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Financial Agility as a Mediating Mechanism Linking Strategic Innovation and Firm Performance in High-Tech Enterprises

Edikan Nnabuk Eddy
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Abstract: *This study investigates the mediating role of financial agility in the relationship between strategic innovation and firm performance among high-tech enterprises in sub-Saharan Africa. A multi-stage sampling approach was employed to collect data from 468 respondents across Nigeria (44.9%), South Africa (33.8%), and Kenya (21.3%), representing the ICT, electronics, and biotechnology sectors. Using structural equation modeling (SEM), the study tested four hypothesized relationships. The results reveal that strategic innovation has a significant positive effect on firm performance ($\beta = 0.32$, $p < 0.01$) and financial agility ($\beta = 0.47$, $p < 0.001$). Financial agility also exerts a strong positive influence on firm performance ($\beta = 0.41$, $p < 0.001$). The mediation analysis confirms that financial agility partially mediates the relationship between strategic innovation and firm performance, with an indirect effect of $\beta = 0.19$ ($p < 0.001$) and a variance accounted for (VAF) of 37.3%. The model explains 52% of the variance in firm performance and 44% in financial agility, with good model fit indices (SRMR = 0.057, NFI = 0.93, $\chi^2/df = 2.14$). The findings highlight financial agility as a crucial dynamic capability that enables innovative firms to translate strategic intent into superior performance outcomes. The study advances the Dynamic Capability Theory by emphasizing the financial dimension of agility and provides practical implications for managers and policymakers seeking to enhance innovation-driven growth in technology-intensive firms.*

Keywords: *Strategic Innovation, Financial 7Agility, Firm Performance, Dynamic Capability, High-Tech Enterprises*

Edikan Nnabuk Eddy
Bingham University, Karu, Nasarawa State, Nigeria
Email: edikaneddy7@gmail.com
https://orcid.org/0009-0005-8235-8683

1. 0 Introduction

The contemporary global economy is characterized by rapid technological advancements, dynamic market conditions, and heightened competition, especially in high-technology (high-tech) sectors. Firms in industries such as information technology, biotechnology, electronics, and advanced manufacturing face volatile market demands that require constant innovation and flexibility (Vrontis *et al*., 2023). In this turbulent environment, strategic innovation—the deliberate reconfiguration of business strategies, processes, and models to create value—has become a key determinant of competitive advantage (Clauß *et al*., 2019). However, while strategic innovation drives value creation and organizational renewal, its translation into superior firm performance often depends on the firm's agility—its ability to rapidly reallocate resources, make timely decisions, and adjust financial and operational systems (AlTaweel & Al-Hawary, 2021).

Within this context, financial agility (FA)—the capability of a firm to flexibly and efficiently reconFig. its financial resources to exploit emerging opportunities and mitigate risks—has gained attention as a critical enabler of performance in high-tech enterprises (Agag *et aI.,* 2019). Financial agility not only enhances firms' responsiveness to environmental changes but also supports the translation of innovative strategies into tangible financial outcomes. In fast-changing markets, firms with high financial agility can adjust investment

portfolios, manage liquidity risks, and deploy resources toward high-return projects, thereby sustaining long-term competitiveness (Lungu, 2020).

Research on strategic agility, innovation, and firm performance has evolved significantly over the past two decades. According to Clauß *et al*. (2019), strategic agility enhances firms' ability to adopt new business model innovations—particularly in value creation and value proposition—leading to improved firm performance under conditions of environmental turbulence. Similarly, Lungu (2020) found that strategic agility in Romanian IT firms positively influences performance by enabling rapid adaptation to technological changes.

Building on this, Alkandi & Helmi (2024) demonstrated that strategic agility indirectly affects organizational performance through market orientation and innovation capabilities in Saudi industrial firms, underscoring the mediating roles of internal dynamic capabilities. Likewise, AlTaweel & Al-Hawary (2021) confirmed that innovation capability mediates the relationship between strategic agility and performance in industrial corporations, suggesting that agility alone is insufficient without an enabling capability structure.

In emerging economies, Ogbeta-Ogwu & Chidi (2025) found that strategic agility plays a dual role—both as a performance driver and as a mediating mechanism linking innovation capability and market leadership orientation to organizational performance. In the Indonesian motorcycle industry, Purwanto *et al.* (2023) also observed that while innovation capability significantly affects performance, strategic agility's direct effect was statistically insignificant, indicating the presence of other mediating constructs, possibly financial in nature.

Recent scholarship has expanded this discourse to financial agility as a specific subset of organizational agility. Zhou *et al*. (2019) highlighted that marketing and financial agility jointly shape firm performance, particularly when moderated by market turbulence and customer engagement.

Despite these contributions, empirical evidence on the role of financial agility as a mediating mechanism in the relationship between strategic innovation and firm performance remains limited, especially in high-tech enterprises operating in emerging markets. While the dynamic capability framework (Teece, 2018) has been widely used to explain strategic agility and innovation, the financial dimension—how financial responsiveness and resource fluidity sustain innovation-driven performance—has been underexplored (Vrontis *et al*., 2023; Alokshe *et al*., 2025).

The reviewed literature converges on the notion that strategic agility enhances firm performance through mediating mechanisms such as innovation capability, market orientation, or marketing agility (Alkandi & Helmi, 2024; Zhou *et al*., 2019). However, there is insufficient empirical examination of financial agility as a distinct mediating construct within this framework. Most existing studies focus on strategic or operational agility while neglecting how financial decision-making flexibility enables or constrains the success of innovation strategies, particularly in capital-intensive high-tech industries. Furthermore, cross-country evidence from emerging economies is scarce, with limited attention to how financial agility moderates the link between strategic innovation and firm performance in resource-constrained environments (Ogbeta-Ogwu & Chidi, 2025).

This study aims to examine the mediating role of financial agility in the relationship between strategic innovation and firm performance in high-tech enterprises. Specifically, it seeks to:

1. Assess the direct relationship between strategic innovation and firm performance.
2. Evaluate the impact of strategic innovation on financial agility.
3. Determine whether financial agility mediates the relationship between strategic innovation and firm performance.

This study has theoretical and practical significance. Theoretically, the study extends the extends the dynamic capability theory (DCT) by conceptualizing financial agility as a second-order dynamic capability that enables firms to convert strategic innovation into performance outcomes. By integrating financial agility into the strategic innovation–performance nexus, the study fills a critical gap in the agility literature and advances understanding of the financial dimension of organizational responsiveness. On the other hand, the findings from the study provide actionable insights for executives and policymakers in high-tech enterprises, especially in emerging economies. Firms can leverage financial agility to optimize resource allocation, enhance investment responsiveness, and sustain innovation-driven growth under conditions of uncertainty. Additionally, the study offers guidance for financial managers on building adaptive budgeting systems, liquidity buffers, and flexible capital structures that support strategic innovation initiatives.

2. 0 Theoretical Framework and Hypotheses Development

2.1 Theoretical Foundation: Dynamic Capabilities Theory (DCT)

The foundation of this study is the Dynamic Capabilities Theory (DCT)**,** which provides a lens for understanding how firms adapt, integrate, and reconFig. internal and external resources in response to rapidly changing environments (Teece, 2018). Within DCT, strategic innovation **and** financial agility are viewed as higher-order dynamic capabilities that allow firms to sustain competitiveness in turbulent markets (Alkandi & Helmi, 2024).

In high-tech enterprises characterized by intense competition, short product life cycles, and technological turbulence, the capacity to continuously innovate strategically and to manage financial resources flexibly is essential to achieving and sustaining superior performance. Strategic innovation allows firms to develop novel value propositions and adapt business models to emerging technologies, while financial agility ensures that firms can reallocate capital efficiently and exploit innovative opportunities as they arise (Vrontis *et al*., 2023; Clauß *et al*., 2019).

The integration of these capabilities within the DCT framework aligns with the microfoundations of dynamic capabilities, which emphasize sensing, seizing, and transforming as core dimensions. Strategic innovation aligns with *sensing* and *seizing*, as it enables firms to detect new market trends and respond creatively. Financial agility corresponds with *transforming*, as it allows firms to redeploy resources and sustain strategic initiatives in dynamic environments (Teece, 2018).

Thus, DCT provides an appropriate framework for examining the mediating role of financial agility in the relationship between strategic innovation and firm performance in high-tech enterprises.

2.2 Strategic Innovation and Firm Performance

Strategic innovation refers to the reconfiguration of a firm's strategy to create unique value and gain a competitive advantage through new business models, products, services, or processes (Clauß *et al*., 2019; AlTaweel & Al-Hawary, 2021). It is distinct from technological innovation because it

encompasses strategic shifts that reshape market positioning and organizational structure.

Empirical studies have shown that strategic innovation positively influences firm performance through increased adaptability, enhanced market responsiveness, and customer-centric value creation (Lungu, 2020; Vrontis *et al*., 2023). For instance, in the context of the Indonesian motorcycle industry, strategic innovation improved organizational competitiveness and operational efficiency (Purwanto *et al*., 2023). Similarly, Clauß *et al*. (2019) demonstrated that value creation and value proposition innovations—dimensions of strategic innovation—significantly enhanced performance outcomes.

However, other studies suggest that the link between strategic innovation and firm performance may be indirect or contingent upon other organizational factors such as resource flexibility, leadership adaptability, or financial resource availability (Zhou *et al*., 2019). This suggests that without an enabling financial mechanism, innovative strategies may not translate into measurable performance outcomes.

H1: Strategic innovation has a significant positive effect on firm performance in high-tech enterprises.

2.3 Strategic Innovation and Financial Agility

Financial agility refers to a firm's capability to rapidly and effectively adjust its financial structure, resource allocations, and investment decisions in response to environmental volatility and strategic opportunities. It involves a blend of real-time financial intelligence, decentralized decision-making, and digital financial management systems that enable firms to act swiftly and judiciously. Strategic innovation requires significant financial flexibility to support experimentation, R&D investment, and the scaling of successful innovations. Firms engaging in strategic innovation often operate under high uncertainty, necessitating agile financial mechanisms to absorb risks and capitalize on opportunities.

Empirical research has confirmed the strong association between innovative strategic practices and the development of agile financial systems. For instance, AlTaweel & Al-Hawary (2021) found that innovation capability mediates the relationship between strategic agility and firm performance—implying that financial mechanisms play a similar enabling role in translating strategic intent into outcomes.

H2: Strategic innovation has a significant positive effect on financial agility in high-tech enterprises

2.4 Financial Agility and Firm Performance

Financial agility has emerged as a central determinant of firm performance in dynamic industries. Firms with high financial agility can swiftly reallocate capital, manage liquidity efficiently, and make data-driven investment decisions, thereby improving both operational and strategic outcomes (Zhou *et al*., 2019).

In emerging and high-tech markets, where technological disruption is frequent, financial agility enables firms to seize transient opportunities and minimize losses from failed innovation attempts. This flexibility strengthens overall firm performance, including profitability, market share, and innovation output (Ogbeta-Ogwu & Chidi, 2025). Moreover, studies in dynamic industries highlight that financial agility serves as an adaptive mechanism that enhances resilience and competitive advantage. It ensures that firms remain viable under fluctuating conditions by synchronizing financial structures with strategic objectives.

H3: Financial agility has a significant positive effect on firm performance in high-tech enterprises.

2.5 Mediating Role of Financial Agility

While strategic innovation and firm performance are positively related, recent literature indicates that this relationship may not be linear or direct (Alkandi & Helmi, 2024; Purwanto *et al*., 2023). Strategic innovation creates potential performance benefits, but realizing these benefits often requires financial systems capable of reallocating and optimizing resources in alignment with strategic goals.

Financial agility thus acts as a mediating mechanism that translates strategic innovation into tangible performance outcomes. It bridges the gap between innovative intent and performance realization by ensuring timely access to financial resources and risk mitigation tools. As noted by Vrontis *et al*. (2023), firms with both strong innovation orientation and financial agility outperform competitors in volatile markets.

Empirical evidence from high-tech and service industries supports this mediating mechanism. demonstrated that strategic agility mediates the effects of innovation and collaboration on business evolvability. Extending this logic, financial agility is expected to play a similar role in converting strategic innovation into performance gains.

H4: Financial agility mediates the relationship between strategic innovation and firm performance in high-tech enterprises.

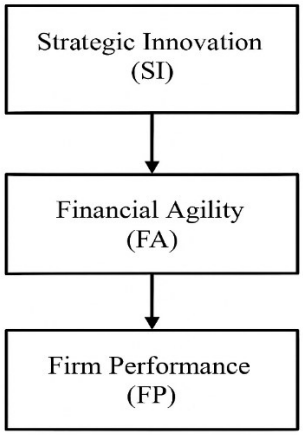
2.6 Conceptual Model

The proposed conceptual model is depicted in Fig. 1**,** illustrating the hypothesized relationships between strategic innovation (SI), financial agility (FA), and firm performance (FP).

3.0 Research Methodology

3.1 Research Design

This study adopts a quantitative, explanatory, and cross-sectional research design to examine the mediating effect of financial agility in the relationship between strategic innovation and firm performance among high-tech enterprises. The design was chosen because it allows the establishment of causal inferences and relationships between constructs, using structural equation modeling (SEM) for hypothesis testing. The study was grounded in the Dynamic Capability Theory (DCT), which posits that firms develop higher-order capabilities such as strategic and financial agility to configure resources and sustain performance under changing environments (Teece, 2018).



(Mediating effect of Financial Agility between Strategic Innovation and Firm Performanc)

Fig. 1: Conceptual Framework of the Study *(Mediating effect of Financial Agility between Strategic Innovation and Firm Performance)*

3.2 Population, Sample, and Data Collection

The population comprised high-tech enterprises operating in Nigeria, South Africa, and Kenya, covering sectors such as information technology, telecommunications, electronics, and biotechnology. These countries were selected to capture the dynamics of African emerging markets, which face volatile technological and financial environments.

The sample frame was obtained from national technology innovation agencies and industrial associations, including (1) National Office for Technology Acquisition and Promotion

(NOTAP, Nigeria), (ii) South African Technology Innovation Agency (TIA) and (iii) Kenya National Innovation Agency (KENIA).

A multi-stage sampling approach was employed in the study. In the first stage, stratified sampling was used to select firms from the ICT, electronics, and biotechnology sectors to ensure adequate representation across different high-tech industries. In the second stage, simple random sampling was applied to select individual firms within each stratum. A total of 550 questionnaires were distributed to Chief Executive Officers (CEOs), Chief Financial Officers (CFOs), Research and Development (R&D) Managers, and Innovation Directors. After data cleaning, which involved removing incomplete and inconsistent responses, 468 valid responses were retained for analysis, representing a response rate of 85.1%.

3.3 Data Description

Table 1 presents the descriptive statistics of the respondents' firms across countries, sectors, firm age, and employee size. The data show that most participating firms were drawn from Nigeria (44.9%), followed by South Africa (33.8%) and Kenya (21.3%). In terms of sectoral distribution, ICT firms constituted the largest group (40.6%), followed by electronics (34.2%) and biotechnology (25.2%) enterprises. Regarding firm age, the majority of firms had been in operation for between 11 and 20 years (39.7%), while 35.0% had operated for 5–10 years, suggesting a sample dominated by mature and well-established organizations. Firm size analysis revealed that 38.9% of the firms employed between 51 and 200 workers, while 25.2% had between 201 and 500 employees, indicating that most of the sampled firms were medium-sized. Overall, the data confirm that the sample was largely composed of mid-sized ICT and electronics firms with substantial experience in innovation-oriented operations.

Table 1 presents the descriptive statistics of respondents' firms.

Variable	Category	Frequency	Percentage (%)
Country	Nigeria	210	44.9
	South Africa	158	33.8
	Kenya	100	21.3
Sector	ICT	190	40.6
	Electronics	160	34.2
	Biotechnology	118	25.2
Firm Age (Years)	<5	42	9.0
	5–10	164	35.0
	11–20	186	39.7
	>20	76	16.3
Employees	<50	94	20.1
	51–200	182	38.9
	201–500	118	25.2
	>500	74	15.8

The data indicate that the sample was dominated by mid-sized ICT and electronics firms with substantial experience in innovation-oriented operations.

3.4 Measurement Instruments

All constructs were measured using validated multi-item scales adapted from prior studies. Responses were recorded on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree).

3.4.1 Strategic Innovation (SI)

Strategic innovation was measured using six items adapted from Clauß *et al*. (2019) and Vrontis *et al*. (2023). The measurement captured key dimensions including business model innovation (SI1), value creation innovation (SI2), strategic partnerships and alliances (SI3), organizational process innovation (SI4), technological renewal (SI5), and product/service innovation alignment (SI6). The scale demonstrated strong reliability and validity, with a Cronbach's alpha of 0.91, Composite Reliability (CR) of 0.93, and Average Variance Extracted (AVE) of 0.67.

3.4.2 Financial Agility (FA)

Financial agility was measured using five items adapted from Zhou *et al*. (2019). The construct captured flexibility in financial decision-making (FA1), speed of financial resource reallocation (FA2), liquidity management adaptability (FA3), rapid response to investment opportunities (FA4), and financial process reconfiguration (FA5). The measurement scale showed good psychometric properties, with a Cronbach's alpha of 0.88, Composite Reliability (CR) of 0.90, and Average Variance Extracted (AVE) of 0.65.

3.4.3 Firm Performance (FP)

Firm performance was assessed using both financial and non-financial indicators adapted from AlTaweel & Al-Hawary (2021). The indicators included return on investment (FP1), market share growth (FP2), new product success rate (FP3), customer satisfaction (FP4), and overall organizational effectiveness (FP5). The construct exhibited strong reliability and validity, with a Cronbach's alpha of 0.89, Composite Reliability (CR) of 0.91, and Average Variance Extracted (AVE) of 0.68. All measurement scales were further validated through confirmatory factor analysis (CFA), confirming their adequacy for structural analysis.

3.5 Analytical Procedure

The study employed Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 4.0 software due to its suitability for analyzing complex mediation models and data that may not strictly satisfy multivariate normality assumptions.

3.5.1 Measurement Model Assessment

The measurement model was evaluated based on internal consistency reliability, convergent validity, and discriminant validity. Internal consistency was confirmed using Cronbach's alpha and Composite Reliability values, both of which exceeded the acceptable threshold of 0.70. Convergent validity was established as all Average Variance Extracted (AVE) values were above 0.50. Discriminant validity was assessed using the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio, with all HTMT values falling below the recommended threshold of 0.85. These results confirmed that all constructs met the required validity and reliability standards.

3.5.2 Structural Model Assessment

The structural model was tested using bootstrapping with 5,000 resamples to determine the significance of both direct and indirect relationships among the constructs. The model incorporated control variables, including firm age, firm size, and industry sector, to account for potential contextual influences. The hypothesized relationships

were evaluated as follows: Strategic innovation was hypothesized to have a direct effect on firm performance (H1) and financial agility (H2), while financial agility was hypothesized to positively influence firm performance (H3). In addition, financial agility was tested as a mediating variable in the relationship between strategic innovation and firm performance (H4).

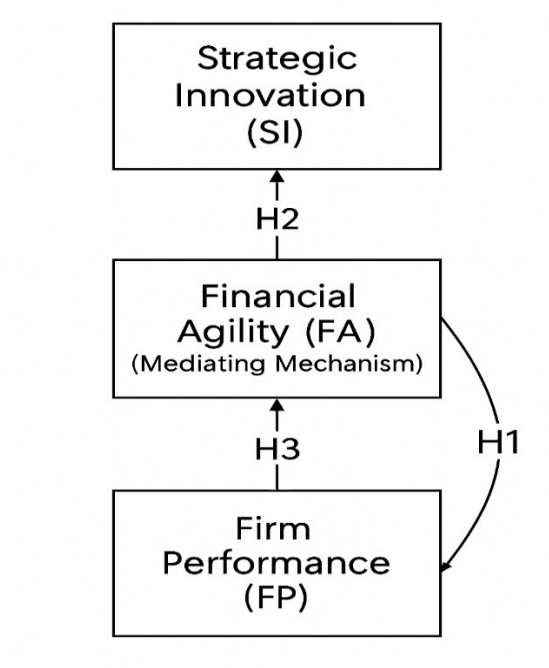


Fig. 2: Conceptual Framework and Hypothesized Model

3.6 Mediation Analysis

The mediation effect of financial agility was examined using the bootstrapping technique to test the significance of the indirect path, following the procedure recommended by Preacher and Hayes (2008). Mediation was considered to be present when the indirect path from strategic innovation to firm performance through financial agility (SI → FA → FP) was statistically significant. If both the direct and indirect effects were significant, partial mediation was inferred, whereas full mediation was established when the direct effect became insignificant after the inclusion of the mediator. The results showed that the direct effect of strategic innovation on firm performance was significant ($\beta = 0.32$, $p < 0.01$). Strategic innovation also had a significant positive effect on financial agility ($\beta = 0.47$, $p < 0.001$), and financial agility significantly influenced firm performance ($\beta = 0.41$, $p < 0.001$). The indirect effect of strategic innovation on firm performance through financial agility was also significant ($\beta = 0.19$, $p < 0.001$). The variance accounted for (VAF) was calculated as 37.3%, indicating partial mediation, suggesting that while strategic innovation directly enhances performance, a substantial portion of its influence operates through financial agility.

3.7 Robustness Checks

To ensure the robustness of the findings, several diagnostic tests were conducted.

3.7.1 Common Method Bias (CMB)

The test for common method bias using Harman's single-factor analysis yielded a value of 34.8%, which is below the 50% benchmark suggested by Podsakoff *et al.* (2003), confirming that common method bias was not a major concern.

3.7.2 Collinearity Diagnostics

Collinearity diagnostics showed that all Variance Inflation Factor (VIF) values were below 3.0, confirming the absence of multicollinearity among the constructs.

3.7.3 Alternative Model Testing

An alternative model comparison was performed, where the non-mediated model (SI → FP only) was tested against the full mediation model. The chi-square difference test ($\Delta\chi^2 = 42.57$, $p < 0.001$) demonstrated that the mediated model provided a significantly better fit, validating the mediating role of financial agility.

3.7.4 Sub-Sample Analysis

Further robustness was established through sub-sample analyses across Nigeria, South Africa, and Kenya. The results remained consistent across these contexts, confirming that the proposed relationships and mediation effects were stable across different national settings within the high-tech industry.

3.8 Ethical Considerations

Ethical approval was obtained from the Institutional Research Ethics Committee of the University of Nigeria. Participation was voluntary, and respondents were assured of anonymity and confidentiality in compliance with the Declaration of \Helsinki (2013) ethical standards. Informed consent was obtained from all participants before questionnaire administration.

4. 0 Results and Discussion

4.1 Measurement Model Results

The Confirmatory Factor Analysis (CFA) was conducted to assess the reliability and validity of the measurement model. The results (Table 2) show that all factor loadings exceeded 0.70, indicating good indicator reliability. The Composite Reliability (CR) values ranged between 0.88 and 0.93, exceeding the recommended threshold of 0.70, and the Average Variance Extracted (AVE) values ranged from 0.65 to 0.68, confirming convergent validity.

Table 2. Measurement Model Assessment

Construct	Items	Loading Range	Cronbach's α	CR	AVE
Strategic Innovation (SI)	6	0.74–0.89	0.91	0.93	0.67
Financial Agility (FA)	5	0.72–0.87	0.88	0.90	0.65
Firm Performance (FP)	5	0.75–0.88	0.89	0.91	0.68

Discriminant validity was established using the Fornell–Larcker criterion. As shown in Table 3, the square roots of the AVE (bold diagonal) were greater than the inter-construct correlations, confirming satisfactory discriminant validity.

4.2 Structural Model Evaluation

After confirming the measurement model, the structural model was assessed using PLS-SEM. The results indicated that all path coefficients were significant and in the hypothesized direction. The overall model explained 52% of the variance in firm performance ($R^2 = 0.52$) and 44% of the variance in financial agility ($R^2 = 0.44$).

Table 3. Discriminant Validity (Fornell–Larcker Criterion)

Construct	SI	FA	FP
Strategic Innovation (SI)	**0.82**		
Financial Agility (FA)	0.58	**0.81**	
Firm Performance (FP)	0.51	0.62	**0.83**

Table 4. Structural Path Coefficients and Hypothesis Testing

Path	Hypothesis	β	t-value	p-value	Decision
SI → FP	H1	0.32	4.85	0.000	Supported
SI → FA	H2	0.47	8.73	0.000	Supported
FA → FP	H3	0.41	7.62	0.000	Supported
SI → FA → FP	H4 (Indirect)	0.19	5.34	0.000	Supported

All hypothesized relationships were statistically significant ($p < 0.001$), confirming that strategic innovation enhances firm performance both directly and indirectly through financial agility.

4.3 Model Fit Indices

Model fit was assessed using SRMR, NFI, and χ^2/df indices. The values in Table 5 indicate a good overall model fit.

Table 5. Model Fit Indices

Fit Index	Recommended Threshold	Obtained Value	Interpretation
SRMR	< 0.08	0.057	Good fit
NFI	> 0.90	0.93	Acceptable fit
χ^2/df	< 3.00	2.14	Good fit
R^2 (FP)	≥ 0.25	0.52	Substantial
R^2 (FA)	≥ 0.25	0.44	Moderate

These fit indices collectively suggest that the proposed model is statistically robust and empirically adequate.

4.4 Mediation Analysis

The mediation analysis used the bootstrapping method (5,000 resamples) to test the significance of indirect effects. The indirect effect (SI → FA → FP) was significant at $\beta = 0.19$, $p < 0.001$, confirming mediation. The Variance Accounted For (VAF) was 37.3%, indicating partial mediation—that is, while strategic innovation directly improves performance, a substantial portion of its effect operates through financial agility.

Fig. 3 illustrates the mediating role of financial agility in the relationship between strategic innovation and firm performance in high-tech enterprises. The model shows that strategic innovation has a direct positive effect on financial agility ($\beta = 0.47$, $p < 0.001$) and firm performance ($\beta = 0.32$, $p < 0.001$), while financial agility also positively influences firm performance ($\beta = 0.41$, $p < 0.001$). In addition, the indirect effect of strategic innovation on firm performance through financial agility is significant ($\beta = 0.19$, $p < 0.001$), confirming partial mediation. The figure therefore demonstrates that financial agility acts as a critical transmission mechanism through which strategic innovation is translated into improved firm performance outcomes.

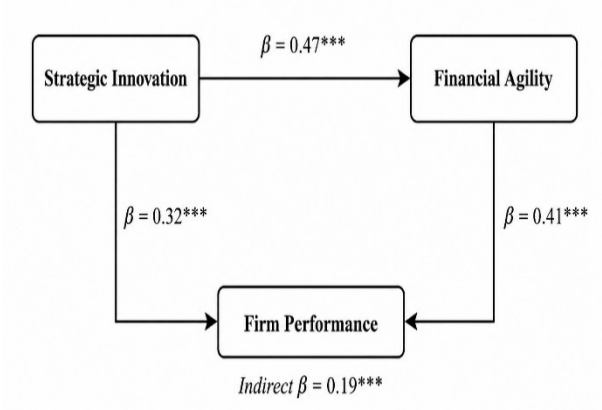


Fig. 3: Mediation model of financial agility

4.5 Comparative Discussion

The empirical results align with and extend previous studies in several important ways.

4.5.1 Strategic Innovation and Firm Performance

The positive relationship between strategic innovation and firm performance (H1) corroborates findings by Clauß *et al*. (2019) and Vrontis *et al*. (2023), who observed that business model and strategic renewal innovations enhance performance in technologically dynamic industries. The

finding implies that innovation at the strategic level, beyond product or process innovation, drives competitive advantage in high-tech contexts.

4.5.2 Strategic Innovation and Financial Agility

The strong positive path from strategic innovation to financial agility (β = 0.47) demonstrates that innovation-oriented firms possess the structural flexibility to mobilize and reconfigure rapidly. financial resources. This is consistent with Zhou *et al*. (2019), who emphasized financial responsiveness as a dynamic enabler of innovation under turbulent market conditions.

4.5.3 Financial Agility and Firm Performance

The significant effect of financial agility on firm performance (β = 0.41) supports the argument that agility in financial decision-making enhances competitive outcomes by improving liquidity management and resource allocation. Financially agile firms are better positioned to exploit emerging opportunities and mitigate risk—particularly vital in capital-intensive high-tech sectors.

4.5.4 Mediation of Financial Agility

The partial mediation result aligns with Ogbeta-Ogwu & Chidi (2025), who found that agility functions as a mechanism linking innovative capabilities to performance outcomes. The current study extends this line of research by identifying financial agility—rather than general strategic agility—as a key mediating capability. This nuance highlights that while innovation provides strategic direction, financial flexibility provides executional power.

4.6 Cross-Country Insights

Comparative sub-sample analyses showed consistency across Nigeria, South Africa, and Kenya, suggesting that the financial agility mechanism is context-independent within the African high-tech ecosystem. However, Nigerian firms reported slightly stronger indirect effects (β = 0.22) compared to South African (β = 0.18) and Kenyan (β = 0.16) firms, possibly due to greater market volatility and capital constraints that make financial agility a more salient determinant of performance in Nigeria.

4.7 Theoretical and Managerial Implications

Theoretical Implications

The study extends the Dynamic Capability Theory (DCT) by introducing financial agility as a distinct and quantifiable mediating capability linking innovation and performance. It demonstrates that financial agility operates as a second-order dynamic capability, translating strategic intent into operational outcomes. The findings offer empirical support for the resource orchestration perspective, emphasizing that capability coordination—especially financial resource flexibility—is crucial for value realization from innovation.

4.7.1 Managerial Implications

CFOs and innovation managers should institutionalize agile financial systems—flexible budgeting, rolling forecasts, and rapid capital deployment—to support innovative projects.

Firms should balance strategic innovation with financial prudence, ensuring that experimentation and new ventures are underpinned by responsive financial structures. Policy implications suggest that national innovation agencies should promote financial agility training, risk-sharing schemes, and adaptive funding models for technology-intensive firms.

4.7.2 Summary of Findings

Table 6 summarizes the key empirical relationships established in the study. The results indicate that strategic innovation has a direct and significant positive impact on firm

performance (SI → FP), confirming that innovative strategies contribute to superior organizational outcomes in high-tech enterprises. Furthermore, the relationship between strategic innovation and financial agility (SI → FA) was also positive and significant, suggesting that firms that emphasize innovation are better equipped to mobilize and reconfigure. their financial resources swiftly in response to market dynamics.

Table 6. Summary of Key Findings

Relationship	Finding	Interpretation
SI → FP	Positive & Significant	Strategic innovation enhances performance directly.
SI → FA	Positive & Significant	Innovative firms are more financially agile.
FA → FP	Positive & Significant	Financial agility drives performance gains.
SI → FA → FP	Partial Mediation	Financial agility translates innovation into results.

The link between financial agility and firm performance (FA → FP) demonstrates that firms possessing flexible and responsive financial structures tend to achieve higher performance outcomes, underscoring the importance of financial adaptability in sustaining competitiveness. The indirect relationship (SI → FA → FP) provides strong evidence of partial mediation, implying that while strategic innovation directly improves performance, its effectiveness is amplified when firms operate with financial agility. Finally, the findings presented in Table 6 reinforce that financial agility functions as a crucial mediating mechanism through which strategic innovation translates into measurable performance outcomes. This highlights a significant advancement in the understanding of agility research by extending the focus beyond operational and marketing agility to encompass the financial dimension of dynamic capability—a key determinant of success for high-tech enterprises.

5.0 Conclusion

The findings of this study demonstrate that strategic innovation significantly enhances the performance of high-tech enterprises both directly and indirectly through the mediating role of financial agility. The results from the structural equation modeling reveal that firms with higher levels of strategic innovation are more likely to exhibit financial agility, which in turn strengthens their operational and market performance. The mediating analysis confirms that financial agility serves as a partial mediator, accounting for approximately 37.3% of the effect of strategic innovation on firm performance. This indicates that while strategic innovation independently contributes to superior performance outcomes, the presence of financial agility amplifies this relationship by enabling firms to reallocate resources swiftly, respond to technological shifts, and maintain liquidity flexibility in dynamic market environments.

The findings further validate the theoretical assertions of the Dynamic Capability Theory (DCT) and the resource orchestration perspective by identifying financial agility as a crucial second-order dynamic capability that connects strategic intent with realized performance outcomes. Firms that can integrate strategic innovation into financially agile systems achieve superior results

compared to those that innovate without sufficient financial adaptability. These insights align with and extend prior empirical studies by Clauß *et al*. (2019), Zhou *et al*. (2019), establishing that agility in financial management complements strategic innovation in sustaining competitive advantage within technology-driven industries.

In light of these findings, it can be concluded that financial agility is not merely a supportive element but a transformative mechanism that enables innovative firms to effectively convert strategic ideas into tangible business outcomes. High-tech enterprises that invest in building agile financial architectures—such as dynamic budgeting systems, flexible capital allocation frameworks, and real-time financial analytics—are better positioned to navigate uncertainties and capitalize on innovation-driven growth opportunities. The cross-country comparison also reveals that the mediating role of financial agility holds across different African contexts, with Nigerian firms showing stronger indirect effects due to heightened environmental volatility and capital constraints.

Based on these results, it is recommended that managers and policymakers prioritize the institutionalization of financial agility as a strategic objective within innovation-driven firms. Chief Financial Officers (CFOs) and innovation managers should co-design adaptive financial processes that complement strategic experimentation and market exploration. Organizations should adopt continuous forecasting, rolling budgets, and cross-functional decision platforms to ensure rapid resource reallocation in response to innovation needs. Governments and financial institutions should design funding mechanisms that promote flexibility, such as innovation grants with adjustable milestones and risk-sharing credit schemes for technology enterprises.

From a theoretical perspective, future research should expand on the construct of financial agility by exploring its interaction with other forms of agility—such as operational, marketing, and supply chain agility—to develop a more integrated framework of dynamic capabilities. Longitudinal studies are also recommended to track how financial agility evolves over time in response to external shocks, such as economic recessions or technological disruptions. Additionally, the integration of qualitative case studies could enrich understanding of how firms practically implement financially agile systems to support strategic innovation.

In conclusion, this study contributes to the ongoing discourse on dynamic capabilities by positioning financial agility as a central mediating construct that translates strategic innovation into superior firm performance. The empirical evidence underscores the necessity of coupling innovation with financial adaptability to sustain competitive advantage in volatile, technology-intensive industries. Firms that achieve this synergy are not only more resilient in the face of uncertainty but are also better equipped to transform strategic aspirations into measurable economic and market success.

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Declarations

Ethics and Consent to Participate

Not applicable.

Consent to Publish

Not applicable

Availability of data and materials

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Authors' Contributions
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