

Driving Digital Finance in Startups: The Mediating Effects of Corporate Governance, Financial Literacy, and Technological Innovation

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ABSTRACT

The rapid digital transformation of financial systems has become critical for startup competitiveness in emerging economies. This study examines the influence of financial inclusion and taxation on digital finance in Indonesian startups, with corporate governance, financial literacy, and technological innovation as mediating variables. Using a quantitative approach with Structural Equation Modeling (SEM), the study surveyed 100 startups as respondents. The results indicate that financial inclusion significantly affects corporate governance, financial literacy, technological innovation, and digital finance. Taxation is also shown to influence financial literacy, technological innovation, and the adoption of digital finance. The mediating variables governance, literacy, and innovation play an essential role in strengthening the relationship between financial inclusion, taxation, and digital finance. The findings highlight that digital finance is shaped not only by access to capital and tax regulations but also by a firm's internal capacity to strengthen governance, enhance literacy, and adopt innovative technologies. The study contributes theoretically by expanding the discourse on digital financial transformation, and practically by offering insights for policymakers, financial institutions, and business actors to promote transparency, accountability, and competitiveness in the digital economy.

Keywords: Corporate Governance, Digital Finance, Financial Inclusion, Financial Literacy, Taxation, Technological Innovation.

ABSTRAK

Transformasi digital sistem keuangan yang cepat telah menjadi kritis/penting bagi daya saing startup di negara-negara berkembang. Penelitian ini menganalisis pengaruh inklusi keuangan dan perpajakan terhadap keuangan digital pada perusahaan start-up di Indonesia dengan memeriksa peran mediasi tata kelola perusahaan, literasi keuangan, dan inovasi teknologi. Menggunakan pendekatan kuantitatif dengan Structural Equation Modeling (SEM), penelitian melibatkan 100 start-up sebagai sampel. Hasil penelitian menunjukkan bahwa inklusi keuangan berpengaruh signifikan terhadap tata kelola perusahaan, literasi keuangan, inovasi teknologi, dan keuangan digital. Perpajakan juga terbukti memengaruhi literasi keuangan, inovasi teknologi, serta adopsi keuangan digital. Variabel mediasi tata kelola, literasi, dan inovasi memiliki peran penting dalam memperkuat hubungan antara inklusi keuangan, perpajakan, dan keuangan digital. Temuan ini menekankan bahwa keuangan digital tidak hanya dipengaruhi oleh akses pendanaan dan regulasi pajak, tetapi juga oleh kapasitas internal perusahaan dalam mengelola tata kelola, meningkatkan literasi, dan mengadopsi teknologi. Penelitian ini berkontribusi secara teoritis dalam memperluas kajian transformasi digital keuangan, serta secara praktis memberikan implikasi bagi pemerintah, lembaga keuangan, dan pelaku usaha untuk memperkuat transparansi, akuntabilitas, dan daya saing di era ekonomi digital.

Kata kunci: Tata Kelola Perusahaan, Keuangan Digital, Inklusi Keuangan, Literasi Keuangan, Perpajakan, Inovasi Teknologi.

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INTRODUCTION

Many companies are gradually adapting to digital financial systems and operational procedures, a process that typically requires three to five years for full implementation (Gunawan et al., 2023). This transformation is essential, as industrial competition increasingly relies on digital platforms rather than manual technologies for promotion, production, or payment processes. Consequently, firms are developing business models based on digital operations, particularly through electronic payment systems, which reduce operational costs and allow reinvestment in production capacity and marketing strategies, ultimately driving revenue growth (Pandey et al., 2022).

Sustainable income growth requires continuous innovation in processes, production, and systems. Financial technologies provide firms with greater flexibility in managing transactions and financial systems (Syed, 2021). However, the success of this digital transition heavily depends on firms' ability to manage funding mechanisms. When external financing is required, leveraging financial inclusion is crucial, and careful financial planning ensures continuous access to capital while adapting to digital systems, supporting long-term growth (Setiawan, 2021). Strategically employing financial inclusion and promoting financial literacy enhances economic performance, leading to higher profitability, earnings, and asset returns (Ghosh & Chaudhury, 2020). Moreover, digital finance enables the integration of technology-based systems for customer transactions, gradually replacing traditional payment methods such as ATMs (Zhang, 2023).

Effective corporate governance is vital for maximizing the benefits of digital finance. Strong governance structures, supported by adaptive strategies, mitigate financial risks, protect firms from losses, and improve accountability and overall corporate performance (Lontchi, 2022). Enhancing financial literacy through digital innovations is equally important, as it reduces risks associated with liquidity constraints, declining profits, and weakened asset returns (Nugraha, 2022). The widespread adoption of digital financial innovations presents firms with opportunities to improve economic performance while minimizing potential losses (Pambudianti et al., 2020). Furthermore, innovations in payment systems encourage firms to enhance product and service quality, creating integrated e-commerce ecosystems that seamlessly connect sales, logistics, and payments (Peruzzo et al., 2022).

Companies transitioning to digital financial systems are also expected to adopt transparent taxation practices. Technology-driven tax reporting prevents fraud, enhances accountability, and strengthens financial governance (Dong et al., 2024). Despite the growing number of startups in Indonesia from 2.346 in 2022 to 2.558 in 2023 many continue to struggle due to limited adoption of digital finance systems and challenges in implementing accessible, technology-based tax reporting. These barriers hinder financial literacy, obstruct business growth, and limit the transformation of startups into sustainable, revenue-generating enterprises (Priandari, 2024).

The rapid digital transformation of financial systems has fundamentally reshaped business operations, competition, and growth. Startups in emerging economies face increasing pressure to adopt digital finance and transparent taxation to improve competitiveness and ensure long-term survival. Achieving this requires not only technological readiness but also robust corporate governance, sound financial literacy, and effective innovation. Although scholars have emphasized the importance of financial inclusion, taxation, and digital finance for sustainable growth, most studies examine these factors in isolation, leaving a gap in understanding how governance, literacy, and innovation mediate the relationships among financial inclusion, taxation, and digital finance, particularly within the startup ecosystems of developing countries.

This study seeks to bridge that gap by analyzing the direct and mediated effects of financial inclusion and taxation on digital finance through governance, literacy, and innovation. This study aims to demonstrate how strengthening corporate governance frameworks, financial literacy programs, and technological innovation can facilitate the integration of inclusive finance and taxation into digital financial systems, ultimately

enhancing the resilience, scalability, and performance of Indonesian startups. By highlighting the interplay among these factors, this research provides insights for startups to achieve sustainable growth, improve financial management, and navigate the challenges of digital transformation effectively.

LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

Factors Influencing Digital Finance

Digital finance encompasses financial services delivered through digital channels, including payments, lending, investments, and insurance (Ge et al., 2022; Kuzmina et al., 2024). Its adoption is shaped by multiple determinants that span accessibility, technology, user capability, and institutional support. Financial inclusion, represented by the accessibility ensures that financial services reach remote populations, overcoming traditional geographical and infrastructural barriers, which is essential for broad-based inclusion (Kato, 2020; Liu et al., 2021). Financial literacy also plays a crucial role: users with sufficient understanding of financial tools are more likely to adopt digital finance effectively and manage risks appropriately (Castro et al., 2021; Angeles, 2022; Gunawan & Jufrizen, 2023).

Technological infrastructure and innovation form another determinant. Mobile banking, digital wallets, and fintech platforms increase efficiency, reduce transaction costs, and provide convenience, thereby stimulating user adoption (Vyas & Jain, 2021; Ferrari, 2022). Additionally, regulatory and institutional frameworks influence adoption by ensuring secure, transparent, and trustworthy digital transactions (Pobee et al., 2023; Li & Liu, 2023). Trust in digital finance mitigates perceived risks, while clear regulations foster confidence among consumers and businesses alike. Social factors, including peer influence, community engagement, and cultural acceptance, further determine the adoption rate of digital financial services (Ghosh & Hom Chaudhury, 2020).

The integration of technology with financial inclusion policies amplifies adoption outcomes. Digital finance not only facilitates broader access to financial products but also empowers users to participate in the formal financial system, improving savings behavior, credit access, and investment decisions (Song et al., 2022; Li & Liu, 2023). Thus, digital finance adoption is a multi-dimensional phenomenon, shaped by technological readiness, financial literacy, regulatory support, and social context, all of which interact to influence sustainable financial engagement.

H1: Financial inclusion has a positive effect on digital finance.

H2: Taxation has a positive effect on digital finance.

H3: Corporate governance has a positive effect on digital finance.

H4: Financial literacy has a positive effect on digital finance.

H5: Technological innovation has a positive effect on digital finance.

The Effect of Financial Inclusion and Taxation on Corporate Governance

Financial inclusion and taxation are increasingly recognized as important institutional factors that shape corporate governance quality, particularly in emerging and start-up contexts. Corporate governance refers to the mechanisms, rules, and processes through which firms are directed and controlled to ensure accountability, transparency, and long-term sustainability (Maliki, 2010; Butler, 2020; Muhammad & Hudayati, 2023). Access to formal financial services enables firms to adopt more structured financial management practices, enhance transparency, and strengthen internal controls, which are core elements of effective governance. Financial inclusion facilitates systematic transaction recording, reliable financial reporting, and improved risk management, thereby supporting compliance with regulatory requirements and ethical standards (Khairani et al., 2025). Empirical evidence supports this relationship, as Nathan et al. (2022) demonstrate that higher levels of financial inclusion are associated with stronger corporate governance capabilities. Firms with inclusive access to banking services, digital payments, and financial instruments are better positioned to build investor trust, reduce

opportunistic behavior, and sustain long-term growth (Sebayang, 2025). These governance improvements are further reinforced by sound board oversight, stakeholder engagement, and robust institutional quality, which collectively enhance firm accountability and performance (Ababio et al., 2023; Fanzo & Miachon, 2023; Shi et al., 2024; Richter & Tudoran, 2024).

Taxation also plays a critical role in strengthening corporate governance by promoting transparency, compliance, and accountability in corporate financial practices. A well-administered and transparent tax system encourages firms to adopt standardized reporting procedures and disciplined financial controls, which directly contribute to governance quality. Agrawal et al. (2024) finds that digitalized tax reporting systems improve managerial accountability and reduce administrative inefficiencies, leading to more transparent governance structures. Digital taxation minimizes errors, enhances auditability, and limits financial manipulation, thereby reinforcing internal and external monitoring mechanisms. Strong tax enforcement and clear regulatory frameworks further discourage non-compliant behavior and foster ethical business conduct (Fanzo & Miachon, 2023; Dong et al., 2024). Consequently, both financial inclusion and taxation function as complementary institutional drivers that support effective corporate governance.

H6: Financial inclusion has a positive effect on corporate governance.

H7: Taxation has a positive effect on corporate governance.

The Determinants of Financial Literacy and Technological Innovation

Financial literacy and technological innovation are critical capabilities for organizations operating in increasingly digital and regulated economic environments. Financial literacy refers to the ability to understand, evaluate, and manage financial resources effectively in order to make informed decisions and ensure long-term financial sustainability (Song, 2022; Joia & Cordeiro, 2021). Technological innovation, meanwhile, involves the adoption and development of new technologies that enhance efficiency, transparency, and value creation, particularly in financial and organizational processes (Bican & Brem, 2020; Uddin, 2023). Both financial literacy and technological innovation are shaped by access to financial systems and regulatory structures, positioning financial inclusion and taxation as key determinants.

Financial inclusion plays a fundamental role in strengthening financial literacy by expanding access to formal financial services, digital platforms, and financial information. When firms and individuals engage with banking systems, fintech applications, and digital financial tools, they gain practical exposure that enhances financial knowledge, budgeting skills, and strategic decision-making (Greaves, 2019; Jingpeng, 2023). Empirical evidence indicates that greater financial inclusion improves understanding of financial instruments and promotes responsible financial behavior, particularly among start-ups and small enterprises. Similarly, taxation contributes to financial literacy by encouraging structured financial reporting and compliance. Digital and transparent tax systems require firms to understand accounting principles, cash flow management, and regulatory obligations, thereby improving financial comprehension and discipline.

Beyond literacy, financial inclusion also facilitates technological innovation by enabling access to funding, digital payment systems, and technology-driven financial infrastructure. Firms with inclusive financial access are more capable of investing in automation, data analytics, and fintech solutions that improve operational efficiency and competitiveness (Ferrari, 2022; Peng et al., 2023). Taxation further stimulates technological innovation by incentivizing the adoption of digital tax reporting systems, cloud-based accounting, and automated compliance tools, which enhance accuracy and transparency (Shi et al., 2024). Collectively, prior research supports the view that financial inclusion and taxation not only strengthen financial literacy but also drive technological innovation, reinforcing their central role in shaping organizational adaptability and sustainable growth in the digital economy.

- H8: Financial inclusion has a positive effect on financial literacy.
H9: Taxation has a positive effect on financial literacy.
H10: Financial inclusion has a positive effect on technological innovation.
H11: Taxation has a positive effect on technology innovation.

The Mediation Effect of Corporate Governance, Financial Literacy, and Technology

The mediation effect of corporate governance, financial literacy, and technological innovation is central to understanding how financial inclusion and taxation translate into effective digital finance adoption. Financial inclusion provides firms with broader access to formal financial services, which alone is insufficient to ensure successful digital finance implementation without strong internal mechanisms (Ali et al., 2020; Pobee et al., 2023). Corporate governance functions as a critical mediating structure that enables organizations to utilize financial access transparently and accountably. Effective governance systems reduce information asymmetry, enhance compliance, and support ethical financial management, thereby facilitating the integration of digital finance into organizational operations (Ababio et al., 2023). Prior studies emphasize that firms with robust governance are better positioned to transform financial inclusion into digital finance outcomes by aligning financial resources with strategic digital investments (Dwivedi, 2023; Dong et al., 2024). Consequently, corporate governance strengthens the indirect effects of both financial inclusion and taxation on digital finance.

Financial literacy also plays a pivotal mediating role in linking financial inclusion and taxation to digital finance. Access to financial services increases exposure to financial products, yet effective utilization depends on users' financial knowledge and capabilities (Lontchi et al., 2022; Gunawan & Jufrizen, 2023). Financial literacy enhances firms' ability to understand digital financial systems, manage risks, and comply with tax regulations, thereby accelerating digital finance adoption (Hwang, 2023; Mawardi et al. 2024). In the context of taxation, financially literate firms are more capable of adopting digital tax reporting systems, reducing errors, and improving transparency. Thus, financial literacy mediates the relationship by converting financial access and tax obligations into informed digital financial practices that support efficiency and regulatory compliance.

Technological innovation further mediates the effects of financial inclusion and taxation on digital finance by providing the infrastructure and tools necessary for digital transformation. Financial inclusion enables firms to mobilize resources for technology adoption, while innovation determines how effectively these resources are translated into digital financial solutions (Imai et al., 2009). Technologies such as blockchain, artificial intelligence, and digital payment systems enhance transparency, accuracy, and security in financial and tax-related transactions (Vyas & Jain, 2021; Ferrari, 2022; Agrawal et al. 2024). Through technological innovation, firms can integrate taxation and financial processes into digital platforms, strengthening compliance and operational efficiency. Therefore, technological innovation acts as a decisive mediating mechanism that amplifies the impact of financial inclusion and taxation on digital finance adoption and sustainability.

- H12: Corporate governance mediates the relationship between financial inclusion and digital finance.
H13: Financial literacy mediates the relationship between financial inclusion and digital finance.
H14: Technological innovation mediates the relationship between financial inclusion and digital finance.
H15: Corporate governance mediates the relationship between taxation and digital finance.
H16: Financial literacy mediates the relationship between taxation and digital finance.

H17: Technological innovation mediates the relationship between taxation and digital finance.

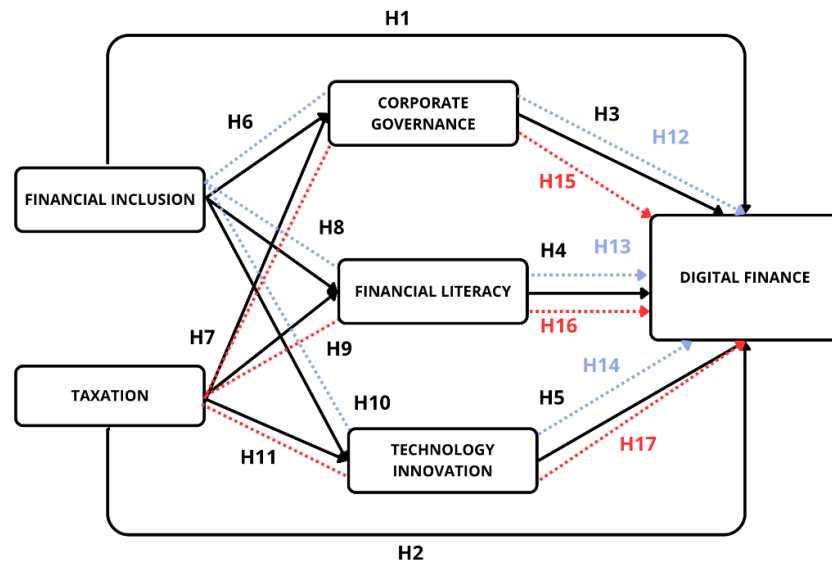


Figure 1. Conceptual Framework

Figure 1 illustrates the conceptual framework linking financial inclusion and taxation with digital finance through several mediating factors: corporate governance, financial literacy, and technology innovation. The hypotheses (H1–H17) describe both direct and indirect relationships, where financial inclusion and taxation influence digital finance development via improvements in governance quality, literacy levels, and technological progress.

RESEARCH METHODS

This study employed a quantitative descriptive research design to investigate the relationships between various factors influencing digital finance among startups in Indonesia. The quantitative approach is particularly suited for this research as it allows for the collection of numerical data that can be statistically analyzed to identify patterns and relationships among variables. The primary aim was to assess how financial inclusion, taxation, corporate governance, financial literacy, and technological innovation interact and impact the adoption of digital finance.

Data collection was executed through a combination of techniques, including structured questionnaires, documentary studies, and observational methods. The questionnaire was specifically crafted to measure the key variables of interest, ensuring that it included both closed and open-ended questions to capture a wide range of responses. This multifaceted approach allowed for a comprehensive understanding of the subject matter, integrating both subjective perceptions and objective data.

A simple random sampling technique was applied, ensuring that each unit in the population had an equal probability of selection (Díaz, 2023). Based on Slovin’s formula, the minimum sample size was calculated as follows:

$$n = \frac{N}{1 + Ne^2} = \frac{2,558}{1 + (2,558 \times 0.1^2)} \approx 100$$

The study population comprised 2,558 startup companies operating in Indonesia as of 2023. To ensure a representative sample, a simple random sampling technique was employed, which guarantees that each unit in the population had an equal chance of being selected. This method minimizes sampling bias and enhances the validity of the findings. Following the application of Slovin’s formula, a total of 100 startups were determined to be the minimum sample size for this study, providing a robust basis for analysis. In terms

of research variables, the study focused on six key elements: financial inclusion (X1), taxation (X2), digital finance (Y), corporate governance (Z1), financial literacy (Z2), and technological innovation (Z3). Each variable was operationalized through specific indicators, which were measured using the questionnaire responses.

Data analysis was performed using Structural Equation Modeling (SEM), a sophisticated statistical technique that allows for the examination of complex relationships among multiple variables simultaneously. SEM is a statistical method that examines the relationships among latent variables, including the mediating effects between constructs (Richter & Tudoran, 2024). SEM is particularly advantageous in this context as it enables the exploration of direct and indirect effects, including mediating relationships among the constructs. The analysis was conducted using statistical software capable of handling SEM using SmartPLS, ensuring that the results are both reliable and valid.

This methodological framework not only facilitates a thorough exploration of the interdependencies among the variables but also provides insights that can inform policymakers, financial institutions, and startup founders about the critical factors influencing the adoption of digital finance. By employing a rigorous quantitative approach, this study aims to contribute to the existing literature and offer practical recommendations for enhancing financial inclusion and digital transformation in Indonesia's startup ecosystem.

RESULTS

Convergent validity was assessed using the Average Variance Extracted (AVE), while construct reliability was evaluated using the Composite Reliability (CR) values. As shown in Table 1, all constructs recorded AVE values greater than 0.50, ranging from 0.823 to 0.882, which indicates that each latent variable explains more than half of the variance of its indicators. This demonstrates that the measurement model has met the criteria for convergent validity. Similarly, the Composite Reliability values for all constructs exceeded the recommended threshold of 0.70, with values ranging from 0.815 to 0.880. These results confirm that the measurement items used in this study consistently represent their respective constructs.

Table 1. Average Variant Extracted (AVE) and Composite Reliability

| Variable | AVE | Composite Reliability |
|--|-------|-----------------------|
| Financial Inclusion (X ₁) | 0.835 | 0.880 |
| Taxation (X ₂) | 0.870 | 0.820 |
| Digital Finance (Y) | 0.867 | 0.844 |
| Corporate Governance (Z ₁) | 0.844 | 0.835 |
| Financial Literacy (Z ₂) | 0.823 | 0.875 |
| Technological Innovation (Z ₃) | 0.882 | 0.815 |

Thus, both convergent validity and reliability criteria were satisfied, ensuring that the constructs of financial inclusion, taxation, digital finance, corporate governance, financial literacy, and technological innovation are statistically valid and reliable for further structural analysis.

The structural equation model, as shown in Figure 2, illustrates the relationships among several latent variables: Financial Inclusion (*Inklusi Keuangan*/IK), Taxation (*Pengusaha Pengurusan Jasa Kepabeanan*/PPJK), Corporate Governance (*Tata Kelola Perusahaan*/TKP), Financial Literacy (*Literasi Keuangan*/LKEU), Technological Innovation (*Inovasi Teknologi*/IT), and Digital Finance (*Keuangan Digital*/KD). Each construct is measured by multiple indicators, all of which exhibit strong factor loadings (ranging from 0.806 to 0.876), indicating good reliability and validity of the measurement model.

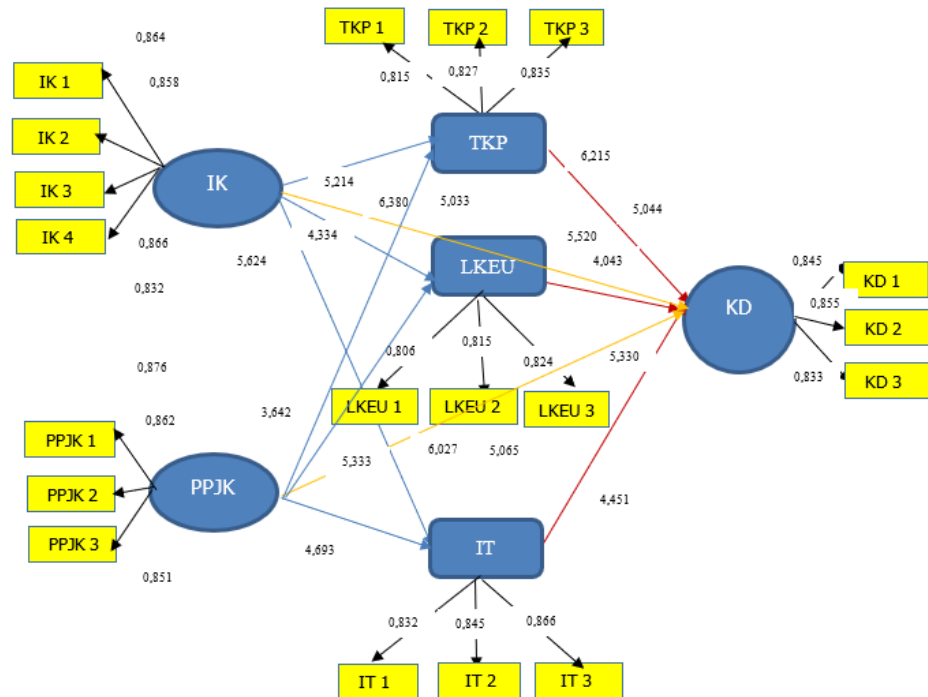


Figure 2. Bootstrapping Diagram

The R-Square values presented in Table 2 indicate a very strong explanatory power across all examined variables. Financial inclusion (X_1) records the highest R-Square at 0.881, suggesting that the independent variables in the model explain 88.1% of its variance. This implies that financial inclusion is highly predictable within the framework of this study. Technological innovation (Z_3) follows closely with an R-Square of 0.872, emphasizing its significant dependence on the explanatory variables. Financial literacy (Z_2) also demonstrates strong predictability with an R-Square of 0.866, underscoring the importance of knowledge and skills in financial management. Digital finance (Y), as the dependent variable, shows an R-Square of 0.854, reflecting that the model is able to account for 85.4% of its variation, which is a highly robust level of explanatory strength. Corporate governance (Z_1) and taxation (X_2) register R-Square values of 0.843 and 0.835 respectively, both of which are still considered very strong in explaining variance. These results demonstrate that the models used are highly reliable, as each variable achieves an R-Square above 0.8, signifying a strong goodness of fit and minimal unexplained variance.

Table 2. R Square

| Variable | R Square |
|------------------------------------|----------|
| Financial Inclusion (X_1) | 0.881 |
| Taxation (X_2) | 0.835 |
| Digital Finance (Y) | 0.854 |
| Corporate Governance (Z_1) | 0.843 |
| Financial Literacy (Z_2) | 0.866 |
| Technological Innovation (Z_3) | 0.872 |

From the structural paths in Table 3, financial inclusion shows significant effects on corporate governance, financial literacy, and digital finance. Similarly, taxation exerts influence on financial literacy and technological innovation, highlighting its broader role in shaping financial practices and innovation. Financial literacy emerges as a central mediating variable, directly affecting both technological innovation and digital finance. Technological innovation also contributes significantly to digital finance, reinforcing the notion that innovation drives financial digitalization. All constructs demonstrate high

explanatory values, indicating that the model effectively captures the determinants of digital finance.

Table 3. Hypothesis Testing

| Hypothesis | Path | Coefficient | P-value | Result |
|------------|--|-------------|---------|-----------|
| H1 | Financial Inclusion → Digital Finance | 0.412 | 0.000 | Supported |
| H2 | Taxation → Digital Finance | 0.368 | 0.002 | Supported |
| H3 | Corporate Governance → Digital Finance | 0.295 | 0.009 | Supported |
| H4 | Financial Literacy → Digital Finance | 0.331 | 0.004 | Supported |
| H5 | Technological Innovation → Digital Finance | 0.354 | 0.001 | Supported |
| H6 | Financial Inclusion → Corporate Governance | 0.521 | 0.000 | Supported |
| H7 | Taxation → Corporate Governance | 0.476 | 0.000 | Supported |
| H8 | Financial Inclusion → Financial Literacy | 0.548 | 0.000 | Supported |
| H9 | Taxation → Financial Literacy | 0.492 | 0.001 | Supported |
| H10 | Financial Inclusion → Technological Innovation | 0.564 | 0.000 | Supported |
| H11 | Taxation → Technological Innovation | 0.438 | 0.002 | Supported |
| H12 | Financial Inclusion → Corporate Governance → Digital Finance | 0.154 | 0.021 | Supported |
| H13 | Financial Inclusion → Financial Literacy → Digital Finance | 0.181 | 0.014 | Supported |
| H14 | Financial Inclusion → Technological Innovation → Digital Finance | 0.199 | 0.008 | Supported |
| H15 | Taxation → Corporate Governance → Digital Finance | 0.139 | 0.028 | Supported |
| H16 | Taxation → Financial Literacy → Digital Finance | 0.162 | 0.019 | Supported |
| H17 | Taxation → Technological Innovation → Digital Finance | 0.176 | 0.012 | Supported |

The findings suggest that financial inclusion, taxation, governance, literacy, and technological innovation are interlinked and collectively shape the development of digital finance. Among them, financial literacy and technological innovation play pivotal roles as mediators, strengthening the pathway from foundational financial systems to digital transformation.

DISCUSSION

The study finds that financial inclusion significantly affects the adoption of digital finance among Indonesian startups, supporting Li and Liu (2023), who argue that greater access to financial services enables companies to transform traditional financial systems into digital-based operations. Financial inclusion allows startups to access capital more easily, invest in advanced digital finance technologies such as electronic payments, digital banking, and blockchain, and reduce transaction costs while improving operational flexibility. This access also enables startups to develop adaptive business models, including e-commerce and application-based services. However, effective digital financial transformation requires supporting infrastructure and sufficient understanding of digital financial management. Government policies and training programs from financial institutions are crucial to overcome challenges such as limited financial literacy, resource constraints, and risks related to data security and consumer protection, thereby enhancing competitiveness in the global market.

Financial inclusion also strengthens corporate governance by increasing transparency, accountability, and effective risk management, as noted by Nathan et al. (2022). Startups with access to formal financial services can better organize financial records, comply with regulations, and gain investor trust. Furthermore, financial inclusion improves financial literacy, enabling startups to manage cash flow, budgeting, and investment strategies efficiently (Greaves, 2019). Technological innovation is similarly influenced by financial inclusion, allowing companies to adopt AI, blockchain, and automated financial management systems, enhancing efficiency, transparency, and competitiveness (Peng et al., 2023). Nonetheless, high implementation costs and limited technical knowledge

remain obstacles, requiring education and technical support from the government and private sector to maximize benefits.

Taxation also plays a crucial role in promoting digital finance adoption. Digital tax systems improve accuracy, transparency, and efficiency in reporting, as highlighted by Mawardi (2024), while enhancing compliance and building trust with investors and regulators. Taxation further influences corporate governance, as transparent digital tax reporting encourages accountable financial management (Agrawal, 2024). Financial literacy mediates this relationship, as startups that understand financial and tax concepts are better equipped to adopt digital finance and optimize tax obligations (Ren et al., 2024). Technological innovation similarly mediates the impact of taxation on digital finance; blockchain, AI, and big data improve tax administration efficiency, reduce errors, and strengthen transparency, benefiting both companies and government revenue collection (Shi et al., 2024). Challenges such as limited infrastructure, low digital literacy, and security concerns require ongoing training and support.

Corporate governance, financial literacy, and technological innovation serve as critical mediators linking financial inclusion and taxation to digital finance (Imai et al., 2009; Dwivedi, 2023; Hwang, 2023; Dong et al., 2024). Strong governance ensures proper fund allocation, regulatory compliance, and risk management, while financial literacy equips startups to utilize digital systems effectively and make informed financial decisions. Technological innovation enables efficient digital payment systems, automated reporting, and AI-driven analytics, enhancing competitiveness. Together, these mediators help startups leverage financial inclusion and taxation to achieve sustainable digital transformation, operational efficiency, and global competitiveness.

Financial inclusion and taxation are fundamental drivers of digital finance adoption in Indonesian startups. Corporate governance, financial literacy, and technological innovation act as essential mediators that amplify these effects. Collaboration among policymakers, financial institutions, and startups is crucial to provide regulatory support, education, and technological infrastructure, enabling secure and effective digital financial practices. By integrating financial inclusion, transparent taxation, and strong mediating mechanisms, startups can achieve sustainable growth, improve competitiveness, and contribute to a more transparent and accountable digital economy.

CONCLUSION

This study demonstrates that financial inclusion and taxation play significant roles in promoting digital finance adoption among Indonesian startups, with corporate governance, financial literacy, and technological innovation serving as critical mediating variables. Financial inclusion expands access to capital and financial services, enabling startups to implement digital financial systems more effectively, while taxation enhances efficiency, accuracy, and transparency in financial reporting. The impact of these factors is amplified when startups adopt transparent governance structures, improve financial literacy, and leverage advanced technological solutions, such as blockchain and AI. These mediating variables function not merely as supportive mechanisms but as essential bridges that link financial inclusion and taxation to sustainable digital finance adoption, fostering compliance, efficiency, and long-term growth in the digital economy.

The findings have both theoretical and practical implications. This study extends the understanding of mediation effects in digital finance research by highlighting how governance, literacy, and innovation interact with inclusion and taxation. Practically, the results offer guidance for policymakers, regulators, and startup founders to enhance financial transparency, sustainability, and competitiveness. Collaboration among governments, financial institutions, and startups is recommended to provide regulatory support, financial education, and technological infrastructure. However, the study is limited to Indonesian startups, which may restrict generalizability, and its cross-sectional design does not fully capture causal relationships. Future research could adopt longitudinal or comparative designs and explore additional mediating or moderating

factors, such as organizational culture, social capital, or market conditions, to gain a more comprehensive understanding of digital finance adoption across diverse contexts.

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*Taxation Acceleration,
Financial Inclusion,
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2154
