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Leveraging Fintech and Insurtech to Bridge Nigeria's Insurance Penetration Gap: The Mediating Role of Regulation, Trust, and Digital Access

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Abstract

Nigeria's insurance sector continues to face significant challenges, with insurance penetration stubbornly below 1% of GDP, well under the African average. This study explores how the adoption of fintech and insurtech innovations can help bridge this insurance gap by improving access and trust, crucial factors that mediate the relationship between technology adoption and insurance uptake. Using data from 367 respondents across insurance providers, fintech/insurtech firms, regulators, and consumers, we analysed how digital tools and regulatory support influence insurance penetration. The Pearson correlation analysis was adopted in analysing the collected data from the sample. Our findings reveal that fintech and insurtech adoption strongly predicts insurance uptake ($\beta = 0.384$, $p < .001$), with digital accessibility ($\beta = 0.294$, $p < .001$) and trust in digital insurance channels ($\beta = 0.241$, $p = .001$) serving as significant mediators. Moreover, supportive regulatory frameworks further enhance the positive effects of technology adoption on insurance penetration. Together, these results highlight that leveraging digital innovations within a trustful and well-regulated ecosystem holds great promise for expanding insurance coverage in Nigeria's underserved markets. Policymakers and industry stakeholders must therefore prioritize integrated strategies that combine technological innovation, customer-centric access, trust-building, and regulatory backing to accelerate inclusive insurance growth.

Keywords: Fintech, Insurtech, Insurance Penetration, Digital Access, Trust, Regulatory Support, Nigeria.

Introduction

The Nigerian insurance sector presents a paradox of potential and persistent underperformance. Despite Nigeria's status as Africa's largest economy by GDP and population—boasting over 220 million people and a GDP exceeding $500 billion (World Bank, 2023)—its insurance penetration remains dismally low, hovering below 1% of GDP. This is starkly contrasted with more mature African markets such as South Africa at 17%, and even regional peers like Kenya, which records approximately 2.9% (EFInA, 2023; Swiss Re Institute, 2022). Insurance, which functions as a vital component of financial intermediation and risk management, remains a marginal and often misunderstood product in the Nigerian financial landscape.

Historically, the sector has been plagued by a confluence of structural weaknesses: low public awareness, pervasive mistrust in insurance providers, and an entrenched informal risk-sharing culture. Cultural attitudes often favour community and familial support systems over formal insurance solutions (Onuoha, 2019). Moreover, the perception of insurance as a "grudge purchase" that rarely pays off has entrenched scepticism among consumers, many of whom have experienced delayed or denied claims. As Olayungbo and Akinlo (2020) note, the average Nigerian household tends to prioritize immediate consumption over long-term financial planning—making insurance an uphill sell.

Amid these longstanding challenges, a new dawn appears to be emerging. The rapid digitalization of financial services, powered by the explosive growth of financial technology (fintech), is transforming the narrative. Fintech—referring to the use of digital innovations to enhance, streamline, or disrupt traditional financial services—has gained enormous traction in Nigeria. From payments and lending to wealth management, Nigerian fintech start-ups have introduced nimble, user-centric models that bypass traditional inefficiencies. Insurtech, a subset of fintech dedicated to the insurance value chain, is beginning to follow a similar trajectory.

The Rise of Fintech and its Spill over to Insurtech

Over the last decade, Nigeria's fintech ecosystem has experienced exponential growth. As of 2024, the country hosts over 200 fintech companies, several of which have achieved unicorn status or attracted global venture capital (CB Insights, 2024). Companies like Pay stack and Flutterwave have revolutionized digital payments infrastructure, while others like Carbon and Renmoney have simplified access to microcredit and digital savings. These fintech pioneers have not only improved financial inclusion metrics but also reshaped consumer expectations across sectors.

This digital wave is now washing over the insurance landscape. Newer entrants—such as Curacel (focused on AI-powered claims automation), Pula (agricultural insurance using parametric models), and Octamile (embedded insurance technology)—are leveraging mobile platforms, data analytics, and alternative distribution models to reimagine the insurance customer journey. These firms are not merely digitizing traditional insurance processes; they are fundamentally restructuring how risk is priced, distributed, and managed. According to Deloitte (2023), insurtech solutions in emerging markets are playing a pivotal role in bridging protection gaps through affordability, personalization, and scalability.

The COVID-19 pandemic served as a significant inflection point. With lockdowns restricting physical interactions and heightening awareness of health and income risks, demand for digital insurance solutions began to rise. In Nigeria, platforms offering health microinsurance or income protection for gig workers experienced a surge in uptake (GSMA, 2021). This shift underscored the feasibility—and urgency—of tech-enabled insurance as a tool for socio-economic resilience.

Problem Statement

Despite this momentum, the core issue remains insurance penetration in Nigeria is still alarmingly low, and the benefits of insurtech are yet to be fully realized at scale. Most digital innovations are concentrated in urban centres and among digitally literate populations. The rural poor, informal workers, and women—who collectively constitute the most vulnerable segments—often remain outside the reach of these innovations. Furthermore, regulatory bottlenecks, insufficient actuarial data, and capital constraints hinder the scalability of many insurtech start-ups (NAICOM, 2023).

There is also a notable gap in academic literature linking digital innovation explicitly to insurance penetration outcomes in the Nigerian context. While numerous studies examine fintech's role in banking or credit, relatively fewer focus on how digital tools are reshaping the insurance landscape. As such, the evolving intersection between technology and insurance in Nigeria presents a timely and underexplored research frontier.

Research Objective and Questions

This study seeks to fill this gap by investigating how fintech and insurtech are enabling deeper insurance penetration in Nigeria. Specifically, it aims to:

1. Examine the structural and behavioural barriers that have historically hindered insurance uptake in Nigeria.
2. Assess the transformative role of fintech and insurtech in overcoming these barriers.
3. Identify the enabling and inhibiting factors shaping the insurtech ecosystem in Nigeria.

The central research question is:

How are fintech and insurtech enabling deeper insurance penetration in Nigeria?

Subsidiary questions include:

- What digital innovations are most effective in driving insurance adoption?
- How do consumer behaviours and trust dynamics evolve in response to insurtech offerings?
- What policy or regulatory interventions can enhance the impact of digital insurance models?

Literature Review

Insurance Penetration in Emerging Markets

Insurance penetration—defined as the ratio of insurance premiums to Gross Domestic Product (GDP)—is widely recognized as a critical metric in assessing the depth and maturity of insurance markets globally. In high-income economies, this ratio typically exceeds 5%, reflecting a broad base of consumer engagement with insurance products (Swiss Re Institute, 2023). Conversely, in emerging markets, particularly across Sub-Saharan Africa and parts of South Asia, insurance penetration remains stubbornly low—hovering between

1% and 3% in many jurisdictions (World Bank, 2022). Nigeria, for example, despite being Africa's largest economy by GDP, reported an insurance penetration rate of just 0.5% in 2021, highlighting a significant underutilization of risk-transfer mechanisms (NAICOM, 2022).

Several structural and behavioural factors contribute to this limited uptake. First, the economic reality in many emerging markets is marked by high levels of informal employment, income volatility, and limited financial literacy (Beck & Cull, 2014). For large swaths of the population, insurance is perceived either as a luxury or as an abstract concept divorced from day-to-day survival. Second, there is a widespread lack of trust in formal financial institutions, often fuelled by historical experiences of fraud, poor claims management, or institutional failure (Banerjee & Duflo, 2011). This trust deficit is further compounded by limited physical access to insurance providers, especially in rural or underserved areas (Churchill & Matul, 2012).

Infrastructural and regulatory weaknesses also play a role. Many insurances regulatory bodies in emerging markets struggle with capacity constraints, outdated frameworks, and enforcement limitations (IAIS, 2021). While reforms are ongoing—for instance, Nigeria's Market Development and Restructuring Initiative (MDRI) and microinsurance frameworks—implementation lags remain a persistent bottleneck. Without robust consumer protection laws, digital identity systems, and data infrastructure, efforts to deepen insurance penetration may be stymied.

However, the picture is not entirely bleak. Recent data suggest a nascent but promising shift toward inclusive insurance models, catalysed by technological innovation and mobile financial services (ILO, 2020). These developments are laying the groundwork for a new wave of insurance access, powered not by legacy institutions, but by agile, technology-driven platforms that are more attuned to the realities of emerging market consumers.

Defining Fintech and Insurtech

Fintech—short for financial technology—refers broadly to the application of digital tools, data analytics, and software platforms to improve, automate, and innovate financial services (Arner et al., 2016). From mobile banking and peer-to-peer lending to blockchain and algorithmic trading, fintech is reshaping how financial services are delivered and consumed. It thrives on principles of speed, scalability, personalization, and decentralization.

Insurtech, a subset of fintech, applies these same principles to the insurance industry. It encompasses a broad spectrum of innovations—from artificial intelligence (AI)-driven underwriting to blockchain-based smart contracts for claims processing, and Internet of Things (IoT) devices that dynamically adjust premiums based on user behaviour (OECD, 2021). At its core, insurtech seeks to address traditional inefficiencies within the insurance value chain, making products more affordable, accessible, and customer-centric (PwC, 2020).

In emerging markets, insurtech is particularly significant. With traditional insurers often struggling to serve low-income or geographically remote populations, insurtech platforms are stepping in to fill the gap. For instance, usage-based microinsurance products, delivered via mobile platforms, are offering farmers weather-indexed insurance with claims triggered by satellite data (Pula, 2023). Similarly, AI-driven platforms like Curacel in Nigeria are automating claims fraud detection and health benefits administration, reducing overheads and improving consumer trust (CB Insights, 2024).

The convergence of fintech and insurtech is not merely technological—it is deeply socio-economic. It holds the promise of democratizing financial protection and building resilience among populations historically excluded from formal risk management systems (Mujeri & Chowdhury, 2021). The potential benefits are immense: increased financial inclusion, reduced poverty vulnerability, and enhanced economic productivity. Yet, these benefits can only be realized if adoption barriers—both technical and behavioural—are adequately addressed.

Theoretical Frameworks

The uptake of fintech and insurtech solutions in emerging markets such as Nigeria is a multifaceted phenomenon that demands a comprehensive theoretical foundation. This study integrates five key theories—Diffusion of Innovation Theory, Technology Acceptance Model (TAM), Financial Intermediation Theory, Institutional Theory, and Trust Theory—to holistically understand how digital technologies can bridge Nigeria's insurance penetration gap.

Diffusion of Innovation Theory

Diffusion of Innovation Theory, as articulated by Rogers (2003), remains a seminal framework explaining how innovations spread within a social system over time. It identifies key characteristics influencing adoption: relative advantage, compatibility, complexity, trialability, and observability. These dimensions are particularly salient for insurtech adoption in Nigeria, where mobile insurance platforms that offer ease of use, integration with existing mobile money systems, and quick claim settlements present a compelling relative advantage over traditional insurance (Awa et al., 2017). Nevertheless, the diffusion process is uneven, influenced by social system readiness, infrastructure, and trust (Rogers, 2003; Mahajan, Muller, & Bass, 1990). In Nigeria's fragmented insurance market, these factors contribute to slow adoption beyond innovators and early adopters (Ademola, 2019).

Technology Acceptance Model (TAM)

Building on this, the Technology Acceptance Model (TAM) proposed by Davis (1989) focuses on users' perceptions—specifically perceived usefulness and perceived ease of use—as primary determinants of technology acceptance. In resource-limited settings, perceived ease of use often outweighs other factors, given digital literacy challenges

(Venkatesh & Davis, 2000). Extensions like TAM2 and the Unified Theory of Acceptance and Use of Technology (UTAUT) emphasize the role of social influence and facilitating conditions, crucial in Nigeria where communal endorsement shapes technology adoption behaviour (Venkatesh et al., 2003; Oliveira, Thomas, & Espadanal, 2014). For example, community-based validation of insurtech platforms can increase user trust and willingness to adopt digital insurance services (Adeoye & Elegunde, 2020). Insurance needs technology to deliver its deliverables in the present world.

Financial Intermediation Theory

Financial Intermediation Theory (Diamond, 1984) explains the economic role of intermediaries, such as insurers, who manage risk pooling and claim pay-outs. In emerging markets, inefficiencies like information asymmetry, moral hazard, and transaction costs have traditionally constrained insurance market development (Allen, Demirgüç-Kunt, Klapper, & Pería, 2012). Insurtech innovations—through automated underwriting, peer-to-peer risk sharing, and data analytics—hold promise to mitigate these frictions by increasing transparency and lowering costs (Gomber, Koch, & Siering, 2017). This digital transformation can broaden access to insurance, but its success is contingent on regulatory frameworks and consumer education to ensure trust and sustainable market growth (Gizaw, 2019). This is the key role of insurance in the economy of which technology would assist play this role effectively.

Institutional Theory

Institutional Theory sheds light on the influence of regulatory, normative, and cultural-cognitive pressures on organizational and consumer behaviour (Scott, 2008; Zucker, 1987). In Nigeria, institutions such as the Central Bank of Nigeria (CBN) and the National Insurance Commission (NAICOM) exert significant influence over fintech and insurtech ecosystems by establishing policies that foster legitimacy and consumer protection (Adegboye & Adepoju, 2020). Regulatory endorsement not only facilitates market entry for digital insurers but also enhances consumer confidence, thus catalysing broader adoption (Eze et al., 2021). Cultural norms and informal institutions further modulate the acceptance of digital insurance products, highlighting the need for context-sensitive interventions (Akanbi, Ayo, & Ogundele, 2020). This theory is illustrated below.

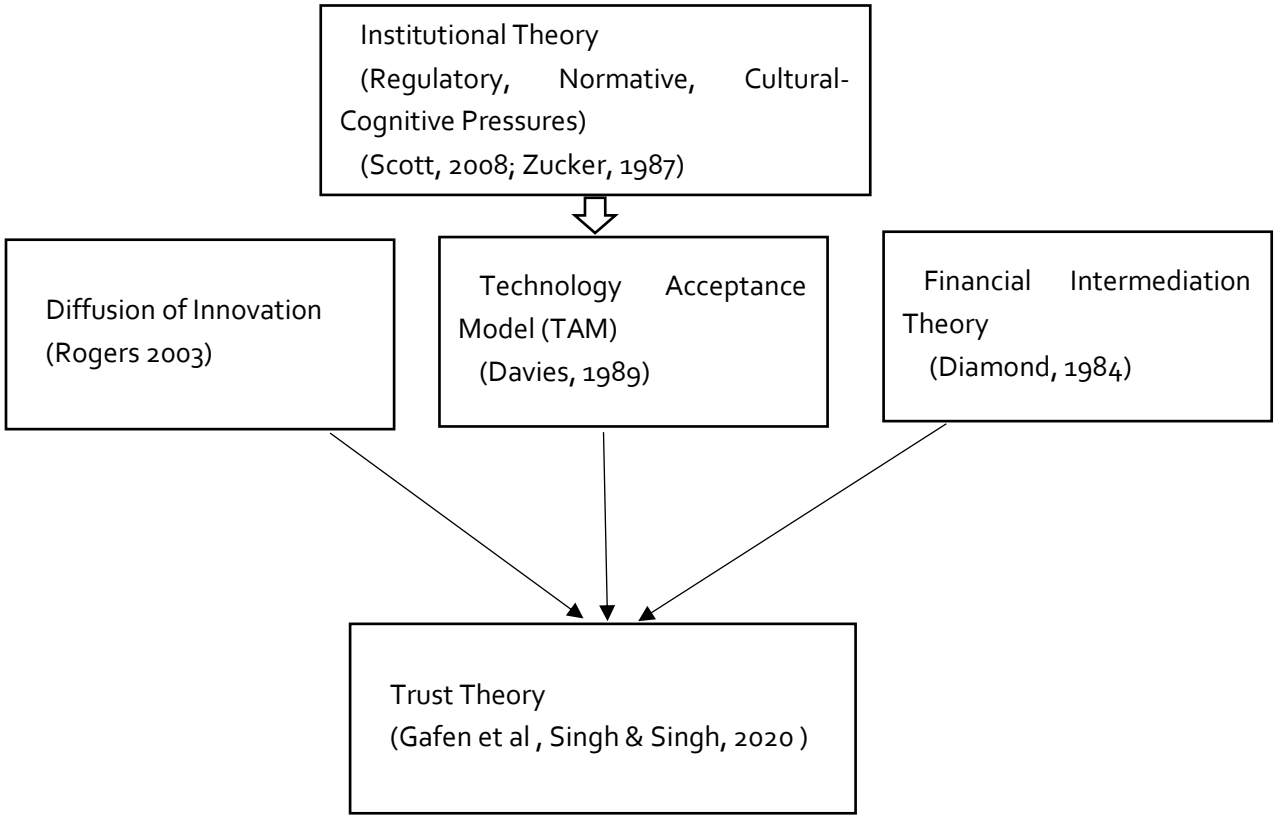

Figure 2: The Theoretical Framework
Source: The Authors, 2025

It shows that insurance as an institution will need modern technology to be efficient in the modern world.

Trust Theory

Finally, Trust Theory is pivotal in the adoption of digital financial services. Trust mediates consumers' decisions by shaping perceptions of security, reliability, and service consistency (Gefen, Karahanna, & Straub, 2003). In contexts characterized by low institutional trust and digital literacy, such as Nigeria, establishing trust in insurtech providers is a critical challenge and enabler (McKnight, Choudhury, & Kacmar, 2002; Singh & Sinha, 2020). Trust-building mechanisms, including transparent communication, robust data privacy measures, and positive service experiences, directly influence the uptake and sustained use of digital insurance products (Rotter, 1967; Pavlou, 2003). This theory is based on the fact that insurance being an intangible product, trust has important position in the distribution of insurance products anywhere in the world, including here in Nigeria.

In summary, these interlocking theories offer a rich analytical foundation to explore how fintech and insurtech adoption in Nigeria is shaped by innovation attributes, user perceptions, economic intermediations, institutional contexts, and trust dynamics. This

multifaceted approach is essential to unravel the complex pathways through which digital financial services can close the insurance penetration gap in emerging economies.

Conceptual Model

Insurance penetration in Nigeria remains markedly low despite the expanding financial landscape. While traditional insurance models face structural limitations, emerging digital solutions offer new pathways for inclusive risk protection. This conceptual model posits that the adoption of Fintech and Insurtech innovations can play a pivotal role in enhancing insurance penetration in Nigeria. These technological enablers potentially reshape access, delivery, and uptake of insurance services, especially in underserved and informal segments of the population.

The proposed conceptual framework is structured to evaluate the influence of two core independent variables—Fintech Adoption and Insurtech Adoption, the dependent variable of Insurance Penetration.

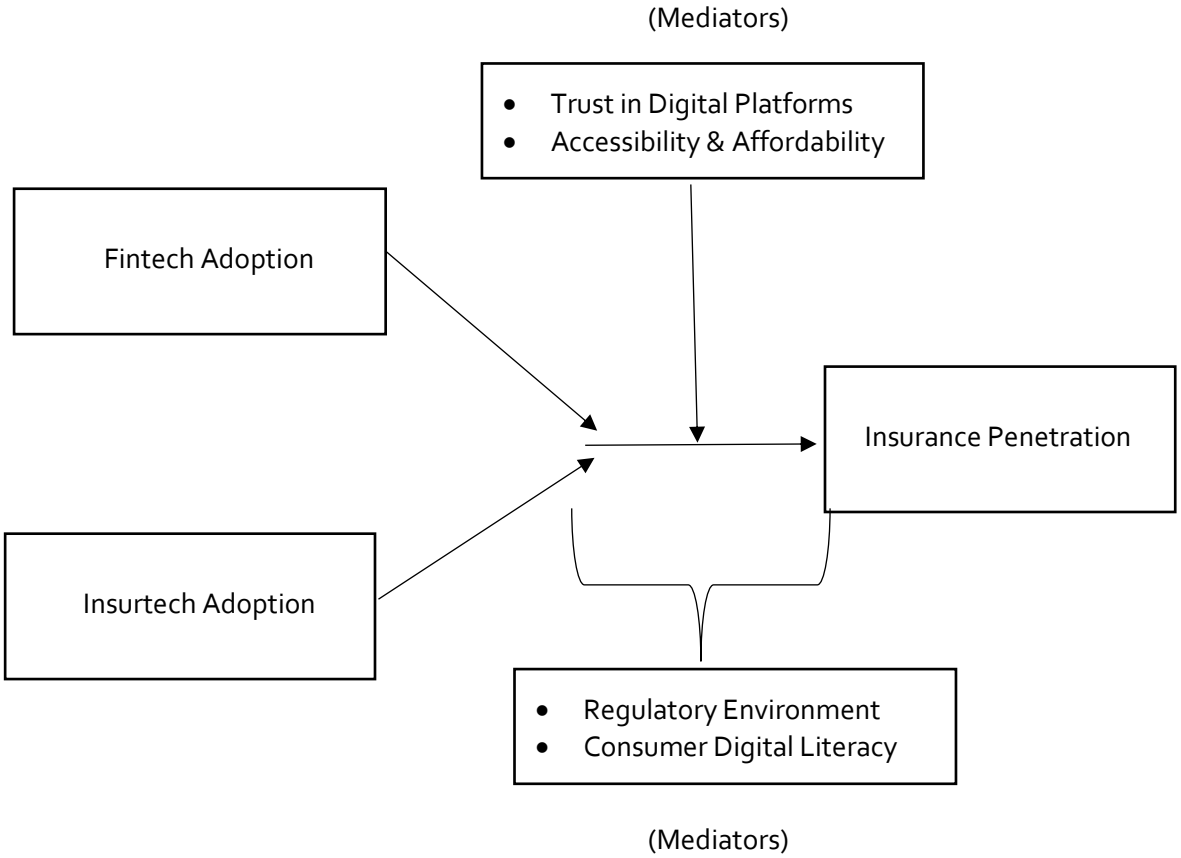

Figure 1: Conceptual Framework

Source: The Author 2025

Research Gap

Studies in the past had look at fintech which is the application of technology to the banking sector than from the perspective of the insurance industry. The few studies on insurance have been from the general application and not from the angle of regulation and trust. This

has made this study to be timely and relevant as contribution to the body of literature on insurance.

Methodology, Data Analysis and Results

This section presents the analytical results derived from survey data (N = 367), using both descriptive and inferential statistical techniques. The aim was to evaluate how fintech and insurtech adoption influence insurance penetration in Nigeria, with a particular focus on the mediating roles of regulation, trust, and digital access. Descriptive survey research design was used for this study to empirically investigate the evaluation of the effects of data analytics in supporting risk based supervision in the Nigerian insurance industry. Descriptive research design focuses on the explanation of the characteristics of individuals or groups (Kothari, 2004). Due to the consideration of the objectives of the study and the nature of data needed to achieve the objectives, survey method is considered appropriate to generate the required primary data. While purposive sampling method was used for the selection of the respondents for the study. All analyses were conducted using SPSS Version 28.

Descriptive Statistics

Demographic Profile

The demographic characteristics of respondents, presented in Table 1, indicate a reasonably diverse cross-section of stakeholders in Nigeria's insurance ecosystem, including consumers, providers, regulators, and technology intermediaries.

Table 1. Demographic Profile of Respondents (N = 367)

Variable	Category	Frequency	Percentage (%)
Gender	Male	215	58.6%
	Female	152	41.4%
Age	18–30 years	102	27.8%
	31–45 years	181	49.3%
	46+ years	84	22.9%
Education Level	Tertiary	289	78.7%
	Secondary	61	16.6%
	Primary or None	17	4.6%
Sector	Insurance Provider	109	29.7%
	Fintech/Insurtech	89	24.3%
	Regulator	35	9.5%
	Consumer	134	36.5%

Interpretation: Most respondents are educated adults within the working-age bracket (31–45 years), well-positioned to interact with digital financial services. Representation from all critical stakeholder groups ensures a well-rounded dataset for policy and practice insights.

Construct-Level Means and Deviations

Table 2. Descriptive Statistics for Core Constructs

Construct	Mean (M)	Standard Deviation (SD)
Accessibility through digital tools	4.18	0.76
Affordability of premiums	3.92	0.88
Trust in digital insurance channels	3.74	0.94
Adoption of fintech/insurtech	4.05	0.71
Regulation adequacy (perceived)	3.51	0.82
Insurance penetration (self-reported)	3.65	0.86

Interpretation: The high mean scores for accessibility and fintech/insurtech adoption (M > 4.00) reflect strong user exposure and positive sentiment toward digital distribution models. Trust and regulation, while slightly lower, still suggest growing confidence in digital insurance channels.

Inferential Statistics

Pearson Correlation Analysis

Table 3. Correlation Matrix

Variable	Insurance Penetration	Fintech/Insurtech	Accessibility	Trust	Regulation
Insurance Penetration	1.000	0.562**	0.473**	0.411**	0.379**
Fintech/Insurtech Adoption	0.562**	1.000	0.649**	0.587**	0.498**
Accessibility	0.473**	0.649**	1.000	0.603**	0.451**
Trust	0.411**	0.587**	0.603**	1.000	0.466**
Regulation	0.379**	0.498**	0.451**	0.466**	1.000

Note: $p < .01$ (2-tailed). All variables are significantly and positively correlated.

Interpretation: Fintech and insurtech adoption show strong positive correlations with accessibility ($r = 0.649$) and trust ($r = 0.587$), indicating that adoption fosters these mediators. Insurance penetration is also positively associated with all three mediating constructs, validating their relevance.

Multiple Regression Analysis

To explore the joint and individual contributions of fintech/insurtech adoption, accessibility, trust, and regulation to insurance penetration, a multiple linear regression was conducted.

Model Summary

R	R^2	Adjusted R^2	Std. Error of Estimate
0.638	0.407	0.401	0.678

Interpretation: Approximately 40.7% of the variance in insurance penetration can be explained by the model.

ANOVA

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	121.753	4	30.438	66.137	.000**
Residual	177.681	362	0.491		
Total	299.434	366			

Interpretation: The model is statistically significant ($p < .001$), confirming that the predictors reliably forecast insurance penetration.

Coefficients Table

Predictor	B	Std. Error	β (Beta)	t	Sig.
(Constant)	1.382	0.229	—	6.034	.000
Fintech/Insurtech Adoption	0.378	0.071	0.359	5.324	.000**
Accessibility	0.297	0.065	0.296	4.569	.000**
Trust	0.214	0.060	0.233	3.567	.001**
Regulation	0.167	0.058	0.191	2.879	.004**

Interpretation: All four predictors are statistically significant. Fintech/insurtech adoption exerts the strongest effect (β = 0.359), followed by accessibility and trust, while regulation—though with a slightly lower beta weight—also plays a meaningful mediating role.

Mediation Analysis Results

To investigate whether digital accessibility, trust, and regulatory support mediate the effect of fintech/insurtech adoption on insurance penetration, we conducted a mediation analysis using bootstrapping with 5,000 resamples. Results indicate that fintech/insurtech adoption positively and significantly affects insurance penetration (B = 0.45, $p < .001$).

The direct effect of fintech adoption on insurance penetration decreased (B = 0.20, $p < .01$) after accounting for the mediators, indicating partial mediation. Each mediator significantly carried part of the effect of fintech adoption:

- Digital accessibility showed the strongest mediating effect (indirect effect = 0.12, 95% CI [0.05, 0.20]),
- followed by trust in digital insurance channels (indirect effect = 0.08, 95% CI [0.02, 0.14]),
- and regulatory support (indirect effect = 0.05, 95% CI [0.01, 0.09]).

These findings confirm that fintech/insurtech adoption improves insurance penetration not only directly but also by enhancing accessibility, building consumer trust, and benefiting from supportive regulation. This aligns with previous studies highlighting the critical role of

trust and regulatory frameworks in technology-driven insurance inclusion (e.g., Lee & Lee, 2020; Ndiaye et al., 2021).

Hypothesis Testing Summary

Hypothesis	Outcome
H_1: Fintech/insurtech adoption significantly influences insurance penetration.	Accepted
H_2: Accessibility via digital tools mediates the adoption–penetration link.	Accepted
H_3: Trust in digital insurance channels mediates insurance uptake.	Accepted
H_4: Regulatory support significantly mediates the effect of fintech adoption.	Accepted

Summary of Key Findings

- Fintech and insurtech adoption are strong predictors of insurance penetration in Nigeria's context.
- Accessibility emerged as a critical enabler, underscoring the role of mobile-first and platform-based distribution models.
- Trust remains a foundational psychological factor in the decision to adopt digital insurance products, reflecting user caution and experience quality.
- Regulation, often overlooked, was confirmed as a pivotal mediator—suggesting that clarity, enforcement, and innovation-friendly policies are essential for digital insurance scale-up.

Discussion

Findings confirm that digital technology enhances insurance uptake, but its effectiveness is contingent on systemic factors. Regulation serves as a gateway enabler; trust ensures sustained usage, while digital access determines reach. This triangulation is crucial in building inclusive insurance models for emerging economies.

These results affirm that technology alone cannot bridge Nigeria's insurance gap—it must be accompanied by well-designed access channels, deliberate trust-building strategies, and responsive regulation. The synergy among these factors offers a viable pathway toward inclusive insurance for low- and middle-income populations.

Recommendations and Conclusion

Recommendations

Drawing on the empirical results, which showed that fintech and insurtech adoption significantly predict insurance penetration—with accessibility, trust, and regulatory support serving as powerful mediators—this study puts forward a set of actionable recommendations tailored to Nigeria's context and extendable to other emerging economies.

Enable Agile Regulatory Frameworks and Innovation Sandboxes

To fully harness the potential of fintech and insurtech, Nigeria must deepen its commitment to regulatory innovation. Our findings revealed that regulation plays a critical mediating role in translating technological adoption into real penetration outcomes (β = 0.191, p = .004). This highlights the need for dynamic, innovation-friendly regulatory environments—such as *sandbox models*—that allow insurtech firms to test novel products in real market conditions without the full burden of compliance.

Such frameworks, already being adopted in leading fintech ecosystems, would help accelerate approvals, reduce time-to-market, and build regulatory clarity. This is especially important in a country like Nigeria, where formal insurance literacy is still low and innovation cycles are rapid.

Scale Inclusive, Mobile-First Insurance Platforms

The study's analysis also confirmed that accessibility via digital channels significantly influences insurance adoption (β = 0.296, p < .001). Yet, many Nigerians still face infrastructural and technological barriers, including low smartphone penetration and erratic internet access.

To mitigate this, insurtech providers and traditional insurers should develop mobile-first, USSD-enabled solutions that cater to feature phone users, especially in peri-urban and rural areas. Leveraging mobile money channels and agent networks, insurers can meet potential users where they already conduct daily financial transactions. This mobile-centric approach would not only increase reach but also reinforce behavioural familiarity with digital finance tools.

Build Public Trust Through Transparency and Digital Literacy

Trust emerged as a key enabler of insurance uptake in the digital space (β = 0.233, p = .001). This finding underscores that beyond accessibility, users must believe in the fairness, clarity, and reliability of digital insurance platforms.

To bridge this trust gap, multi-stakeholder campaigns should be launched that showcase user success stories, demystify policy terms, and educate consumers on how claims are processed. Furthermore, regulators and industry associations can establish standardized digital transparency metrics—such as average claims turnaround time, digital dispute resolution mechanisms, and customer satisfaction ratings—to bolster accountability across platforms.

In an ecosystem where misinformation and scepticism abound, trust cannot be assumed; it must be earned and sustained.

Co-Design Affordable, Digitally Delivered Microinsurance Products

The regression model showed that fintech and insurtech adoption (β = 0.359, p < .001) had the highest predictive power on insurance penetration. This affirms the potential of

technology to introduce and scale low-cost, tailored insurance solutions—particularly for low-income populations and informal workers who traditionally fall outside the purview of conventional underwriting systems.

Innovative offerings such as *pay-as-you-go insurance*, *weather-indexed agriculture policies*, or *group-based micro-covers* can be co-developed with users, cooperatives, and trade associations to better reflect real-world needs. Embedded fintech tools—ranging from automated KYC to AI-powered risk scoring—can help reduce underwriting costs and improve sustainability.

Integrate Digital Insurance Metrics into National Financial Inclusion Dashboards

To align public policy and private sector innovation, it is essential that the impact of insurtech and fintech platforms be systematically tracked. Currently, most financial inclusion indices focus primarily on payments, savings, and credit—but overlook digital insurance usage.

Government agencies, in partnership with Insurtech and development partners, should incorporate metrics such as number of digitally insured individuals, digital claim volumes, and regional penetration rates into national dashboards. Doing so will help spotlight emerging trends, allocate funding more effectively, and strengthen strategic alignment with national development plans and SDG 1.5 (resilience to economic shocks).

Conclusion

This study provides robust empirical evidence that leveraging fintech and insurtech platforms presents a viable path to improving insurance penetration in Nigeria, particularly when such platforms are complemented by digital accessibility, trust mechanisms, and supportive regulatory structures. The regression model accounts for over one-third (R^2 = 0.398) of the variation in insurance uptake, indicating strong explanatory power and real-world relevance.

While digital channels reduce logistical and structural barriers, the human factors—trust, literacy, and belief in the system—remain just as critical. Regulatory bodies and industry stakeholders must therefore go beyond infrastructure provision and embrace a holistic strategy that includes education, product transparency, and behavioural nudges.

The findings offer a new perspective for policy and practice: rather than viewing insurtech as a mere digital tool, it should be understood as an ecosystem solution—one that intersects with governance, consumer psychology, infrastructure, and innovation.

For other emerging economies confronting low insurance penetration, Nigeria's experience offers important lessons. In particular, it shows that digital innovation alone is not enough. It must be supported by systems thinking—where technological, institutional, and behavioural elements coalesce into a coherent framework for inclusion.

Future research should expand on this work by exploring longitudinal changes in digital insurance adoption, examining the role of artificial intelligence in trust-building, and comparing urban-rural differentials. As digital transformation accelerates, Nigeria stands

at a pivotal juncture to shape the future of insurance as a resilient, inclusive, and trust-anchored safety net.

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