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DOI: [10.22219/jrak.v15i4.40474](https://doi.org/10.22219/jrak.v15i4.40474)

Citation:

Arofah, T., Ramadhanti, W., Aini, N., Jati, D. P., Rusmana, O. (2025). Enhancing MSME Performance Through Halal Literacy, AIS, And Digital Marketing. Jurnal Reviu Akuntansi Dan Keuangan, 15(4), 900-908.

Article Process

Submitted:

April 14, 2025

Reviewed:

May 2, 2025

Revised:

October 23, 2025

Accepted:

November 21, 2025

Published:

November 21, 2025

Office:

Department of Accounting
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Jalan Raya Tlogomas 246,
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Indonesia

P-ISSN: 2615-2223

E-ISSN: 2088-0685

Article Type: Research Paper

Enhancing MSME Performance Through Halal Literacy, AIS, And Digital Marketing

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ABSTRACT

Purpose: This study investigates the impact of halal literacy, accounting information system (AIS) quality, and digital marketing adoption on business growth among micro, small, and medium enterprises (MSMEs)

Methodology/approach: Employing a quantitative approach, data were collected from MSMEs owners through structured surveys. The data were analyzed using Structural Equation Modeling-Partial Least Squares (SEM-PLS).

Findings: The results indicate that AIS quality and digital marketing adoption significantly enhance business growth. However, halal literacy alone does not exhibit a direct effect unless integrated with operational excellence and certification.

Practical implications: MSMEs should not only focus on halal compliance but also strengthen their financial management systems and digital marketing capabilities to achieve sustainable growth.

Originality/value: This study provides a comprehensive framework by integrating traditional religious compliance with modern technological advancements to promote business success.

Keywords: Accounting Information System; Business Growth; Digital Marketing; Halal Literacy; MSME.

ABSTRAK



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Tujuan: Penelitian ini menganalisis pengaruh literasi halal, kualitas sistem informasi akuntansi (SIA), dan adopsi pemasaran digital terhadap pertumbuhan usaha pada pelaku UMKM.

Metode: Pendekatan kuantitatif digunakan dengan mengumpulkan data melalui survei terstruktur terhadap pemilik UMKM sektor makanan halal di Jawa Tengah. Sebanyak 117 respon valid dianalisis menggunakan Structural Equation Modeling-Partial Least Squares (SEM-PLS) untuk menguji hubungan antar variabel.

Temuan: Hasil penelitian menunjukkan bahwa kualitas SIA dan adopsi pemasaran digital berpengaruh signifikan dalam meningkatkan pertumbuhan usaha UMKM. Namun, literasi halal tidak memiliki pengaruh langsung terhadap pertumbuhan usaha, kecuali jika didukung oleh kesiapan operasional dan sertifikasi halal. Temuan ini menegaskan bahwa modernisasi sistem keuangan dan pemanfaatan teknologi pemasaran merupakan faktor kunci bagi UMKM untuk mencapai pertumbuhan yang berkelanjutan.

Implikasi praktis: UMKM perlu memperkuat sistem informasi akuntansi dan mengoptimalkan strategi pemasaran digital untuk meningkatkan daya saing. Regulasi dan lembaga pendukung juga perlu mempermudah akses sertifikasi halal agar pengetahuan dapat diterjemahkan menjadi nilai tambah bisnis.

Orisinalitas/Kontribusi: Studi ini menawarkan kerangka integrative yang menggabungkan kepatuhan etis berbasis syariah dengan teknologi modern sebagai fondasi dalam meningkatkan kinerja UMKM.

Kata kunci: Literasi halal; Sistem informasi akuntansi; Pemasaran digital, Pertumbuhan usaha, UMKM.

INTRODUCTION

The rapid advancement of digital technology has significantly influenced how micro, small, and medium enterprises (MSMEs) conduct business and interact with consumers. In the context of Indonesia's growing halal economy, MSMEs are increasingly challenged to not only comply with halal standards but also adapt to the demands of digitalization and financial accountability (Senan, 2024). Digital marketing, in particular, has emerged as a transformative force for MSMEs, enabling broader market reach and more efficient communication strategies (Jeza & Lekhanya, 2022).

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Halal literacy is considered an essential dimension of ethical business conduct in Muslim-majority markets. It includes an understanding of halal principles, the ability to implement halal practices, and awareness of certification requirements. This understanding fosters trust among consumers and aligns with religious expectations. However, despite the growing emphasis on halal standards, many Indonesian MSMEs still lack formal certification and

operational readiness to translate halal awareness into improved financial outcomes (Cadavid & Valencia-Arias, 2022).

In particular, the halal industry in Indonesia holds a strategic position not only due to its religious majority but also because of the government's regulatory commitment. The introduction of Law No. 33/2014 on Halal Product Assurance mandates halal certification for various product categories. While the law aims to protect Muslim consumers, its implementation poses challenges for MSMEs that lack knowledge, technical infrastructure, and financial resources to pursue certification (Nazir et al., 2025; Olasanmi et al., 2023).

Digital transformation has emerged as a viable path for MSMEs to overcome structural limitations. The adoption of digital marketing tools, such as social media, e-commerce platforms, and targeted advertisements, enables small businesses to expand their market presence and compete with larger firms (Aditi, 2024; Hu et al., 2023). These digital channels also facilitate consumer feedback loops and allow halal-conscious businesses to promote transparency and ethical branding.

Equally important is the role of Accounting Information Systems (AIS) in supporting business performance. AIS provides a systematic framework for recording, reporting, and analyzing financial transactions, enabling MSMEs to maintain transparency, optimize operations, and comply with regulatory standards. Research indicates that AIS adoption contributes significantly to financial control, strategic decision-making, and access to external financing (Bradshaw et al., 2015; Pedroso et al., 2020; Kareem et al., 2021). Yet, many MSMEs in Indonesia still operate with rudimentary or manual accounting systems, limiting their ability to track performance or attract investment (Binh et al., 2020).

Thus, understanding how these three elements—halal literacy, AIS quality, and digital marketing—interact to shape business growth is essential for designing effective policies and support programs. This study addresses this gap by empirically testing the relationship between these factors and the business growth of halal MSMEs in Indonesia. The findings are expected to contribute both theoretically, by expanding the discourse on halal business practices, and practically, by informing MSME development strategies in emerging economies (Mohamad et al., 2019; Emini & Merovci, 2021).

Halal Literacy and Business Growth

Halal literacy, reflecting a firm's knowledge and awareness of halal principles and practices, has gained increasing attention as a determinant of consumer trust and legitimacy in Muslim-majority markets. The presence of halal literacy in MSMEs can indicate ethical compliance and alignment with religious values, which may influence customer loyalty and brand image. However, Cadavid & Valencia-Arias (2022) argue that halal literacy alone may not directly improve business performance unless accompanied by certification and institutional credibility. Halal literacy can strengthen business positioning by signalling commitment to integrity and product authenticity, yet empirical findings remain inconclusive in linking it directly to financial performance.

Senan (2024) suggested that halal-literate firms tend to align more effectively with regulatory expectations, which enhances their public image and access to formalized halal markets. Nevertheless, the effect on growth outcomes often depends on how well that literacy is operationalized into actionable business processes. In Indonesia, where halal regulation is tightening, firms with sufficient halal understanding may enjoy competitive advantage, particularly in export opportunities and procurement eligibility. However, lack of formal enforcement and inconsistent consumer scrutiny may dilute these effects.

Therefore, halal literacy is proposed as an important antecedent of business growth, not through direct financial enhancement, but via improved stakeholder perception and compliance positioning. This leads to formulation of the following hypothesis

H₁: Halal literacy positively influences business growth.

Accounting Information System (AIS) Quality and Business Growth

AIS quality is pivotal for business success, particularly for MSMEs that often struggle with formal record-keeping and financial transparency. A high-quality AIS contributes to accurate reporting, decision-making, and compliance—attributes essential for sustaining business operations. According to the Resource-Based View (RBV), AIS is a valuable internal capability that provides strategic advantage when it is reliable, accessible, and well-integrated.

Empirical studies support the notion that AIS quality improves operational control, reduces information asymmetry, and supports performance evaluation. [documented](#) that MSMEs with superior AIS implementation are more adaptive to change and capable of identifying growth opportunities. Moreover, effective AIS enables real-time monitoring of cash flow, inventory, and debt obligations—all critical aspects for scaling small business operations sustainably.

As business environments grow more data-driven, AIS quality becomes a differentiator that determines whether MSMEs can meet stakeholder expectations and exploit digital transformation. Thus, this study hypothesizes:

H₂: Accounting Information System (AIS) quality positively influences business growth.

Digital Marketing Adoption and Business Growth

Digital marketing enables MSMEs to reach broader customer bases, reduce promotional costs, and tract customer behaviour with precision. Through tools such as social media, SEO, and mobile marketing, small businesses can generate brand awareness and drive conversion with flexibility and lower overhead compared to traditional marketing channels ([Cuijten et al., 2024](#)).

The adoption of digital marketing has been widely associated with enhanced competitive positioning and revenue growth. [Hadiyati & Mulyono \(2024\)](#) found that MSMEs leveraging digital platforms experience improved customer engagement, responsiveness, and sales volume. Moreover, during the COVID-19 pandemic, digital presence proved essential for business continuity and resilience ([Jeza & Lekhanya, 2022](#)).

Digital marketing adoption is thus positioned as a technological capability that aligns with the TOE framework, enhancing organizational performance through environmental responsiveness and innovation. Therefore, the final hypothesis is:

H₃: Digital marketing adoption positively influences business growth.

METHODS

This study adopts a quantitative explanatory research design to examine the relationship between halal literacy, accounting information system (AIS) quality, and digital marketing adoption on the business growth of MSMEs operating in the halal food sector in Indonesia. The research framework is based on the integration of the Resources-Based View (RBV) and Technology-Organization-Environment (TOE) theories.

The population of this research comprises owners or managers of halal-oriented MSMEs registered in Central Java, Indonesia. A purposive sampling technique was employed, targeting respondents who met the following criteria: (1) operate in the halal food sector, (2) utilize accounting information systems, and (3) have adopted at least one form of digital marketing.

A total of 117 valid responses were obtained using online and offline surveys, ensuring diversity in business size, location, and operational model.

All measurement items were adapted from previous validated research and modified to fit the MSME halal context. Responses were recorded using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Halal Literacy (HL) was measured using indicators adapted from [Senan \(2024\)](#), including understanding halal principles, awareness of halal certification procedures, and compliance with halal production standards. AIS Quality (AISQ) was measured using indicators from [Haryanto & Sultoni \(2024\)](#), focusing on system reliability, information accuracy, and ease of use. Digital Marketing (DM) adoption was assessed through indicators developed by [Cuijten et al., \(2024\)](#), including the use of digital platforms, customer engagement strategies, and online branding. Business Growth (BG) was evaluated based on financial and non-financial indicators derived from [Hadiyati & Mulyono \(2024\)](#) such as revenue increase, market expansion, and customer base growth.

The conceptual framework presents the three independent variables (Halal Literacy, AIS Quality, and Digital Marketing) predicting the dependent variable (Business Growth).

Equation 1 illustrates the conceptual framework developed for this study. It outlines the relationships between three independent variables—Halal Literacy, Accounting Information System (AIS) Quality, and Digital Marketing—and the dependent variable, Business Growth. This model is grounded in the Technology-Organization-Environment (TOE) framework and the Resource-Based View (RBV), emphasizing how religious understanding, technological capabilities, and digital strategies collectively influence the performance of halal-certified MSMEs.

$$BG = \beta_1HL + \beta_2AISQ + \beta_3DM + \varepsilon$$

Where:

BG : Business Growth (dependent variable),

HL : Halal Literacy,

AISQ : Accounting Information System Quality

DM : Digital Marketing Adoption

$\beta_1\beta_2\beta_3$: Path coefficients indicating the strength and direction of the relationship.

ε : Error term representing unexplained variance.

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) through SmartPLS 4.0 software. The evaluation involved two stages: (1) Measurement Model Analysis, to assess construct reliability and validity, including internal consistency (Cronbach's Alpha, Composite Reliability) and convergent validity (Average Variance Extracted, AVE); (2) Structured Model Analysis, to test hypotheses by examining path coefficients, t-statistics, and p-values. Bootstrapping with 5,000 resamples was used to evaluate the significance of the relationship.

Ethical considerations were observed by maintaining respondent confidentiality and ensuring informed consent.

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Figure 1 illustrates the conceptual framework developed to examine the influence of three key constructs—Halal Literacy, Accounting Information System (AIS) Quality, and Digital Marketing Adoption—on Business Growth among micro, small, and medium enterprises (MSMEs) in Indonesia’s halal food sector. This framework integrates the Resource-Based View (RBV) and Technology-Organization-Environment (TOE) theoretical lenses to explain how internal capabilities (such as AIS quality), ethical awareness (halal literacy), and technological innovation (digital marketing) contribute to the strategic performance of MSMEs. Each of the independent variables is hypothesized to have a direct positive relationship with the dependent variable, business growth, which is measured through financial and non-financial indicators such as revenue, market expansion, and customer acquisition.

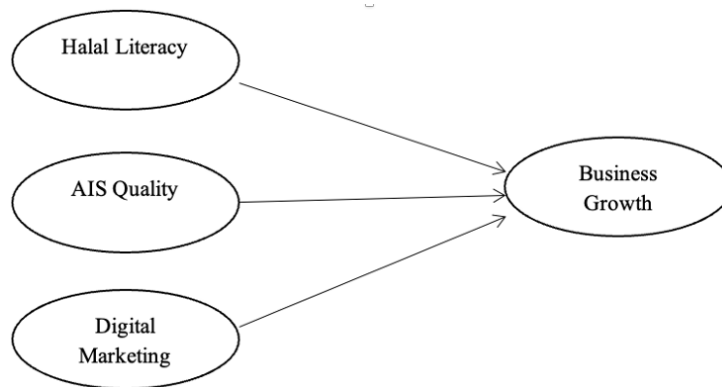


Figure 1.
Framework of the Study;
Source:
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RESULTS AND DISCUSSION

This study analyzed 117 valid responses from halal food MSMEs operating in Banyumas Regency, Indonesia. The descriptive analysis showed that most respondents were female (87%), Muslim (96,6%), and had not yet obtained halal certification (56%), despite being involved in food production or distribution. This demographic profile reveals a gap between halal awareness and formal compliance, which may affect how MSMEs respond to regulatory changes and consumer demands.

Table 1 presents the descriptive statistics for the four variables studied. All variables exhibit high mean scores, suggesting that respondents generally agree with the statements related to halal literacy, AIS quality, digital marketing adoption, and business growth.

Variable	Mean	Std Dev	Min	Max
Halal Literacy	4.12	0.57	3.00	5.00
AIS Quality	3.89	0.63	2.78	5.00
Digital Marketing	4.25	0.48	3.50	5.00
Business Growth	4.01	0.52	3.20	5.00

Table 1.
Descriptive Statistics

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Table 2 shows the correlation matrix among the variables. All variables are positively correlated, with AIS Quality and Digital Marketing showing the strongest correlation with Business Growth.

	Halal Literacy	AIS Quality	Digital Marketing	Business Growth	
Halal Literacy	1.00	0.41	0.36	0.29	Table 2 Correlation Matrix
AIS Quality	0.41	1.00	0.55	0.46	
Digital Marketing	0.36	0.55	1.00	0.52	
Business Growth	0.29	0.46	0.52	1.00	

To assess the validity and reliability of the measurement constructs, a series of model evaluations were conducted. Table 3 presents the results of the Measurement Model Evaluation, showing that all criteria—including Cronbach’s Alpha, Composite Reliability, Average Variance Extracted (AVE), and Outer Loadings—met the recommended thresholds. Discriminant validity was also confirmed using the Fornell-Larcker criterion.

Table 3.
Measurement Model Evaluation

Evaluation Criteria	Threshold	Result
Cronbach’s Alpha	> 0.70	Met
Composite Reliability	> 0.80	Met
Average Variance Extracted (AVE)	> 0.50	Met
Outer Loadings	> 0.70	Met
Fornell-Larcker Discriminant Validity	Criterion Met	Yes

Subsequently, Table 4 illustrates the Structural Model Evaluation, derived through bootstrapping procedures using 5,000 resamples. The path coefficients reveal that AIS Quality and Digital Marketing significantly influence Business Growth, while Halal Literacy does not show a statistically significant effect. The model explains 56.1% of the variance in Business Growth ($R^2 = 0.561$).

Table 4.
Structural Model Evaluation

Path Relationship	β Coefficient	t-Statistic	p-Value	Significance
Halal Literacy → Business Growth	0.092	—	0.346	Not Significant
AIS Quality → Business Growth	0.452	4.885	< 0.001	Significant
Digital Marketing → Business Growth	0.312	3.967	< 0.001	Significant
R^2 for Business Growth	—	—	—	0.561

The empirical findings provide several new insights into MSMEs development within Indonesia’s halal food economy.

First, halal literacy was not a significant predictor of business growth. Despite high awareness, the low certification rate among respondents (56% not certified) suggests that knowledge alone is insufficient to impact financial outcomes. This support findings by [Cadavid & Valencia-Arias \(2022\)](#) and [Senan \(2024\)](#) that ethical literacy must be institutionalized via certification and operational compliance to yield tangible business impact. This insight highlights the need for enhanced regulatory support and streamlined halal certification processes.

Second, AIS quality demonstrated a robust and significant influence on business growth, aligning with the Resource-Based-View (RBV). This confirms prior studies ([Bradshaw et al., 2015](#); [Haryanto & Sultoni, 2024](#)) that identify AIS as a strategic resource enhancing decision-making, transparency, and adaptability. MSMEs with stronger AIS infrastructure are better equipped to manage risk, maintain compliance, and seize growth opportunities.

Third, digital marketing adoption was found to be a powerful enabler of business performance. In line with the TOE framework and empirical work by Hadiyati & Mulyono (2024), Cuijten et al. (2024), and Jeza & Lekhanya (2022), digital marketing contributes to brand visibility, customer engagement, and resilience during market disruptions. For halal MSMEs, this capability is essential to compete in increasingly digital and globalized markets.

In conclusion, while halal awareness is culturally and ethically important, the real drivers of MSMEs growth lie in technology-enabled systems and digital capability. These results suggest an integrated development agenda for MSMEs that bridges ethical compliance with operational modernization.

CONCLUSION

This study investigated the influence of halal literacy, AIS quality, and digital marketing on the business growth of MSMEs in Indonesia's halal food sector. A key finding is the lack of direct effect of halal literacy on business growth, despite high levels of awareness among respondents. This highlights a critical gap between ethical knowledge and formal compliance, especially in the absence of halal certification. In contrast, both AIS quality and digital marketing adoption significantly and positively impacted business growth, emphasizing the role of technological capability and system quality as drivers of MSME performance.

These findings suggest several practical implications. First, policymakers and supporting institutions must not only raise halal awareness but also facilitate the formalization of compliance through accessible certification programs and clearer regulatory pathways. Second, MSMEs should be encouraged to adopt reliable AIS platforms and actively engage in digital marketing strategies to remain competitive and scalable. Development programs targeting digital and financial literacy are vital to enhancing operational readiness among MSMEs.

This study is not without limitations. The focus on a single regency (Banyumas) limits generalizability across different regions or sectors. Additionally, the cross-sectional nature of the data restricts the ability to infer causality. Future research could expand to other halal sectors (e.g., cosmetics, tourism), explore mediating or moderating variables such as certification status or consumer trust, and apply longitudinal or mixed-method approaches to enrich understanding of MSME dynamics in the halal economy.

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