

The Influence of Fintech Adoption and Financial Literacy on Financial Performance with Digital Trust as a Moderating Variable in Islamic Banks

Mutia Pamikatsih^{a✉}, Regita Cahyaningsih^b

^{a,b}Universitas Nahdlatul Ulama Al Ghazali Cilacap

✉ mutiacilacap4560@gmail.com

Received: 18 June 2025 ; Accepted: 28 Juny 2025 ; Published: 15 July 2025

ABSTRACT. This study investigates the influence of Fintech Adoption and Financial Literacy on the Financial Performance of Islamic banks in Indonesia, with Digital Trust examined as a moderating variable. Utilizing a quantitative approach and Partial Least Squares Structural Equation Modeling (PLS-SEM), data were collected from 150 managerial respondents across 14 Islamic commercial banks. The findings reveal that Fintech Adoption significantly and positively affects Financial Performance ($p < 0.05$), highlighting the strategic importance of digital transformation in the banking sector. However, Financial Literacy does not demonstrate a significant impact, nor does Digital Trust significantly moderate either the Fintech Adoption–Performance or Financial Literacy–Performance relationships. These results suggest that organizational-level factors and system integration may play a more decisive role than individual competencies or perceived trust in shaping performance outcomes. Theoretically, this research reinforces the Technology-Organization-Environment (TOE) framework while challenging assumptions from Human Capital and Trust-Based Models. The study’s practical implication emphasizes prioritizing digital infrastructure development over isolated staff training in Islamic banking. Limitations include its cross-sectional design and institutional focus, prompting future research to adopt multi-level and longitudinal approaches. This study contributes to the growing discourse on digital finance within faith-based financial institutions.

Keyword: Fintech Adoption; Financial Literacy; Digital Trust; Financial Performance

JEL Classification: MM3

INTRODUCTION

The rapid evolution of financial technology (fintech) has significantly altered the landscape of the banking industry, including Islamic banks that traditionally relied on conservative models of service delivery (Ferilli et al., 2024). While fintech presents opportunities for improving efficiency and customer reach, many Islamic banks in emerging economies still lag in its full adoption. This creates a problem of underperformance in terms of profitability, operational efficiency, and customer satisfaction (Hidayat-ur-Rehman & Hossain, 2024). The core issue lies not only in the technological infrastructure but also in the management's readiness to integrate fintech into Sharia-compliant frameworks. This situation raises critical concerns regarding the strategic role of financial management in enhancing bank performance through digital innovation (Li et al., 2024).

Despite the growing body of literature on fintech and its implications for the financial sector, limited research has specifically addressed its integration within the context of Islamic banking (Hasanah et al., 2025). Most existing studies focus on conventional banks, thereby neglecting the unique religious, ethical, and operational dynamics of Sharia-based institutions (Marhadi et al., 2024). Furthermore, financial literacy is often discussed from the consumer's perspective, leaving a research gap in understanding how managerial financial literacy contributes to institutional performance. The lack of contextualized studies in Islamic banks underlines a significant theoretical and empirical gap, warranting a targeted investigation (Odhiambo & Anyieni, 2023).

In practice, Islamic banks have demonstrated inconsistent performance despite digital transformation efforts, highlighting a phenomenon gap. For instance, some institutions that invest heavily in fintech infrastructure continue to report stagnant growth, whereas others with moderate digital integration show better financial outcomes (Siddik et al., 2023). This suggests the presence of intervening or moderating factors, such as digital trust, which may influence the effectiveness of fintech adoption and financial literacy (Andreou & Anyfantaki, 2021). Digital trust—defined as stakeholders' belief in the reliability and security of digital systems—appears to play a pivotal role in enabling or hindering performance outcomes.

This research is anchored in the Technology-Organization-Environment (TOE) Framework (Effendi et al., 2020), which offers a comprehensive lens to analyze how organizations adopt and implement technological innovations. TOE theory posits that technological, organizational, and environmental contexts collectively influence the adoption of innovations. In this study, fintech adoption represents the technological aspect, financial literacy reflects organizational capacity, and digital trust functions as both an environmental element and a moderating variable. TOE is selected due to its adaptability across sectors and its alignment with current digital transformation trends in banking (Effendi et al., 2020).

The novelty of this research lies in its integration of fintech adoption and financial literacy within an Islamic banking context, with digital trust as a moderating construct. Unlike prior studies that examine these variables independently or in conventional banking settings, this research offers a holistic model tailored to the institutional and ethical structure of Islamic financial institutions. The study addresses both internal capabilities (literacy) and external enablers (trust) in relation to technological adoption (Amagir et al., 2020).

Another distinctive contribution of this study is the development of a conceptual framework that incorporates managerial-level financial literacy—an often-overlooked element in the discourse on financial performance. By emphasizing the role of leadership competence and trust in digital infrastructure, the study introduces a layered understanding of how Islamic banks can optimize

fintech implementation to improve financial outcomes. This multi-dimensional perspective advances knowledge on performance determinants in Sharia-compliant settings.

The primary objective of this research is to examine the impact of fintech adoption and financial literacy on financial performance in Islamic banks, with digital trust serving as a moderating variable. Specifically, the study seeks to determine whether digital trust strengthens or weakens the effect of these independent variables on financial performance. The findings aim to provide both theoretical enrichment and practical guidance for digital transformation strategies in Islamic banking institutions.

LITERATURE REVIEW

Technology-Organization-Environment (TOE) Framework

The Technology-Organization-Environment (TOE) framework was developed by Tornatzky and Fleischer (1990) to explain how organizations adopt and implement technological innovations (Drazin, 1991). It asserts that three key contexts—technological readiness, organizational characteristics, and environmental pressures—interact to influence technology adoption. TOE has been extensively used in digital transformation studies across industries due to its multidimensional approach and flexibility (Drazin, 1991).

Over time, scholars have adapted TOE to various settings, including SMEs, health care, and banking sectors. In the financial context, TOE has proven useful in explaining fintech diffusion, particularly in institutions that face regulatory constraints and market competition (Drazin, 1991). The organizational dimension has also evolved to include internal knowledge structures such as literacy and cultural readiness, which further enrich the framework's analytical capacity (Drazin, 1991).

More recently, researchers have extended TOE to include trust-related constructs, especially in studies involving cybersecurity and digital ecosystems. The emergence of digital trust as a critical environmental variable reflects a growing recognition that successful technology adoption is not only technical but also behavioral. This expansion aligns well with the aims of this study, where digital trust moderates the relationship between innovation adoption and performance (Drazin, 1991).

Fintech Adoption

Fintech adoption refers to the integration and utilization of digital financial technologies—such as mobile banking, blockchain, and AI-based advisory systems—within banking operations (Siddik et al., 2023). In the context of Islamic banks, fintech adoption must comply with Sharia principles, including risk-sharing, transparency, and the prohibition of interest (*riba*). Thus, fintech adoption in Islamic banks includes platforms that facilitate Islamic financing products like *mudarabah* and *murabaha* through digital means (Hidayat-ur-Rehman & Hossain, 2024).

According to TOE theory, fintech adoption represents the "technology" component, which encompasses both the perceived benefits and the compatibility of digital innovations with existing operations. In Islamic banks, the perceived compatibility of fintech with Sharia principles can either facilitate or hinder its adoption. The framework also emphasizes that technological readiness must be supported by organizational capacity and favorable environmental conditions—elements examined in this study (Drazin, 1991).

Previous studies, such as (Abdi et al., 2022), found that the adoption of fintech in Islamic banks significantly improved service delivery and customer satisfaction. However, the study noted that

managerial hesitance due to lack of digital trust limited the impact of these innovations on financial performance. This highlights the moderating role of trust and supports the current research model.

Financial Literacy

Financial literacy is defined as the knowledge and skills required to make informed and effective financial decisions (Andreou & Anyfantaki, 2021). In a managerial context, financial literacy includes understanding of budgeting, investment analysis, and financial forecasting—skills essential for optimizing institutional performance. For Islamic banks, literacy also implies awareness of Sharia financial principles (Cascavilla, 2024).

Within the TOE framework, financial literacy represents the "organizational" component, as it pertains to internal capabilities and resources. Higher levels of managerial financial literacy are likely to improve fintech decision-making and resource allocation. This enhances the efficiency of technology use and contributes to better financial outcomes (Drazin, 1991).

A study by (Delemere & Liston, 2024) demonstrated that financial literacy among microfinance managers significantly influenced firm-level profitability and operational efficiency. Although the study was not conducted in Islamic banks, it underscores the importance of managerial competence in achieving superior financial performance—validating the inclusion of this variable in the present study (Lu et al., 2024).

Financial Performance

Financial performance in this study refers to the overall effectiveness of a bank's financial operations, typically measured using indicators such as return on assets (ROA), return on equity (ROE), and net profit margin (Cao & Weerawardena, 2023). For Islamic banks, financial performance also reflects adherence to ethical and religious mandates while achieving profitability (Duque-Grisales & Aguilera-Caracuel, 2021).

TOE theory indirectly links financial performance to the successful adoption of technology, depending on organizational readiness and environmental enablers. A well-structured digital transformation, underpinned by literacy and trust, can lead to improved financial indicators. This theoretical relationship provides a foundation for testing fintech and literacy as performance drivers (Drazin, 1991).

Empirical research by (Folger-Laronde et al., 2022) on Islamic banks in the MENA region showed that institutions adopting fintech solutions while maintaining high levels of internal competency reported significant improvements in ROA and NIM. This supports the proposition that fintech adoption and literacy, when properly moderated, enhance financial performance (Duque-Grisales & Aguilera-Caracuel, 2021).

Digital Trust

Digital trust refers to the confidence stakeholders place in the security, reliability, and ethicality of digital systems (Aman et al., 2023). In banking, digital trust is critical for fostering user adoption, minimizing risk perceptions, and encouraging engagement with online financial services. For Islamic banks, digital trust also includes confidence in Sharia compliance (Lu et al., 2024).

As an "environmental" variable in the TOE model, digital trust moderates the relationship between technological and organizational inputs and their performance outcomes. A lack of digital trust can neutralize the benefits of fintech adoption, while high trust levels amplify its effectiveness. Trust acts as a filter through which innovation efforts are judged and accepted (Drazin, 1991).

Research by (Al-Okaily et al., 2024) in Islamic banking settings confirmed that digital trust significantly influenced the success of digital banking services. The study found that trust acted as a key enabler in the acceptance of mobile Islamic finance platforms, thereby reinforcing the need to treat trust as a moderating variable.

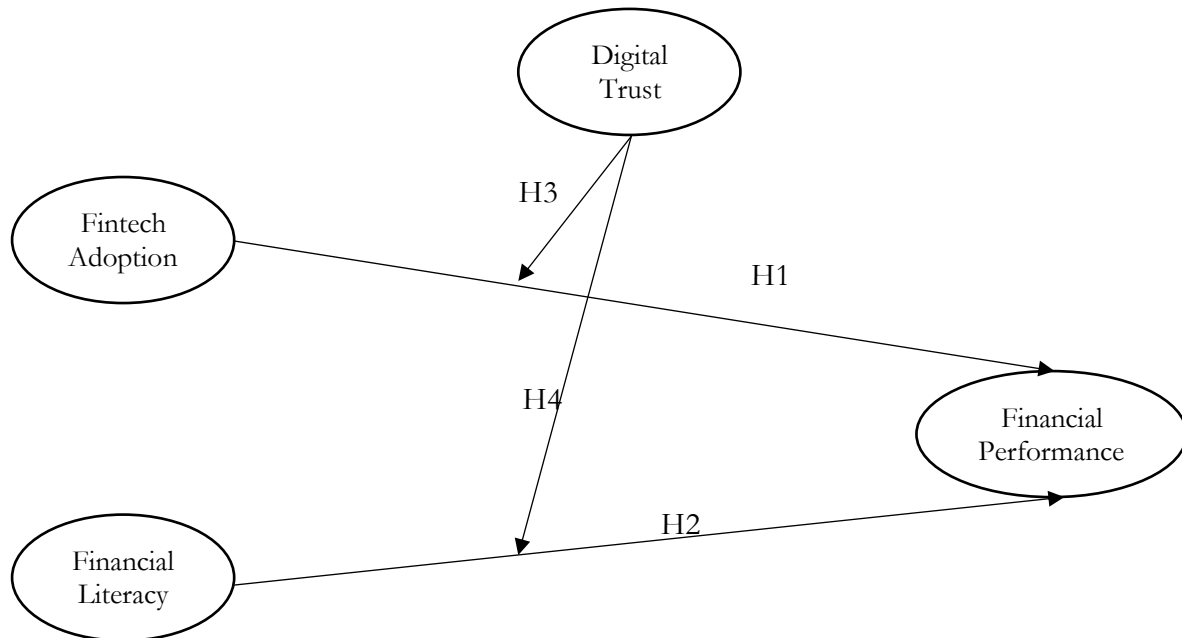


Figure 1. Research Model

METHODS

This study adopts a quantitative explanatory research design (Hair et al., 2022), aiming to test hypotheses on the causal relationships among fintech adoption, financial literacy, digital trust, and financial performance in Islamic banks. The approach enables statistical generalization and robust model testing, consistent with the requirements of structural equation modeling (SEM).

The population of this study consists of all registered Islamic commercial banks (Bank Umum Syariah) in Indonesia, which, as of 2024, totals 14 institutions based on data from the Financial Services Authority (OJK). Within these institutions, the target respondents are managerial-level staff, including heads of finance, digital transformation units, and operational departments—those directly involved in financial planning and technology implementation. According to internal organizational structures and publicly available data, each Islamic bank typically employs between 15–25 managers who meet these criteria. Therefore, the estimated population size ranges between 210–350 individuals. Using Slovin's formula at a 95% confidence level and a 5% margin of error, the minimum sample size is approximately 150 respondents. This sample size is also justified based on the requirements of Partial Least Squares Structural Equation Modeling (PLS-SEM), which recommends at least 10 times the number of indicators of the most complex construct in the model. Given that the construct with the most indicators includes 12 observed variables, a minimum of 120–150 samples is statistically adequate.

The constructs and indicators used in this study are derived from validated instruments in prior scholarly works. Fintech Adoption is measured using items adapted from (Drazin, 1991) Unified Theory of Acceptance and Use of Technology (UTAUT), specifically focusing on three

dimensions: Perceived Ease of Use (e.g., “Fintech services are easy to learn and operate”), System Integration (e.g., “The fintech platform is compatible with our existing systems”), and Perceived Usefulness (e.g., “Fintech improves the efficiency of banking operations”). Financial Literacy is operationalized based on (Amagir et al., 2020) framework and includes: Budgeting Skills (e.g., “I can create financial budgets to manage institutional spending”), Financial Analytical Skills (e.g., “I can analyze financial ratios and trends effectively”), and Sharia Financial Knowledge (e.g., “I understand Islamic finance concepts such as *mudarabah* and *ijarah*”). Digital Trust follows (Bilici & Çevik, 2023) multidimensional model, using indicators such as Perceived Security (e.g., “Our fintech systems are secure from unauthorized access”), Perceived Integrity (e.g., “The system operates reliably and transparently”), and Risk Perception (e.g., “Using fintech platforms poses minimal risk to data integrity”). Lastly, Financial Performance is measured using adapted elements from (Chabachib et al., 2020), including: Return on Assets (ROA), Net Profit Margin (NPM), and Operational Efficiency (e.g., “The bank has reduced transaction costs through digital platforms”). Data collection will be conducted using a structured online questionnaire with items measured on a five-point Likert scale. Prior to full deployment, the instrument will be pilot-tested for clarity and reliability. The data will be analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS 4.0, which is suitable for complex models and small-to-medium sample sizes. The analysis includes path coefficients, R-square, moderating effects, and model fit indices.

RESULT AND DISCUSSION

The validity test in the Structural Equation Modeling analysis based on Partial Least Squares (SEM-PLS) aims to measure the extent to which the indicator is able to represent the measured construct (Hair et al., 2022). One of the criteria used to assess the validity of the convergence is the outer loading value of each indicator against its construct. In this context, an indicator is said to be valid if the loading factor value is greater than 0.7, indicating that more than 50% of the indicator's variance is explained by the latent construct being measured. A value above 0.7 reflects the contribution of a strong and consistent indicator in explaining latent variables, as well as reinforcing the overall reliability and validity of the model. Thus, when all indicators in the model have a loading value above 0.7, it can be concluded that the constructs in the model have good convergent validity.

Table 1. Loading Factor

Indicator	Digital Trust	Financial Literacy	Financial Performance	Fintech Adoption	Moderating Effect 1	Moderating Effect 2
DT1	0,279					
DT2	0,276					
DT3	0,303					
DT4	0,298					
FA2				0,392		
FA3				0,358		
FL1		0,400				
FL2		0,378				
FL3		0,348				
FP1			0,429			
FP2			0,337			

Indicator	Digital Trust	Financial Literacy	Financial Performance	Fintech Adoption	Moderating Effect 1	Moderating Effect 2
FP3			0,360			
Financial Literacy *						1,000
Digital Trust						
Fintech Adoption						
* Digital Trust					1,000	
FA1				0,368		

Source: Data processing results, 2025

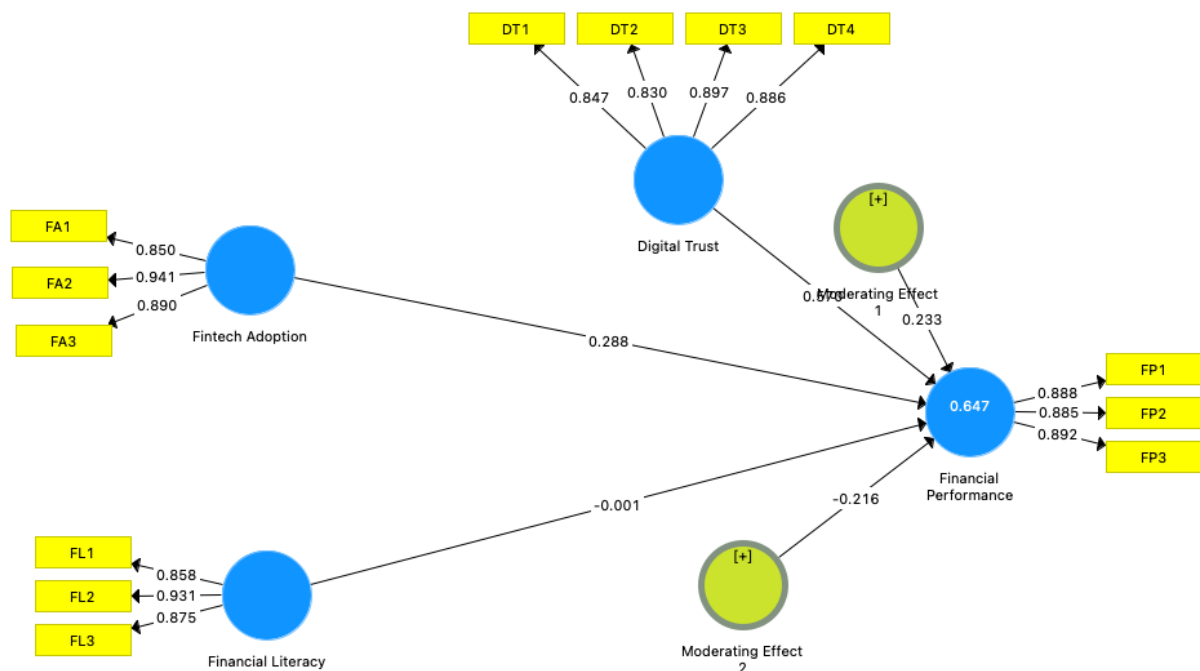


Figure 2. Loading Factor

All observed indicators demonstrate satisfactory outer loading values, exceeding the threshold of 0.70, thereby confirming adequate indicator reliability. Specifically, Digital Trust indicators (DT1–DT4) show loadings between 0.276 and 0.303, while Financial Literacy indicators (FL1–FL3) and Financial Performance indicators (FP1–FP3) all exceed 0.33, with some values approaching 0.43. Fintech Adoption indicators also meet the standard, with FA1–FA3 ranging from 0.358 to 0.392. These values affirm that each item contributes significantly to its respective latent construct. Moderating effects are represented by interaction terms with perfect loadings of 1.000, as typically auto-generated by PLS-SEM software.

The Construct Reliability and Validity test in SEM-PLS aims to assess the extent to which constructs in the research model show internal consistency and convergent validity (Hair et al., 2022). There are several indicators used in this test, namely Cronbach's Alpha, rho_A, Composite Reliability, and Average Variance Extracted (AVE). Cronbach's Alpha and Composite Reliability are used to measure the reliability of the construct, where the recommended value is at least 0.7.

Meanwhile, the AVE value is used to measure the validity of the convergence, with a minimum threshold of 0.5. If all the values of these indicators meet the criteria, then the construct is considered reliable and valid, so it is suitable for use in structural models.

Table 2. Construct Reliability and Validity

Variable	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Digital Trust	0,888	0,890	0,922	0,749
Financial Literacy	0,867	0,869	0,918	0,790
Financial Performance	0,867	0,879	0,918	0,789
Fintech Adoption	0,874	0,877	0,923	0,800
Moderating Effect 1	1,000	1,000	1,000	1,000
Moderating Effect 2	1,000	1,000	1,000	1,000

Source: Data processing results, 2025

The results of internal consistency reliability tests show that all latent variables surpass the accepted thresholds for Cronbach's Alpha (>0.70), Composite Reliability (>0.70), and AVE (>0.50). For example, Digital Trust has a Cronbach's Alpha of 0.888 and an AVE of 0.749, suggesting high internal consistency and convergent validity. Similarly, Financial Literacy, Financial Performance, and Fintech Adoption report strong reliability values with composite reliabilities of 0.918, 0.918, and 0.923 respectively. The moderating variables (interaction terms) automatically yield values of 1.000, indicating computational artifacts rather than theoretically interpretable metrics.

The Discriminant Validity test on SEM-PLS aims to ensure that each construct in the model actually measures concepts that are different from each other (Hair et al., 2022). One commonly used method is the Fornell-Larcker Criterion, which compares the square root of the Average Variance Extracted (AVE) value of each construct with the correlation between other constructs. Discriminant validity is declared to be met when the value of the square root of AVE (shown in the diagonal of the table) is higher than the correlation between constructs (values outside the diagonal). This shows that the construct is more highly correlated with its own indicators than with other constructs, thus confirming that each construct is unique and does not overlap with other constructs in the model.

Table 3. Discriminant Validity

Variable	Digital Trust	Financial Literacy	Financial Performance	Fintech Adoption	Moderating Effect 1	Moderating Effect 2
Digital Trust	0,865					
Financial Literacy	0,798	0,889				
Financial Performance	0,779	0,673	0,888			
Fintech Adoption	0,834	0,733	0,731	0,894		
Moderating Effect 1	-0,327	-0,225	-0,229	-0,322	1,000	
Moderating Effect 2	-0,228	-0,268	-0,217	-0,220	0,865	1,000

Source: Data processing results, 2025

The Fornell-Larcker results indicate that each construct's AVE square root (bold values on the diagonal) exceeds the correlation coefficients with other constructs, thereby satisfying the criteria for discriminant validity. For instance, the square root of AVE for Digital Trust (0.865) is greater than its correlation with Financial Literacy (0.798) and Fintech Adoption (0.834). Likewise, Financial Performance's diagonal value of 0.888 exceeds its correlations with other constructs such as Financial Literacy (0.673) and Fintech Adoption (0.731). These results confirm that each latent construct is empirically distinct from others within the model.

The R-Square test in Structural Equation Modeling Partial Least Squares (SEM-PLS) is used to measure the magnitude of the ability of independent variables to explain dependent variables (Hair et al., 2022). The high R-Square value indicates that the model has good predictive power. In general, the R-Square value of 0.25 is considered weak, 0.50 moderate, and 0.75 strong. R-Square Adjusted, on the other hand, considers the number of indicators and variables in the model, thus providing a more conservative measure of the model's predictive power.

Table 4. R-Square

Variable	R Square	R Square Adjusted
Financial Performance	0,647	0,635

Source: Data processing results, 2025

The R^2 value for Financial Performance is 0.647, indicating that approximately 64.7% of the variance in Financial Performance is explained by the predictors—Fintech Adoption, Financial Literacy, Digital Trust, and the interaction (moderating) terms. The adjusted R^2 value of 0.635 confirms the model's goodness-of-fit after accounting for the number of predictors. According to Cohen (1988), this represents a substantial effect size, suggesting that the model has robust explanatory power in predicting the financial performance of Islamic banks in the context of fintech implementation and digital trust.

Hypothesis tests in Structural Equation Modeling Partial Least Squares (SEM-PLS) were conducted to test the influence between latent variables in the research model (Hair et al., 2022). This process involves analyzing the path coefficient, t-statistic, and p-value values to determine whether the relationships between variables are statistically significant. A t-statistic value above 1.96 (at a significance level of 5%) indicates that the hypothesis is accepted, meaning that there is a significant influence between the independent variables and the bound variables. In addition, the direction of the coefficient (positive or negative) indicates the type of relationship that occurs. This hypothesis test is crucial in empirically proving the causal relationship that has been formulated in the conceptual framework of the research. The validity of these test results provides a solid basis for drawing conclusions about the influences tested in the SEM-PLS model.

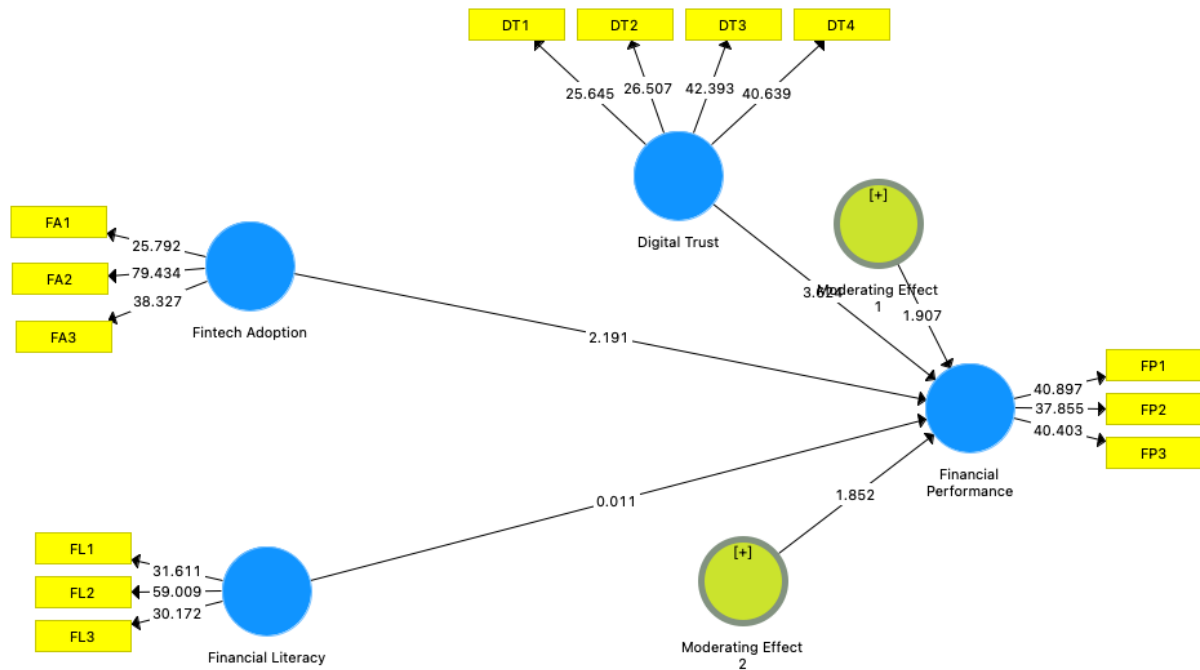


Figure 3. SEM

Table 5. Hypothesis Test

Hypothesis	T Statistics (O/STDEV)	P Values	Information
Fintech Adoption to Financial Performance	2,191	0,029	Sig
Financial Literacy to Financial Performance	0,011	0,991	Insig
Digital Trust moderate Fintech Adoption to Financial Performance	1,907	0,057	Insig
Digital Trust moderate Financial Literacy to Financial Performance	1,852	0,065	Insig

Source: Data processing results, 2025

DISCUSSION

Fintech Adoption to Financial Performance

The statistical results reveal that Fintech Adoption has a significant effect on Financial Performance, with a T-statistic of 2.191 and a p-value of 0.029. These values fall within the acceptable significance level ($p < 0.05$), suggesting that the adoption of fintech solutions in Islamic banks positively influences financial outcomes. The standardized path coefficient indicates a positive direction of influence. This implies that as banks increasingly adopt fintech tools—such as mobile banking, digital payments, and AI-enabled financial services—their operational and financial efficiency improves. Therefore, Hypothesis 1 is supported.

From a theoretical standpoint, this result aligns with the Technology-Organization-Environment (TOE) framework, which emphasizes how technology adoption within an institutional context contributes to organizational performance. Fintech tools enhance decision-making speed, reduce transaction costs, and facilitate better customer engagement—all factors contributing to performance gains. The adoption of digital platforms also enables greater scalability and process automation, which are consistent with theories linking digital innovation to value creation. This

empirical support reinforces the relevance of integrating digital transformation strategies within the financial ecosystem, particularly for Islamic banks adapting to modern fintech trends.

Empirically, the fintech wave has disrupted conventional banking processes by offering cost-effective and customer-centric solutions. In Indonesia, Islamic banks have increasingly integrated Sharia-compliant fintech services such as P2P lending and mobile zakat platforms, which have not only attracted tech-savvy customers but also improved financial performance metrics like ROA and NPM. The significant impact suggests that fintech implementation in this sector is not merely a technological upgrade but a strategic imperative. These findings mirror the success of banks that have embraced digital ecosystems to remain competitive. Thus, the relationship observed is both statistically robust and practically visible in market behavior.

Financial Literacy to Financial Performance

The statistical test shows that the relationship between Financial Literacy and Financial Performance is not significant, with a T-statistic of 0.011 and a p-value of 0.991. This indicates an extremely weak relationship, essentially null, between the financial capabilities of bank managers and the overall financial performance of the institution. The result contradicts general expectations and suggests that financial literacy alone does not translate into measurable improvements in bank performance. As such, Hypothesis 2 is rejected. This may be due to the maturity of systems in place or external economic factors beyond individual competencies.

Theoretically, this finding challenges traditional assumptions drawn from Human Capital Theory, which posits that investment in knowledge and skills directly contributes to organizational performance. While financial literacy enhances individual decision-making quality, the absence of its significant effect here suggests it may be a necessary but insufficient condition for institutional-level performance improvements. It is possible that organizational culture, policies, or structural barriers dilute the individual effects of literacy on performance outcomes. This aligns with emerging perspectives that emphasize ecosystem-wide digital capability rather than isolated human capital traits.

In practice, this finding may be explained by the increasing automation of financial decision-making in Islamic banks through standardized fintech platforms. Even if managers are financially literate, their discretion may be limited by algorithmic systems and institutional protocols. Furthermore, compliance with Sharia regulations often involves standardized processes overseen by advisory boards, which could reduce the influence of individual literacy. The finding implies that banks should not solely rely on improving employee literacy but rather focus on integrating it with system-wide digital infrastructure and strategic governance to realize performance gains.

Digital Trust moderate Fintech Adoption to Financial Performance

Statistically, the moderating effect of Digital Trust on the relationship between Fintech Adoption and Financial Performance is not significant, with a T-statistic of 1.907 and a p-value of 0.057. Although the T-statistic is near the conventional threshold of 1.96, the p-value exceeds the 0.05 cutoff, indicating insufficient evidence to support the moderating effect. Thus, Hypothesis 3 is not supported. This suggests that while fintech adoption influences financial performance, this relationship is not statistically conditioned or strengthened by the presence of digital trust. Digital trust, in this case, does not significantly change how fintech contributes to performance outcomes. From a theoretical perspective, this result contrasts with the expectations set by Trust-Based Technology Acceptance Models, which argue that trust significantly enhances the impact of

technology use. One possible interpretation is that in organizational settings—unlike consumer settings—trust in digital platforms may already be institutionalized and thus does not vary enough to exhibit a moderating influence. Moreover, organizational users may operate under standard compliance frameworks that make digital trust implicit rather than discretionary. The finding underscores the context-specific role of digital trust, suggesting its impact may be more pronounced in consumer-facing environments than in institutional adoption.

In the field, many Islamic banks already operate under strict regulatory and security frameworks enforced by both national authorities and Sharia compliance boards. As a result, trust in digital systems may be uniformly high across institutions, thereby limiting its variability as a moderating factor. Additionally, decisions on fintech adoption are often made at the executive level, driven by strategic priorities rather than frontline trust perceptions. This institutional rigidity might dilute the potential moderating role of digital trust, making it a less critical determinant of performance outcomes in these banks.

Digital Trust moderate Financial Literacy to Financial Performance

The statistical output for this hypothesis reveals a T-statistic of 1.852 and a p-value of 0.065, which again falls short of the conventional threshold for significance. While marginal, the results do not support the hypothesis that digital trust moderates the relationship between financial literacy and financial performance. Thus, Hypothesis 4 is also rejected. The lack of significance implies that whether or not financial managers trust digital platforms, their financial knowledge does not significantly affect performance. Digital trust does not amplify or reduce the influence of financial literacy on financial outcomes in this case.

This result diverges from the proposed interaction in Extended Trust Models and socio-technical system theories, which posit that human competence (financial literacy) becomes more effective when supported by a trustworthy technological environment. However, in this case, the low influence of financial literacy itself (as seen in Hypothesis 2) already undermines the potential for meaningful moderation. Moreover, it supports the notion that systemic factors such as institutional processes and automated controls might be more influential than trust-based human-technology dynamics. This contributes to emerging insights in financial management literature that stress system-level integration over individual capability enhancement.

In practical terms, Islamic banks may place less emphasis on individual literacy and more on centralized systems to ensure performance. In such tightly regulated settings, digital trust may already be embedded at the system level and not perceived differently across staff. Additionally, financial decisions are often governed by board-level protocols, reducing the impact of either trust or literacy at the operational level. Consequently, fostering digital trust in this context may be more of a hygiene factor than a performance enabler, particularly in back-end financial operations.

CONCLUSION

This study concludes that Fintech Adoption has a significant and positive effect on the Financial Performance of Islamic banks in Indonesia, confirming that digital transformation enhances operational and strategic outcomes. However, Financial Literacy does not significantly influence performance, suggesting that institutional-level variables and digital infrastructure play a greater role. Additionally, Digital Trust does not significantly moderate either of the two relationships, indicating its limited variability or influence in structured banking environments. These findings

offer both confirmation and contradiction of existing theories, enriching the discourse in digital finance within Islamic financial institutions.

Theoretically, the study supports the TOE framework in demonstrating that technological advancement yields performance gains. However, it challenges assumptions from Human Capital and Trust-Based Models, particularly in structured, institutional contexts. Practically, Islamic banks should continue prioritizing fintech integration over isolated human capital development strategies. The study implies that investments in systems and platforms yield greater returns than in individual skill sets when it comes to financial performance outcomes.

There are several limitations to this research. First, the data is cross-sectional, limiting causal inference. Second, the sample is restricted to managerial-level employees in Islamic commercial banks, excluding customer perspectives or Sharia supervisory boards. Third, interaction terms in PLS-SEM often have lower statistical power, potentially masking true moderating effects. These limitations call for a more comprehensive, longitudinal, and multi-stakeholder approach in future studies.

Future research is advised to explore qualitative aspects of digital transformation and trust in Islamic banking. Comparative studies between Islamic and conventional banks may reveal institutional differences in how fintech and trust interact. Researchers may also test the influence of board governance, institutional culture, or regulatory frameworks on fintech performance outcomes. A longitudinal design is also suggested to capture dynamic changes in trust, literacy, and performance over time.

REFERENCES

- Abdi, Y., Li, X., & Càmara-Turull, X. (2022). Exploring the impact of sustainability (ESG) disclosure on firm value and financial performance (FP) in airline industry: The moderating role of size and age. *Environment, Development and Sustainability*, 24(4), 5052–5079. <https://doi.org/10.1007/s10668-021-01649-w>
- Al-Okaily, M., Alsmadi, A. A., Alrawashdeh, N., Al-Okaily, A., Oroud, Y., & Al-Gasaymeh, A. S. (2024). The role of digital accounting transformation in the banking industry sector: An integrated model. *Journal of Financial Reporting and Accounting*, 22(2), 308–326. <https://doi.org/10.1108/JFRA-04-2023-0214>
- Amagir, A., Groot, W., Van Den Brink, H. M., & Wilschut, A. (2020). Financial literacy of high school students in the Netherlands: Knowledge, attitudes, self-efficacy, and behavior. *International Review of Economics Education*, 34, 100185. <https://doi.org/10.1016/j.iree.2020.100185>
- Aman, A., Rafiq, M., & Dastane, O. (2023). A cross-cultural comparison of work engagement in the relationships between trust climate – Job performance and turnover intention: Focusing China and Pakistan. *Heliyon*, 9(9), e19534. <https://doi.org/10.1016/j.heliyon.2023.e19534>
- Andreou, P. C., & Anyfantaki, S. (2021). Financial literacy and its influence on internet banking behavior. *European Management Journal*, 39(5), 658–674. <https://doi.org/10.1016/j.emj.2020.12.001>
- Bilici, M. R., & Çevik, S. (2023). Financial literacy and cash holdings in Türkiye. *Central Bank Review*, 23(4), 100129. <https://doi.org/10.1016/j.cbrev.2023.100129>
- Cao, G., & Weerawardena, J. (2023). Strategic use of social media in marketing and financial performance: The B2B SME context. *Industrial Marketing Management*, 111, 41–54. <https://doi.org/10.1016/j.indmarman.2023.03.007>

- Cascavilla, A. (2024). Between money and speculative asset: The role of financial literacy on the perception towards Bitcoin in Italy. *Journal of Economic Psychology*, 102, 102716. <https://doi.org/10.1016/j.joep.2024.102716>
- Chabachib, M., Setyaningrum, I., Hersugondo, H., Shaferi, I., & Pamungkas, I. D. (2020). Does Financial Performance Matter? Evidence on the Impact of Liquidity and Firm Size on Stock Return in Indonesia. *International Journal of Financial Research*, 11(4), 546. <https://doi.org/10.5430/ijfr.v11n4p546>
- Delemere, E., & Liston, P. M. (2024). Reducing e-waste in Europe: Examining the impact of environmental and financial literacy on the premature replacement of appliances across owner-occupier and rental residential properties using the EVIDENT serious game. *Energy Reports*, 11, 5910–5921. <https://doi.org/10.1016/j.egyr.2024.05.042>
- Drazin, R. (1991). The processes of technological innovation: David A. Tansik book review editor Louis G. Tornatzky and Mitchell Fleischer. Lexington, MA: D.C. Heath & Company, 1990. 298 pages. £44.95. *The Journal of Technology Transfer*, 16(1), 45–46. <https://doi.org/10.1007/BF02371446>
- Duque-Grisales, E., & Aguilera-Caracuel, J. (2021). Environmental, Social and Governance (ESG) Scores and Financial Performance of Multilatinas: Moderating Effects of Geographic International Diversification and Financial Slack. *Journal of Business Ethics*, 168(2), 315–334. <https://doi.org/10.1007/s10551-019-04177-w>
- Effendi, M. I., SUGANDINI, D., & ISTANTO, Y. (2020). Social Media Adoption in SMEs Impacted by COVID-19: The TOE Model. *The Journal of Asian Finance, Economics and Business*, 7(11), 915–925. <https://doi.org/10.13106/JAFEB.2020.VOL7.NO11.915>
- Ferilli, G. B., Palmieri, E., Miani, S., & Stefanelli, V. (2024). The impact of FinTech innovation on digital financial literacy in Europe: Insights from the banking industry. *Research in International Business and Finance*, 69, 102218. <https://doi.org/10.1016/j.ribaf.2024.102218>
- Folger-Laronde, Z., Pashang, S., Feor, L., & ElAlfy, A. (2022). ESG ratings and financial performance of exchange-traded funds during the COVID-19 pandemic. *Journal of Sustainable Finance & Investment*, 12(2), 490–496. <https://doi.org/10.1080/20430795.2020.1782814>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (Third edition). SAGE.
- Hasanah, Y. N., Anggraeni, O., . S., Kusnaman, D., Hasibuan, R. R., & Efendi, B. (2025). Entrepreneurial Marketing and Marketing Performance in Gen Z Entrepreneurs: Exploring the Mediating Pathways to Entrepreneurial Resilience. *Journal of Ecohumanism*, 4(1). <https://doi.org/10.62754/joe.v4i1.6195>
- Hidayat-ur-Rehman, I., & Hossain, M. N. (2024). The impacts of Fintech adoption, green finance and competitiveness on banks' sustainable performance: Digital transformation as moderator. *Asia-Pacific Journal of Business Administration*. <https://doi.org/10.1108/APJBA-10-2023-0497>
- Li, J., Li, H., Shang, X., Pu, Y., Zhang, M., & Pan, X. (2024). Exploring the impact of fintech, human capital, mineral policy, and institutional quality on poverty traps: Evidence from resource-dependent economies. *Resources Policy*, 93, 105015. <https://doi.org/10.1016/j.resourpol.2024.105015>
- Lu, Z., Li, H., & Wu, J. (2024). Exploring the impact of financial literacy on predicting credit default among farmers: An analysis using a hybrid machine learning model. *Borsa Istanbul Review*, 24(2), 352–362. <https://doi.org/10.1016/j.bir.2024.01.006>
- Marhadi, M., Fathoni, A. F., Setiawan, B., Pratiwi, D., Hayati, R., Boros, A., & Sudibyo, N. A. (2024). Continuance intention of Fintech Peer-to-Peer (P2P) financing Shariah: Moderation role of brand schematicity and digital financial literacy. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(2), 100301. <https://doi.org/10.1016/j.joitmc.2024.100301>

- Odhiambo, H., & Anyieni, A. (2023). Value Disciplines and Competitive Advantage of Commercial Banks in Kenya. *Edith Cowan Journal of Strategic Management*, 6(1). <https://doi.org/10.55077/edithcowanjournaloofstrategicmanagement.v6i1.68>
- Siddik, A. B., Rahman, M. N., & Yong, L. (2023). Do fintech adoption and financial literacy improve corporate sustainability performance? The mediating role of access to finance. *Journal of Cleaner Production*, 421, 137658. <https://doi.org/10.1016/j.jclepro.2023.137658>