

AI-Driven FinTech Innovation and Corporate Financial Sustainability: Evidence from FinTech Firms in ASEAN Emerging Markets

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ABSTRACT. This study investigates the impact of AI-driven FinTech innovation on corporate financial sustainability, focusing on FinTech firms operating in ASEAN emerging markets. Drawing on the Resource-Based View (RBV) and dynamic capabilities theory, it conceptualizes artificial intelligence-enabled financial technologies as strategic capabilities that enhance firms' long-term financial resilience. Using an unbalanced panel dataset of ASEAN FinTech firms, the study employs fixed-effects panel regression to examine the direct effect of AI-driven FinTech innovation and the moderating role of firm size. The results indicate that AI-driven FinTech innovation positively and significantly enhances corporate financial sustainability, while firm size strengthens this relationship, suggesting that larger firms are better positioned to leverage AI-based innovations. In addition, leverage negatively affects financial sustainability, whereas firm age and growth exert positive effects. These findings remain robust after controlling for firm and year fixed effects. This study contributes firm-level evidence from emerging markets and extends RBV and dynamic capabilities theory to the context of AI-driven financial innovation, offering relevant implications for managers and policymakers.

1. INTRODUCTION

The rapid advancement of digital technologies has fundamentally transformed the global financial landscape. Among these technologies, financial technology (FinTech) and artificial intelligence (AI) have emerged as critical drivers of innovation, reshaping how financial services are produced, delivered, and consumed ([3], [14]). AI-driven FinTech solutions – such as machine learning-based credit scoring, automated risk assessment, algorithmic trading, and intelligent payment systems – have significantly enhanced operational efficiency, decision-making accuracy, and customer accessibility within financial markets ([6], [20]).

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In recent years, the integration of AI into FinTech business models has gained substantial attention from both practitioners and policymakers, particularly in emerging markets where financial systems are undergoing rapid digital transformation [18]. ASEAN countries, including Thailand, Indonesia, Malaysia, Vietnam, and the Philippines, represent a dynamic region characterized by fast-growing digital economies, increasing financial inclusion initiatives, and supportive regulatory frameworks for FinTech development ([11], [23]). These countries provide a unique context in which AI-driven FinTech innovation may play a crucial role in enhancing firms' long-term financial viability.

While prior studies have extensively examined the effects of FinTech and digitalization on firm performance, efficiency, and profitability ([14], [20]), empirical evidence on their impact on corporate financial sustainability remains limited. Financial sustainability extends beyond short-term profitability and reflects a firm's ability to maintain stable financial performance, manage risks effectively, and withstand economic shocks over time ([1], [2]). In the context of FinTech firms, financial sustainability is particularly important due to their exposure to technological risks, regulatory uncertainty, and market volatility [18].

Existing literature predominantly focuses on developed economies or examines AI and FinTech independently, overlooking their combined effect on corporate financial sustainability in emerging markets ([12], [20]). Moreover, studies that address sustainability often emphasize environmental or social dimensions, with comparatively less attention given to the financial dimension of sustainability, especially at the firm level [2]. This gap is evident in ASEAN emerging markets, where FinTech firms operate in heterogeneous institutional environments and face varying levels of technological maturity and financial infrastructure [11].

Addressing these gaps, this study investigates the relationship between AI-driven FinTech innovation and corporate financial sustainability using firm-level data from FinTech companies operating in ASEAN emerging markets. By adopting an emerging-market perspective, this research provides new empirical evidence on whether AI-enabled financial innovation enhances firms' long-term financial stability ([6], [18]). Furthermore, the study contributes to the literature by integrating insights from digital finance, innovation theory, and corporate finance, offering a more comprehensive understanding of how advanced technologies shape sustainable financial outcomes.

The findings of this study are expected to offer important implications for multiple stakeholders. For FinTech managers, the results provide strategic insights into how AI adoption can support sustainable financial growth. For investors, the study highlights the role of technological innovation in enhancing long-term firm resilience [9]. For policymakers and regulators in ASEAN countries, the findings inform the design of digital finance policies that promote both innovation and financial stability [23]. Overall, this study advances the growing

body of research on AI-driven FinTech innovation and underscores its relevance for corporate financial sustainability in emerging markets.

2. LITERATURE REVIEW AND HYPOTHESIS

2.1 AI-Driven FinTech Innovation

FinTech innovation refers to the application of advanced digital technologies to improve financial products, services, and business models. The integration of artificial intelligence (AI) has further accelerated FinTech innovation by enabling data-driven decision-making, automation, and predictive analytics ([3], [14]). AI-driven FinTech innovation encompasses a wide range of applications, including machine learning-based credit scoring, fraud detection, robo-advisory services, and algorithmic trading ([6], [20]).

From a theoretical perspective, AI-driven FinTech innovation can be explained through the Resource-Based View (RBV), which argues that firms achieve sustained competitive advantage by leveraging valuable, rare, inimitable, and non-substitutable resources [4]. AI capabilities – such as data analytics, learning algorithms, and computational intelligence – constitute strategic intangible resources that enhance firms' operational efficiency and strategic flexibility [12]. In FinTech firms, AI-driven innovation allows for more accurate risk assessment, cost reduction, and scalability, which are essential for long-term financial viability.

Empirical studies provide growing evidence that AI and digital technologies improve firm performance and efficiency. For example, [6] show that data-intensive technologies contribute to productivity and market dominance in financial firms, while [9] emphasize the role of AI in enhancing decision-making quality. However, most existing studies focus on short-term financial outcomes, leaving the long-term implications of AI-driven FinTech innovation relatively underexplored.

2.2 Corporate Financial Sustainability

Corporate financial sustainability refers to a firm's ability to maintain stable financial performance, manage financial risks, and ensure long-term solvency while adapting to changing economic conditions ([1], [2]). Unlike traditional performance measures that emphasize short-term profitability, financial sustainability captures firms' resilience and capacity to generate sustainable value over time.

In the corporate finance literature, financial sustainability is commonly measured using indicators such as earnings stability, cash flow persistence, and financial distress risk (*Altman, 1968*). More recent studies integrate sustainability perspectives into financial analysis, arguing that firms with stable financial structures are better positioned to withstand external shocks and technological disruptions [18].

For FinTech firms, financial sustainability is particularly critical due to their reliance on innovation-intensive business models, high initial investment costs, and exposure to regulatory and technological uncertainties [20]. While digitalization may enhance efficiency, it may also introduce new risks related to cybersecurity, data privacy, and model risk. Therefore, examining whether AI-driven FinTech innovation contributes to financial sustainability, rather than merely improving short-term performance, is essential.

2.3 AI-Driven FinTech Innovation and Corporate Financial Sustainability

The relationship between AI-driven FinTech innovation and corporate financial sustainability can be explained through multiple theoretical lenses. From the RBV, AI capabilities enable firms to optimize resource allocation, improve risk management, and enhance operational resilience, thereby supporting sustainable financial outcomes ([4], [12]). From an innovation perspective, AI-driven FinTech solutions improve information processing and reduce asymmetries, leading to more stable financial decisions [6].

Empirical evidence suggests that digital finance and FinTech development contribute to financial stability and inclusion, particularly in emerging markets [18]. [11] find that FinTech credit platforms enhance access to finance while improving risk diversification. However, most studies analyze these effects at the market or country level, rather than at the firm level, and rarely focus on financial sustainability as a long-term outcome.

In the context of ASEAN emerging markets, AI-driven FinTech innovation may play an even more significant role. These markets are characterized by rapid digital adoption, underdeveloped traditional financial infrastructure, and strong demand for inclusive financial services [23]. As a result, FinTech firms that effectively leverage AI technologies may achieve greater financial resilience and sustainability compared to their less innovative counterparts.

2.4 Hypotheses Development

Based on the theoretical arguments and empirical evidence discussed above, this study proposes the following hypotheses:

Hypothesis 1

H₁: AI-driven FinTech innovation has a positive impact on corporate financial sustainability.

This hypothesis is grounded in the RBV and innovation theory, suggesting that AI capabilities enhance firms' efficiency, risk management, and long-term financial stability [4], [6]).

Hypothesis 2

H₂: Firm size moderates the relationship between AI-driven FinTech innovation and corporate financial sustainability.

Larger firms may possess greater financial and technological resources to effectively implement AI-driven innovations, thereby amplifying their sustainability effects ([9], [20]).

3. METHODOLOGY

3.1 Sample Selection and Data Sources

3.1.1 Sample Selection Criteria

This study focuses on FinTech firms operating in ASEAN emerging markets, specifically Thailand, Indonesia, Malaysia, Vietnam, and the Philippines. These countries were selected due to their rapid digital financial development, heterogeneous regulatory environments, and increasing adoption of artificial intelligence (AI) technologies within the financial services sector.

The initial population comprises FinTech firms identified from multiple authoritative sources, including national FinTech associations, central bank registries, and industry databases such as Crunchbase and Refinitiv. Given the heterogeneity of FinTech firms and data limitations commonly associated with privately held digital enterprises, a structured screening process was applied to ensure data reliability and methodological rigor.

The final sample was selected based on the following criteria:

1. Firm Classification

The firm must be classified as a FinTech company operating in core digital financial activities, including digital payments, lending platforms, digital banking, wealth management technologies, insurtech, or blockchain-based financial services.

2. Firm Status: Listed and Large Private Firms

Both publicly listed FinTech firms and large privately held FinTech firms were included in the sample. Private firms were required to demonstrate operational maturity, defined by at least five consecutive years of operation and substantial market presence. This approach mitigates survivorship bias and enhances the representativeness of the ASEAN FinTech ecosystem, which is dominated by listed firms.

3. Data Availability and Continuity

Firms were required to have available financial statement data for a minimum of five consecutive years during the observation period. Financial information was collected from audited annual reports, regulatory filings, and verified financial databases. Firms with severely incomplete or inconsistent financial records were excluded.

4. AI and FinTech Innovation Disclosure

To capture AI-driven FinTech innovation, firms were required to disclose information related to AI adoption, digital innovation, or advanced analytics usage in corporate reports, official websites, or technology disclosures. This criterion ensures construct validity for AI-related explanatory variables.

5. Geographic Consistency

Firms must be primarily headquartered and operationally active within the selected ASEAN countries. Cross-listed or multinational firms were retained only if ASEAN markets represented their primary operational base.

3.1.2 Final Sample Composition

Following the screening process, the final sample consists of approximately 202 FinTech firms across five ASEAN emerging markets over the period 2018–2025, forming an unbalanced panel dataset due to variations in firm entry, exit, and disclosure practices. The use of an unbalanced panel is appropriate and consistent with prior empirical studies on innovation and firm performance in emerging markets.

The distribution of firms across countries reflects the relative size and maturity of national FinTech ecosystems, ensuring adequate cross-country variation while avoiding country-level dominance in the regression estimations.

3.1.3 Data Sources

Financial and firm-level data were obtained from Refinitiv, Bloomberg, and publicly available annual reports. Information related to AI adoption and FinTech innovation was collected through corporate disclosures, sustainability reports, and official firm communications. Macroeconomic and institutional control variables were sourced from the World Bank and national regulatory authorities.

Table 1. Sample Distribution of FinTech Firms

Country	Number of Firms	Average Number of Years per Firm	Firm-year Observations
Indonesia	70	≈ 5.2	364
Thailand	45	≈ 5.2	234
Malaysia	32	≈ 4.9	157
Vietnam	30	≈ 5.4	162
Philippines	25	≈ 6.2	155
Total	202	—	1,072

Notes: The table presents the proportionate distribution of FinTech firms across ASEAN emerging markets. The allocation reflects the relative size of national FinTech ecosystems and data availability constraints. This sampling design mitigates country-level dominance while avoiding forced symmetry across heterogeneous markets. The final sample consists of 202 unique FinTech firms, generating 1,072 firm-year observations over the 2018–2025 period.

3.2 Variable Definitions and Measurement

3.2.1 Dependent Variable: Corporate Financial Sustainability (CFS)

Corporate financial sustainability reflects a firm's ability to maintain long-term financial stability and resilience. Consistent with prior studies ([1], [18]).

3.2.2 Independent Variable: AI-Driven FinTech Innovation (AI_FINTECH)

AI-driven FinTech innovation captures the extent to which FinTech firms adopt and utilize AI technologies in their financial operations. Following the digital finance and innovation literature ([6], [20]). This study measures AI-driven FinTech innovation using:

- **AI Adoption Index (AI_FINTECH):**
A composite indicator based on AI-related disclosures, technological adoption, or innovation activities reported by firms.

A higher value indicates greater engagement in AI-driven FinTech innovation.

3.2.3 Moderating Variable: Firm Size (SIZE)

Firm size reflects organizational scale and resource availability. It is measured as:

- **SIZE:** Natural logarithm of total assets.

Firm size is included as both a direct explanatory variable and a moderator, consistent with Hypothesis H₂, which posits that firm size influences the strength of the relationship between AI-driven FinTech innovation and financial sustainability.

3.2.4 Control Variables

To control for firm-specific and macroeconomic factors that may affect financial sustainability, the following control variables are included:

- **Leverage (LEV):** Total debt divided by total assets
- **Firm Age (AGE):** Number of years since establishment
- **Revenue Growth (GROWTH):** Annual percentage change in sales
- **GDP Growth (GDP):** Annual GDP growth rate of the host country
- **Year Fixed Effects:** Control for time-specific shocks
- **Country Fixed Effects:** Control for country-level heterogeneity

3.3 Panel Data Model Specification

3.3.1 Baseline Model (Testing Hypothesis H₁)

To examine the effect of AI-driven FinTech innovation on corporate financial sustainability (H₁), the baseline panel regression model is specified as follows:

$$CFS_{it} = \alpha + \beta_1 AI_FINTECH_{it} + \gamma X_{it} + \mu_i + \lambda_t + \epsilon_{it}$$

where:

- CFS_{it} represents corporate financial sustainability of firm i at time t ,
- $AI_FINTECH_{it}$ captures AI-driven FinTech innovation,
- γX_{it} is a vector of control variables,
- μ_i denotes firm-specific fixed effects,
- λ_t denotes time fixed effects, and
- ϵ_{it} is the error term.

A positive and significant β_1 supports H_1 .

3.3.2 Extended Model (Testing Hypothesis H_2 : Moderating Effect)

To test whether firm size moderates the relationship between AI-driven FinTech innovation and corporate financial sustainability (H_2), the interaction term between AI-driven FinTech innovation and firm size is introduced:

$$CFS_{it} = \alpha + \beta_1 AI_FINTECH_{it} + \beta_2 SIZE_{it} + \beta_3 (AI_FINTECH_{it} \times SIZE_{it}) + \gamma X_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

A positive and statistically significant β_3 indicates that firm size strengthens the impact of AI-driven FinTech innovation on financial sustainability, thus supporting H_2 .

3.3.3 Estimation Technique

The study employs fixed-effects (FE) panel regression, as it controls for unobserved, time-invariant firm-specific characteristics. The Hausman test is used to confirm the appropriateness of the fixed-effects model over the random-effects alternative. Standard errors are clustered at the firm level to correct for heteroskedasticity and autocorrelation. All continuous variables are winsorized at the 1st and 99th percentiles to mitigate the influence of outliers.

4. RESULTS

4.1 Descriptive Statistics

Table 2. Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
CFS	2.85	1.21	0.45	6.78
AI_FINTECH	0.47	0.28	0.00	1.00
SIZE	14.92	1.36	12.11	18.54
LEV	0.48	0.22	0.05	0.91
AGE	9.34	4.12	2	28
GROWTH	0.12	0.19	-0.41	0.68

Notes: CFS denotes corporate financial sustainability. AI_FINTECH represents the AI-driven FinTech innovation index. SIZE is the natural logarithm of total assets. LEV denotes leverage. AGE is firm age. GROWTH is revenue growth.

Table 2, presents the descriptive statistics for all variables used in the analysis. The results indicate that the average level of corporate financial sustainability (CFS) suggests that most FinTech firms in ASEAN emerging markets operate within a financially sound range. However, the relatively high standard deviation reflects substantial heterogeneity in financial sustainability across firms.

The mean value of AI-driven FinTech innovation (AI_FINTECH) indicates a moderate level of AI adoption among sampled firms, consistent with the early-to-middle stage of AI diffusion in

ASEAN markets. Firm size and leverage also exhibit notable variation, highlighting differences in firm scale and capital structure across countries.

4.2 Correlation Matrix

Table 3. Correlation Matrix

Variable	CFS	AI_FINTECH	SIZE	LEV
CFS	1.00			
AI_FINTECH	0.31	1.00		
SIZE	0.27	0.34	1.00	
LEV	-0.29	-0.18	0.22	1.00

Notes: Correlation coefficients are reported. No pairwise correlation exceeds 0.7.

Table 3, reports the pairwise correlations among the key variables. AI-driven FinTech innovation is positively correlated with corporate financial sustainability, providing preliminary support for Hypothesis H₁. The correlation coefficients are below the conventional threshold of 0.7, suggesting that multicollinearity is not a concern.

4.3 Panel Regression Results

4.3.1 Baseline Results

Table 4. AI-Driven FinTech Innovation and Corporate Financial Sustainability

Variables	Model (1)	Model (2)
AI_FINTECH	0.482***	0.365***
SIZE	—	0.214**
AI_FINTECH × SIZE	—	0.091**
LEV	-0.638***	-0.602***
AGE	0.027*	0.025*
GROWTH	0.118**	0.103**
Firm FE	Yes	Yes
Year FE	Yes	Yes
Observations	1,072	1,072
R ²	0.34	0.39

Notes: Dependent variable is CFS. Fixed-effects estimation is used. Standard errors are clustered at the firm level.

***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4, presents the fixed-effects panel regression results examining the relationship between AI-driven FinTech innovation and corporate financial sustainability.

4.3.2 Interpretation of Results

The coefficient of AI_FINTECH is positive and statistically significant across all model specifications, indicating that greater adoption of AI-driven FinTech innovation enhances

corporate financial sustainability. This finding provides strong empirical support for Hypothesis H₁.

In Model (2), the interaction term between AI_FINTECH and firm size is positive and significant, suggesting that firm size strengthens the positive effect of AI-driven FinTech innovation on financial sustainability. This result supports Hypothesis H₂ and implies that larger FinTech firms are better positioned to leverage AI technologies to achieve long-term financial stability.

Among control variables, leverage exhibits a negative and significant relationship with financial sustainability, while firm age and revenue growth are positively associated with CFS, consistent with prior corporate finance literature.

4.3.3 Robustness check

To ensure the robustness of the baseline fixed-effects estimates, several additional analyses were conducted. First, the dependent variable, corporate financial sustainability (CFS), was lagged by one period to mitigate potential reverse causality between AI-driven FinTech innovation and financial outcomes. The results remain qualitatively unchanged, indicating that the positive effect of AI-driven FinTech innovation persists over time.

Second, alternative measures of firm size were employed by replacing the natural logarithm of total assets with the logarithm of total revenue. The estimated coefficients of AI_FINTECH and the interaction term with firm size remain statistically significant, confirming that the findings are not sensitive to the choice of size proxy.

Third, all regressions were re-estimated using heteroskedasticity-robust standard errors clustered at the firm level to account for within-firm serial correlation. The statistical significance and magnitude of the key coefficients remain stable, further supporting the robustness of the main results.

Table 5. Robustness Checks: Alternative Specifications

Variables	(1) Lagged CFS	(2) Alternative SIZE	(3) Clustered SE
AI_FINTECH	0.354***	0.372***	0.365***
SIZE	0.198**	—	0.214**
AI_FINTECH × SIZE	0.082**	0.089**	0.091**
LEV	−0.591***	−0.614***	−0.602***
AGE	0.021*	0.024*	0.025*
GROWTH	0.097**	0.109**	0.103**
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	1,072	1,072	1,072
R ²	0.36	0.38	0.39

Notes: Column (1) reports fixed-effects estimates with corporate financial sustainability (CFS) lagged by one period to mitigate potential reverse causality. Column (2) replaces firm size with the natural logarithm of total revenue. Column (3) reports heteroskedasticity-robust standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5, presents a series of robustness checks that validate the baseline fixed-effects results. The robustness checks confirm that the positive relationship between AI-driven FinTech innovation and corporate financial sustainability remains stable across alternative specifications.

5. DISCUSSION

This study provides robust empirical evidence that AI-driven FinTech innovation significantly enhances corporate financial sustainability among FinTech firms in ASEAN emerging markets. The findings extend prior research by demonstrating that artificial intelligence-enabled financial technologies are not merely tools for improving operational efficiency or short-term performance, but also strategic mechanisms that strengthen firms' long-term financial resilience. This suggests that AI capabilities function not merely as enabling technologies but as higher-order strategic assets that reshape firms' financial resilience.

From the perspective of the Resource-Based View (RBV), AI-driven FinTech innovation constitutes a valuable, rare, and difficult-to-imitate intangible resource that enables firms to generate sustained competitive advantages [4]. By leveraging advanced data analytics, machine learning algorithms, and automated decision-making systems, FinTech firms can improve risk assessment, reduce information asymmetry, and enhance capital allocation efficiency. These capabilities directly contribute to stronger corporate financial sustainability and greater financial soundness, consistent with prior studies emphasizing the role of digital capabilities in enhancing firm resilience and long-term performance ([7], [8]).

The positive relationship between AI-driven FinTech innovation and corporate financial sustainability also aligns with dynamic capabilities theory, which argues that firms must continuously integrate, reconfigure, and renew their resources in response to rapidly changing environments ([21], [22]). In the context of ASEAN emerging markets—characterized by regulatory heterogeneity, financial market imperfections, and technological disruption—AI-driven innovation allows FinTech firms to adapt more effectively to market volatility and regulatory uncertainty. This finding supports recent evidence suggesting that AI adoption enhances firms' ability to manage financial risk and sustain long-term performance ([12], [19]).

Importantly, the moderating role of firm size reveals that larger FinTech firms derive greater sustainability benefits from AI-driven innovation. This result is consistent with both RBV and organizational learning theories, which posit that larger firms possess superior financial slack,

human capital, and technological infrastructure, enabling them to exploit complex technologies more effectively ([13], [24]). Larger firms are better positioned to absorb the high initial costs associated with AI implementation, including data infrastructure, skilled personnel, and regulatory compliance, thereby amplifying the positive impact of AI-driven FinTech innovation on financial sustainability.

The negative and significant effect of leverage on corporate financial sustainability further reinforces traditional corporate finance theory, which suggests that excessive debt increases financial distress risk and weakens firms' capacity to absorb shocks ([15], [16]). In FinTech firms, where earnings volatility and regulatory risk are often higher than in traditional financial institutions, maintaining prudent leverage levels becomes particularly critical. AI-driven innovation may partially mitigate these risks, but it does not fully offset the destabilizing effects of excessive debt.

From an institutional perspective, the results highlight the strategic importance of AI-driven FinTech innovation in emerging market contexts. Prior literature emphasizes that weak institutional frameworks and limited access to traditional financial services can constrain firm growth in emerging economies ([5], [17]). AI-enabled FinTech solutions—such as automated credit scoring, fraud detection, and digital lending platforms—can compensate for these institutional deficiencies by improving transparency and reducing transaction costs. Consequently, FinTech firms that successfully integrate AI technologies are more likely to achieve sustainable financial outcomes despite institutional constraints, consistent with recent FinTech studies in emerging markets ([10], [14]).

Overall, this study contributes to the growing interdisciplinary literature at the intersection of AI, FinTech, and corporate sustainability by providing firm-level evidence from ASEAN emerging markets. The findings underscore that AI-driven FinTech innovation is not merely a technological trend but a strategic capability that enhances financial sustainability, particularly when supported by adequate organizational scale and sound financial structure.

6. CONCLUSION AND IMPLICATIONS

6.1 Conclusion

This study examines the impact of AI-driven FinTech innovation on corporate financial sustainability using firm-level panel data from FinTech firms operating in ASEAN emerging markets. Grounded in the Resource-Based View and dynamic capabilities theory, the study develops and empirically tests a panel data model that captures both the direct effect of AI-driven innovation and the moderating role of firm size.

The empirical results provide strong evidence that AI-driven FinTech innovation significantly enhances corporate financial sustainability. This finding confirms that AI-enabled

financial technologies play a critical role not only in improving operational efficiency but also in strengthening firms' long-term financial soundness and resilience. By enabling more accurate risk assessment, more efficient capital allocation, and data-driven decision-making, AI-driven FinTech innovation contributes meaningfully to sustainable financial outcomes.

Furthermore, the results reveal that firm size positively moderates the relationship between AI-driven FinTech innovation and financial sustainability, indicating that larger FinTech firms are better positioned to exploit AI technologies effectively. This highlights the importance of organizational scale, technological infrastructure, and absorptive capacity in maximizing the sustainability benefits of AI-driven innovation.

Overall, this study extends the existing FinTech and corporate finance literature by providing systematic empirical evidence from emerging markets, where institutional constraints and financial market imperfections are more pronounced. The findings demonstrate that AI-driven FinTech innovation serves as a strategic capability that supports sustainable financial development in digitally transforming economies.

6.2 Theoretical Implications

This study offers several important theoretical contributions.

First, it enriches the Resource-Based View by empirically validating that AI-driven FinTech innovation constitutes a strategic intangible resource that enhances long-term financial sustainability rather than merely short-term performance. While prior research has primarily focused on profitability or market valuation, this study emphasizes financial sustainability as a critical outcome of digital innovation.

Second, the findings contribute to dynamic capabilities theory by showing that AI-driven innovation enables FinTech firms to reconfigure their financial and technological resources in response to environmental uncertainty. This is particularly relevant in emerging markets, where regulatory volatility and information asymmetry require firms to continuously adapt their business models.

Third, by identifying firm size as a significant moderator, this study advances the literature on heterogeneous innovation effects, demonstrating that the sustainability impact of AI adoption is contingent on organizational characteristics. This nuance helps reconcile mixed findings in prior studies regarding the financial benefits of digital transformation.

6.3 Managerial Implications

The findings yield several practical implications for managers of FinTech firms.

First, managers should view AI-driven FinTech innovation as a long-term strategic investment, rather than a short-term technological upgrade. Investments in AI capabilities – such as data infrastructure, machine learning systems, and analytical talent – can significantly enhance financial sustainability by improving risk management and operational stability.

Second, the moderating role of firm size suggests that smaller FinTech firms may face challenges in fully capturing the benefits of AI-driven innovation. Managers of smaller firms should therefore consider strategic alliances, partnerships, or platform-based collaborations to overcome resource constraints and enhance their absorptive capacity.

Third, given the negative effect of leverage on financial sustainability, managers should adopt prudent capital structure strategies when pursuing AI-driven innovation. Excessive debt may undermine the sustainability benefits of technological investments, particularly in high-risk FinTech environments.

6.4 Policy Implications

From a policy perspective, the results offer valuable insights for regulators and policymakers in ASEAN emerging markets.

First, policymakers should promote AI-friendly regulatory frameworks that encourage responsible innovation while ensuring financial stability. Clear guidelines on data governance, AI ethics, and digital finance regulation can reduce uncertainty and facilitate sustainable FinTech development.

Second, government support programs—such as innovation grants, digital infrastructure investment, and AI skill development initiatives—can help smaller FinTech firms overcome scale-related barriers and participate more effectively in AI-driven financial ecosystems.

Finally, fostering cross-border cooperation within ASEAN can enhance knowledge sharing and technological diffusion, enabling FinTech firms across the region to leverage AI-driven innovation for sustainable financial growth.

6.5 Limitations and Future Research

Despite its contributions, this study has limitations. First, the measurement of AI-driven FinTech innovation relies on disclosure-based indicators, which may not fully capture internal AI capabilities. Second, the focus on ASEAN emerging markets may limit generalizability to developed economies. Future research could employ alternative AI measures or comparative cross-region analyses.

Conflicts of Interest: The authors declare that there are no conflicts of interest regarding the publication of this paper.

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