DIJEFA: Dinasti International Journal of Economics, Finance & Accounting
E-ISSN: 2721-303X
P-ISSN: 2721-3021
https://dinastipub.org/DIJEFA dinasti.info@gmail.com +62 811 7404 455
DINASTI PUBLISHER

DOI: https://doi.org/10.38035/dijefa.v7i5.7526
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Received: 20 October 2026 | **Revised:** 12 November 2026 | **Accepted:** 20 November 2026

Determinant of Artificial Intelligence (AI) Adoption for Financial Record and Financial Management Among Online-Based Micro Enterprises and Its Impact on Business Sustainability

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Abstract: This study was motivated by the limited use of artificial intelligence technology in bookkeeping and financial management for online-based microenterprises, despite the ongoing expansion of business digitization. Previous research has tended to address the adoption of artificial intelligence in general and has not extensively examined its relationship with the quality of financial management and business sustainability within a single integrated empirical model. This study aims to analyze the factors influencing the adoption of artificial intelligence, examine its impact on the quality of financial management, and analyze the role of financial management in supporting business sustainability. The study employs an explanatory quantitative approach involving 200 online-based microbusiness owners in West Java Province, selected through purposive sampling. Data were collected using a questionnaire and analyzed using partial least squares structural equation modeling. The results indicate that performance expectations, business expectations, enabling conditions, and perceptions of AI have a positive and significant effect on the adoption of artificial intelligence. The adoption of artificial intelligence also has a positive and significant effect on the quality of financial management, which in turn enhances business sustainability. Financial management was found to mediate the effect of artificial intelligence adoption on business sustainability. The novelty of this study lies in the integration of technology acceptance, financial management, and business sustainability factors into a single empirical model for online-based microenterprises.

Keywords: Artificial Intelligence Adoption, UTAUT, Financial Management, Business Sustainability, Online-Based Micro Enterprises.

INTRODUCTION

Micro enterprises constitute the majority of business entities in Indonesia and play a strategic role in the national economic structure. Data from the Ministry of Micro, Small, and Medium Enterprises as of December 31, 2025, indicate that approximately 99% of the 30,209,069 non agricultural MSMEs are micro enterprises. Consequently, a substantial portion of national economic activity relies on this group of businesses (Kementerian Usaha Mikro,

Kecil, 2025). Along with the development of digital technology and e-commerce platforms, the way micro enterprise owners conduct their businesses has undergone significant changes. The increase in the number of digital business units to 4.40 million, along with a national e-commerce transaction value of IDR 1,288.93 trillion, indicates that digital commerce has become an important component of economic activity, including among micro enterprises (Pravitasari & Sutarsih, 2025). Previous studies have shown that marketplaces and social commerce platforms are increasingly utilized as primary sales channels, resulting in a shift in business models toward digital platforms (Rahayu & Muadz, 2025). MSME digitalization and financial literacy have also become important factors in maintaining the sustainability of micro enterprises amid increasingly dynamic business competition (Jayanti & Karnowati, 2023; Suleman & Thalib, 2024). However, digital transformation among MSMEs has primarily focused on marketing and sales activities, while the adoption of technology based financial record and financial management remains relatively limited.

The development of Artificial Intelligence (AI) technology offers new opportunities for online-based micro enterprises to automate transaction recording, improve the accuracy of financial reports, and support more effective decision-making (Harahap et al., 2025; Octavia, 2025). Digital competence and the utilization of financial technology also contribute to business competitive advantage (Metris et al., 2025). Recent studies have demonstrated that AI adoption among MSMEs is influenced by performance expectancy, facilitating conditions, and perceived intelligence, which encourage the actual use of AI in business activities (Lupiyoadi et al., 2025). However, increased revenue among businesses operating through digital platforms is not always accompanied by adequate financial reporting practices, potentially affecting business resilience amid increasingly intense digital competition (Rahayu et al., 2024). This condition is reinforced by the fact that many business owners still rely on cash records or daily receipts without a formal reporting system, thereby limiting the accuracy of financial information required for decision making and business sustainability (Mawarni et al., 2025; Rahayu et al., 2024).

This study integrates three major conceptual frameworks to comprehensively analyze this phenomenon. First, the Unified Theory of Acceptance and Use of Technology (UTAUT) is employed to explain the determinants of AI adoption by considering digital competence, perceived benefits, ease of use, and business readiness (Putri et al., 2024). Second, the Indonesian Financial Accounting Standards for Micro, Small, and Medium Entities (SAK EMKM) provide the basis for assessing the quality of financial management, including accuracy, timeliness, and support for decision-making (Nisa & Susilo, 2025). Third, the concept of business sustainability is used to analyze the impact of AI adoption on financial stability, business resilience, and adaptation to the dynamics of the digital market (Anggriani & Hanoum, 2024). The integration of these three frameworks enables the testing of an empirical model that connects the determinants of AI adoption, the quality of financial management, and the sustainability of online-based micro enterprises within a structured causal model. Several studies have examined the implementation of AI in financial reporting and corporate financial management (Eijnde et al., 2026; Resalia et al., 2024; Sari et al., 2025), the use of AI in MSME development (Amira & Nasution, 2023), and the role of AI in supporting financial decision-making (Hidayat et al., 2024; Kusumawati et al., 2025; Munawarah, 2025). However, these studies have not specifically examined AI adoption in financial record and financial management among online-based micro enterprises and its relationship with business sustainability.

Most previous studies have focused on medium- and large-scale enterprises, the general use of AI, or have not examined the relationships among the relevant variables within a single integrated empirical model. In addition, existing studies remain largely conceptual and descriptive, resulting in limited empirical evidence based on causal models regarding the

impact of AI adoption on the sustainability of micro enterprises. Based on this research gap, the novelty of this study lies in the development of an empirical model of AI adoption for financial record and financial management among online-based micro enterprises using the UTAUT approach, as well as the examination of its impact on business sustainability through the SEM-PLS method. This study provides theoretical benefits by contributing to the development of research on technology adoption and micro enterprise sustainability, while also offering practical benefits for business owners in utilizing AI to achieve more effective and sustainable financial management.

Accordingly, the objectives of this study are to: (1) analyze the factors influencing AI adoption in financial record and financial management among online-based the micro enterprises; (2) examine the effect of AI adoption on quality of financial management; and (3) analyze the impact of AI adoption on the sustainability of online-based micro enterprises.

METHODS

This study employed a quantitative approach using an explanatory research design to examine the causal relationships among the research variables through hypothesis testing (Sugiyono, 2018). A quantitative approach was considered appropriate because it enables the relationships among variables to be examined objectively and systematically and allows the findings to be generalized to the population of online-based microenterprises.

The population of this study comprised online based microenterprise owners in West Java, Indonesia, who utilize digital technology in their business activities. The respondents were selected using a purposive sampling technique based on the following criteria: (1) operating a microenterprise that utilizes digital platforms or marketplaces for sales activities; and (2) having experience with or an understanding of the use of Artificial Intelligence (AI) in business financial record or financial management. The sample size was determined based on the requirements of Partial Least Squares Structural Equation Modeling (PLS-SEM), which recommends a sample size of at least five to ten times the number of indicators used in the research model (Hair et al., 2021). The study included 25 indicators; therefore, a final sample of 200 respondents was considered adequate to support the estimation and analysis of the proposed model.

Primary data were collected using a structured questionnaire distributed both online and offline to online-based microenterprise owners in 2026. All measurement items were assessed using a 1-5 point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Prior to the main data collection, the research instrument was subjected to a pilot study involving 30 online microenterprise owners to assess its preliminary validity and reliability. The instrument was considered acceptable based on a minimum loading factor ≥0.60 and a Cronbach's alpha value ≥ 0.70 (Hair et al., 2020).

The research model involved seven variables organized within three theoretical frameworks. The Unified Theory of Acceptance and Use of Technology (UTAUT) provided the theoretical basis for the four exogenous variables, namely performance expectancy, effort expectancy, facilitating conditions, and perceived intelligence. Artificial Intelligence (AI) adoption served as the first mediating variable, while financial management, referring to the principles of the Financial Accounting Standards for Micro, Small, and Medium Entities (SAK EMKM), served as the second mediating variable. Business sustainability was positioned as the endogenous variable. The operational definitions and measurement indicators for each variable are presented in Table 1.

Table 1. Operational Definitions and Measurement Indicators of Variables

Variable	Indicator	Measure ment Item	Source
Performance Expectancy (X1)	Time Efficiency	The use of AI helps me complete the recording of business financial transactions more quickly.	(Lupiyoadi et al., 2025; Venkatesh et al., 2003)
	Accuracy	The use of AI helps improve the accuracy of recording and bookkeeping of my business finances.	
	Performance Benefits	The use of AI helps improve my performance in managing business finances.	
Effort Expectancy (X2)	Ease of Learning	I find it easy to learn how to use AI to support business financial management.	(Purnomo & Purwandari, 2024; Venkatesh et al., 2003)
	Ease of Interaction	I do not experience difficulties when using AI to record business financial transactions.	
	Ease of Use	I find AI for business financial management easy to understand and operate.	
Facilitating Conditions (X3)	Resource Availability	I have adequate devices and internet access to use AI in my business.	(Lupiyoadi et al., 2025; Venkatesh et al., 2003)
	Technical Support	I receive assistance or support when experienci ng difficultie s in using AI.	
	System Compatibility	The AI that I use can be integrated with the operationa l needs of my business.	
Perceived Intelligence (X4)	Cognitive Capability	AI is able to accurately recognize and categorize my business transactions.	(Eijnde et al., 2026; Ling et al., 2025)
	Recommendation Quality	AI is able to provide suggestio ns or recommendations that support my business financial management.	
	Adaptive Capability	AI is able to adapt its outputs to the transaction patterns of my business.	
Adopsi Artificial Intelligence (Z)	Frequency of Use	I regularly use AI in my business bookkeeping activities.	(Rogers, 2003; Venkatesh et al., 2003)
	Consistency of Use	I use AI in the bookkeeping process and preparation of my business financial reports.	
	Continuance Intention	I intend to continue using AI in managing my business finances in the future.	
Financial Management (Y1)	Reporting Accuracy	I am able to prepare my business financial reports accurately.	(Nisa & Susilo, 2025)
	Timeliness	My business financial reports can be prepared in a timely manner.	
	Decision-making support	Information generated from financial management helps me make business decisions.	
Business Sustainab ility (Y2)	Business Stability	My business has stable financial conditions that support its continuity.	(Anggriani & Hanoum, 2024; Dyllick & Hockerts, 2002; Elkington, 1997)
	Survival Capability	business is able to survive and adapt to changing market conditions.	

Source: Processed Data (2026)

Given that the research model examines the effect of Artificial Intelligence (AI) adoption on business sustainability, both indirectly through financial management (H5 and H6) and directly (H7), the mediating role of financial management was also examined.

The mediation analysis employed a bootstrapping procedure, which involved randomly resampling the original dataset of 200 respondents with replacement (random sampling with

replacement) for 5,000 resamples (subsamples). This procedure followed the recommendation of Hair et al., (2021) to generate stable estimates of path significance without relying on the assumption of data normality.

The significance of the specific indirect effect was assessed based on the t-statistics value (> 1.96), p-values (< 0.05), and a bias-corrected confidence interval that did not include zero. Furthermore, the Variance Accounted For (VAF) was used to determine the type of mediation, namely full mediation (VAF > 80%), partial mediation (20% ≤ VAF ≤ 80%), or no mediation (VAF < 20%). This analysis was conducted to ensure the consistency between the direct and indirect effects of Artificial Intelligence (AI) adoption on the sustainability of online-based microenterprises (Hair et al., 2021).

RESULTS AND DISCUSSION

Respondent Characteristics

Respondents' Primary Business Location

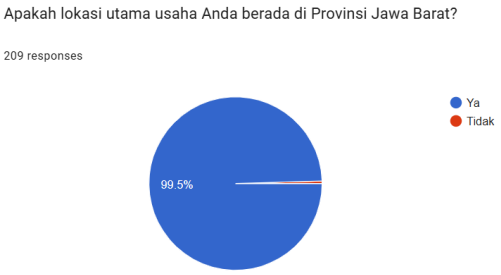


Figure 2. Respondents' Primary Business Location
Source: Questionnaire Output

Based on the screening results regarding the primary location of the respondents' businesses, a total of 209 responses were obtained. Of these respondents, 99.5% reported that their businesses were located in West Java Province, while the remaining 0.5% were located outside West Java. From the 209 responses collected, 200 respondents were selected as the final research sample. All 200 respondents included in the analysis operated businesses in West Java Province, indicating that 100% of the final sample met the geographical criteria established for this study. Therefore, the data used in this study were fully consistent with the predetermined geographical scope.

Respondents' Business Category

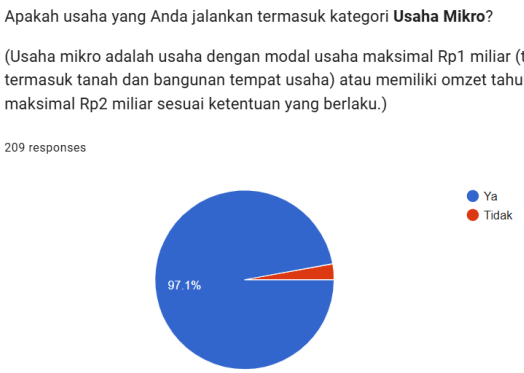


Figure 3. Respondents' Business Category
Source: Questionnaire Output

Based on the screening results regarding business categories, a total of 209 responses were obtained. Among these respondents, 97.1% reported that their businesses were classified as micro enterprises, while the remaining 2.9% did not fall within this category. From the 209 responses, 200 respondents who met the criteria for micro enterprises were selected as the final research sample. Therefore, all 200 respondents included in the analysis fulfilled the criteria for micro enterprises as defined in this study.

Digital Platforms Used by Respondents



Figure 4. Digital Platforms Used by Respondents
Source: Questionnaire Output

Based on the screening results regarding the digital platforms used to sell products or services, respondents utilized various platforms in conducting their business activities. The most widely used platform was Shopee, with 101 respondents (48.3%), followed by WhatsApp Business with 97 respondents (46.4%) and Instagram with 92 respondents (44%). Furthermore, TikTok Shop was used by 53 respondents (25.4%), while Facebook was used by 21 respondents (10%). These findings indicate that respondents tended to utilize more than one digital platform to support their business activities. From the 209 responses obtained, 200 respondents who met all the research criteria were selected as the final sample. Therefore, the sample of microenterprise owners who conducted sales activities through digital platforms in accordance with the established research criteria.

Respondents' Business Duration



Figure 5. Respondents' Business Duration
Source: Questionnaire Output

Based on the screening results regarding the duration of business operations, 44% of respondents had operated their businesses for more than five years. Furthermore, 25.4% had operated their businesses for one to three years, 23% for three to five years, and 7.7% for less than one year. These findings indicate that most respondents had relatively extensive business experience, with the largest proportion having operated their businesses for more than five

years. From the 209 responses obtained, 200 respondents who met all the research criteria were selected as the final sample. Thus, the business duration characteristics provide an overview of the respondents' business experience represented in this study.

Use of Artificial Intelligence in Business Activities



Figure 6. Use of Artificial Intelligence (AI) in Business Activities
Source: Questionnaire Output

Based on the screening results regarding the use of Artificial Intelligence (AI), 99.5% of respondents reported having used AI to support their business activities, while 0.5% reported that they had never used AI. These findings indicate that almost all respondents had experience utilizing AI to support various business activities.

Use of Artificial Intelligence for Business Bookkeeping and Financial Management



Figure 7. Use of Artificial Intelligence (AI) for Business Bookkeeping and Financial Management
Source: Questionnaire Output

Based on the screening results regarding the use of AI to support business bookkeeping and financial management, 98.1% of respondents reported having used AI, while 1.9% reported that they had never used it. These findings indicate that nearly all respondents had utilized AI to assist with their business bookkeeping or financial management activities. From the 209 responses obtained, 200 respondents who met all the research criteria were selected as the final research sample. Therefore, the respondents included in this study had experience using AI to support business bookkeeping or financial management activities.

Respondents' Gender

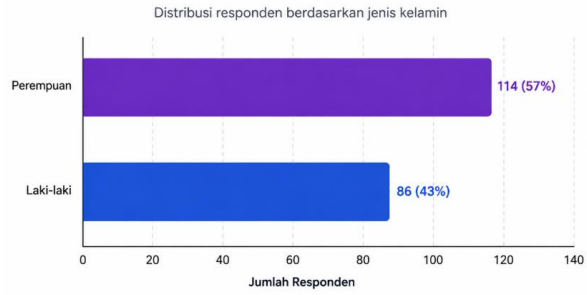


Figure 8. Respondents' Gender
Source: Questionnaire Output

Based on gender characteristics, among the 200 respondents included in this study, 114 respondents (57%) were female, while 86 respondents (43%) were male. Therefore, the respondents in this study were predominantly female.

Respondents' Age

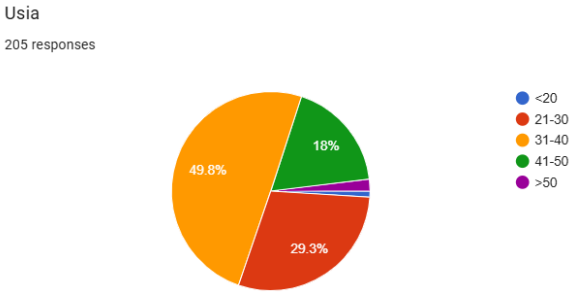


Figure 9. Respondents' Age
Source: Questionnaire Output

Based on age characteristics, the respondents were classified into the following age groups: under 20 years, 21–30 years, 31–40 years, 41–50 years, and above 50 years. The 31–40-year age group represented the largest proportion of respondents, accounting for 49.8%, followed by the 21–30-year age group at 29.3% and the 41–50 year age group at 18%. Meanwhile, respondents aged below 20 years and above 50 years represented relatively smaller proportions. From the responses collected, 200 respondents who met all the research criteria were included in the final sample. Therefore, the majority of respondents in this study were between 31 and 40 years of age.

Respondents' Educational Background

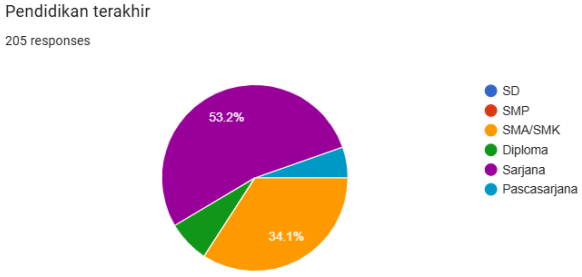


Figure 10. Respondents' Highest Educational Attainment
Source: Questionnaire Output

Based on their educational background, the respondents had diverse levels of education. The majority of respondents held a bachelor's degree, accounting for 53.2%, followed by senior high school or vocational high school graduates at 34.1%. Meanwhile, respondents with diploma and postgraduate qualifications represented smaller proportions. From the responses collected, 200 respondents who met all the research criteria were included in the final sample. Therefore, these educational characteristics provide an overview of the educational background of the respondents included in this study.

Outer Loading

Table 2. Outer Loading

Konstruk	Indikator	Outer Loading	Ket.
X1.1	Perceived Expectancy	0,856	VALID
X1.2		0,864	VALID
X1.3		0,852	VALID
X1.4		0,872	VALID
X2.1	Effort Expectancy	0,843	VALID
X2.2		0,871	VALID
X2.3		0,874	VALID
X2.4		0,870	VALID
X3.1	Facilitating Conditions	0,854	VALID
X3.2		0,871	VALID
X3.3		0,857	VALID
X3.4		0,870	VALID
X4.1	Perceived Intelligence	0,858	VALID
X4.2		0,902	VALID
X4.3		0,890	VALID
Z1	AI Adoptions	0,897	VALID
Z2		0,913	VALID
Z3		0,889	VALID
Y1.1	Financial Management	0,900	VALID
Y1.2		0,900	VALID
Y1.3		0,904	VALID
Y2.1	Business Sustainability	0,873	VALID
Y2.2		0,820	VALID
Y2.3		0,895	VALID
Y2.4		0,871	VALID

Source: Processed Data (2026)

The results of the measurement model evaluation indicate that all indicators had outer loading values above 0.70. The highest outer loading value was observed for indicator Z2 under the AI Adoption construct, with a value of 0.913, while the lowest value was observed for indicator Y2.2 under the Business Sustainability construct, with a value of 0.820. These results indicate that all indicators adequately reflected their respective constructs. Therefore, no indicators needed to be eliminated based on the outer loading criterion.

Reliability & Convergent Validity

Table 3. Reliability & Convergent Validity

Konstruk	Cronbach's Alpha	Composite Reliability	AVE	Ket.
Perceived Expectancy (X1)	0,884	0,920	0,741	Reliabel dan Valid
Effort Expectancy (X2)	0,888	0,922	0,748	Reliabel dan Valid
Facilitating Conditions (X3)	0,886	0,921	0,745	Reliabel dan Valid
Perceived Intelligence (X4)	0,859	0,914	0,780	Reliabel dan Valid
AI Adoptions (Z)	0,883	0,927	0,810	Reliabel dan Valid
Financial Management (Y1)	0,885	0,929	0,812	Reliabel dan Valid
Business Sustainability (Y2)	0,888	0,923	0,749	Reliabel dan Valid

Source: Processed Data (2026)

The results indicate that all research constructs had Cronbach's Alpha and Composite Reliability values above 0.70. Cronbach's Alpha values ranged from 0.859 to 0.888, while Composite Reliability values ranged from 0.914 to 0.929. These findings indicate good internal consistency among the indicators within each construct. Furthermore, the Average Variance Extracted (AVE) values for all constructs ranged from 0.741 to 0.812, all of which exceeded the minimum threshold of 0.50. Therefore, all constructs satisfied the criteria for convergent validity and reliability and were considered suitable for further structural model analysis.

Discriminant Validity Using the HTMT Criterion

Table 4. Heterotrait-Monotrait Ratio (HTMT)

Konstruk	PE (X1)	EE (X2)	FC (X3)	PI (X4)	AAI (Z)	FM (Y1)	BS (Y2)
PE (X1)	-						
EE (X2)	0,098	-					
FC (X3)	0,190	0,120	-				
PI (X4)	0,067	0,038	0,093	-			
AAI (Z)	0,560	0,428	0,523	0,320	-		
FM (Y1)	0,480	0,342	0,493	0,285	0,848	-	
BS (Y2)	0,267	0,214	0,391	0,187	0,624	0,800	-

Source: Processed Data (2026)

The results of discriminant validity testing using the Heterotrait–Monotrait Ratio (HTMT) criterion indicate that all HTMT values between constructs were below the recommended threshold of 0.85. The highest HTMT value was observed between AI Adoption (AAI) and Financial Management (FM), with a value of 0.848. Although this represented the highest value in the analysis, it remained below the threshold of 0.85. Therefore, all constructs in the research model demonstrated adequate discriminant validity, indicating that each construct was empirically distinct from the other constructs in the model.

Collinearity Assessement

Table 5. Outer VIF Results

Konstruk	Indikator	VIF
X1.1	Perceived Expectancy	2,233
X1.2		2,350
X1.3		2,172
X1.4		2,319
X2.1	Effort Expectancy	2,054
X2.2		2,468
X2.3		2,658
X2.4		2,331
X3.1	Facilitating Conditions	2,220
X3.2		2,542
X3.3		2,267
X3.4		2,320
X4.1	Perceived Intelligence	2,002
X4.2		2,493
X4.3		2,176
Z1	AI Adoptions	2,441
Z2		2,751
Z3		2,338
Y1.1	Financial Management	2,452
Y1.2		2,482
Y1.3		2,601
Y2.1	Business Sustainability	2,470
Y2.2		1,973
Y2.3		2,847
Y2.4		2,378

Source: Processed Data (2026)

The results of the outer collinearity assessment indicate that all indicators had acceptable Variance Inflation Factor (VIF) values. The VIF values ranged from 1.973 to 2.847, indicating that no problematic multicollinearity was observed among the measurement indicators.

Structural Model Evaluation

Table 6. Inner VIF Results

Konstruk Endogen	Konstruk Prediktor	VIF
AI Adoption	Performance Expectancy	1,053
	Effort Expectancy	1,024
	Facilitating Conditions	1,045
	Perceived Intelligence	1,009
	Gender	1,013
	Generations	1,026
Financial Management	AI Adoption	1,000
Business Sustainability	Financial Management	1,008
	Gender	1,010
	Genderations	1,007

Source: Processed Data (2026)

The results of the inner collinearity assessment indicate that all Variance Inflation Factor (VIF) values in the structural model were below the threshold of 5.00. The VIF values for the predictors of AI Adoption ranged from 1.009 to 1.053, while the main predictors of Financial Management and Business Sustainability had VIF values of 1.000 and 1.008, respectively. The control variables, Gender and Generation, also had low VIF values, ranging from 1.007 to 1.026. Therefore, there was no indication of multicollinearity among the predictor constructs in the structural model, and the estimation of relationships among the constructs could proceed to the hypothesis testing stage.

R-Square, Q-Square, and Effect Size

Table 7. R-Square, Q-Square, and Effect Size (f^2)

Konstruk Endogen	R^2	Q^2	Konstruk Prediktor	f^2
AI Adoption	0,552	0,433	Performance Expectancy	0,346
			Effort Expectancy	0,203
			Facilitating Conditions	0,273
			Perceived Intelligence	0,134
			Gender	0,000
			Generations	0,009
Financial Management	0,561	0,452	AI Adoption	1,279
Business Sustainability	0,519	0,377	Financial Management	1,018
			Gender	0,028
			Genderations	0,000

Source: Processed Data (2026)

The structural model evaluation showed that the R^2 value for AI Adoption was 0.552, while Business Sustainability were 0.561 and 0.519, respectively. These findings indicate that the model had a satisfactory ability to explain the variance in each endogenous construct. Furthermore, the Q^2 values were 0.433 for AI Adoption, 0.452 for Financial Management, and 0.377 for Business Sustainability. All Q^2 values were positive, indicating that the model possessed predictive relevance for the endogenous constructs.

The effect size analysis showed that Performance Expectancy, Effort Expectancy, and Facilitating Conditions had moderate effects on AI Adoption, whereas Perceived Intelligence

had a small effect. AI Adoption had a large effect on Financial Management, and Financial Management also had a large effect on Business Sustainability. Meanwhile, the control variables, Gender and Generation, demonstrated very small or negligible effects on the endogenous constructs. Overall, these results indicate that the structural model had adequate explanatory power and predictive relevance, with substantial contributions observed particularly in the relationships between AI Adoption and Financial Management and between Financial Management and Business Sustainability.

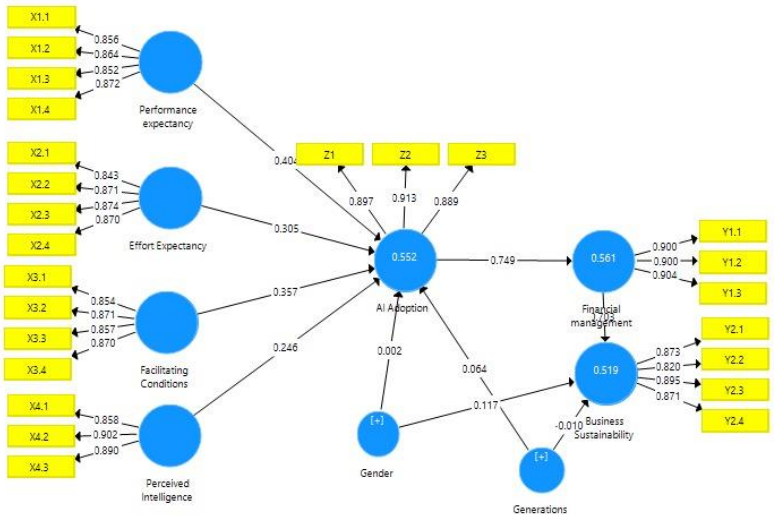


Figure 11. SEM-PLS Model Estimation Results
Source: SEM-PLS Output

Table 8. Hypothesis Testing Results

Hipotesis	Hubungan Antarvariabel	β	t-Statistic	p-Value	Keputusan
H1	PE → AAI	0,404	8,346	<0,001	Diterima
H2	EE → AAI	0,305	5,731		
H3	FC → AAI	0,357	7,545		
H4	PI → AAI	0,246	5,245		
H5	AAI → FM	0,749	25,599		
H6	FM → BS	0,703	19,898		

Source: Processed Data (2026)

Hypothesis testing was conducted using the bootstrapping procedure by examining the path coefficients, t-statistics, and p-values. A hypothesis was considered supported when the p value was below 0.05. The results indicate that Performance Expectancy, Effort Expectancy, Facilitating Conditions, and Perceived Intelligence had positive and significant effects on AI Adoption. Furthermore, AI Adoption had a positive and significant effect on Financial Management, while Financial Management had a positive and significant effect on Business Sustainability. Therefore, H1 through H6 were supported.

Table 9. Specific Indirect Effect Results

Hipotesis	Hubungan Antarvariabel	β	t-Statistic	p-Value	95% CI	Keputusan
H7	AAI → FM → BS	0,526	14,666	<0,001	0,455–0,596	Signifikan

Source: Processed Data (2026)

The indirect effect analysis showed that AI Adoption had a positive and significant indirect effect on Business Sustainability through Financial Management. This finding indicates that Financial Management serves as an underlying mechanism linking AI Adoption to Business Sustainability. Therefore, the mediation hypothesis (H7) was supported.

Discussion

The Effect of Performance Expectancy on Artificial Intelligence Adoption

The hypothesis testing results indicate that performance expectancy has a positive and significant effect on the adoption of artificial intelligence in bookkeeping and financial management among online-based micro enterprises, thereby supporting H1. This finding is consistent with Lupiyoadi et al., (2025), who identified performance expectancy as the most consistent determinant in encouraging both the intention to adopt and the actual use of AI among MSMEs and startups in Indonesia. It is also consistent with Suyanto et al., (2024) who demonstrated that performance expectancy encourages the adoption of QRIS digital technology among MSMEs. This consistency suggests that business owners' confidence in the benefits provided by AI, particularly its ability to accelerate and improve the accuracy of transaction recording, remains a primary driver of technology adoption, despite differences in technological contexts and business sectors.

The difference between the present study and previous studies lies in the specific focus of the research object. While Lupiyoadi et al., (2025) examined AI adoption in general among MSMEs and startups, and Suyanto et al., (2024) focused on the adoption of QRIS, the present study specifically examines the effect of performance expectancy on AI adoption for bookkeeping and financial management among online-based micro enterprises. This specific context strengthens the generalizability of the role of performance expectancy within a narrower yet highly relevant domain of AI application, particularly in addressing the financial management needs of micro enterprises.

The Effect of Effort Expectancy on Artificial Intelligence Adoption

The findings of this study indicate that effort expectancy has a positive and significant effect on artificial intelligence adoption, thereby supporting H2. This finding is consistent with Purnomo & Purwandari, (2024) who demonstrated that effort expectancy significantly influences MSMEs' intention to adopt digital technology. However, this finding differs from Lupiyoadi et al., (2025) who found that effort expectancy was significant among startups but insignificant among MSMEs. They argued that barriers faced by MSMEs were more closely related to the need for external assistance than to the complexity of the technology itself.

The difference in findings may be attributed to the characteristics of the sample in the present study, which specifically consists of online-based micro enterprise owners. These business owners are generally familiar with operating digital applications, such as online marketplaces, social media platforms, and digital payment applications, in their daily business activities. This higher level of digital familiarity may make perceived ease of use a more important determinant of AI adoption than among conventional MSMEs, as examined by Lupiyoadi et al., (2025), these findings therefore reinforce the argument that the level of basic digital literacy may influence the role of effort expectancy in the adoption of AI technology.

The Effect of Facilitating Conditions on Artificial Intelligence Adoption

The hypothesis testing results indicate that facilitating conditions have a positive and significant effect on artificial intelligence adoption, thereby supporting H3. This finding is consistent with Lupiyoadi et al., (2025) who found that facilitating conditions significantly influence both the intention to adopt and the actual use of AI, particularly among MSMEs that generally face limitations in internal resources. The findings are also consistent with Purnomo

& Purwandari, (2024) who demonstrated that facilitating conditions significantly influence the intention to adopt digital technology among Indonesian MSMEs.

The consistency of these findings across different research contexts reinforces the argument that the availability of digital devices, internet access, and technical support constitutes a structural prerequisite that cannot simply be replaced by motivational factors, such as performance expectancy or effort expectancy. The present study extends previous findings by demonstrating that facilitating conditions remain relevant even when the technological application is specifically directed toward bookkeeping and financial management activities, rather than toward marketing or general business operations, which have been more commonly examined in previous studies.

The Effect of Perceived Intelligence on Artificial Intelligence Adoption

The results indicate that perceived intelligence has a positive and significant effect on artificial intelligence adoption, thereby supporting H4, although the magnitude of its effect is relatively smaller than those of the other three UTAUT constructs.This finding is consistent with Lupiyoadi et al., (2025) who demonstrated that perceived intelligence significantly influences the intention to adopt AI among MSMEs in Indonesia. It also reinforces the argument of Eijnde et al., (2026) that the conventional UTAUT model needs to be extended with AI-specific constructs to capture the autonomous and adaptive characteristics of AI technology.

The relatively smaller magnitude of this effect indicates that, for online-based micro enterprise owners, perceptions regarding the cognitive capabilities of AI are not the primary consideration in decisions to adopt the technology for bookkeeping purposes. Instead, adoption decisions are more strongly influenced by perceived performance benefits, ease of use, and the availability of supporting resources. These findings complement the study by Ling et al., (2025) which developed the perceived intelligence construct in the context of AI powered travel assistants, by demonstrating that the relevance and influence of perceived intelligence may vary depending on the type of task and the sector in which AI is applied.

The Effect of Artificial Intelligence Adoption on Financial Management

The findings indicate that artificial intelligence adoption has a positive and significant effect on the quality of financial management, with a relatively large effect size, thereby supporting H5.This finding is consistent with Rawashdeh et al., (2023), who found that AI adoption among SMEs improves accounting automation and plays an important role in enhancing the quality of financial reporting. It is also consistent with Perkasa & Widianto, (2025) who revealed that the combination of AI-based accounting technology and business owners' self control plays an important role in improving the quality of financial reporting among Indonesian MSMEs.

The present study differs from the studies of Rawashdeh et al., (2023) and Perkasa & Widianto, (2025) in terms of both the scope of the research object and the analytical approach. While those studies focused on SMEs in general using descriptive or exploratory approaches, the present study examines the causal relationship between AI adoption and the quality of financial management, directly referring to the principles of the Financial Accounting Standards for Micro, Small, and Medium Entities (SAK EMKM), using the SEM PLS approach. Therefore, this study provides more measurable empirical evidence regarding the strength of the effect of AI adoption on financial management, particularly in improving the accuracy and timeliness of financial information and supporting business decision-making among online-based micro enterprises.

The Effect of Financial Management on Business Sustainability

The findings indicate that financial management has a positive and significant effect on the sustainability of online-based micro enterprises, with a relatively large effect size, thereby supporting H6. This finding is consistent with Agustini & Suwena, (2024), who found that financial management has a positive and significant effect on MSME sustainability. It is also in line with Parmitasari & Rusnawati, (2023), who demonstrated a positive and significant effect of financial literacy on the sustainability of MSMEs in Bantaeng.

However, this finding differs from Widagdo & Sa'diyah, (2023), who found that financial literacy does not directly influence business sustainability but must be fully mediated by financial behavior and the utilization of financial technology. This difference may be explained by differences in the constructs being examined. Widagdo & Sa'diyah, (2023) focused on financial literacy as a form of knowledge, whereas the present study measures financial management as an actual implementation reflected in the accuracy and timeliness of financial reporting and support for decision-making based on the principles of SAK EMKM. These findings reinforce the argument that business sustainability is more strongly determined by actual financial management practices than by merely possessing financial knowledge.

The Effect of Artificial Intelligence Adoption on Business Sustainability Mediated by Financial Management

The mediation test results indicate that artificial intelligence adoption has a positive and significant indirect effect on the sustainability of online-based micro enterprises through financial management, thereby supporting H7. This finding is consistent with Aulia & Rizki, (2025), who demonstrated that accounting digitalization and financial management play important roles in improving MSME sustainability. It is also consistent with Badghish & Soomro, (2024), who found that AI adoption positively affects sustainable business performance among small and medium-sized enterprises.

The novelty of the present study lies in its explicit examination of financial management as a mediating mechanism between AI adoption and business sustainability within an integrated causal model using the SEM-PLS approach. This specific relationship has not been explicitly examined by either Aulia & Rizki, (2025) or Badghish & Soomro, (2024). These findings emphasize that the benefits of AI adoption for the sustainability of online-based micro enterprises are not realized automatically or independently. Instead, the benefits of AI need to be translated into tangible improvements in financial management practices for their effects on business stability and resilience to be fully realized.

CONCLUSION AND RECOMMENDATIONS

Conclusion

Based on the results of the analysis and discussion, this study draws three main conclusions that address the research objectives. First, performance expectancy, effort expectancy, facilitating conditions, and perceived intelligence were found to influence the adoption of artificial intelligence in bookkeeping and financial management among online-based micro enterprises. Among these determinants, performance expectancy, effort expectancy, and facilitating conditions exerted a more dominant influence than perceived intelligence.

Second, artificial intelligence adoption was found to contribute to improvements in the quality of financial management among online-based micro enterprises. These improvements are reflected in greater accuracy, timeliness, and better support for decision-making when AI is consistently used in bookkeeping activities.

Third, artificial intelligence adoption was found to contribute to the sustainability of online based micro enterprises through the effect of financial management on business

sustainability, as well as through the mediating role of financial management in linking AI adoption to business sustainability. Therefore, the benefits of AI adoption for the sustainability of online-based micro enterprises can be optimized when accompanied by tangible improvements in financial management practices.

Limitations

This study has several limitations that should be taken into consideration. First, nearly all respondents were from West Java Province. Therefore, the findings may not necessarily be generalizable to online-based micro enterprises in other regions of Indonesia with different digital infrastructure and socioeconomic characteristics. Second, the data were collected through self reported questionnaires, which may be subject to respondents' perceptual bias and were not supported by objective data on the actual financial performance of the businesses. Third, this study employed a cross-sectional design, which captured conditions at only one point in time. Consequently, it was unable to explain the dynamics of AI adoption and the development of financial management and business sustainability over time.

Recommendations

Future researchers are encouraged to expand the geographical scope of the study beyond West Java Province so that the findings may be generalized more broadly to online-based micro enterprises across Indonesia. Future studies are also recommended to employ a longitudinal research design to capture the development of AI adoption and its effects on financial management and business sustainability over time. In addition, self-reported data should be complemented with more objective measures of financial performance. Future research may also consider incorporating additional variables, such as digital literacy, trust in AI, or digital platform regulations, to enrich the research model. Furthermore, qualitative approaches may be employed to explore more deeply the experiences of micro enterprise owners in adopting AI for financial management.

Author Contributions

The first author was responsible for the conceptualization of the study, the development of the theoretical framework and hypotheses, data collection and analysis using SEM-PLS, and the overall preparation of the manuscript. The second author contributed to the development of the research instrument, field data collection, and the review and editing of the manuscript. The third author contributed to the research process and provided input to support the development and refinement of the manuscript. All authors have read and approved the final version of the manuscript submitted for publication.

Acknowledgment (Optional)

The authors would like to express their appreciation and gratitude to all respondents who participated and provided valuable information during the data collection process of this study. Furthermore, the authors acknowledge all parties who provided support, input, and motivation throughout the preparation of this study.

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