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Financial Inclusion and Taxation in Digital Finance: Mediating Organizational Capabilities in Indonesian Startups

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ABSTRACT

Objective: *This research evaluates whether financial inclusion and taxation shape the use of digital finance by Indonesian startups, both independently and through three firm-level capabilities: corporate governance, financial literacy, and technological innovation. Institutional Theory is combined with Dynamic Capability Theory to clarify how external institutional conditions are converted into organizational resources for digital financial transformation.*
Methodology: *An explanatory quantitative survey was analyzed through Partial Least Squares Structural Equation Modeling in SmartPLS 4. From a population of 2,558 registered Indonesian startups, purposive screening produced 100 valid firm-level responses. The analysis first examined measurement reliability and validity and then assessed the direct paths and specific mediation effects in the structural model.*
Findings: *Financial inclusion and taxation were each positively associated with digital finance through significant direct and indirect routes. Broader financial access supplies resources and connections to formal services, whereas tax requirements encourage transparent reporting, accountability, compliance, and process modernization. Governance quality, financial competence, and innovation operate jointly in translating institutional access and regulatory pressure into practical digital-finance implementation.*
Conclusion: *Enduring digital transformation requires an enabling financial and regulatory environment together with capable internal systems. Public policy should pair inclusion and digital-tax initiatives with support for governance, financial skills, and technology readiness. Startup leaders should likewise invest in internal controls, employee competence, and digital infrastructure to strengthen competitiveness and continuity.*

Keywords: *Corporate Governance; Digital Finance; Financial Inclusion; Financial Literacy; Institutional Theory; Taxation; Technological Innovation.*

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INTRODUCTION

The rapid development of digital technologies has altered how organizations conduct business and manage financial activities. Financial technology, artificial intelligence, blockchain, cloud-based systems, and big data analytics have increasingly been embedded in organizational processes, shifting traditional financial practices toward interconnected digital finance ecosystems. This transformation enables faster transactions, wider access to financial services, and greater transparency in financial management (Gomber et al., 2017; Lee & Shin, 2018). For startup firms, digital finance is particularly important because it supports operational flexibility, resilience, and competitiveness in environments characterized by technological change and dependence on external funding. In response, governments and financial authorities have introduced financial inclusion programs and digital taxation policies to establish more accountable and sustainable digital business environments (Pobee et al., 2023; World Bank, 2022).

Indonesia represents an important setting for examining this development because its digital economy has expanded rapidly through the growth of electronic commerce, financial technology, and digital payment services (Google, Temasek, & Bain & Company, 2024). Public initiatives, such as the Indonesian Payment System Blueprint 2025 and the Financial Services Authority's framework for digital financial innovation, have contributed to the development of inclusive financial services and digital infrastructure (Bank Indonesia, 2019; OJK, 2023). However, access to digital infrastructure does not automatically lead to effective digital finance implementation. Many Indonesian startups continue to encounter restricted financing opportunities, insufficient governance mechanisms, limited financial competence, low technological preparedness, and increasingly complex digital tax obligations (OECD, 2023; World Bank, 2022).

Differences in the level of digital finance adoption among startups suggest that institutional support must be accompanied by sufficient internal readiness. Corporate governance, financial literacy, technological competence, and regulatory compliance determine whether firms can convert access to financial services and taxation requirements into productive digital financial practices (Gomber et al., 2017; Pobee et al., 2023; Teece et al., 1997). Thus, the effectiveness of digital finance depends on the interaction between external institutional conditions and the organizational capabilities developed within each firm.

Institutional Theory provides a relevant explanation for this interaction. The theory proposes that organizational actions are influenced by coercive, normative, and mimetic pressures arising from regulations, government authorities, professional expectations, and competitive environments (DiMaggio & Powell, 1983; Scott, 2014). In this context, financial inclusion provides institutional support by expanding firms' participation in formal financial systems, whereas taxation creates regulatory pressures that encourage accountability, transparency, and compliance. Startups may therefore implement digital finance not only to improve operational performance but also to demonstrate conformity with institutional expectations and maintain organizational legitimacy.

The ability of startups to respond effectively to these institutional conditions can be further explained through Dynamic Capability Theory. Institutional resources and regulatory pressures will produce limited benefits when firms lack the capacity to integrate, develop, and reconfigure their internal resources. Corporate governance, financial literacy, and technological innovation may therefore serve as organizational mechanisms through which financial inclusion and taxation are converted into effective digital finance adoption (Teece et al., 1997).

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This perspective suggests that organizational capabilities are not merely additional determinants but essential pathways connecting institutional environments with digital transformation.

Although earlier studies generally indicate that financial inclusion and regulatory quality encourage the use of digital financial technologies, their empirical conclusions are not entirely consistent (Gomber et al., 2017; Ozili, 2023; Pobee et al., 2023). Some research identifies significant direct relationships, whereas other findings show that the effects of institutional factors are conditional on managerial competence, organizational readiness, and internal capability development (Lontchi et al., 2022; Menberu, 2024; OECD, 2023). Moreover, corporate governance, financial literacy, and technological innovation have commonly been investigated as separate explanatory variables. Consequently, limited evidence is available regarding their simultaneous roles in mediating the relationships between financial inclusion, taxation, and digital finance.

Based on these conditions, this study addresses three principal gaps. First, the empirical relationships between financial inclusion, taxation, and digital finance remain inconclusive. Second, few studies combine Institutional Theory and Dynamic Capability Theory to explain how institutional factors are converted into organizational responses. Third, research examining corporate governance, financial literacy, and technological innovation concurrently as mediating capabilities remains limited, particularly in the context of startup firms in emerging economies.

Accordingly, this study develops an integrated model to investigate the direct and indirect effects of financial inclusion and taxation on digital finance among Indonesian startup firms. Corporate governance, financial literacy, and technological innovation are positioned as complementary organizational capabilities that transmit the effects of institutional drivers to digital finance implementation. By integrating institutional and capability-based perspectives, the study contributes to a more comprehensive explanation of digital financial transformation and offers relevant implications for policymakers, financial institutions, and startup managers seeking to strengthen Indonesia's digital business ecosystem.

LITERATURE REVIEW

Institutional Theory

Institutional Theory views organizational decisions as responses to pressures arising from regulations, professional standards, social expectations, and competitive practices. Organizations generally adjust their structures and activities to conform to these pressures and maintain legitimacy within their institutional environment (DiMaggio & Powell, 1983; Scott, 2014). In a digital economy, financial inclusion policies and digital taxation systems represent institutional instruments that encourage firms to participate in formal financial systems, improve reporting transparency, and comply with regulatory requirements.

For startup firms, wider financial access creates opportunities to use formal and technology-based financial services. Meanwhile, digital tax administration requires more systematic financial reporting, stronger accountability, and effective internal control. Responding to these institutional conditions may require startups to improve governance arrangements, financial competence, and technological readiness. Institutional Theory therefore explains why financial inclusion and taxation can shape digital finance adoption through both direct institutional pressure and indirect organizational adjustments.

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Dynamic Capability Theory

Dynamic Capability Theory focuses on a firm's ability to integrate, develop, and reorganize its resources in response to technological, market, and regulatory change (Teece et al., 1997). Firms obtain a sustainable advantage when they can recognize environmental opportunities, mobilize relevant resources, and continually transform their organizational processes (Teece, 2007).

In this research, corporate governance, financial literacy, and technological innovation are treated as capabilities that enable startups to respond effectively to financial access and taxation requirements. Corporate governance directs the responsible allocation of resources, financial literacy supports informed financial decisions, and technological innovation enables the integration of digital solutions into business operations. Dynamic Capability Theory thus explains how institutional drivers are converted into internal capabilities that facilitate digital finance implementation.

Financial Inclusion and Digital Finance

Financial inclusion increases firms' ability to access formal financing, banking services, digital payment facilities, and other financial products. Such access may reduce funding limitations and enable startups to integrate digital financial services into their operations (Gomber et al., 2017; Ozili, 2023). Financial inclusion can consequently facilitate digital transactions, improve financial management, and support more efficient business processes.
Nevertheless, access to financial services does not necessarily produce effective digital finance adoption. Its benefits depend on whether firms possess sufficient managerial, governance, and technological capacity to use the available services productively (Pobee et al., 2023; Teece, 2007). Based on this reasoning, the following hypothesis is formulated:
H1: Financial inclusion has a positive effect on digital finance.

Financial Inclusion and Organizational Capabilities

Participation in formal financial systems may expose startup firms to higher standards of disclosure, financial planning, risk assessment, and organizational accountability. Financial resources also provide firms with greater opportunities to improve their management systems, enhance employee competence, and invest in digital infrastructure.

Financial inclusion may strengthen corporate governance because interaction with financial institutions generally requires more transparent reporting and accountable decision-making (Pobee et al., 2023). It may also promote financial literacy by increasing organizational experience in evaluating financial products, managing risks, and preparing financial plans (Lusardi & Mitchell, 2014). Furthermore, improved access to funding allows firms to acquire technologies and develop new digital processes (Gomber et al., 2017). The extent of these benefits, however, depends on the organization's learning ability and managerial competence (Teece, 2007). Accordingly, this study proposes:
H2: Financial inclusion has a positive effect on corporate governance.
H3: Financial inclusion has a positive effect on financial literacy.
H4: Financial inclusion has a positive effect on technological innovation.

Taxation, Organizational Capabilities, and Digital Finance

Taxation increasingly operates through electronic registration, reporting, payment, and monitoring systems. Therefore, taxation is not merely a mechanism for generating state revenue but also an institutional arrangement that can encourage financial discipline, organizational

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transparency, and digital process adoption. From an institutional perspective, tax regulations constitute coercive pressures that require firms to standardize their reporting procedures and demonstrate regulatory compliance (DiMaggio & Powell, 1983; Scott, 2014).

Digital tax obligations may directly encourage firms to adopt digital finance because compliance increasingly depends on integrated accounting, payment, and reporting technologies. Taxation can also improve organizational capabilities by motivating firms to establish stronger governance controls, develop financial knowledge, and invest in supporting technologies. However, firms differ in their ability to convert regulatory demands into organizational improvements, particularly because such transformation depends on their resources, managerial capacity, and technological readiness (OECD, 2023; Teece, 2007). On this basis, the hypotheses are stated as follows:

H5: Taxation has a positive effect on digital finance.
H6: Taxation has a positive effect on corporate governance.
H7: Taxation has a positive effect on financial literacy.
H8: Taxation has a positive effect on technological innovation.

Organizational Capabilities and Digital Finance

The implementation of digital finance requires more than access to financial products and technological infrastructure. Firms must also possess organizational capabilities that allow them to manage digital systems responsibly, select suitable financial services, and adapt their internal processes to technological change.

Corporate governance supports digital finance by clarifying responsibilities, strengthening internal controls, improving strategic decision-making, and promoting accountability. Financial literacy enables managers to understand financial products, assess risks, plan financial activities, and make appropriate technology-related investment decisions (Lusardi & Mitchell, 2014). Technological innovation provides the technical and organizational capacity required to automate transactions, integrate financial information, and develop digitally supported business processes (Teece et al., 1997; Teece, 2007).

Although the contribution of each capability may vary across organizations, previous literature generally identifies governance quality, financial competence, and technological readiness as important foundations of digital transformation. Therefore, this study proposes:

H9: Corporate governance has a positive effect on digital finance.
H10: Financial literacy has a positive effect on digital finance.
H11: Technological innovation has a positive effect on digital finance.

Mediating Roles of Organizational Capabilities

Institutional conditions do not always translate immediately into organizational outcomes. Firms commonly respond to external opportunities and pressures by modifying their structures, routines, competencies, and technologies (DiMaggio & Powell, 1983; Scott, 2014). Consequently, the effects of financial inclusion and taxation on digital finance may depend on the internal capabilities developed by startup firms.

Corporate governance may transmit these effects by improving resource allocation, control, transparency, and compliance. Financial literacy may serve as a mediating mechanism by enabling managers to understand financial services and make informed digital financial decisions. Technological innovation may connect institutional drivers with digital finance by providing the infrastructure and adaptive capacity required to incorporate digital financial solutions into organizational activities.

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These capabilities are regarded as complementary rather than competing mechanisms. Governance establishes accountability, financial literacy supports managerial judgment, and technological innovation enables operational implementation. Their simultaneous development may therefore determine how effectively startups transform financial access and tax-related pressures into digital finance practices. Accordingly, the mediation hypotheses are formulated as follows:

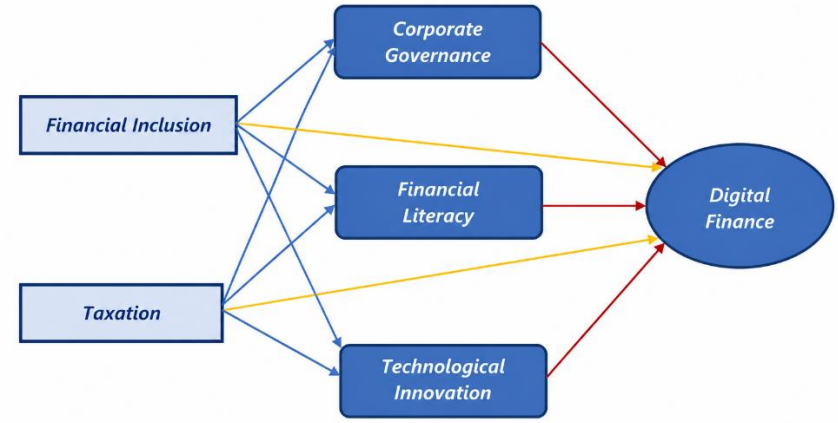
H12: Corporate governance mediates the effect of financial inclusion on digital finance.
H13: Financial literacy mediates the effect of financial inclusion on digital finance.
H14: Technological innovation mediates the effect of financial inclusion on digital finance.
H15: Corporate governance mediates the effect of taxation on digital finance.
H16: Financial literacy mediates the effect of taxation on digital finance.
H17: Technological innovation mediates the effect of taxation on digital finance.

Conceptual Framework

The proposed framework combines Institutional Theory and Dynamic Capability Theory to explain the adoption of digital finance among Indonesian startup firms. Financial inclusion and taxation are positioned as external institutional drivers. Corporate governance, financial literacy, and technological innovation are positioned as internal organizational capabilities that transmit the effects of these drivers to digital finance.

The framework assumes that financial inclusion and taxation influence digital finance through direct pathways as well as indirect pathways involving the three mediating constructs. This theoretical arrangement provides the basis for empirically testing the seventeen proposed hypotheses through Partial Least Squares Structural Equation Modeling.

Figure 1. Conceptual Framework



METHOD

A quantitative explanatory design was used to test the relationships among financial inclusion, taxation, corporate governance, financial literacy, technological innovation, and digital finance. This design was appropriate because the research evaluates theory-derived hypotheses and estimates both direct and mediated associations among latent variables.

The model was estimated with Partial Least Squares Structural Equation Modeling in SmartPLS 4. PLS-SEM was selected because the framework contains six latent constructs, numerous paths, and three mediators. It also permits joint evaluation of measurement quality

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and structural prediction and is well suited to theory extension and prediction-oriented analysis (Hair et al., 2022; Sarstedt et al., 2022).

Population and Sample

The unit of analysis was startup firms operating in Indonesia. Data were obtained from founders, owners, chief executive officers, finance managers, and other senior managers who possessed adequate knowledge of their firms' financial management, taxation, governance, technological activities, and digital finance practices.

The population comprised 2,558 Indonesian startup firms recorded in 2023 by the Ministry of Communication and Informatics and Startup Ranking. These firms operated in various technology-based sectors, including financial technology, electronic commerce, education technology, health technology, and logistics.

Respondents were selected through purposive sampling because only firms and managers satisfying the research requirements were considered eligible. The inclusion criteria required that: (1) the startup had operated for at least three years; (2) the firm had used at least one digital financial service, such as electronic payment, internet banking, digital financial reporting, or a fintech application; (3) the respondent held a managerial position and participated in financial or strategic decisions; and (4) the respondent had worked in the company for at least one year.

Sample adequacy was considered in relation to the complexity of the PLS-SEM model and the number of predictors directed toward the endogenous constructs (Hair et al., 2022). Following the screening of submitted questionnaires, 100 eligible and complete responses were included in the analysis.

Data Collection

Data were gathered through a structured questionnaire adapted from measurement items reported in earlier studies and contextualized for Indonesian startups. The first section captured respondent and firm characteristics, including position, tenure, sector, organizational age, and size. The second section contained the indicators for the six latent constructs.

Responses were recorded on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Prior to distribution, academics and practitioners knowledgeable about startup management and digital finance reviewed the instrument for conceptual relevance, clarity, and wording.

The questionnaire was circulated electronically through professional networks and online channels. Returned forms were screened for eligibility, missing information, contradictory response patterns, and duplicate submissions. Only complete questionnaires submitted by qualified managerial respondents were analyzed.

Measurement of Constructs

Each construct was represented by several items adapted from established sources. Wording was adjusted only where needed to fit the startup context while retaining the original conceptual content. The English questionnaire was translated into Indonesian and then back-translated to check semantic consistency.

Financial inclusion was measured through access to formal financial services, use and affordability of financial products, and availability of digital financial infrastructure (Pobee et al., 2023; World Bank, 2022). Taxation was assessed through digital tax compliance, reporting transparency, and the utilization of electronic tax systems (OECD, 2023; Pobee et al., 2023).

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Corporate governance included indicators of transparency, accountability, internal control, regulatory compliance, and strategic decision-making. Financial literacy reflected financial knowledge, planning ability, decision-making competence, and risk understanding (Lusardi & Mitchell, 2014). Technological innovation represented the firm's ability to adopt emerging technologies, introduce digital solutions, improve operational processes, and develop technology-based services (Teece, 2007).

Digital finance was measured through the utilization of digital payments, technology-based financial services, digital financial management, and the integration of financial technologies into organizational operations (Gomber et al., 2017; Ozili, 2023). Higher scores indicated a stronger implementation of each construct.

Data Analysis

SmartPLS 4 was used for a two-part analysis comprising assessment of the measurement model and evaluation of the structural model. The first part examined the reliability and validity of the indicators and constructs.

Indicator reliability was judged from outer loadings, using 0.70 as the preferred benchmark. Cronbach's alpha and composite reliability were used to assess internal consistency, with values of at least 0.70 considered acceptable. Convergent validity was evaluated from Average Variance Extracted, for which a value above 0.50 was required.

Discriminant validity was assessed with the Heterotrait-Monotrait ratio; values below 0.90 indicated sufficient empirical separation between constructs (Henseler et al., 2015). Variance Inflation Factor values were also reviewed before structural paths were interpreted to identify possible collinearity.

Structural evaluation covered standardized path estimates, explained variance, effect size, and predictive relevance. R-squared indicated the share of variance accounted for in each endogenous construct, f-squared represented the contribution of individual predictors, and Stone-Geisser Q-squared was used to evaluate predictive relevance.

Hypothesis decisions were obtained from a 5,000-subsample bootstrapping procedure. Path coefficients, t statistics, p values, and bias-corrected 95% confidence intervals were considered jointly. Mediation was determined from the significance of each specific indirect effect involving corporate governance, financial literacy, or technological innovation.

RESULTS AND DISCUSSION

Research Results

Structural Model

The proposed structural model was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4. The analysis consisted of two stages. The first stage evaluated the measurement model by examining indicator reliability, convergent validity, discriminant validity, and internal consistency reliability. The second stage evaluated the structural model by assessing the explanatory power of the endogenous constructs and testing the proposed hypotheses.

The structural relationships estimated through the bootstrapping procedure are presented in Figure 2.

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Figure 2. Bootstrapping Diagram

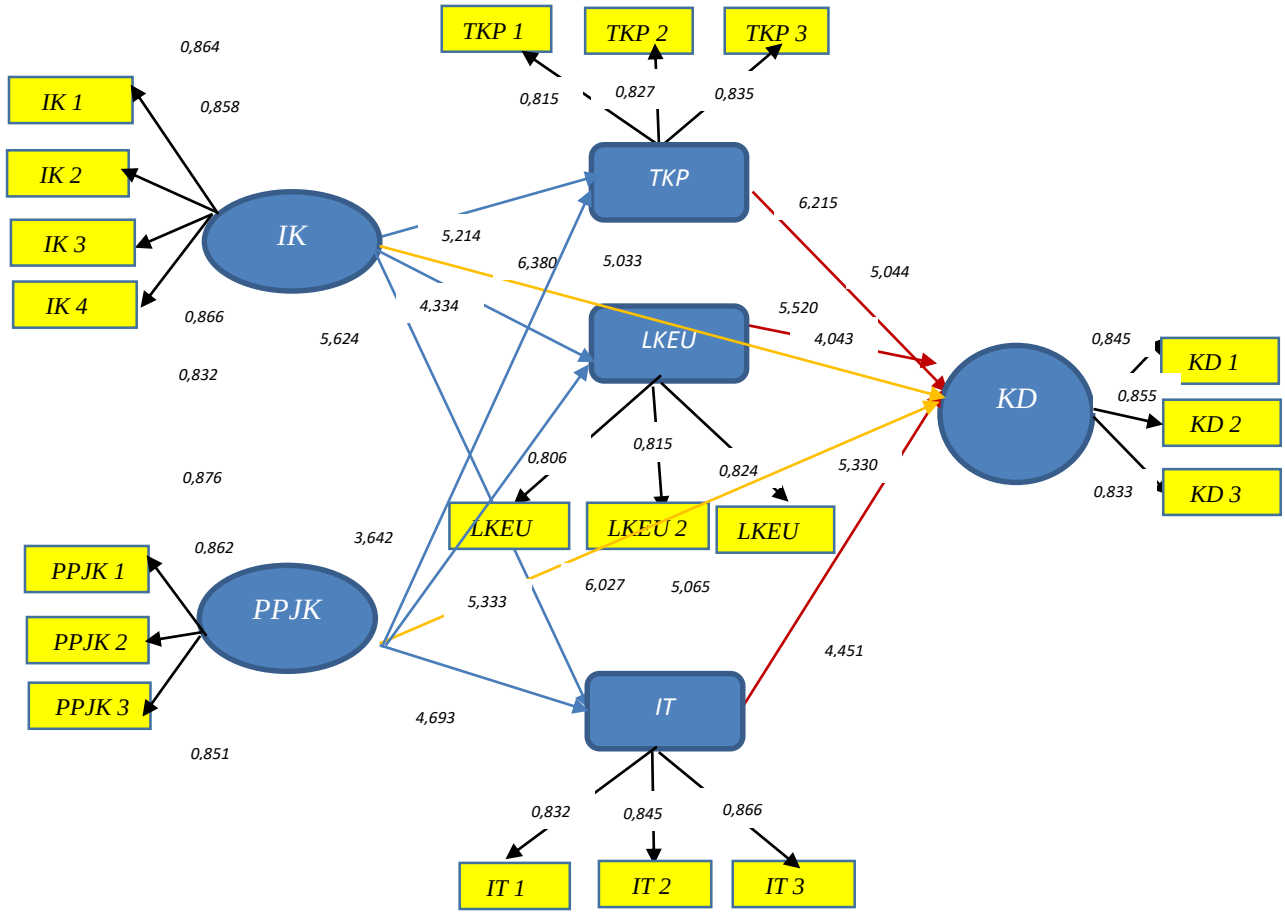

Figure 2 presents the bootstrapping results of the proposed structural model. The model illustrates the structural relationships among financial inclusion, taxation, corporate governance, financial literacy, technological innovation, and digital finance. The standardized path coefficients obtained from the bootstrapping procedure provide the statistical basis for evaluating the seventeen hypotheses proposed in this study.

Measurement Model Assessment

Indicator Reliability

Indicator reliability was evaluated using standardized outer loading values. According to Hair et al. (2022), outer loading values greater than 0.70 indicate satisfactory indicator reliability.

Table 1. Indicator Reliability (Outer Loadings)

Variable	Indicator	Outer Loading
Financial Inclusion	IK1	0.832
	IK2	0.864
	IK3	0.858
	IK4	0.866
Taxation	PPJK1	0.876
	PPJK2	0.862
	PPJK3	0.851

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Variable	Indicator	Outer Loading
Digital Finance	KD1	0.845
	KD2	0.855
	KD3	0.833
Corporate Governance	TKP1	0.815
	TKP2	0.827
	TKP3	0.835
Financial Literacy	LKEU1	0.806
	LKEU2	0.815
	LKEU3	0.824
Technological Innovation	IT1	0.832
	IT2	0.845
	IT3	0.866

Source: SmartPLS 4.0 Output

As presented in Table 1, all indicators achieved outer loading values ranging from 0.806 to 0.876, exceeding the recommended threshold of 0.70. Therefore, all measurement indicators demonstrated satisfactory reliability and were retained for subsequent analyses.

Convergent Validity

Convergent validity was assessed using the Average Variance Extracted (AVE), where values above 0.50 indicate adequate convergent validity (Hair et al., 2022).

Table 2. Average Variance Extracted (AVE)

Construct	AVE
Financial Inclusion	0.835
Taxation	0.870
Digital Finance	0.867
Corporate Governance	0.844
Financial Literacy	0.823
Technological Innovation	0.882

Source: SmartPLS 4.0 Output

All constructs obtained AVE values ranging from 0.823 to 0.882, exceeding the recommended threshold of 0.50. These findings indicate that all constructs demonstrate satisfactory convergent validity.

Internal Consistency Reliability

Internal consistency reliability was evaluated using Composite Reliability (CR). Hair et al. (2022) recommend CR values greater than 0.70.

Table 3. Composite Reliability

Construct	Composite Reliability
Financial Inclusion	0.880
Taxation	0.820
Digital Finance	0.844
Corporate Governance	0.835
Financial Literacy	0.875
Technological Innovation	0.815

Source: SmartPLS 4.0 Output

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The Composite Reliability values ranged from 0.815 to 0.880, indicating satisfactory internal consistency reliability for all latent constructs.

Discriminant Validity

Discriminant validity was evaluated using the Fornell–Larcker criterion and the Heterotrait–Monotrait Ratio (HTMT) to determine whether each construct was empirically distinct from the others.

Fornell–Larcker Criterion

Table 4. Discriminant Validity Based on the Fornell–Larcker Criterion

Construct	FI	TAX	CG	FL	TI	DF
Financial Inclusion	**0.799**					
Taxation	0.412	**0.822**				
Corporate Governance	0.458	0.503	**0.838**			
Financial Literacy	0.621	0.386	0.472	**0.851**		
Technological Innovation	0.548	0.421	0.519	0.603	**0.862**	
Digital Finance	0.665	0.447	0.488	0.631	0.674	**0.874**

Note: Diagonal values represent √AVE.
Source: SmartPLS 4.0 Output

The diagonal values representing the square root of the AVE exceeded the corresponding inter-construct correlations. Accordingly, the Fornell–Larcker criterion was satisfied, confirming adequate discriminant validity.

HTMT

Table 5. Heterotrait–Monotrait Ratio (HTMT)

Construct	FI	TAX	CG	FL	TI	DF
Financial Inclusion	—					
Taxation	0.521	—				
Corporate Governance	0.574	0.612	—			
Financial Literacy	0.703	0.498	0.586	—		
Technological Innovation	0.631	0.553	0.642	0.714	—	
Digital Finance	0.768	0.594	0.623	0.735	0.781	—

Source: SmartPLS 4.0 Output

The HTMT values ranged from 0.498 to 0.781, remaining below the recommended threshold value of 0.90. Therefore, discriminant validity was further confirmed for all latent constructs.

Collinearity Assessment

Collinearity among the predictor constructs was evaluated using the Inner Variance Inflation Factor (VIF).

Table 6. Inner Variance Inflation Factor (VIF)

Predictor	CG	FL	TI	DF
Financial Inclusion	1.842	1.956	1.873	2.364
Taxation	1.842	1.956	1.873	2.451
Corporate Governance	-	-	-	2.178
Financial Literacy	-	-	-	2.325
Technological Innovation	-	-	-	2.418

Source: SmartPLS 4.0 Output

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The Inner VIF values ranged from 1.842 to 2.451, all of which were below the recommended threshold of 3.00. Therefore, no multicollinearity issues were identified.

Coefficient of Determination (R^2)

The explanatory power of the structural model was evaluated using the coefficient of determination (R^2).

Table 7. Coefficient of Determination (R^2)

Endogenous Construct	R^2
Corporate Governance	0.843
Financial Literacy	0.866
Technological Innovation	0.872
Digital Finance	0.854

Source: SmartPLS 4.0 Output

The endogenous constructs achieved R^2 values ranging from 0.843 to 0.872, indicating substantial explanatory power. Digital Finance obtained an R^2 value of 0.854, suggesting that 85.4% of its variance is explained by the proposed predictor constructs.

Effect Size (f^2)

Effect size (f^2) was assessed to determine the contribution of each predictor construct to the endogenous constructs.

Table 8. Effect Size (f^2)

Relationship	f^2	Interpretation
Financial Inclusion → Digital Finance	0.214	Medium
Financial Inclusion → Corporate Governance	0.287	Medium
Financial Inclusion → Financial Literacy	0.196	Medium
Financial Inclusion → Technological Innovation	0.245	Medium
Taxation → Digital Finance	0.186	Medium
Taxation → Corporate Governance	0.231	Medium
Taxation → Financial Literacy	0.172	Medium
Taxation → Technological Innovation	0.153	Medium
Corporate Governance → Digital Finance	0.276	Medium
Financial Literacy → Digital Finance	0.238	Medium
Technological Innovation → Digital Finance	0.301	Medium

Source: SmartPLS 4.0 Output

All structural relationships produced medium effect sizes. The largest effect was observed for Technological Innovation → Digital Finance ($f^2 = 0.301$), followed by Corporate Governance → Digital Finance ($f^2 = 0.276$).

Predictive Relevance (Q^2)

Predictive relevance was evaluated using the Stone–Geisser Q^2 statistic.

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Table 9. Predictive Relevance (Q^2)

Endogenous Construct	Q^2
Corporate Governance	0.621
Financial Literacy	0.648
Technological Innovation	0.672
Digital Finance	0.695

Source: SmartPLS 4.0 Output

All endogenous constructs obtained positive Q^2 values ranging from 0.621 to 0.695, indicating satisfactory predictive relevance.

Model Fit Assessment

Overall model fit was evaluated using the Standardized Root Mean Square Residual (SRMR) and the Normed Fit Index (NFI).

Table 10. Model Fit Assessment

Measurement	Value	Recommended Value
SRMR	0.056	< 0.08
NFI	0.912	> 0.90

Source: SmartPLS 4.0 Output

The SRMR value of 0.056 was below the recommended threshold of 0.08, while the NFI value of 0.912 exceeded 0.90. These results indicate that the proposed structural model demonstrates an acceptable level of model fit.

Hypothesis Testing

The significance of the proposed hypotheses was assessed using the bootstrapping procedure.

Table 11. Results of Hypothesis Testing

Hypothesis	Structural Relationship	t-value	p-value	Decision
H1	Financial Inclusion → Digital Finance	6.380	0.000	Supported
H2	Financial Inclusion → Corporate Governance	5.214	0.000	Supported
H3	Financial Inclusion → Financial Literacy	4.334	0.001	Supported
H4	Financial Inclusion → Technological Innovation	5.624	0.002	Supported
H5	Taxation → Digital Finance	6.027	0.000	Supported
H6	Taxation → Corporate Governance	5.333	0.000	Supported
H7	Taxation → Financial Literacy	4.639	0.002	Supported
H8	Taxation → Technological Innovation	3.642	0.001	Supported
H9	Corporate Governance → Digital Finance	6.215	0.000	Supported
H10	Financial Literacy → Digital Finance	5.520	0.002	Supported
H11	Technological Innovation → Digital Finance	4.451	0.000	Supported
H12	Financial Inclusion → Corporate Governance → Digital Finance	5.044	0.003	Supported
H13	Financial Inclusion → Financial Literacy → Digital Finance	4.043	0.001	Supported
H14	Financial Inclusion → Technological Innovation → Digital Finance	5.330	0.000	Supported
H15	Taxation → Corporate Governance → Digital Finance	5.065	0.001	Supported
H16	Taxation → Financial Literacy → Digital Finance	4.043	0.004	Supported
H17	Taxation → Technological Innovation → Digital Finance	5.307	0.000	Supported

Source: SmartPLS 4.0 Output

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The results indicate that all direct and indirect relationships were statistically significant, with t-values greater than 1.96 and p-values below 0.05. Accordingly, all seventeen proposed hypotheses were supported.

Discussion

Financial Inclusion, Organizational Capabilities, and Digital Finance

The results show that financial inclusion promotes digital finance adoption and strengthens corporate governance, financial literacy, and technological innovation among Indonesian startup firms. This finding indicates that financial inclusion does more than broaden access to financial products. It also provides startups with financial resources, information, and digital infrastructure that support organizational development and technology-based financial activities.

Institutional Theory explains financial inclusion as an institutional arrangement established by governments, regulators, and financial institutions to encourage firms to participate in formal financial systems (Scott, 2014). Through greater interaction with banks, fintech providers, and regulatory institutions, startups are encouraged to adopt transparent reporting practices, improve accountability, and adjust their internal systems to prevailing financial standards. Financial inclusion therefore creates both opportunities and institutional expectations that support the transition toward digital finance.

From the perspective of Dynamic Capability Theory, financial resources only generate organizational value when firms can integrate and reconfigure them effectively (Teece, 2007). Access to financing and digital financial services must therefore be supported by adequate governance, financial competence, and technological readiness. Startups that possess these capabilities are better positioned to identify digital opportunities, allocate financial resources strategically, and adapt their operations to changing market conditions.

The findings correspond with Ha et al. (2025), who reported that financial inclusion facilitates fintech utilization by reducing barriers to formal financial services. They also support Ling and Ling (2025), who found that digital inclusive finance encourages enterprise innovation by improving access to funding for technological investment. Similarly, Tandilino et al. (2025) demonstrated that the benefits of digital financial inclusion become stronger when firms possess sufficient financial capability and organizational readiness.

This study extends those findings by demonstrating that financial inclusion affects digital finance through several complementary organizational pathways. Corporate governance provides accountability and control, financial literacy supports effective financial decisions, and technological innovation enables the operational application of digital solutions. Thus, financial inclusion should be accompanied by capability-building initiatives rather than treated solely as an expansion of financial access.

For policymakers, this result implies that financial inclusion programs should be integrated with governance assistance, managerial financial education, and technological support. Startup managers should likewise use improved financial access to strengthen internal controls, develop employee competence, and invest in appropriate digital systems. Such measures can increase the long-term value derived from digital finance.

Taxation as an Institutional Driver of Digital Transformation

Taxation was found to influence digital finance directly and through corporate governance, financial literacy, and technological innovation. This result suggests that taxation is not limited to generating public revenue. In an increasingly digital regulatory environment,

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taxation also encourages firms to modernize their financial processes, improve reporting quality, and adopt technology-supported compliance systems.

Institutional Theory views taxation as a coercive pressure arising from government regulations (Scott, 2014). Electronic registration, digital reporting, online payment, and integrated tax administration require startups to maintain more systematic financial records and transparent organizational procedures. Compliance with these requirements may therefore encourage firms to establish stronger internal controls, improve financial accountability, and integrate digital tools into their business operations.

Taxation may also generate normative and mimetic pressures. Professional standards encourage firms to follow accepted accounting and reporting practices, while competition encourages startups to imitate organizations that have successfully integrated financial and tax technologies. These combined institutional pressures strengthen the organizational motivation to adopt digital finance.

Dynamic Capability Theory further clarifies how startups respond to such regulatory change (Teece, 2007). Firms must adapt their routines, develop relevant employee competencies, and reorganize technological resources to comply with digital taxation. When these adjustments are managed effectively, taxation can stimulate organizational learning and technological upgrading rather than merely impose administrative costs.

The findings are broadly consistent with studies emphasizing the importance of institutional support and regulatory quality in digital transformation. Ha et al. (2025) noted that effective institutional arrangements facilitate the integration of digital financial services. Ling and Ling (2025) also showed that supportive institutional policies can stimulate digital innovation, while Tandilino et al. (2025) emphasized the importance of managerial readiness in converting institutional support into organizational outcomes.

The contribution of this study lies in positioning taxation as a catalyst for several organizational capabilities. Tax requirements encourage governance improvements through greater transparency and control, enhance financial literacy through increased exposure to financial and regulatory information, and stimulate technological innovation through the adoption of electronic reporting and payment systems. Digital taxation can therefore contribute to organizational modernization when it is supported by adequate internal resources.

Startup managers should consequently regard digital tax compliance as an opportunity to improve financial management. Investment in integrated accounting systems, employee training, and tax-related technologies can strengthen both compliance and operational efficiency. Governments should also simplify digital tax procedures, improve technical assistance, and ensure that taxation systems remain accessible to firms with different levels of digital maturity.

Organizational Capabilities as Determinants of Digital Finance

Corporate governance, financial literacy, and technological innovation were found to have positive effects on digital finance. These findings confirm that institutional support does not automatically produce successful digital transformation. Startups must also develop internal capabilities that allow them to select, manage, and integrate digital financial technologies effectively.

Corporate governance supports digital finance through clear responsibilities, effective control mechanisms, accountable decision-making, and transparent financial reporting. Strong governance reduces information asymmetry and strengthens confidence among managers, investors, regulators, and other stakeholders. In accordance with Institutional Theory,

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governance also helps firms demonstrate conformity with regulatory and professional expectations, thereby reinforcing organizational legitimacy (Scott, 2014).

Financial literacy contributes by enabling managers and employees to understand financial products, assess risks, interpret financial information, and make appropriate investment decisions. Within startup firms, financial literacy should therefore be regarded as an organizational competence rather than merely an individual attribute. This interpretation is consistent with Putra and Lasmi (2025) and Ratnawati et al. (2025), who associated financial literacy with improved use of digital financial services and stronger business sustainability.

Technological innovation provides the operational foundation for digital finance. It allows firms to automate transactions, integrate financial information, enhance cybersecurity, and develop technology-based business processes. The finding supports Ling and Ling (2025), who identified technological innovation as an important mechanism through which digital financial development contributes to enterprise transformation.

The three capabilities should not be considered in isolation. Corporate governance establishes the rules and controls required for responsible digital finance, financial literacy supports informed managerial decisions, and technological innovation provides the systems needed for implementation. A weakness in one dimension may limit the contribution of the others. For example, advanced technology may generate limited benefits when managers lack financial knowledge or when governance controls are inadequate.

This complementary capability perspective strengthens Dynamic Capability Theory by showing that digital transformation depends on the coordinated development of several organizational resources. Startup firms should therefore balance technology investment with governance reform and human-resource development. Policymakers, universities, financial institutions, technology providers, and startup incubators may also collaborate in providing integrated capability-development programs.

Mediating Roles of Corporate Governance, Financial Literacy, and Technological Innovation

The mediation results confirm that corporate governance, financial literacy, and technological innovation transmit the effects of financial inclusion and taxation to digital finance. This finding indicates that external financial opportunities and regulatory pressures do not independently guarantee digital transformation. Their effectiveness depends on the internal organizational responses developed by startup firms.

The integration of Institutional Theory and Dynamic Capability Theory provides a useful explanation of this process. Institutional Theory explains how financial inclusion and taxation create opportunities, expectations, and regulatory pressures. Financial inclusion connects startups with formal financial institutions and digital services, while taxation requires greater transparency, accountability, and compliance. However, firms differ in their ability to interpret and respond to these institutional conditions.

Dynamic Capability Theory explains how external conditions are transformed into organizational practices (Teece, 2007). Corporate governance directs the responsible allocation and monitoring of financial resources. Financial literacy enables managers to evaluate digital financial products, understand risks, and make informed decisions. Technological innovation provides the infrastructure and adaptive capacity needed to integrate digital finance into business processes. These capabilities consequently function as transmission mechanisms between institutional drivers and digital finance adoption.

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The mediation findings also show that the three capabilities reinforce one another. Governance provides a formal basis for accountability, financial literacy improves the quality of managerial decisions, and technological innovation supports operational execution. Developing only one of these capabilities may therefore be insufficient. Sustainable digital transformation requires their coordinated development.

The results support Tandilino et al. (2025), who demonstrated that financial capability and managerial readiness help convert digital financial inclusion into improved organizational outcomes. They are also consistent with Ling and Ling (2025), who connected digital inclusive finance with technological investment, and with Putra and Lasmi (2025) and Ratnawati et al. (2025), who emphasized the role of financial literacy in the effective use of digital financial services.

Unlike studies that examine each mediator separately, this research places the three capabilities within one integrated model. It therefore provides a broader explanation of how institutional environments affect digital finance in startup firms. Financial inclusion and taxation establish the external conditions for transformation, while governance, financial competence, and innovation determine how these conditions are translated into organizational action.

For managers, the findings suggest that acquiring digital financial technologies without improving internal capabilities may produce limited results. Digital finance initiatives should form part of a wider organizational development strategy involving governance reform, employee capability development, and technological upgrading. Policymakers should similarly align financial inclusion and digital taxation programs with integrated support for organizational capacity.

Theoretical and Practical Contributions

The study extends Institutional Theory by demonstrating that institutional drivers may affect digital finance through both direct and capability-based pathways. Financial inclusion provides access and institutional support, while taxation creates regulatory pressure. Their organizational effects, however, are partly realized through internal adjustments in governance, financial competence, and technological systems.

The research also contributes to Dynamic Capability Theory by identifying corporate governance, financial literacy, and technological innovation as mutually reinforcing capabilities. The findings suggest that sustainable digital transformation requires more than technological adoption. It depends on the ability of firms to coordinate governance structures, managerial knowledge, and technological resources in response to institutional change.

Practically, startup managers should integrate digital finance investments with internal capability development. Stronger governance systems can improve accountability, financial training can enhance decision quality, and continuous innovation can support effective technology implementation. Policymakers and financial institutions should also design coordinated programs that expand financial access, simplify digital taxation, strengthen financial literacy, and facilitate technological innovation.

Overall, digital finance adoption among Indonesian startup firms is shaped by the interaction between external institutions and internal organizational capabilities. Financial inclusion and taxation establish opportunities and pressures, while corporate governance, financial literacy, and technological innovation determine whether startups can convert those conditions into sustainable digital financial practices.

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CONCLUSION

This study investigated the direct and indirect effects of financial inclusion and taxation on digital finance adoption among Indonesian startup firms. The PLS-SEM results show that both institutional factors contribute significantly to digital finance, while corporate governance, financial literacy, and technological innovation serve as important mediating capabilities. These findings indicate that access to financial services and compliance with taxation requirements will generate greater digital benefits when startups possess adequate governance systems, financial competence, and technological readiness.

The study contributes theoretically by combining Institutional Theory and Dynamic Capability Theory within a single analytical framework. Institutional Theory explains how financial inclusion and taxation create external opportunities and regulatory pressures, whereas Dynamic Capability Theory clarifies how firms convert these conditions into organizational responses. Corporate governance, financial literacy, and technological innovation therefore operate as complementary mechanisms rather than independent factors in supporting digital finance implementation.

The findings also offer practical implications. Startup managers should not focus exclusively on obtaining financial access or adopting digital technologies. They should simultaneously improve accountability, internal control, financial decision-making competence, and technological infrastructure. Governments, regulators, and financial institutions should likewise align financial inclusion and digital taxation initiatives with programs that strengthen startup governance, financial literacy, and innovation capacity. Such integrated support may improve transparency, organizational resilience, investor confidence, and the competitiveness of Indonesia's startup ecosystem.

Several limitations should be considered. The cross-sectional design does not capture changes in organizational capabilities over time, while the exclusive focus on Indonesian startups restricts the broader applicability of the findings. Moreover, the model does not include all organizational and environmental conditions that may influence digital finance adoption.

Future studies should employ longitudinal designs and compare startups across countries, sectors, or stages of business development. Further research may also incorporate digital leadership, organizational culture, cybersecurity readiness, digital trust, environmental uncertainty, and ecosystem collaboration to provide a broader explanation of digital financial transformation.

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