthermore, transaction efficiency is found to mediate the relationship between halal practices and financial performance (H6), as well as between digital payment and financial performance (H7). In addition, digital readiness is proven to strengthen the relationship between halal practices and transaction efficiency (H8) and between digital payment and transaction efficiency (H9). Although the moderating effects are statistically significant, the interaction coefficients are relatively small. This suggests that digital readiness functions primarily as an enabling capability that incrementally strengthens the effects of halal practices and digital payment on transaction efficiency rather than serving as a dominant determinant of these relationships.

4.2. Discussion

The results of the study indicate that halal practices have a positive effect on MSME financial performance. This finding suggests that the implementation of halal standards functions not only as a form of normative compliance but also as a business strategy that generates economic value. Based on the Dynamic Capabilities Theory (DCT), halal practices can be understood as

structured and repetitive operational routines that enable business actors to build legitimacy, reputation, and consumer trust in a sustainable manner (Teece, 2018). When halal practices are consistently applied in raw material selection, production processes, and quality control, businesses gain relevant differentiation in the market, particularly in environments with high levels of halal awareness. This differentiation ultimately strengthens competitive positioning and contributes to increased sales and income stability.

This finding is consistent with previous studies showing that halal certification and the implementation of halal practices are positively correlated with business performance (Hidayat & Witta, 2024; Sunarta et al., 2025). Othman and Md Nawi (2025) found that compliance with halal standards enhances consumer trust and influences purchase intention and firm performance. Another study by Aslan (2023) demonstrated that integrity within the halal supply chain strengthens efficiency and corporate reputation, ultimately improving organizational performance. This body of literature confirms that halal practices are not merely religious symbols but strategic assets that create economic value through increased trust and reduced consumer risk perception.

The second finding shows that digital payment usage does not have a direct effect on MSME financial performance. This result suggests that digital payment adoption among MSMEs remains largely operationally superficial rather than transformational. Although digital payment systems facilitate transaction activities, they do not automatically redesign business processes, improve managerial decision-making, or create financial value directly. The insignificant direct effect indicates that technology adoption alone is insufficient to enhance MSME financial performance unless digital tools are integrated into broader operational routines and business processes. This finding reveals that financial value creation in MSMEs depends less on the mere presence of technology and more on the firm's capability to operationalize technology efficiently. DCT explains that technology creates value only when organizations are able to integrate and adapt it effectively into operational routines, strategies, and management systems (Teece, 2018). Without sufficient organizational capability and operational integration, digital payment systems tend to function merely as transaction facilitation tools rather than strategic instruments for business transformation. This finding implies that many MSMEs may still perceive digital payment adoption as an administrative necessity rather than as part of a broader operational and managerial transformation process. The characteristics of the respondents in this study, most of whom are micro-business owners with diverse educational backgrounds and relatively stable business experience, indicate that digital payment adoption may still be focused on basic usage, such as receiving payments, without integration into more strategic financial management systems. This is consistent with research findings showing that the financial impact of digital technology often depends on how MSMEs manage and utilize transaction data effectively for business planning and decision-making (Jiang, 2024; Nurhaedha, 2025). These results suggest that digital payment usage among MSMEs represents an initial step in digital transformation, while its contribution to financial performance often requires prior internal process improvements, such as enhanced transaction efficiency.

The third finding reveals that transaction efficiency has a positive and significant effect on MSME financial performance. This finding aligns with the Transaction Cost Economics (TCE) framework, which emphasizes that reducing transaction costs, such as coordination costs, waiting time, recording errors, and process barriers, enhances organizational economic efficiency (Liu et al., 2025; Nygaard, 2022). When transactions can be conducted more quickly,

easily, and at lower cost, businesses are able to accelerate cash turnover and control operational expenses. These conditions directly strengthen financial performance indicators such as increased profit and cash flow stability.

This finding is supported by previous research indicating that operational efficiency is a key factor in improving small business performance (Ayinla Alarape, 2007; Tran & Nguyen, 2019). Digital-based efficiency improvements in small enterprises contribute to enhanced business performance through cost reduction and process optimization. Operational efficiency appears to be the central mechanism through which MSMEs convert operational and technological resources into financial value. This finding suggests that MSME performance improvement is driven less by technology ownership itself and more by the firm's ability to optimize transaction processes, reduce operational frictions, and improve coordination efficiency. In the context of MSMEs, where operational resources are often limited, efficient transaction processes become critical for sustaining cash flow stability and maintaining business competitiveness. This literature reinforces the argument that internal process improvement is the main foundation for enhancing MSME financial performance.

The fourth finding shows that halal practices positively influence MSME transaction efficiency. This can be explained through the TCE perspective, which emphasizes that standardization and the reduction of uncertainty in business processes lower transaction costs (Tadelis & Williamson, 2012). The implementation of halal practices encourages clear procedures in raw material selection, production processes, storage, and distribution. Such structured processes reduce operational errors, repetitive supervision needs, and internal coordination barriers, thereby enabling smoother and more efficient transactions.

This finding is consistent with Ab Talib et al. (2016), who showed that implementing halal systems within the supply chain improves operational coordination and logistics efficiency. Afi et al. (2024) further confirmed that compliance with halal standards enhances not only consumer trust but also internal process consistency. These studies indicate that halal practices have significant managerial and operational dimensions, meaning their impact extends beyond market reputation to improvements in business processes that support transaction efficiency.

The fifth finding indicates that digital payment has a positive and significant effect on MSME transaction efficiency. This aligns with the TCE framework, which highlights that reducing transaction costs—in terms of time, effort, and coordination, enhances organizational operational efficiency (Tadelis & Williamson, 2012). Digital payments allow transactions to be completed more quickly, reduce the need for cash handling, and minimize manual recording errors. The use of digital payment systems directly reduces process barriers and improves transaction smoothness.

This finding is supported by previous research showing that digital payment adoption enhances MSME operational efficiency through faster transaction processes and reduced administrative costs (Harun et al., 2025; Li, 2024; Minarni, 2025; Pratama et al., 2023). Nurhaedha (2025) found that digital payment usage contributes to improved operational efficiency in small businesses, particularly in transaction and cash flow management. Furthermore, Nurhaedha (2025) explained that fintech and transaction digitalization reduce operational costs and increase business process effectiveness. This literature strengthens the argument that digital payment functions as a transaction-friction reduction mechanism that directly impacts internal process efficiency. Fast and error-minimizing payment processes are critical for operational smoothness. Digital payment usage enables business owners to save

time, reduce calculation errors, and simplify transaction recording. These conditions explain why the effect of digital payment on transaction efficiency in this study is significant, particularly for businesses with high transaction intensity.

The sixth finding shows that transaction efficiency mediates the relationship between halal practices and MSME financial performance. This reinforces the TCE perspective that reducing transaction costs is the primary mechanism for improving organizational economic performance (Tadelis & Williamson, 2012). Standardized halal practices create more structured and consistent operational processes, reducing uncertainty and internal coordination barriers. These process improvements enhance transaction efficiency, which subsequently leads to improved financial performance.

Ab Talib et al. (2016) demonstrated that halal implementation improves not only consumer trust but also internal corporate governance. Meanwhile, Maulana et al. (2026) emphasized that integrated halal systems within the supply chain enhance operational efficiency. The present study extends this literature by demonstrating that financial performance improvement does not occur directly but rather through transaction efficiency as a mediating variable.

The seventh finding indicates that transaction efficiency mediates the relationship between digital payment and MSME financial performance. This is consistent with the TCE framework, which suggests that technology enhances performance through transaction cost reduction rather than through a direct effect on revenue. Digital payment accelerates transaction processes, reduces recording errors, and lowers administrative costs, thereby improving operational efficiency before being reflected in financial performance.

This is in line with Saleh et al. (2025), who found that digital payment adoption among SMEs enhances operational efficiency, which subsequently affects business performance. The findings strengthen the argument that digital payment serves as an enabler, while transaction efficiency acts as the main mechanism linking digitalization to financial outcomes. When digital payments are used to accelerate transactions and simplify record-keeping, business owners can manage cash flow more effectively. Thus, financial performance improvement occurs through internal process enhancement rather than solely through technology usage.

The eighth finding reveals that digital readiness strengthens the relationship between halal practices and transaction efficiency. Within the DCT framework, digital readiness is understood as an organizational capability to continuously integrate and adapt operational practices with technological support (Teece, 2018). When MSMEs possess adequate digital tools and capabilities, the implementation of halal standards can be managed more systematically and documented more effectively, thereby improving transaction efficiency.

Bindeeba et al. (2025) showed that digital capability strengthens the effectiveness of operational standard implementation in enhancing business process efficiency. This is consistent with the present findings, which demonstrate that the impact of halal practices on transaction efficiency is stronger among MSMEs with higher levels of digital readiness. In other words, halal-based operational standards yield greater benefits when supported by sufficient digital capability. The productive-age profile of respondents also suggests relatively strong technology adaptation potential. MSMEs with higher digital readiness are better able to utilize technology for documentation, monitoring, and control of halal processes, leading to significantly improved transaction efficiency compared to businesses with lower digital readiness. However, the interaction coefficient is relatively small, indicating that the moderating influence operates incrementally rather than substantially. Therefore, digital

readiness should be interpreted as a supportive condition that facilitates the implementation of halal practices rather than as a primary driver of transaction efficiency.

The ninth finding indicates that digital readiness strengthens the relationship between digital payment and transaction efficiency. From a DCT perspective, digital capability enables organizations to optimize technology utilization to achieve better operational performance (Teece, 2018). Digital payments provide greater efficiency benefits when business actors possess the ability and readiness to integrate them consistently into operational systems. Mhlungu et al. (2019) emphasized that the success of digital transformation heavily depends on an organization's internal capabilities. Without sufficient digital readiness, technology usage tends to be partial and unintegrated. The findings of this study show that MSMEs with higher digital readiness are able to maximize the benefits of digital payments in reducing transaction barriers and improving operational smoothness. Business owners with adequate devices and stronger digital skills are more likely to utilize digital payments optimally. This explains why the relationship between digital payment and transaction efficiency becomes stronger at higher levels of digital readiness. Nevertheless, the relatively small interaction coefficient suggests that the practical contribution of digital readiness to strengthening this relationship remains modest. While digital readiness facilitates the effective use of digital payment systems, its incremental effect should not be interpreted as evidence of a strong moderating influence. Rather, it serves as a complementary capability that supports the operational benefits of digital payment adoption.

Overall, the findings collectively indicate that halal practices and digital payment adoption should not be understood as isolated operational strategies, but as complementary strategic resources that jointly create financial value through transaction efficiency. Halal practices contribute to operational consistency, trust, and process standardization, whereas digital payment systems improve transaction speed, reduce process barriers, and facilitate operational integration. The interaction between these two resources strengthens transaction efficiency, which subsequently becomes the primary mechanism through which MSMEs improve financial performance.

The findings also demonstrate that the effectiveness of this value creation process depends on the MSME's level of digital readiness. MSMEs with stronger digital capability are more capable of integrating halal operational standards and digital transaction systems into efficient business processes. This suggests that financial value in the digital halal economy is not generated merely through compliance with halal standards or technology adoption alone, but through the organizational capability to transform operational and technological resources into transaction efficiency. Therefore, the study shifts the discussion from a direct-effect perspective toward a more integrated and process-oriented explanation of MSME value creation in increasingly digitalized halal markets. Collectively, these findings reveal that MSME transformation in the digital halal economy is not primarily determined by the adoption of technology or compliance standards alone, but by the organizational capability to integrate operational and technological resources into efficient business processes. This indicates that operational transformation plays a more decisive role than technology adoption itself in generating sustainable financial value. Accordingly, the significant moderation effects identified in this study should be interpreted as evidence of supportive and enabling influences rather than strong amplifying effects, given the relatively small magnitude of the interaction coefficients.

5. Conclusion

This study investigates how halal practices and digital payment usage influence MSME financial performance by considering transaction efficiency as a mediating variable and digital readiness as a moderating variable. The findings reveal that halal practices positively affect financial performance, whereas digital payment does not have a significant direct effect. Transaction efficiency serves as the primary mechanism linking halal practices and digital payment usage.

In addition, digital readiness strengthens the relationships between halal practices, digital payment usage, and transaction efficiency. Overall, the findings indicate that MSME financial performance in the digital halal economy depends not only on adopting halal compliance and digital technology, but also on the firm's capability to transform these resources into transaction efficiency through adequate digital readiness.

6. Theoretical Contribution

This study contributes to the literature by integrating Transaction Cost Economics and Dynamic Capabilities Theory into a unified framework within the context of the digital halal economy. The originality of this study lies in reconceptualizing halal practices and digital payment adoption not as independent operational initiatives, but as complementary strategic resources whose financial value depends on the MSME's capability to transform them into transaction efficiency through digital readiness. This perspective shifts the discussion in halal business and digital transformation research from a direct-effect logic toward a process-oriented value creation mechanism.

The findings further extend prior studies by demonstrating that digital technology adoption alone does not automatically improve MSME financial performance. Instead, financial benefits emerge when MSMEs possess the operational capability to integrate halal compliance and digital payment systems into efficient transaction processes. This study therefore provides a more integrated explanation of how operational legitimacy, technological adoption, and organizational capability interact to generate financial value in increasingly digitalized and halal-oriented markets. The findings also contribute to management and entrepreneurship scholarship by demonstrating that MSME transformation in the digital halal economy depends not only on technology adoption or market legitimacy, but on the organizational capability to integrate operational and technological resources into sustainable value creation processes.

7. Practical Implications

The findings imply that MSME owners should not view halal compliance and digital payment adoption as separate operational initiatives, but as interconnected strategic resources that require efficient transaction management and adequate digital capability to generate financial value. The insignificant direct effect of digital payment on financial performance suggests that adopting payment technology alone is insufficient unless MSMEs are able to integrate it into faster, more organized, and lower-cost transaction processes. Therefore, MSMEs need to focus not only on technology adoption, but also on improving operational routines, transaction management, and digital integration in daily business activities. This implies that MSMEs should move beyond symbolic halal compliance and basic digital payment usage toward integrated operational systems that combine halal governance, transaction management, and digital capability development.

For policymakers and MSME development institutions, the findings highlight the importance of designing integrated development programs that simultaneously strengthen halal operational standards, digital payment adoption, and digital readiness. Training programs should emphasize practical digital capability, transaction management, and operational integration rather than merely encouraging technology usage. Such an integrated approach is essential to help MSMEs improve operational efficiency, strengthen competitiveness, and achieve sustainable financial performance in the evolving digital halal economy.

8. Limitations and Future Research

This study has several limitations that should be considered when interpreting the findings. First, the data are based on self-reported perceptions, which may introduce subjective bias and affect the accuracy of the responses. Second, the study focuses only on micro and small enterprises in Bekasi City, which may limit the generalizability of the findings to other regions with different economic conditions and levels of digital adoption. In addition, financial performance is measured subjectively rather than using objective financial data, which may influence the precision of the results.

Future research is recommended to use of objective financial data would also enhance the robustness of the findings. Furthermore, expanding the research scope to different regions and sectors could improve the generalizability of the results. Future studies may also incorporate additional variables, such as digital literacy, entrepreneurial orientation, or policy support, to provide a more comprehensive understanding of MSME performance. Finally, a mixed-methods approach could be employed to gain deeper insights into how halal practices and digital technologies are implemented in MSME operations.

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The authors used Grammarly for grammar checking. The authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

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