

Nexus Between Financial Inclusion and Sustainable Entrepreneurship in the Emerging Economies: The Mediating Role of Financial Resilience

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ABSTRACT

Drawing on resource-based view theory and financial intermediation theory, this study examines how financial inclusion influences sustainable entrepreneurship through the mediating role of financial resilience in an emerging economy characterised by high entrepreneurial failure, with evidence from Nigeria. A quantitative cross-sectional survey design was employed using structured questionnaires and non-probability convenience sampling, yielding 296 usable responses from entrepreneurial firms. Data were analysed using partial least squares structural equation modelling (pls-sem) via smartpls. The findings revealed that financial inclusion has a significant positive effect on sustainable entrepreneurship and also positively influences financial resilience. Financial resilience significantly mediates the relationship between financial inclusion and sustainable entrepreneurship. The findings established that financial resilience is a mechanism through which financial inclusion influences sustainable entrepreneurship within the emerging economies. It also provided practical insights for policymakers and financial institutions to design targeted financial inclusion initiatives, including digital financial services, credit access and financial literacy programs, to enhance sustainable entrepreneurship. However, the cross-sectional design limits causal inference and the ability to capture the dynamic evolution of financial resilience over time. Future research should adopt longitudinal approaches to better understand these dynamics.

Keywords: Financial inclusion, Sustainable entrepreneurship, Financial resilience, PLS-SEM

1. INTRODUCTION

Despite increasing advocacy for financial inclusion initiative worldwide, particularly in sub-Saharan Africa, with the presence of emerging economies like Nigeria, the survival rate of entrepreneurial businesses remains critically low. Scholars are increasingly raising concerns about how effective is the financial inclusion in achieving sustainable entrepreneurship. Reports from PwC, (2024) confirmed that the Nigerian entrepreneurial businesses do not survive up to their fifth anniversary, that at least approximately 30% Nigeria entrepreneurial businesses (firms) ceased operations from 2023-2024 despite operating in a viably industry that is contributing to employment and to the Nigeria gross domestic product (GDP). Central Bank of Nigeria [CBN] (2024) data also showed that in Nigeria over 70% of entrepreneurial businesses transactions are still cash based signifying exclusion from the formal financial framework which hamper the sustainability of entrepreneurship. Small and Medium Enterprises Development Association of Nigeria [SMEDAN] (SMEDAN, 2023) SMEs survey also affirmed that sustainability of entrepreneurial businesses is declining significantly. SMEDAN (2023) reported that Nigerian entrepreneurial businesses population declined by 45% between 2020 and 2022 despite increasing financial inclusion initiative and constant consumer demands, thus, suggesting fundamental inability of contemporary entrepreneurs to access funds, convert shifting consumer preferences and market opportunities into sustainable entrepreneurship to navigate and negotiate today's digital driven business environment. Emerging economies have seen the last three decades as a period of increased entrepreneurship as a strategic step towards stemming rising unemployment, poverty, and

underdevelopment. Sustainable entrepreneurship is highly valued as it stimulates better economic development and cross functional partnerships. Consequently, most business enterprises are yet to be properly equipped and thrives in the long term (Ifeoma & Okoli, 2022). Businesses are faced with great challenges among restricted access to finance and poor sustainable entrepreneurial initiatives in the emerging economies. For example, the sub-Saharan African region has witness weak access to financial inclusion services. Accordingly, financial accessibility has not fostered sustainable entrepreneurship, which has resulted into a wide gap (Jima & Makoni, 2023; Sarpong & Nketiah-Amponsah, 2022). Past studies have revealed that financial inclusion enables underserved entrepreneurs to access essential financial resources through formal services (Sam-Abugu et al., 2025; Tidjani & Madouri, 2024). More so, fintech innovation together with mobile money platforms has improved financial access for developing economies, yet rural and informal economy entrepreneurs still face obstacles that prevent them from using these financial services to build strong enterprises (Sam-Abugu et al., 2025). The evidence shows that access alone does not suffice because people need access together with financial resilience-building capabilities which include financial knowledge and adaptive capacity (Vrontis et al., 2026; Wang and Ahmed 2007) and shock recovery abilities to achieve sustainable entrepreneurship. Entrepreneurs use financial resilience to manage unpredictable events while they maintain their financial inclusion benefits which sustain their business growth because sustainable entrepreneurship depends on both financial access and the ability to use those funds effectively. Though a significant effort has been put in to encourage entrepreneurial conduct through dozens of financial inclusion schemes, most firms never go beyond the infant phase or simply fail. The question thus comes to mind: Is financial inclusion enough to ensure sustainable entrepreneurship? Through empirical evidence, it is established that inclusiveness alone is not enough to ensure business sustainability unless complemented by strategic competencies like financial literacy and resilience (Aderemi et al., 2021). Therefore, the question of the research is how financial inclusion in all its facets makes

entrepreneurship sustainable and what internal capabilities (e.g., financial resilience) are mediating variables of such interaction. This research explores the nexus of financial inclusion and sustainable entrepreneurship, with financial resilience as a mediator. Previous research has maintained that financial inclusion can drive business but long-term survival and sustainability will depend on whether or not an entrepreneur survives financial shocks and recovers from it (Shah et al., 2023). While other studies have treated sustainable entrepreneurship and financial inclusion separately (e.g., Ofori-Atta et al., 2021; Ismaila & Bako, 2022). Prior studies have over looked the joint effect of financial resilience, financial inclusion on sustainable entrepreneurship or even presented financial resilience as a mediator. Other than that, there have been few studies that have located this issue in the context of the emerging economies such as Nigeria with the specific research variables. That gap, financial resilience as a mediator between financial inclusion and sustainable entrepreneurship is exactly what this study fills. The general objective of the study is to analyse the nexus between financial inclusion and sustainable entrepreneurship, the mediating role of financial resilience. Thus, the study is organized as follows: introduction, literature review, method, results, discussion of findings, conclusion, future research directions.

2. Literature Review

2.1 Theoretical Foundation

The study derives its main theoretical base from the Resource-Based View Theory (RBVT) which Wernerfelt established in 1984 and Barney developed further in 1991. According to RBVT, organizations achieve ongoing competitive advantage when they have essential resources which they can use to their full potential because these resources meet the VRIN criteria of being valuable, rare, and inimitable, and non-substitutable. Resource- Based View Theory premised upon which firms gain competitive advantage and survival as a result of strategic utilization of internal competencies and resources. Financial literacy, liquidity, and hardness have been regarded as key intangible assets influencing strategic business performance in

entrepreneurial ventures. Resource-based view theory posits that all resources are not equal. Although resource-based view theory presents robust evidence of internal resource capability, it is seen to criticise the effects of institutional or environmental factors, such as systemic financial exclusion in emerging economies (Wernerfelt 1984; Barney, 1991). In this study RBVT is used to establish direct relationships between the different constructs which exist in the research model. Financial inclusion (independent variable) provides entrepreneurs access to credit, savings instruments, and digital financial services that can strengthen firm-level resource endowments (Demirgüç-Kunt et al., 2022). The mediator role of financial resilience operates as a dynamic capability which determines the resource deployment success under uncertain conditions while the sustainable entrepreneurship dependent variable shows the strategic capability outcomes which lead to long-term business success (Teece, 2007). In this context, Financial Intermediation Theory (Diamond, 1984) is employed as a supporting theory. Financial Intermediation Theory (Diamond, 1984) which shows how financial institutions decrease information asymmetry while they handle capital distribution needs to support business operations. The study's institutional framework receives support from Financial Intermediation Theory because it shows how financial systems which offer broad access to capital help businesses achieve effective resource allocation and transaction computations and risk management abilities (Diamond, 1984). Financial inclusion exists as an institutional framework which enables intermediation to create new entrepreneurial possibilities rather than existing as a method to access financial resources. Financial Intermediation Theory shows how companies use their internal resources to build external partnerships through which they make their resources available to other companies. While Resource-based view theorizes in this research how intra-firm resources such as financial resilience influence sustainable entrepreneurship, Financial Intermediation Theory accounts for the existence of accessible and ethical financial systems for entrepreneurial expansion. Integrating both theories addresses both firm-level and institutional determinants of sustainable

entrepreneurship in emerging economies such as Nigeria.

2.2 Financial Inclusion and Sustainable Entrepreneurship

The process of developing sustainable entrepreneurship depends on financial inclusion because it enables entrepreneurs to obtain essential financial products which include credit and savings and insurance services that are necessary for starting and operating their enterprises. Research evidence shows that financial inclusion boosts entrepreneurial abilities which result in businesses developing sustainable operations through better financial resources allocation and reduced financial obstacles (Ozili, 2021; Yin et al., 2021). Victor et al. (2022) used a survey method to collect primary data from 194 bakeries and eateries in Jos-Bukuru metropolis of Plateau, Nigeria. The response from the managers and owners of the SMEs was analysed using multiple regression method. The findings revealed that there is a significant positive relationship between entrepreneurs' characteristics and the growth of SMEs. Financial inclusion has emerged as a primary factor which drives sustainable entrepreneurship development in emerging market. Digital financial services make it possible for entrepreneurs to gain access to quick and inexpensive and transparent financial services which helps them run their businesses more efficiently while creating new products (Tay et al., 2022). Digital financial inclusion enables entrepreneurial businesses (entrepreneurs) to obtain funding for sustainable initiatives which serves as a vital support system for green entrepreneurship and innovation (Li et al., 2022). Financial inclusion provides essential support for establishing entrepreneurship systems which include both gender-inclusive and overall inclusive development. Financial resource accessibility helps marginalized communities which include women entrepreneurs to start sustainable businesses which contribute to economic growth (Hussain et al., 2019L). The existence of institutional and socio-economic elements creates a stronger connection between financial inclusion and sustainable entrepreneurship development. Financial inclusion processes obtain enhanced operational results when institutional systems function at high reliability

while financial institutions provide backing which results in sustainable economic development and business entrepreneurship growth (Onyele et al., 2025). According to Le et al. (2019), financial inclusion leads to better economic stability which results in improved well-being outcomes that support businesses on their path to sustainability. Hence, the research hypothesis one is developed:

Hypothesis 1 (H₁): There is a significant positive relationship between financial inclusion and sustainable entrepreneurship

2.3 Financial Inclusion and Financial Resilience

Digital financial services serve as the main mechanism which enables emerging market economies to achieve financial stability through their financial inclusion efforts. According to Demircug-Kunt et al., (2022) entrepreneurs with access to digital financial tools managed to handle income interruptions during emergency situations because financial inclusion directly enhances their ability to deal with such situations. Research shows that inclusive financial systems protect households and enterprises from economic downturns by providing them with financial support which helps them navigate challenging times (Hasan et al., 2021). Credit access serves as a vital element of financial inclusion because it enables businesses to develop resilience through their capacity to manage financial disruptions and make investments for recovery. Barua et al. (2025) found that SMEs which obtained better credit access increased their ability to deal with pandemic-related obstacles while they maintained their business activities. Klapper and Lusardi (2020) argue that financial literacy significantly enhances the effectiveness of financial inclusion by enabling individuals to make informed financial decisions during crises. Morgan and Trinh (2021) discovered that people who have financial literacy skills are better equipped to handle challenges because they know how to save money & manage their risks. The complete effect of financial inclusion on resilience requires capacity-building programs to work along with financial inclusion efforts. Beyond its financial advantages, financial inclusion links with sustainable and circular economic systems to strengthen long-term resilience through its promotion of resource

efficiency and economic stability (Abad-Segura et al., 2020). Based on different scholars' submissions above, hypothesis two is formulated:

Hypothesis 2 (H₂): There is a significant positive relationship between financial inclusion and Financial Resilience

2.4 Financial Resilience and Sustainable Entrepreneurship

The process of creating sustainable businesses in developing countries requires financial resilience because entrepreneurs in these countries need to handle both economic downturns and ongoing economic changes. Resilience helps entrepreneurs maintain their business operations while working towards their sustainable objectives according to research findings from Ahmad and Mokhchy (2023). Resilience-oriented businesses create short-term survival plans which help them achieve their long-term sustainability goals thus increasing their financial resilience which supports their sustainable entrepreneurship efforts (Carmeli et al., 2019). Aziz et al (2024) demonstrate that entrepreneurial resilience enables entrepreneurs to sustain their operations during market disruptions which helps them achieve long-term viability in the digital marketplace. Resilient companies tend to invest more in sustainable business operations which help them maintain their market position for extended periods (Korber & McNaughton, 2017). According to Ibrahim et al (2025) and Ruiz-Martin et al., (2023) study, it is evident that resilient financial structures enable entrepreneurial businesses to implement green innovation throughout their business processes which supports sustainable progress. Resilient firms achieve sustainable entrepreneurship through their ability to balance their financial needs and social responsibilities. Sustainable enterprises need financial resilience to create a stable foundation which supports their efforts to achieve both profitability and social impact. Hinna et al., (2021) demonstrate that resilience empowers social enterprises to control their financial sustainability and social value creation processes. Organizations that develop resilience through sustainable business practices will achieve better long-term results

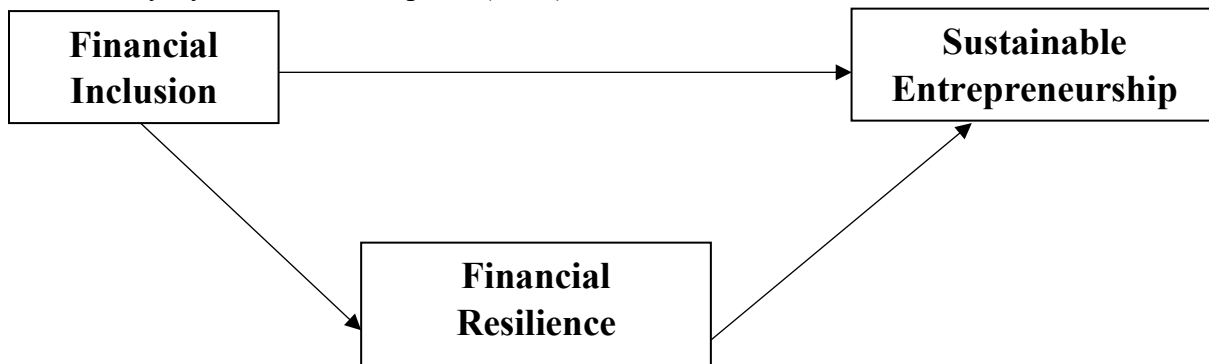
because they can handle unpredictable events while seizing new business chances (Ortiz-de-Mandojana & Bansal, 2016). Thus, the research hypothesis three is developed:

Hypothesis 3 (H3): There is a significant positive relationship between financial resilience and sustainable entrepreneurship

2.5 Financial Resilience as a Mediator

Related research between these variables showed that financial inclusion leads to better business results and sustainable growth in developing countries. The ability to use formal financial services like credit together with savings and digital payment systems helps entrepreneurs to grow their businesses & manage their cash flow better and make more profits. The study by Olowe and Adebayo (2024) showed that formal financial system access helps Sub-Saharan African SMEs to achieve better growth and profitability results. Khan et al. (2024) discovered that digital financial inclusion improves entrepreneurial efficiency by providing businesses with better credit access and streamlined transaction processes. The study by Mensah and Opoku (2025)

to sustainable business growth. The existing research has shown that financial inclusion directly benefits sustainable entrepreneurship but it does not consider how entrepreneurs use financial inclusion (resources) in achieving entrepreneurial sustainability in a volatile business environment. The current state of knowledge demonstrates that financial inclusion does not account for all factors that determine growth or entrepreneurial success. The current study is embarked upon to explore a new intermediary factor which leads to consistency in findings and as will measure how entrepreneurs handle their financial obstacles. Prior research (Ahmad & Mokhchy, 2023; Dominguez, Garcia, & Perez, 2022; Florez-Jimenez, Sanchez-Marín, & Baixauli-Soler, 2025) had suggested in their direction for future studies, to investigate financial resilience as an essential mediating factor which affects the relationship between financial inclusion and entrepreneurship sustainability. Ahmad and Mokhchy (2023) proposed that researchers should study how financial and digital literacy skills contribute to entrepreneurial resilience which leads to sustainable business performance. Proposing



found that financial inclusion helps businesses achieve sustainability by enabling better financial planning and risk management. The research by Nguyen et al. in (2024) showed that inclusive financial systems help micro and small enterprises in emerging markets to develop new products and maintain their competitiveness while Bello & Sani in (2025) demonstrated that financial inclusion acts as a key factor determining long-term business survival for financially constrained entrepreneurs. The existing research has shown consistency in findings yet studies in this domain and within the study construct have not demonstrated the exact mechanism through which financial inclusion leads

financial resilience as a mechanism, an essential intermediary factor, shows how entrepreneurs manage financial difficulties to keep their businesses running after unexpected events & financial disruptions evident in the contemporary business world. Hence hypotheses four is formulated:

Hypothesis 4 (H4): Financial resilience mediates the relationship between financial inclusion and sustainable entrepreneurship

Researchers Construct (2026)

Figure 1: Conceptual model of financial Inclusion and Sustainable Entrepreneurship in Emerging Economy

3. RESEARCH METHODS

The research used a quantitative cross-sectional survey method to study how financial inclusion and financial resilience relate to sustainable entrepreneurship in emerging economies. The research used cross-sectional design because it enables it to gather perceptual and behavioural information at one moment which research use to study the relationships between hidden variables in entrepreneurship and management research (Hair et al., 2022; Sarstedt et al., 2024). The study defined causal relationships based on their cross-sectional design because this research method assesses all variables at a single time point which creates a situation where research can only identify connections between variables rather than direct cause-and-effect relationships (Kline, 2024). The target population of this study includes both the registered and informal entrepreneurs who operate throughout Nigeria's six geopolitical regions. The SMEDAN listings created a general framework for formal entrepreneurs yet most entrepreneurs who are relevant to this research work are still operating informally, thus not properly represented in the official records. This situation (unofficially registered) necessitated the use of non-probability sampling methods because the research could not establish a complete probabilistic sampling frame. The study used convenience non-probability sampling because the research requires this method to study both the formal and informal entrepreneurs who are the majority of the entrepreneurs who lacked a complete sampling frame while their respondents worked in different geographical regions and the research team had limited resources to study diverse entrepreneurial groups. The research method serves common research purposes because it enables us to study or access difficult populations who do not have stable population characteristics (Aguinis et al., 2024). The study field assistants distributed 400 questionnaires which resulted in 312 completed surveys and 296 valid surveys for analysis thus creating a 74 percent response rate. The research collected data from entrepreneurs who worked in

both registered and unregistered businesses across all six geopolitical zones to achieve better contextual diversity and complete study representativeness. The research team used face-to-face questionnaire administration to gather the required data. The method increased response rates while decreasing missing data because it provided guidance to respondents who needed help understanding the questions according to their literacy skills. The research informed respondents about the study purpose while guaranteeing their anonymity and voluntary participation which followed social science research ethical standards (Saunders et al., 2023). The research implemented both procedural & statistical solutions to minimize common method bias (CMB) according to the established guidelines. The research achieved procedural anonymity by introducing random question order together with reverse-coded items, which was used according to the guidelines from Podsakoff et al., (2003). The statistical results from Harman's single-factor test demonstrated that the first factor only explained 32.1% of total variance, which fell below the 50% threshold, as such, indicated that no significant common method bias existed. The research executed full collinearity variance inflation factor VIF assessment according to Kock (2015), because critics claimed that Harman's test did not provide sufficient evidence. The analysis showed that all inner VIF values remained below 3.3, which meant that common method bias would not likely impact the results. Measurement model reliability receives enhancement through this multi-method assessment.

3.1 Measurement of Variables

All constructs required measurement through established multi-item scales which research adapted to the Nigerian entrepreneurial context and assessed using a five-point Likert scale that ranged from 1 ("strongly disagree") to 5 ("strongly agree"). The research measured financial inclusion through six items which was adapted from Ozili (2021) to assess financial service availability and service costs and customer usage patterns & digital financial service adoption. The construct achieved a Cronbach's alpha score of 0.84. Five items which Kaur and Singh (2024) created were used to measure financial resilience through their assessment of liquidity

management and shock absorption and financial adaptability and business continuity capacity. The construct achieved a Cronbach's alpha score of 0.87. The research used seven items which Ibrahim and Hassan (2024) created to measure sustainable entrepreneurship through their assessment of long-term business survival and adaptive growth and innovation continuity and socially responsible entrepreneurial practices. The scale achieved a Cronbach's alpha score of 0.912. The research included control variables such as age and gender and firm size and educational level to control for potential confounding factors which might impact the results yet these variables did not serve as the main focus in the hypothesized model.

4. DATA ANALYSIS

The study conducted data analysis through Smart-PLS, which uses Partial Least Squares Structural Equation Modelling (PLS-SEM). The study required PLS-SEM because it is needed to predict outcomes while testing mediation together with studying the relationships between latent variables in a study that used a moderately sized sample (Hair et al., 2022; Sarstedt et al., 2024). The multicollinearity diagnostics revealed that all variance inflation factors VIFs remained below 3.3, which confirmed that multicollinearity did not exist as a problem. The research used bootstrapping (5000 resamples) to examine structural relationships & mediation effects, while they determined hypothesis significance through p-value evaluation at the 0.05 level.

4.1 RESULT

4.1.1 Measurement Model Evaluation

The measurement model evaluation process began with assessment of its internal consistency reliability and convergent validity. The current guidelines from Hair et al. (2026) require that both Cronbach's alpha and Composite Reliability (CR) values must reach a minimum of 0.70 to establish reliability. All constructs show high internal consistency according to Table 1 which presents Financial Inclusion (0.918, 0.936), Financial Resilience (0.905, 0.924), and Sustainable Entrepreneurship (0.911, 0.932) as examples of this pattern. The Average Variance Extracted (AVE) values for all constructs confirm convergent validity because their AVE values

surpass the 0.50 threshold which is the established minimum requirement (Hair et al., 2025; Sarstedt et al., 2026). Sustainable Entrepreneurship records the highest AVE value of 0.721 which means that its indicators account for more than 72% of the construct's total variance.

Table 1: Measurement Model Evaluation

Construct	Cronbach's Alpha(α)	Composite Reliability	AVE
Financial Inclusion (FI)	0.918	0.936	0.648
Financial Resilience (FR)	0.905	0.924	0.603
Sustainable Entrepreneurship (SE)	0.911	0.932	0.721

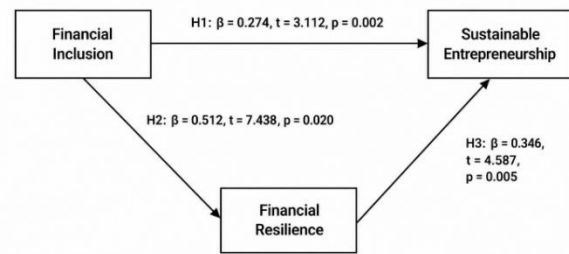


Figure 2: Measurement Outer Layer Model

Discriminant Validity (Fornell–Larcker Criterion)

Discriminant validity ensures that a construct is empirically distinct from others in the model. Following the **Fornell-Larcker criterion**, the square root of the AVE for each construct (diagonal values) must be greater than its highest correlation with any other construct (off-diagonal values)

(Cheah et al., 2026; Hair et al., 2024). For instance, the square root of AVE for Financial Inclusion (0.805) is higher than its correlations with Financial Resilience (0.318) and Sustainable Entrepreneurship (0.287). This pattern holds across all constructs, confirming that each latent variable shares more variance with its indicators than with other constructs in the model.

Table 2: Discriminant Validity (Fornell–Larcker Criterion)

Constructs	FI	FR	SE
Financial Inclusion (FI)	0.805		
Financial Resilience (FR)	0.318	0.777	
Sustainable Entrepreneurship (SE)	0.287	0.354	0.849

4.1.2 Discriminant Validity (HTMT Ratio)

The Heterotrait-Monotrait (HTMT) ratio of correlations is a more stringent and modern assessment of discriminant validity (Henseler et al., 2025; Ringle et al., 2024). To establish discriminant validity, HTMT values should ideally be below 0.85 (strict) or 0.90 (liberal) (Hair et al., 2026). In Table 3, all HTMT ratios are well below the 0.85 threshold, with the highest value being 0.463 between Financial

Resilience and Sustainable Entrepreneurship. These results provide robust evidence that the constructs are conceptually and empirically distinct, supporting the structural integrity of the model in the context of sustainable development and financial ecosystems (Baber, 2026; Surwanti, 2026).

Table 3: Discriminant Validity (HTMT Ratio)

Constructs	FI	FR	SE
Financial Inclusion (FI)	—		
Financial Resilience (FR)	0.421	—	
Sustainable Entrepreneurship (SE)	0.398	0.463	—

4.2: Structural Model Evaluation

The results of the structural model demonstrate that all proposed relationships demonstrate statistical significance which establishes empirical validation for the theoretical framework that connects Financial Inclusion (FI) and Financial Resilience (FR) and Sustainable Entrepreneurship (SE). The study found that Financial Inclusion produces a strong positive effect on Sustainable Entrepreneurship with a value of $\beta = 0.274$ and t value of 3.112 and p value of 0.002 and f value of 0.180. The data show that better access to financial services enables entrepreneurs to adopt sustainable business practices. The current finding supports recent studies which found that digital finance-based inclusive financial systems help entrepreneurs (firms) make environmentally friendly investment choices and practice sustainable business operations (Farah et al., 2026). Financial Inclusion creates a strong impact on Financial Resilience which produces statistical significance as evidenced by its β value of 0.512 and t value of 7.438 and p value of 0.020 and f value of 0.269. Entrepreneurs who gain access to formal financial services develop

stronger abilities to endure financial crises while sustaining their business operations during difficult economic conditions. The finding supports Financial Intermediation theory which states that effective financial systems improve resource distribution while protecting entrepreneurs (firms) from macroeconomic fluctuations (García-Santillán, 2026; Sethi et al., 2025). The study also demonstrates that Financial Resilience has a substantial effect on Sustainable Entrepreneurship according to the results which shows a value of $\beta = 0.346$ and t value of 4.587 and p value of 0.005 and f value of 0.352. Financially resilient entrepreneurs and their businesses have greater potential to develop long-term strategic plans which incorporate sustainability into their operations. Resilience operates as a strategic capability which allows entrepreneurs (firms) to handle disruptions while they work on developing economic, environmentally and socially responsible growth methods (Gutu et al., 2025).

Table 4: Structural Model Results (Direct Effects)

Hypothesis	Path	Beta (β)	t-value	p-value	f ²
H1	FI → SE	0.274	3.112	0.002	0.180
H2	FI → FR	0.512	7.438	0.020	0.269
H3	FR → SE	0.346	4.587	0.005	0.352

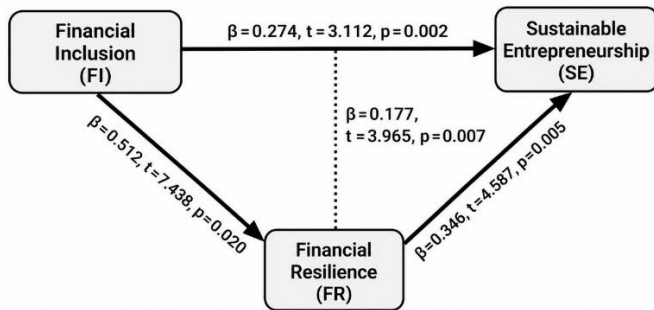
4.2.1 Mediation Analysis (Indirect Effect)

The mediation analysis explores the mechanism through which financial inclusion influences sustainable entrepreneurial outcomes. The results show that Financial Resilience (FR) acts as a vital mediator between Financial Inclusion (FI) and Sustainable Entrepreneurship (SE) with a statistical value of ($\beta = 0.177$, $p=0.007$). The direct link between financial inclusion & sustainable entrepreneurship shows that financial resilience must

be developed first before entrepreneurs can start their sustainable development paths. The finding demonstrates that resilience functions as the core explanatory power which describes how entrepreneurial businesses transition from traditional practices to green economic systems (García-Santillán 2026). Different social economic conditions and various demographic profiles demonstrate that the strength of mediation operates under different capacities (Sethi et al. 2025).

Table 5: Mediation Analysis (Indirect Effect)

Hypothesis	Indirect Path	Beta (β)	t-value	p-value	f ²
H4	FI → FR → SE	0.177	3.965	0.007	0.175

**Figure 3: Structural Outer Layer Model**

4.2.2 Coefficient of Determination (R^2), Predictive Relevance (Q^2) and SRMR

The R^2 and Q^2 values assess the explanatory power and predictive utility of the structural model. The R^2 value of 0.421 for Sustainable Entrepreneurship indicates that the model explains 42.1% of the variance in sustainable entrepreneurial activities which is considered substantial in social science research. The SRMR characterized good model fit

(0.064) for overall constructs. The R^2 value of 0.262 for Financial Resilience demonstrates its ability to explain results at a moderate level. The two Q^2 values (0.168 for FR and 0.291 for SE) both show positive results which establish that the model can successfully predict outcomes. The Q^2 value for SE (0.291) shows strong predictive power because it enables the model to foresee sustainable entrepreneurial results based on financial inclusion and resilience levels (Gutu et al. 2025)

Table 6: Coefficient of Determination (R^2) and Predictive Relevance (Q^2)

Endogenous Construct	R^2 Value	Q^2 Value	SRMR
Financial Resilience (FR)	0.262	0.168	0.064
Sustainable Entrepreneurship (SE)	0.421	0.291	

4.3 Discussion of Findings

The research demonstrated that financial inclusion establishes a beneficial link to sustainable entrepreneurship because improved access to formal financial services enables entrepreneurs to obtain essential funds for their businesses on economically viable environmentally friendly and socially responsible business operations. As a result, the hypothesis is accepted. The discovery supports current academic research which shows that financial inclusion serves as an essential factor which

creates sustainable entrepreneurial ecosystems. Farah et al. (2026) showed that entrepreneurs (firms) use digital platforms to achieve financial inclusion which enables them to close the sustainable business financing gap and foster environmental growth through their financial activities. Gutu et al. (2025) show that digital financial platforms help advance green entrepreneurship by providing businesses with better access to sustainable financial resources which they need to operate their environmentally friendly business practices. The study by Chen et al. (2025) confirms that financial inclusion serves as a key factor which enables businesses in emerging economies to adopt sustainable business practices. From the Resource-Based View (RBV) perspective, financial inclusion enables entrepreneurs to obtain essential financial resources which entrepreneurs need to operate. Financial inclusion needs to advance in emerging economies like Nigeria because most citizens operate without access to financial institutions which creates barriers for establishing sustainable entrepreneurial ventures. The financial access expansion which includes credit and insurance and digital payment services enables Nigerian entrepreneurs to tackle the economic barriers which prevent them from using sustainable business practices. Financial inclusion establishes a direct relationship with financial resilience because it improves financial resilience through its provision of financial protection which entrepreneurs need for operational requirements. Thus, the hypothesis two is accepted. The literature on financial stability and vulnerability supports this finding. Sethi et al. (2025) demonstrate that financial inclusion enables entrepreneurs and organizations to develop financial management skills which protect their stability during financial emergencies through their financial empowerment programs. The research by Babic et al. (2026) demonstrates that organizations with solid financial health achieve resilience through financial management which enables them to handle economic transitions. Gutu et al. (2025) showed that digital financial services enhance resilience through their positive impact on capital management and their ability to improve operational efficiency which strengthens organizations against financial difficulties. Financial resilience represents an organizational capability which organizations develop through their successful management of

financial resources obtained from financial inclusion according to the RBV framework. Organizations use this capability to manage shocks while they process their VRIN resources. Organizations that maintain proactive strategies will achieve long-term success which enables them to thrive in atmosphere of volatility in dynamic business world. Financial systems need to provide inclusive access because in emerging economies like Nigeria requires strong financial resilience to withstand its economic instability and external financial disturbances. Formal financial products need to become more accessible to Nigerian entrepreneurs because this expansion will help them establish stronger financial protections which enable them to handle risks and recover from economic downturns. The third hypothesis demonstrated that sustainable entrepreneurs develop their businesses because financial resilience directly affects their ability to expand. Entrepreneurs need financial resilience because their businesses can use it to develop sustainable innovations instead of maintaining operations. Thus, it's accepted. Recent research strongly supports this finding. Babic et al. (2026) assert that businesses need both adequate liquidity and profitability to direct their attention towards developing sustainable business practices. The green startups that Sharma and Subba (2025) describe need financial support together with tax benefits and green financing to develop sustainability in their proper business model. Resilience provides financial stability which enables these ventures to pursue initiatives that create long-term positive change. Gutu et al. (2025) demonstrate that financial management functions as a resilient element which helps SMEs create sustainable practices and obtain permanent business existence. Financial resilience functions as a unique organizational capability through which businesses control their environmental resources for sustainable entrepreneurship. Financial resilience provides entrepreneurs with the required stability to create and implement their dynamic capabilities which include environmental and social environmental target resource structure development and operational process inspection. The capacity to create sustainable innovations through adaptation derives from strong financial structure. Nigerian SMEs need to boost their financial resilience because they mostly operate

without sufficient financial resources. The financial inclusion pathway that leads to sustainable entrepreneurship development directly depends on essential financial resilience because financial resilience functions as a vital mediating element. Financial inclusion establishes initial resource access but financial resilience actually enables sustainable entrepreneurial growth through its capacity to transform resources into business utility. Thus, the hypothesis is accepted. The mediation effect observed corresponds with established literature which shows that financial development needs to occur before businesses can achieve sustainable development. Sethi et al. (2025) demonstrate through their research that financial inclusion builds up financial resilience which in turn helps people and businesses achieve their broader development objectives. Al-Hattami et al. (2026) demonstrate that financial sustainability functions as an environmental sustainability mechanism which enables entrepreneurs to achieve superior environmental performance. Effective environmental action requires financial stability as a fundamental requirement. Gutu et al. (2025) demonstrate that digital financial inclusion creates resilience benefits which enable SMEs to implement sustainable operations thereby showing how resilience builds sustainable outcomes from financial access. Financial inclusion establishes basic resource elements for businesses whereas financial resilience enables organizations to transform their resource access into competitive advantage for green entrepreneurship. Financial resilience functions as a VRIN resource which allows entrepreneurs to use their resources for direct environmental innovation development.

5. Conclusion

This research examined how financial inclusion (FI) impacts sustainable entrepreneurship (SE) in emerging economies like Nigeria through financial resilience (FR) which functioned as the mediating factor using PLS-SEM analysis on 296 entrepreneurs. The results demonstrated that financial inclusion (FI) increased sustainable entrepreneurship (SE) through its ability to provide entrepreneurs with access to formal financial resources which resulted in economic, social, and

environmental sustainability benefits that matched earlier findings from emerging economies (Kaur & Singh, 2024). Entrepreneurs who have access to formal financial systems can better survive economic downturns because financial inclusion (FI) acts as a significant predictor of their financial resilience (FR). entrepreneurs that maintain financial stability use their resources to develop sustainable innovations and implement strategies for long-term business growth which leads to enhanced sustainable entrepreneurship (SE) outcomes. The mediation analysis results demonstrated that financial resilience (FR) functions as the mechanism which links financial inclusion (FI) to sustainable entrepreneurship (SE) because financial access requires entrepreneurs to establish resilience-building capabilities. Organizations achieve sustainable outcomes through their process of transforming financial inclusion into adaptive financial strength. Policymakers should focus on enhancing resilience through financial literacy training risk management education and digital financial capability development instead of their current approach which centres on expanding financial services. The Nigerian economic environment needs community-level mechanisms like cooperatives mobile money and micro-insurance which help small and medium enterprises (SMEs) manage economic shocks. The study extends Resource-Based View-Financial and Intermediation Theory through its demonstration that financial inclusion (FI) delivers external resources while financial resilience (FR) enables entrepreneurs to develop sustainable entrepreneurial skills. The study faced two main limitations: the use of cross-sectional design and convenience sampling methods which limited the researchers' ability to draw causal relationships and apply findings to areas outside Nigeria's institutional environment.

5.1 Future Research Directions

Future studies should consider longitudinal research methods which allow scholarly research to track how financial resilience develops over time and its effects on sustainable entrepreneurship activities. This study demonstrates how entrepreneurs develop resilience throughout their careers which impacts their ability to handle volatility in emerging economies. Future

studies could consider comparative studies to verify the results while identifying the specific factors which affect how financial inclusion impacts financial resilience and sustainable entrepreneurship outcomes. The knowledge base in this field could be advanced through research which examines how different institutional, cultural and economic factors shape the results. Future studies can also investigate through qualitative or mixed methods which will produce detailed information about how entrepreneurs use financial resilience. Other further studies could expand this research model through the addition of digital literacy, gender resilience and financial technology adoption, trust in financial institutions and social capital to create a complete picture of sustainable entrepreneurship in emerging economies.

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