El-Mãl | Jurnal Kajian Ekonomi & Bisnis Islam

Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

The Integration of Fintech and Artificial Intelligence: Accelerating Accountability and Financial Inclusion in National Financial Governance

Darmansyah Darmansyah, Arissetyanto Nugroho, Zulkifli, Winda Wulandari, Retna Sari
Universitas Pancasila
darmansyah@univpancasila.ac.id, arissoehardjo01@gmail.com, zulkifli@univpancasila.ac.id,winda735124003@univpancasila.ac.id, retnasari@univpancasila.ac.id

ABSTRACT

This study investigates the role of Financial Technology (Fintech) and Artificial Intelligence (AI) in strengthening financial governance accountability and improving national financial inclusion. While prior studies have largely examined fintech and AI separately, this research develops an integrated model that positions accountability as a key mediating mechanism linking technological integration to broader financial inclusion outcomes. Using a quantitative explanatory design, data were collected through a digital survey involving 300 respondents consisting of public sector stakeholders, fintech actors, and users of digital financial services. The data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results reveal that fintech integration positively and significantly affects accountability and financial inclusion. Likewise, AI implementation significantly improves accountability and financial inclusion. Accountability also exerts a strong positive effect on financial inclusion. Mediation analysis shows that accountability partially mediates the effects of fintech and AI on financial inclusion. These findings suggest that the integration of fintech and AI contributes not only to operational efficiency but also to the improvement of governance quality and the expansion of inclusive financial access. The study contributes to the literature by proposing an integrative fintech, AI, accountability, financial inclusion framework in the context of a developing economy and offers evidence-based implications for policymakers and financial regulators.

Keywords: *fintech, artificial intelligence, accountability, financial inclusion, financial governance, PLS-SEM*

INTRODUCTION

The acceleration of digital transformation has fundamentally reshaped the architecture of modern financial systems. Over the last two decades, advances in digital infrastructure, mobile connectivity, data analytics, and platform-based services have transformed the ways in which financial services are accessed, delivered, and governed. Among the most influential developments in this transformation are Financial Technology (fintech) and Artificial Intelligence (AI), both of which have increasingly become central to discussions on the future of financial systems, public governance, and inclusive development.

Fintech, broadly understood as technology-enabled financial innovation, has emerged as a major force in modernizing financial intermediation, improving

El-Mãl | Jurnal Kajian Ekonomi & Bisnis Islam
Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

transaction efficiency, reducing operational costs, and extending service delivery to previously underserved populations. It encompasses a broad range of services, including digital payments, peer-to-peer lending, crowdfunding, digital banking, and blockchain-based financial infrastructure (Schueffel, 2016). Recent evidence also suggests that fintech plays a substantial role in enhancing access to formal financial services, particularly in emerging and developing economies where conventional banking penetration remains uneven

At the same time, AI has introduced a new layer of intelligence into financial systems by enabling advanced data processing, anomaly detection, predictive modelling, and real-time decision support. In the financial sector, AI is increasingly used for credit scoring, fraud detection, compliance monitoring, algorithmic risk assessment, and predictive financial supervision. More importantly, its application is no longer confined to commercial financial institutions; AI is also becoming increasingly relevant in the governance of public financial systems, where it can strengthen oversight, auditability, and regulatory effectiveness

In the context of national financial governance, these technological developments are particularly significant. Governments and regulatory institutions face persistent challenges in improving transparency, accountability, and efficiency in financial management while simultaneously ensuring equitable access to financial services. These challenges are especially pronounced in developing countries, where large segments of the population remain unbanked or underbanked, and where financial governance systems may still be constrained by fragmented data, delayed reporting, limited auditability, and weak public trust. The World Bank's Global Findex 2021 continues to show that access to and usage of formal financial services remain uneven across income groups, regions, and digital readiness levels

Indonesia offers a particularly relevant setting for examining this issue. As one of the fastest-growing digital economies in Southeast Asia, Indonesia has witnessed rapid expansion in digital financial services, including electronic payments, fintech lending, and platform-based financial ecosystems. At the same time, the country continues to face governance and inclusion challenges associated with regulatory adaptation, digital infrastructure gaps, data governance, consumer protection, and inter-institutional coordination. The Indonesian Financial Services Authority (OJK) has recognized these challenges and opportunities through its 2024–2028 Roadmap for the Development and Strengthening of Financial Sector Technology Innovation, which emphasizes innovation, financial inclusion, governance integrity, and consumer protection as central pillars of digital financial development

Despite the growing relevance of fintech and AI, the academic literature remains fragmented in at least three important ways. First, most studies focus on fintech and AI as separate phenomena, rather than examining their integrated role within financial governance systems. Second, the majority of prior research has emphasized either operational efficiency or market innovation, with less attention given to governance accountability as a mechanism through which digital

El-Mãl | Jurnal Kajian Ekonomi & Bisnis Islam
Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

technologies may influence public trust and financial participation. Third, empirical evidence from developing-country settings particularly from the perspective of national financial governance rather than firm-level performance remains limited.

This study addresses these gaps by examining the direct and indirect effects of fintech and AI on national financial inclusion, with financial governance accountability positioned as a mediating variable. The study contributes to the literature in three ways. First, it develops an integrative conceptual model that links fintech, AI, accountability, and financial inclusion within a unified governance framework. Second, it empirically tests both direct and mediated relationships using PLS-SEM, thereby offering a more comprehensive understanding of the mechanisms through which digital technologies influence inclusion outcomes. Third, it provides evidence-based insights relevant to policymakers and regulators in developing economies seeking to design more transparent, inclusive, and technology-enabled financial systems.

Accordingly, this study aims to answer the following research questions:

1. To what extent are fintech and AI integrated into national financial governance?
2. How do fintech and AI influence accountability in financial governance?
3. How do fintech and AI contribute to financial inclusion?
4. Does accountability mediate the relationship between technological integration and financial inclusion?

LITERATURE REVIEW

Theoretical Foundations

This study is grounded in four complementary theoretical perspectives: Technology Acceptance Model (TAM), Agency Theory, Good Governance Theory, and Financial Inclusion Theory.

The Technology Acceptance Model (TAM) explains how users adopt technological systems based on perceived usefulness and perceived ease of use (Davis, 1989). In the context of digital financial governance, TAM is relevant because the effectiveness of fintech and AI depends not only on technical deployment but also on institutional and user acceptance.

Agency Theory provides a governance lens for understanding how digital technologies can reduce information asymmetry between institutions and stakeholders (Jensen & Meckling, 1976). In public financial systems, fintech and AI may serve as monitoring and reporting tools that reduce moral hazard and enhance institutional accountability.

Good Governance Theory emphasizes the importance of transparency, accountability, effectiveness, and responsiveness in public administration (World Bank, 1992). In this perspective, digital financial systems should not only increase efficiency but also improve institutional legitimacy and trustworthiness.

Finally, Financial Inclusion Theory underscores the developmental importance of ensuring broad and equitable access to useful and affordable financial

Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

services. Financial inclusion is increasingly understood as both a socio-economic outcome and a governance challenge, particularly in developing countries where digital finance is expected to close access gaps.

Together, these theories support the argument that fintech and AI can improve financial inclusion both directly through access, speed, and personalization and indirectly, by strengthening the accountability of financial governance systems.

Fintech and Financial Governance Accountability

Fintech has significantly transformed the design and delivery of financial services by introducing digitized, interoperable, and data-rich transaction ecosystems. Beyond market efficiency, fintech has implications for accountability because it increases traceability, transaction visibility, and timeliness of reporting. Real-time digital transaction records and automated documentation can reduce manual intervention, improve transparency, and support stronger internal control systems.

In governance contexts, fintech can also reduce administrative friction in payment disbursement, subsidy distribution, public transaction monitoring, and budget execution. These features are particularly relevant in environments where public financial systems are vulnerable to inefficiency or information asymmetry.

H1: Fintech integration has a positive effect on financial governance accountability.

Artificial Intelligence and Financial Governance Accountability

AI has become increasingly important in financial systems due to its capacity to process large volumes of structured and unstructured data, identify anomalies, generate predictive insights, and automate complex decision-support functions. In public financial governance, AI can improve oversight by enabling fraud detection, expenditure anomaly analysis, predictive audit mechanisms, and real-time compliance assessment

AI's relevance to accountability lies not merely in automation, but in its potential to strengthen the quality, speed, and precision of governance monitoring. However, its effectiveness depends on governance design, transparency, and institutional readiness.

H2: Artificial Intelligence implementation has a positive effect on financial governance accountability.

Fintech and Financial Inclusion

Fintech has been widely recognized as a major enabler of financial inclusion. By reducing dependence on physical banking infrastructure and lowering entry barriers, fintech expands financial access to individuals and communities that are often excluded from traditional financial systems. Mobile payments, digital wallets, alternative lending, and platform-based financial products have enabled broader participation in formal financial ecosystems, especially among low-income and geographically marginalized populations

El-Mãl | Jurnal Kajian Ekonomi & Bisnis Islam
Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

H3: Fintech integration has a positive effect on national financial inclusion.

Artificial Intelligence and Financial Inclusion

AI contributes to financial inclusion by improving the precision and adaptability of financial services. AI-driven credit scoring, behavioral analytics, and predictive customer segmentation allow financial institutions to assess individuals who may lack traditional credit histories. This can help broaden access to financing and tailored financial products.

AI can also improve customer experience through personalization, digital advisory systems, and automated support tools, thereby lowering barriers to usage and adoption.

H4: Artificial Intelligence implementation has a positive effect on national financial inclusion.

Accountability and Financial Inclusion

Accountability is a critical institutional determinant of financial inclusion. When financial governance systems are perceived as transparent, reliable, and responsive, public trust in formal financial institutions tends to increase. Trust, in turn, influences the willingness of individuals and communities to engage with formal financial services.

In digital financial systems, accountability is particularly important because technology adoption often depends on perceptions of safety, fairness, transparency, and recourse.

H5: Financial governance accountability has a positive effect on national financial inclusion.

The Mediating Role of Accountability

The relationship between technological integration and financial inclusion is unlikely to be purely technical or linear. Fintech and AI may expand access and service capability, but their effectiveness in improving inclusion may depend significantly on whether they also strengthen governance accountability.

In other words, technology may improve inclusion not only by making services available, but also by making systems more trustworthy, transparent, and auditable. This suggests that accountability functions as an institutional transmission mechanism linking digital innovation to inclusive outcomes.

H6: Financial governance accountability mediates the effect of fintech integration on national financial inclusion.

H7: Financial governance accountability mediates the effect of Artificial Intelligence implementation on national financial inclusion.

El-Mãl | Jurnal Kajian Ekonomi & Bisnis Islam
Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

Research Model

This study proposes an integrative model in which Fintech Integration and Artificial Intelligence Implementation influence National Financial Inclusion both directly and indirectly through Financial Governance Accountability.

Figure 1. Proposed Research Model

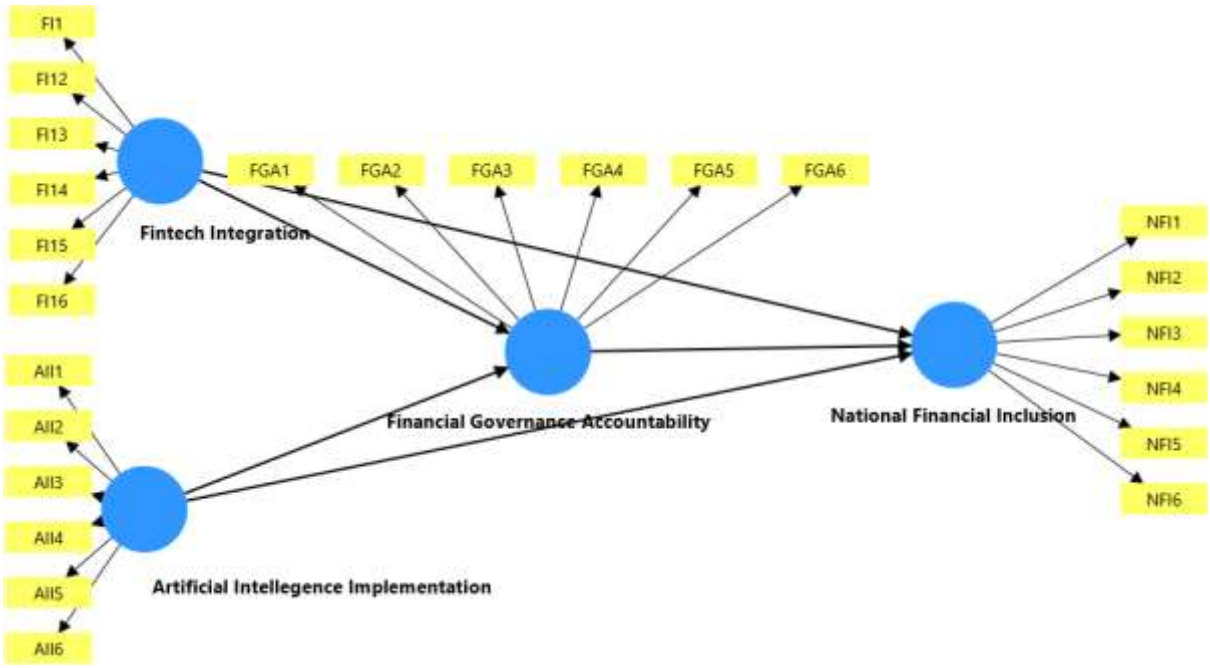

Figure 1. Proposed structural model of the relationships among fintech integration, Artificial Intelligence implementation, financial governance accountability, and national financial inclusion.

RESEARCH METHOD

Research Design

This study employs a quantitative explanatory research design to examine the relationships among fintech integration, Artificial Intelligence implementation, financial governance accountability, and national financial inclusion.

Population and Sample

The study involved 100 respondents, consisting of public sector stakeholders, fintech practitioners, and users of digital financial services.

These respondents were selected because they represent the key actors within the broader ecosystem of digital financial governance. The study employed purposive sampling to ensure that participants had relevant experience or exposure to digital financial services and governance-related financial systems.

El-Mãl | Jurnal Kajian Ekonomi & Bisnis Islam
Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

Data Collection

Primary data were collected through a structured digital questionnaire. The questionnaire items were adapted from prior studies and contextualized to reflect the governance and financial inclusion environment of developing economies.

The instrument measured four constructs:

- Fintech Integration (X1)
- Artificial Intelligence Implementation (X2)
- Financial Governance Accountability (M)
- National Financial Inclusion (Y)

All indicators were measured using a five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree.

Participation in the survey was voluntary, and respondents were informed that their responses would be used solely for academic research purposes.

Data Analysis Technique

The data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). PLS-SEM is appropriate for this study because it is well suited for:

1. Predictive and exploratory modelling
2. Latent variable analysis, and
3. Testing mediation relationships in relatively complex structural models (Hair et al., 2021).

The analysis included:

- measurement model evaluation (validity and reliability),
- structural model evaluation (path coefficients and significance), and
- mediation analysis (indirect effects).

The Smart-PLS bootstrapping procedure was conducted using 5,000 subsamples to assess the significance of the path coefficients and indirect effects.

Operationalization of Variables

Table 1. Operationalization of Variables

Variable	Dimension	Indicators	Code	Scale	Source/Adaptation
Fintech Integration	Digital financial service integration	Accessibility of digital financial services	FI1	Likert 1–5	Adapted from fintech literature
		Efficiency of digital transactions	FI2	Likert 1–5	
		Transparency of digital transactions	FI3	Likert 1–5	

El-Mãl | Jurnal Kajian Ekonomi & Bisnis Islam
Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

		Expansion of access to financial services	FI4	Likert 1–5	
		Reduction of administrative barriers	FI5	Likert 1–5	
		Interoperability of digital financial platforms	FI6	Likert 1–5	
Artificial Intelligence Implement ation	AI capability in financial systems	AI-based fraud detection	AII1	Likert 1–5	Adapted from AI in finance literature
		AI-based decision support	AII2	Likert 1–5	
		AI-based risk assessment	AII3	Likert 1–5	
		AI-based monitoring and supervision	AII4	Likert 1–5	
		AI-assisted reporting efficiency	AII5	Likert 1–5	
		AI-based predictive financial analysis	AII6	Likert 1–5	
Financial Governance Accountabil ity	Governance quality in financial management	Transparency of financial reporting	FGA1	Likert 1–5	Adapted from governance/accou ntability literature
		Timeliness of reporting	FGA2	Likert 1–5	

El-Mãl | Jurnal Kajian Ekonomi & Bisnis Islam
Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

		Auditability of financial transactions	FGA3	Likert 1–5	
		Digital monitoring capability	FGA4	Likert 1–5	
		Stakeholder accountability	FGA5	Likert 1–5	
		Traceability of financial decision-making processes	FGA6	Likert 1–5	
National Financial Inclusion	Access and use of formal financial services	Access to formal financial services	NFI1	Likert 1–5	Adapted from financial inclusion literature
		Usage of digital financial services	NFI2	Likert 1–5	
		Access to financing/credit	NFI3	Likert 1–5	
		Affordability of financial services	NFI4	Likert 1–5	
		Participation of unbanked/underbanked groups	NFI5	Likert 1–5	
		Continuity of financial service usage	NFI6	Likert 1–5	

El-Mãl | Jurnal Kajian Ekonomi & Bisnis Islam
Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

RESULTS

Measurement Model Evaluation

The measurement model was evaluated through indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. The results indicate that all measurement items achieved outer loading values above 0.70, confirming satisfactory indicator reliability.

Table 2. Outer Loading Results

Construct	Indicator	Outer Loading	Decision
Fintech Integration	FI1	0.866	Valid
	FI2	0.865	Valid
	FI3	0.845	Valid
	FI6	0.909	Valid
National Financial Inclusion	NFI2	0.862	Valid
	NFI3	0.859	Valid
	NFI4	0.903	Valid
	NFI5	0.822	Valid
	NFI6	0.818	Valid
Artificial Intelligence Implementation	AII1	0.867	Valid
	AII2	0.816	Valid
	AII3	0.785	Valid
	AII4	0.773	Valid
	AII5	0.749	Valid
Financial Governance Accountability	FGA2	0.760	Valid
	FGA3	0.759	Valid
	FGA4	0.796	Valid
	FGA5	0.766	Valid
	FGA6	0.780	Valid

All indicators have outer loadings greater than 0.70, indicating that the indicators are sufficiently representative of their respective latent constructs.

Table 3. Reliability and Convergent Validity

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)	Interpretation
Fintech Integration	0.897	0.928	0.764	Reliable and Valid

El-Mãl | Jurnal Kajian Ekonomi & Bisnis Islam
Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

Artificial Intelligence Implementation	0.858	0.898	0.638	Reliable and Valid
Financial Governance Accountability	0.824	0.883	0.596	Reliable and Valid
National Financial Inclusion	0.906	0.93	0.728	Reliable and Valid

The results show that all constructs meet the recommended thresholds:

- Cronbach's Alpha > 0.70
- Composite Reliability > 0.70
- AVE > 0.50

Thus, all constructs are considered reliable and demonstrate adequate convergent validity.

Table 4. Fornell-Larcker Criterion

Construct	Fintech Integration	National Financial Inclusion	Artificial Intelligence Implementation	Financial Governance Accountability	Interpretation
Fintech Integration	**0.874**				Valid
National Financial Inclusion	0.857	**0.853**			Valid
Artificial Intelligence Implementation	0.087	0.128	**0.799**		Valid
Financial Governance Accountability	0.452	0.603	0.528	**0.808**	Valid

The square root of the AVE for each construct is greater than its correlations with other constructs, indicating that the model satisfies the Fornell-Larcker criterion for discriminant validity.

Structural Model Evaluation

The structural model was evaluated by examining R^2, f^2, Q^2, and SRMR.

Table 5. Coefficient of Determination (R^2)

Endogenous Variable	R-square	R-square adjusted	Interpretation
National Financial Inclusion	0.802	0.796	Strong

El-Mãl | Jurnal Kajian Ekonomi & Bisnis Islam
Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

Financial Governance Accountability	0.445	0.434	Moderate

The R^2 value of 0.802 indicates that Financial Technology Integration, Artificial Intelligence Implementation, and Financial Governance Accountability explain 80.2% of the variance in National Financial Inclusion. Meanwhile, the R^2 value of 0.445 indicates that Fintech Integration and Artificial Intelligence explain 44.5% of the variance in Financial Governance Accountability.

Table 6. Effect Size (f^2)

Relationship	f^2	Effect Size
Fintech Integration to National Financial Inclusion	1.961	Large
Fintech Integration to Financial Governance Accountability	0.299	Medium
Artificial Intelligence to National Financial Inclusion	0.045	Small
Artificial Intelligence to Financial Governance Accountability	0.433	Large
Financial Governance Accountability to National Financial Inclusion	0.324	Medium

This reinforces the theoretical proposition that governance accountability is the core transmission mechanism in the model.

Table 7. Predictive Relevance (Q^2)

Endogenous Variable	Q^2	Interpretation
National Financial Inclusion	0.716 > 0	Strong predictive relevance
Financial Governance Accountability	0.403 > 0	Predictive relevance

Since all Q^2 values are greater than zero, the model demonstrates satisfactory predictive relevance for both endogenous constructs.

Table 8. Model Fit (SRMR)

Model Fit Index	Value	Threshold	Interpretation
SRMR	0.094	< 0.10	Fit

The SRMR value of 0.094 indicates that the model has an acceptable overall fit.

El-Mãl | Jurnal Kajian Ekonomi & Bisnis Islam
Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

Hypothesis Testing: Direct Effects

Table 9. Direct Effect Results – Path Coefficient Bootstrapping

Hypothesis	Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics	P values	Decision
H1	Fintech Integration to National Financial Inclusion	0.713	0.711	0.066	10.858	0.000	Supported
H1	Fintech Integration to Financial Governance Accountability	0.409	0.417	0.095	4.319	0.000	Supported
H2	AI Implementation to National Financial Inclusion	0.114	0.113	0.064	2.170	0.030	Supported
H4	AI Implementation to Financial Governance Accountability	0.492	0.484	0.130	3.778	0.000	Supported
H5	Financial Governance Accountability to National Financial Inclusion	0.34	0.348	0.081	4.202	0.000	Supported

All direct relationships are positive and statistically significant, indicating strong support for the proposed structural model.

Mediation Analysis

Table 10. Indirect Effect Results – Path Coefficient Bootstrapping

Hypothesis	Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics	P values	Decision
H6	Fintech Integration to National Financial Inclusion through Financial Governance Accountability	0.139	0.145	0.047	2.986	0.001	Supported

El-Mãl | Jurnal Kajian Ekonomi & Bisnis Islam

Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

H7	Artificial Intelligence Implementation to National Financial Inclusion through Financial Governance Accountability	0.167	0.170	0.065	2.584	0.005	Supported

The mediation results indicate that Financial Governance Accountability partially mediates the effects of Fintech Integration and Artificial Intelligence Implementation on National Financial Inclusion.

Discussion

The findings of this study provide strong empirical support for the argument that digital transformation in finance should be understood not merely as a matter of technological modernization, but as a broader governance transformation.

First, the positive and significant effect of fintech on accountability indicates that financial digitalization contributes meaningfully to governance quality. The result suggests that fintech strengthens traceability, reporting transparency, and operational visibility in financial systems. This is particularly relevant in public and quasi-public financial settings where accountability often depends on the quality of records, timeliness of information, and auditability of transactions. In practical terms, fintech enables more transparent financial flows and reduces opportunities for opacity in transaction management.

Second, the finding that AI significantly improves accountability reinforces the view that AI is becoming a critical governance technology rather than merely a commercial efficiency tool. AI-based anomaly detection, predictive supervision, and automated analysis can substantially improve oversight capability. This is especially important in governance systems dealing with complex and high-volume financial data. The result aligns with recent literature showing that AI can strengthen transparency, supervision, and financial control when embedded in appropriate institutional frameworks

Third, the significant effects of fintech and AI on financial inclusion suggest that digital innovation continues to be a major pathway toward widening participation in formal financial systems. Fintech improves accessibility by lowering physical and administrative barriers, while AI enhances the relevance and adaptability of financial services. This combination is particularly powerful in contexts where conventional financial systems are not fully capable of reaching marginalized populations. This finding is consistent with recent systematic reviews showing that fintech is increasingly associated with access expansion, especially among vulnerable and underserved groups

Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

Fourth, the strong effect of accountability on financial inclusion is one of the most theoretically meaningful findings of this study. It suggests that financial inclusion is not only a function of access or technology availability, but also of institutional trust. Individuals are more likely to engage with formal financial services when they perceive systems to be transparent, secure, and accountable. This finding broadens the discussion of financial inclusion by integrating a governance perspective into what is often treated as a market-access issue.

Most importantly, the mediation results confirm that accountability is a crucial transmission mechanism between digital innovation and inclusive financial outcomes. This means that the benefits of fintech and AI are amplified when these technologies improve the accountability architecture of financial governance. In this sense, technology does not operate in isolation; its societal value depends on the quality of the governance environment in which it is embedded.

From a theoretical perspective, this study contributes to the literature by demonstrating that the relationship between digital finance and inclusion is partly institutional rather than purely technological. From a policy perspective, the findings suggest that investments in fintech and AI should be accompanied by reforms in digital governance, data accountability, transparency standards, and regulatory interoperability.

CONCLUSION

This study examined the effects of fintech integration and Artificial Intelligence implementation on national financial inclusion, with financial governance accountability positioned as a mediating variable. The results show that both fintech and AI have significant positive effects on accountability and financial inclusion. In addition, accountability itself significantly enhances financial inclusion and partially mediates the effects of fintech and AI.

These findings imply that the integration of fintech and AI should not be viewed solely as a means of improving operational efficiency or technological sophistication. Rather, their deeper strategic value lies in their capacity to strengthen the accountability infrastructure of financial governance, which in turn supports broader and more equitable financial inclusion.

The study proposes an integrative fintech, AI, accountability, financial inclusion model as a useful analytical and policy framework for understanding digital financial transformation in developing-country contexts.

REFERENCES

Aldemir, C., & Uçma Uysal, T. (2025). Artificial intelligence for financial accountability and governance in the public sector: Strategic opportunities and challenges. *Administrative Sciences, 15*(2), 58. https://doi.org/10.3390/admsci15020058

Vol 7 No 5 (2026) 3864 - 3879 P-ISSN 2620-295 E-ISSN 2747-0490
DOI: 1047467/elmal.v7i5.11933

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340. https://doi.org/10.2307/249008

Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2022). *The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19*. World Bank. https://doi.org/10.1596/978-1-4648-1897-4

Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook*. Springer. https://doi.org/10.1007/978-3-030-80519-7

Ha, D. T. T., Le, P., & Nguyen, D. K. (2025). Financial inclusion and fintech: A state-of-the-art systematic literature review. *Financial Innovation, 11*, 69. https://doi.org/10.1186/s40854-024-00741-0

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Kou, G., & Lu, Y. (2025). FinTech: A literature review of emerging financial technologies and applications. *Financial Innovation, 11*, 1. https://doi.org/10.1186/s40854-024-00668-6

Lye, C.-T., Tay, L.-Y., Ng, T.-H., et al. (2025). A systematic literature review of fintech, financial inclusion and vulnerable groups. *Discover Sustainability, 6*, 1467. https://doi.org/10.1007/s43621-025-02368-2

Otoritas Jasa Keuangan. (2024). *OJK launches the 2024–2028 roadmap for the development and strengthening of financial sector technology innovation, digital financial assets, and crypto assets (IAKD).* https://iru.ojk.go.id/iru/policy/detailpolicy/12644/ojk-launches-the-2024-2028-roadmap-for-the-development-and-strengthening-of-the-financial-sector-technology-innovation-digital-financial-assets-and-crypto-assets-iakd

Schueffel, P. (2016). Taming the beast: A scientific definition of fintech. *Journal of Innovation Management, 4*(4), 32–54. https://doi.org/10.24840/2183-0606_004.004_0004

World Bank. (1992). *Governance and development*. World Bank.

Yang, H., Shukur, Z., & Sahran, S. (2026). A review of artificial intelligence for financial fraud detection. *Applied Sciences, 16*(4), 1931. https://doi.org/10.3390/app16041931