BUSINESS RISKS ASSOCIATED WITH FINTECH OPERATIONS IN NIGERIA'S REGULATORY ENVIRONMENT A CASE STUDY OF PAYMENTS AND WALLETS FINTECH PLATFORMS

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ABSTRACT

This study examined the business risks associated with Fintech operations within Nigeria's regulatory environment, with a focus on the impact of regulatory compliance costs, regulatory fragmentation, and licensing delays on innovation capacity, cybersecurity resilience, and operational sustainability. A descriptive cross-sectional survey design was employed to collect data from 152 management-level respondents across licensed Fintech firms in Nigeria. Multiple regression analysis was used to test the formulated hypotheses. The findings reveal that regulatory compliance costs significantly hinder innovation capacity ($\beta = -0.452$, $p < 0.001$), regulatory fragmentation increases cybersecurity vulnerabilities ($\beta = 0.381$, $p < 0.001$), and licensing delays impede operational sustainability ($\beta = -0.294$, $p < 0.01$). These results underscore the need for regulatory reforms to streamline compliance processes, harmonize regulatory frameworks, and expedite licensing procedures to foster innovation while ensuring operational resilience in the Fintech sector. The study recommends the establishment of a Single Regulatory Window, the adoption of RegTech tools, and enhanced collaboration between regulators and Fintech firms to reduce regulatory fragmentation and its adverse effects on industry growth. These findings align with recent studies, which highlight the negative impact of regulatory fragmentation on innovation and operational efficiency in the global Fintech landscape.

Keywords: Fintech, Regulatory Compliance, Cybersecurity, Innovation Capacity, Licensing Delays, Regulatory Fragmentation, Operational Sustainability, Nigeria, Business Risks, RegTech, Financial Technology

1.0 BACKGROUND TO THE STUDY

The Nigerian financial landscape has undergone substantial transformation, with Fintech firms now driving over 70% of electronic transactions (Adedoyin, Olasunkanmi, & Sanni, 2021). This surge in digital financial activities has significantly contributed to financial inclusion, which has reached approximately 64% in recent years (Bamanga, Ibrahim & Adebayo, 2025). However, this growth has also introduced several challenges, particularly in terms of business risks, such as operational, systemic, and compliance-related risks (Idris, 2025; KPMG, 2023). These risks are primarily driven by the increasingly stringent regulatory environment that Fintech firms must navigate (Odu, 2020).

Regulatory bodies such as the Central Bank of Nigeria (CBN) have introduced various frameworks like the Payments System Vision 2025 and the 2026 Fintech Report to guide the

sector (CBN,2026). These frameworks are aimed at addressing the risks posed by technological advancements in the financial sector (Onyegu,2025). However, the regulatory environment remains fraught with challenges, including regulatory lag and high compliance costs (CBN,2026; Onyegu,2025). These challenges create a precarious balance for Fintech operators, who are often caught between the need to innovate and the necessity of adhering to complex regulatory requirements. The continuous evolution of digital financial services often outpaces the regulatory mechanisms in place, creating a tension that can hinder the growth and sustainability of these firms (CBN,2026; Idris, 2025).

As Fintech firms scale, they are required to invest heavily in compliance, cybersecurity, and operational resilience (Idris, 2025; Onyegu,2025). While these investments are essential for maintaining operational integrity, they also limit the resources available for innovation, creating a paradox. Fintech firms are compelled to allocate significant portions of their budgets to meet regulatory requirements, which restricts their capacity to expand their product offerings or improve service delivery (Onyegu,2025).

1.1 Statement of the Problem

Despite the rapid adoption of Fintech products and services, firms in Nigeria are increasingly exposed to significant business risks, particularly in the area of regulatory compliance (Adedoyin et al,2021; Oni, Adegbite, & Adesola, 2025).The regulatory environment in which these firms operate is fragmented, with overlapping mandates from the Central Bank Nigeria (CBN), Nigeria Deposit Insurance Corporation (NDIC), and Federal Competition and Consumer Protection Commission (FCCPC), which creates ambiguity and increases the cost of compliance (Idris, 2025). This regulatory fragmentation has been linked to increased fraud risks, as unclear or conflicting regulations provide opportunities for loopholes that can be exploited by malicious actors (Oni et al, 2025).

A study by TechMoonshot (2026) highlighted that regulatory uncertainty exacerbates risks related to fraud, cybersecurity, and operational disruptions. The lack of a cohesive regulatory framework leads to inconsistencies in the enforcement of regulations, making it challenging for Fintech firms to navigate and comply with the various requirements (Akpukorji, Bello, & Okonkwo, 2025). Other research also suggests that the regulatory fragmentation in Nigeria has led to a significant increase in the volume of fraud within the sector, as firms struggle to meet conflicting regulatory demands (Idris, 2025; Oni et al, 2025).

This fragmented regulatory environment not only raises the operational and compliance costs for Fintech firms but also threatens their sustainability. If these challenges are not addressed, there is a risk that many firms, particularly startups, may face insolvency or license revocation due to non-compliance or operational failure (Idris, 2025). Therefore, this study aims to examine the nature and extent of these regulatory risks and propose recommendations for creating a more conducive regulatory environment for Fintech firms in Nigeria.

While other researchers focused on other subsets of Fintech like agency banking, merchant payment and digital lending (Idris, 2025; Oni et al, 2025), there is paucity of research papers on regulatory framework on payments and digital wallets hence this research.

1.2 Research Questions

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✓ How do high compliance costs influence the ability of Fintech firms to innovate?
✓ To what extent does regulatory overlap contribute to systemic risk and fraud in the Fintech sector?
✓ What is the impact of the current "time-to-market" regulatory bottleneck on the survival of new Fintech entrants?

1.3 Research Objectives

The primary objectives of this study are as follows:

✓ To examine the effect of regulatory compliance costs on the innovation capacity of Nigerian Fintech firms.
✓ To investigate the relationship between regulatory fragmentation and the frequency of cybersecurity incidents.
✓ Evaluating how delays in obtaining operational licenses impact the ability of Fintech startups to remain viable and sustainable in the long term.

1.5 Research Hypotheses

The null hypotheses formulated for this study are as follows:

- H_{01}: Regulatory compliance costs have no significant impact on the innovation capacity of Fintech firms.
- H_{02}: There is no significant relationship between regulatory fragmentation and the frequency of cybersecurity breaches.
- H_{03}: Regulatory licensing delays do not significantly affect the operational sustainability of Fintech startups

2.0 LITERATURE REVIEW

2.1 Conceptual Review

The conceptual review highlights the interplay between the independent variables (regulatory compliance costs, regulatory fragmentation, and licensing delays) and the dependent variables (business risks such as operational risk, cybersecurity risk, and innovation capacity) in the Nigerian Fintech sector. The review emphasizes that regulatory challenges not only increase the operational burden but also significantly hamper the growth and innovation capacity of Fintech firms. By understanding these relationships, the study aims to provide insights into how regulatory adjustments can help mitigate these risks and create a more conducive environment for Fintech firms to thrive.

2.2 Fintech Operations

Fintech operations refer to the use of technology and digital platforms to offer financial services. These services include mobile payments, digital lending, insurance technologies, and wealth-tech. In Nigeria, Fintech firms are crucial drivers of digital transformation, contributing significantly to financial inclusion, with over 70% of electronic transactions processed by Fintech platforms (CBN, 2026).

Relying on the research works done by Obeng, Zubairu, & Ajayi (2024); Idris (2025) and Oni et al, (2025) the conceptual variables obtained are;

Independent Variable: The independent variables influencing Fintech operations include regulatory compliance costs, regulatory fragmentation, and licensing delays.

- ✓ Regulatory Compliance Costs: These refer to the financial and administrative costs incurred by Fintech firms to meet regulatory requirements such as licensing, anti-money laundering (AML) practices, data protection, and reporting standards. High regulatory costs can limit a firm's ability to innovate and grow, as resources are diverted from technological advancements to compliance activities. (Obeng et al, 2024)
- ✓ Regulatory Fragmentation: This occurs when multiple regulatory bodies, such as the Central Bank of Nigeria (CBN), the National Information Technology Development Agency (NITDA), and the Securities and Exchange Commission (SEC), issue overlapping regulations. This fragmentation creates confusion, as firms must navigate various, sometimes conflicting, rules and mandates. The fragmentation increases operational complexity, administrative costs, and compliance risks for Fintech firms (Idris 2025).
- ✓ Licensing Delays: Licensing delays occur when Fintech firms face significant wait times to receive operational approvals from regulatory bodies. These delays can hinder market entry, reduce business agility, and prevent firms from scaling operations, thereby jeopardizing their long-term sustainability (Oni et al,2025).

Dependent Variable: The dependent variable is the business risk faced by Fintech firms, which includes the following:

- ✓ Operational Risk: The risk of financial loss or operational failure due to internal processes, human error, system failures, or third-party disruptions. High regulatory compliance costs and delays can strain resources, increasing the likelihood of operational inefficiencies.
- ✓ Cybersecurity Risk: The risk associated with data breaches, hacking, and other forms of cyberattacks. Regulatory fragmentation often results in inconsistent data protection standards, which can expose Fintech firms to higher risks of cybersecurity threats. Cybersecurity is critical to maintaining consumer trust, and fragmented regulations complicate the firm's ability to implement robust security measures.
- ✓ Innovation Capacity: The ability of Fintech firms to develop and launch new products and services. Regulatory compliance costs and licensing delays divert resources away from innovation, stifling growth. Regulatory fragmentation further complicates the firm's ability to adopt new technologies or scale its offerings in response to market demands.

2.3 Business Risk in Fintech

Business risk in the Fintech sector refers to the potential for financial loss, operational failure, or reputational damage due to internal inefficiencies or external factors like regulatory challenges (CBN,2026; Obeng et al, 2024). This includes:

✓ Operational Risk: Linked to the failure of internal processes, technology systems, or service delivery mechanisms. Regulatory compliance often involves complex reporting requirements, auditing, and governance structures, which increase the operational burden on Fintech firms.

✓ Cybersecurity Risk: As Fintech firms handle vast amounts of sensitive financial and personal data, they are prime targets for cyberattacks. Regulatory fragmentation in data protection and cybersecurity guidelines increases vulnerability, as firms struggle to meet multiple, sometimes conflicting, security requirements.

✓ Innovation Risk: High regulatory compliance costs can create an "innovation tax" for Fintech firms, reducing the financial resources available for product development and market expansion. As innovation is crucial to maintaining a competitive edge in the Fintech sector, these costs directly affect the firm's ability to grow and remain competitive.

2.4 Regulatory Environment for Fintech

According to Idris (2025) the regulatory environment encompasses the laws, guidelines, and frameworks put in place by regulatory bodies to govern financial activities. These regulations are designed to ensure stability, consumer protection, and financial integrity. However, in Nigeria, the regulatory environment for Fintech firms is complex and fragmented, involving multiple regulatory authorities:

✓ The Central Bank of Nigeria (CBN): As the main regulatory body for the Nigerian financial system, the CBN has introduced several frameworks to oversee the operations of Fintech firms, including payment systems, mobile money, and digital lending platforms. These frameworks set the operational, reporting, and security standards that Fintech firms must adhere to.

✓ National Information Technology Development Agency (NITDA): NITDA regulates data protection and privacy laws, which are critical for Fintech firms, as they process large volumes of sensitive financial data. Inconsistent data protection regulations add to the operational complexity for Fintech firms.

✓ Securities and Exchange Commission (SEC): SEC oversees the regulation of capital markets and digital lending activities in Nigeria. Its role in regulating Fintech firms engaged in digital lending further contributes to the complexity of the regulatory environment.

Independent Variable: The independent variables of regulatory compliance costs, regulatory fragmentation, and licensing delays are all influenced by the actions and regulations of these bodies. The fragmentation and delays from these agencies significantly impact the operational efficiency and sustainability of Fintech firms.

Dependent Variable: The dependent variables are business risks such as operational risks, cybersecurity risks, and the ability to innovate, which are directly influenced by the regulatory environment. Regulatory fragmentation increases uncertainty and operational complexity, thereby raising business risks. Compliance costs act as a barrier to innovation, while licensing delays hinder operational scalability (Oni et al, 2025).

2.5 Business Risks and Their Relationship with Independent Variables

The relationship between the independent and dependent variables can be described as follows:

- ✓ Regulatory Compliance Costs: Increased compliance costs decrease the firm's financial capacity to innovate and scale. As a result, firms face higher operational risks due to the diversion of resources to compliance activities. Additionally, high compliance costs affect innovation capacity, as firms cannot allocate sufficient funds to research and development.
- ✓ Regulatory Fragmentation: This independent variable heightens cybersecurity risks and operational risks due to the ambiguity and inconsistency in regulatory guidelines. Firms must navigate a patchwork of regulations, which increases the likelihood of compliance failures and security vulnerabilities. Regulatory fragmentation also limits the firm's ability to innovate efficiently, as they are often uncertain about the regulatory landscape.
- ✓ Licensing Delays: Delays in obtaining licenses increase the risk of operational inefficiency, as firms are unable to legally operate in the market for extended periods. These delays create financial uncertainty and hinder the firm's ability to generate revenue, thus exacerbating business risk and limiting innovation capacity.

3.0 THEORETICAL REVIEW

In this section, we explore key theories that are pertinent to understanding the regulatory challenges faced by Fintech firms and the associated business risks. The theoretical frameworks discussed here will guide the analysis of how regulatory compliance costs, fragmentation, and licensing delays affect the operational and innovation capacities of Fintech firms in Nigeria.

3.1 Theory of Regulation

The Theory of Regulation posits that regulation exists to correct market failures, such as information asymmetry, negative externalities, and monopolistic behaviours. In the context of Fintech, regulation is essential for ensuring fair competition, protecting consumers, and maintaining financial stability. However, the theory also acknowledges the possibility of "regulatory capture," where firms may influence the regulatory environment to their advantage, potentially stifling innovation or creating inefficiencies in the market.

For the Fintech sector in Nigeria, regulatory frameworks like the Payments System Vision 2025 and the 2026 Fintech Report introduced by the CBN aim to regulate electronic payments, digital lending, and other financial services to safeguard against risks such as fraud, cybersecurity breaches, and money laundering. Yet, these regulatory frameworks, while essential for addressing operational and systemic risks, also pose significant challenges. The pace of technological innovation in Fintech often outstrips the ability of regulators to introduce effective rules, leading to a "regulatory lag."

Regulatory lag, a concept within the theory, refers to the time delay between technological innovation and regulatory adaptation. This gap can lead to situations where firms are forced to innovate in ways that outpace the existing regulatory environment. As a result, Fintech companies may face uncertain regulatory landscapes, with outdated or conflicting regulations that hinder their ability to operate efficiently. The lag in the regulatory process further exacerbates the business risks by creating an unstable environment in which firms are uncertain

about future legal and compliance requirements. Thus, while regulation is essential for controlling risks, its slow pace may inadvertently hinder the growth and innovation of the Fintech sector.

3.2 Principal-Agent Theory

The principal-Agent Theory focuses on the relationship between a principal (e.g., the government or regulatory body) and an agent (e.g., the Fintech firm). This theory highlights the problems that arise when the agent has more information than the principal, leading to "information asymmetry." In the context of Fintech, regulators (the principals) are tasked with ensuring that firms comply with regulations, while the firms themselves (the agents) often possess more detailed operational information and may act in ways that conflict with the interests of the regulators.

A key aspect of the principal-Agent Theory is the concept of moral hazard, which occurs when one party (the agent) takes risks that are not aligned with the interests of the other party (the principal). In the Fintech sector, this is particularly relevant when firms bypass regulatory requirements or exploit regulatory loopholes to achieve competitive advantages. This is often done by manipulating reporting mechanisms or employing aggressive marketing strategies that skirt compliance measures, especially in areas like anti-money laundering (AML) and cybersecurity.

The principal-agent relationship in the Fintech sector creates challenges when firms intentionally or unintentionally bypass regulations, either by engaging in activities that contravene regulatory standards or by exploiting the gaps in regulatory frameworks. For instance, overlapping mandates and conflicting regulations from multiple agencies such as the CBN, NITDA, and SEC can create confusion and ambiguity, leading to cases where firms take advantage of these unclear regulatory signals to avoid compliance costs. This behaviour results in regulatory fragmentation, where inconsistent rules are enforced, making it difficult for firms to adhere to the regulations that govern their operations.

3.3 Compliance Theory

Compliance Theory explores the reasons why organizations comply with regulations and how compliance behaviour is shaped by external and internal factors. In the case of Fintech firms in Nigeria, the theory highlights that compliance is often driven by the threat of legal and financial penalties, as well as the desire to maintain reputation and consumer trust. However, the theory also notes that the costs associated with compliance can be prohibitively high, particularly for startups that may lack the resources to meet regulatory demands.

In Nigeria, the regulatory environment for Fintech firms is particularly complex due to the multitude of agencies involved, including the CBN, NITDA, SEC, and the Federal Ministry of Finance. Compliance with the regulations set forth by these agencies requires firms to invest heavily in legal and operational structures to meet reporting requirements, implement AML measures, and ensure data security. The costs associated with compliance, both in terms of financial resources and manpower, can be particularly burdensome for smaller Fintech firms, which often lack the infrastructure to meet these requirements without compromising on innovation or service delivery.

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Reactive Compliance vs. Proactive Compliance: According to Compliance Theory, firms in high-compliance environments tend to be more reactive than proactive in their approach to compliance. In the Nigerian Fintech context, the high cost of compliance forces firms to focus primarily on meeting regulatory minimums rather than on building a robust compliance culture that could help them anticipate and prevent potential risks. This reactive compliance approach often results in firms only addressing issues when they become apparent, rather than proactively seeking to prevent them. This can lead to a situation where Fintech firms are constantly playing catch-up with new regulatory requirements, thus impacting their ability to innovate and grow.

3.4 Resource-Based View (RBV)

The Resource-Based View (RBV) focuses on the strategic importance of resources within an organization and how these resources can be leveraged to gain a competitive advantage. In the case of Fintech firms, the theory suggests that compliance capability, cybersecurity infrastructure, and financial expertise are critical resources that can either mitigate or exacerbate business risks.

For Fintech firms in Nigeria, compliance capability is one of the most valuable resources they can possess. Firms with robust compliance frameworks and a proactive approach to regulatory issues are more likely to navigate the complex regulatory landscape successfully. These firms are able to translate regulatory requirements into effective controls that not only ensure compliance but also enhance their operational efficiency and market position. Firms that can invest in strong compliance and cybersecurity measures will likely perform better than those that fail to integrate these critical resources into their operations.

Furthermore, RBV suggests that firms with a strong resource base, including skilled personnel, technological infrastructure, and financial expertise, are better positioned to manage regulatory risks and improve their performance. However, for many Fintech startups in Nigeria, the lack of adequate resources to meet compliance requirements becomes a major barrier to their growth. The theory highlights that firms that cannot leverage their resources effectively to manage regulatory and operational risks may struggle to remain competitive in the market.

3.5 Contingency Theory

Contingency Theory posits that the optimal structure and strategies for an organization depend on the external environment in which it operates. This theory argues that there is no one-size-fits-all approach to organizational management; instead, firms must adapt their strategies to the specific challenges they face. In the case of Fintech firms in Nigeria, the regulatory environment is complex and constantly changing, requiring firms to adapt their compliance and risk management strategies to align with these dynamic conditions.

The Contingency Theory is particularly relevant to understanding how Fintech firms must adjust their operations to cope with regulatory uncertainty. As the regulatory landscape evolves, firms need to be flexible and responsive in their compliance practices. This could mean adjusting their business models to accommodate new regulatory requirements, investing in new technologies to ensure compliance, or revising their internal processes to enhance operational resilience. Contingency Theory highlights the importance of firms being able to

anticipate and respond to external environmental factors, such as regulatory changes, market trends, and technological advancements, to ensure long-term sustainability.

4.0 CONCLUSION OF THEORETICAL REVIEW

The theoretical frameworks explored Theory of Regulation, Principal-Agent Theory, Compliance Theory, Resource-Based View (RBV), and Contingency Theory provide valuable insights into the regulatory challenges faced by Fintech firms in Nigeria. These theories underscore the complex interplay between regulatory frameworks, firm capabilities, and external environmental factors that influence business risks. By understanding these theoretical perspectives, we can better analyse the impact of regulatory compliance costs, fragmentation, and licensing delays on the performance and innovation capacity of Fintech firms.

4.1 Empirical Review

Recent empirical research highlights that cybersecurity threats significantly shape regulatory responses and affect consumer confidence within Nigeria's fintech ecosystem, underscoring the critical interplay between regulation and risk management (Oni et al., 2025). Similarly, regulatory compliance complexity has been shown to challenge fintech operators in terms of AML, KYC, and data privacy adherence, necessitating more adaptive regulatory approaches and RegTech adoption to support both innovation and security (Obeng et al., 2024).

Industry analysts also point to the absence of a unified regulatory statute and overlapping mandates as key impediments to efficient compliance in Nigeria's fintech space (Greenage Attorneys, 2025). Moreover, broader global risk frameworks stress the importance of updated consumer protection and coordinated oversight mechanisms to effectively manage fintech risks (Asian Development Bank, 2025).

Oguju & Ikpefan (2020) noted that in Nigeria, the adoption of fintech, especially mobile payments and agency banking, significantly enhances access to financial services in rural and underserved regions. Additionally, Adedoyin et al. (2021) pointed out that fintech innovations improved the ability of low-income earners to save and access credit. However, these benefits are frequently hindered by obstacles such as insufficient digital literacy, infrastructure challenges, and inconsistent regulatory frameworks (Ejemeyovwi & Osabuohien, 2020).

According to research by Abor et al. (2022), consumer protection, cybersecurity, and regulatory predictability are the keys to long-term financial inclusion. Therefore, even while fintech has enormous opportunities for equitable growth, its viability in developing nations hinges on the establishment of suitable laws, the increase of trust, and the development of digital infrastructure.

Oni et al., (2025) investigated the intersection of cybersecurity risks and regulatory measures within Nigeria's Fintech sector. The authors emphasized the growing challenge of ensuring financial stability in an environment where digital financial services are rapidly evolving. The findings highlight that regulatory fragmentation leads to gaps in security and consumer protection, aligning with your study's conclusion that fragmented regulations increase vulnerabilities. The research suggests that cybersecurity regulations should be unified to enhance sector-wide resilience.

Obeng et al., (2024) discussed how FinTech innovations such as blockchain and digital wallet challenge existing regulatory frameworks. They highlighted the costs of compliance, which can limit the innovation capacity of Fintech firms. This mirrors your study's findings that high compliance costs negatively affect the ability to innovate. The authors advocated for RegTech adoption to streamline regulatory processes and reduce operational costs, a recommendation that aligns with your own conclusions.

Greenage Attorneys. (2025) in their report titled the evolving regulatory framework for FinTech in Nigeria: Navigating compliance challenges. Legal Insights Series provided a comprehensive review of the regulatory landscape for FinTech companies in Nigeria. They explained the challenges posed by regulatory fragmentation. The report emphasized that overlapping regulatory bodies, such as the CBN, SEC, and NITDA, create ambiguities that hinder Fintech operations. The outcome demonstrated that fragmentation increases operational costs and risks, ultimately impeding business growth in the sector.

The CBN report (2026) addresses the regulatory challenges facing Nigeria's FinTech sector, highlighting the role of compliance costs, cybersecurity, and data protection issues. It agreed that high regulatory compliance costs limit innovation capacity. It also reinforced the importance of creating more streamlined regulatory processes to reduce time-to-market and mitigate business risks. The report stresses that coordination between agencies is key to supporting FinTech growth while ensuring security and financial stability.

The Nairametrics Industry report (2026) examined fraud trends within Nigeria's digital payment systems, pointed to regulatory fragmentation as a key factor contributing to increased fraud risks. It notes that firms are often forced to adopt multiple compliance measures to meet different regulatory demands, which increases operational costs and risks. These findings showed that regulatory fragmentation increases cybersecurity vulnerabilities and fraud exposure, ultimately threatening business sustainability.

The ADB Brief (2025) provided an international perspective on managing FinTech risks through agile regulatory frameworks and collaborative governance. The paper argued that regulatory frameworks need to be flexible to balance innovation and security effectively, which aligns with your recommendation for RegTech adoption and Regulatory Sandboxes. The report highlighted how emerging markets can enhance the resilience of their FinTech sectors by integrating modern regulatory tools and fostering public-private collaboration.

The BusinessDay. (2026, January 15) article discussed the compliance burdens experienced by FinTech operators in Nigeria, reflecting on the delays in licensing and the ambiguity in regulatory requirements from different agencies. The article provided empirical support that licensing delays contributed to operational instability and financial strain for FinTech startups. The article advocated for streamlining the regulatory process to foster innovation and reduce entry barriers for new firms, which reinforces the need for the Single Regulatory Window.

TechMoonshot. (2026) in its annual report examined the state of FinTech in Africa, with a particular focus on regulatory challenges faced by firms in Nigeria. It discovered that overregulation in some sectors is stifling innovation, while inadequate regulation in others leads to operational and security risks. while inadequate enforcement increases vulnerability to

risks like fraud and cyberattacks. The report suggested RegTech tools as a potential solution to reduce compliance burdens while strengthening security.

These empirical insights strengthen the argument that Nigeria's regulatory environment presents both opportunities and risks for fintech development and sustainability.

5.0 RESEARCH METHODOLOGY

The methodology for this study is designed to provide a comprehensive and reliable examination of the regulatory challenges faced by Fintech firms in Nigeria. By using a descriptive cross-sectional survey design, stratified random sampling, and quantitative analysis methods, the study will generate valuable insights into how regulatory compliance costs, fragmentation, and licensing delays affect innovation, cybersecurity, and operational sustainability. This methodological approach is well-suited for the research questions and hypotheses, ensuring the study's robustness and relevance in understanding the regulatory environment for Fintech firms in Nigeria.

5.1 Research Design

This study adopts a descriptive cross-sectional survey design, which is appropriate for capturing the current state of regulatory challenges in the Nigerian Fintech sector at a specific point in time. The cross-sectional nature of the study allows for a snapshot view of the operational realities and regulatory experiences of Fintech firms. A descriptive survey design is ideal for understanding the relationship between different variables, such as compliance costs, regulatory fragmentation, and their impact on innovation and operational sustainability.

This research design enables the collection of quantitative data, which is crucial for addressing the hypotheses related to the negative or positive effects of compliance costs, regulatory fragmentation, and licensing delays. The method is widely used in regulatory studies because it facilitates direct feedback from key stakeholders, in this case, Fintech firms operating in Nigeria.

The use of a survey approach allows for a broad collection of data from a large number of respondents across various sectors within Fintech. As pointed out by recent studies, descriptive surveys have proven effective in analyzing industry-wide challenges and regulatory impacts in rapidly evolving sectors like Fintech (Ejemeyovwi & Osabuohien, 2020; Obeng et al., 2024; Oni et al., 2025).

5.2 Population of the Study

The target population for this study consists of 284 licensed Fintech firms in Nigeria, as identified by the Central Bank of Nigeria (CBN) and other regulatory bodies. These firms span various subsectors, including:

- Mobile Money Operators (MMOs)
- Payment Service Providers (PSPs)
- Switching and Processing Firms
- Digital Asset Service Providers (e.g., cryptocurrency exchanges)

The population frame was selected based on the assumption that all registered and active firms would face the regulatory challenges under investigation. According to the CBN, these firms are critical players in the Nigerian financial ecosystem and contribute significantly to the 70% of transactions being processed through digital financial services.

Given the size of the target population, it was necessary to select a sample that is both representative and manageable.

5.3 Sample Size and Sampling Technique

The sample size for this study was calculated using Yaro Yamane's formula for sample size determination in a finite population. The formula is:

$$n = \frac{N}{1 + N(e)^2}$$

Where:
N = Population (284 licensed firms)
e = level of significance (%)
1 = a constant value
Given that, N = 284 and e is assumed to be 5%, then sample size is;

$$n = \frac{284}{1 + 284(0.05)^2}$$
$$n = \frac{284}{1 + 284(0.05)^2}$$
$$n = \frac{284}{1 + 284(0.0025)}$$
$$n = \frac{284}{1.6}$$
$$n = 166$$

Approximately 166

Using this formula, the sample size is determined to be 166 firms. This ensures that the sample is representative of the population and allows for reliable statistical analysis.

To ensure a diverse representation of Fintech sectors, a stratified random sampling technique was employed. This method divides the population into distinct strata based on their type (e.g., MMOs, PSPs.). From each stratum, firms were randomly selected. This technique ensures that all subsectors of the Fintech industry are well-represented in the sample, allowing for an in-depth understanding of how regulatory challenges affect different types of firms. Stratified sampling is considered a best practice in industry-specific studies where sectoral variations are important.

5.4 Data Collection Instrument

The primary data collection instrument for this study is a structured Likert-scale questionnaire. The questionnaire is divided into three sections:

- Section A: Demographic Information (e.g., company type, years of operation, role of respondent).
- Section B: Core Research Variables, including statements related to regulatory compliance costs, regulatory fragmentation, cybersecurity vulnerabilities, and licensing delays. Respondents will rate their level of agreement using a 5-point Likert scale, where 1 = Strongly Disagree and 5 = Strongly Agree.
- Section C: Open-ended questions designed to capture qualitative insights from respondents on the most significant regulatory changes needed to reduce business risks.

The Likert-scale approach is chosen because it allows for the systematic collection of data on attitudes, perceptions, and opinions, making it ideal for investigating the challenges faced by Fintech firms in a complex regulatory environment.

To ensure the validity of the instrument, it was reviewed by industry experts and academic supervisors in the Fintech and regulatory fields. A pilot test was conducted with a sample of 10% of the total sample size, which helped refine the instrument for clarity and reliability.

The reliability of the questionnaire was assessed using Cronbach's Alpha, with a threshold of 0.70 considered acceptable. The pilot study produced a Cronbach's Alpha value of 0.85, indicating that the instrument is highly reliable for the research purpose.

5.5 Data Analysis Methods

Data collected from the Likert-scale questionnaire was analysed using descriptive statistics and inferential statistics. The statistical techniques include:

- Descriptive Statistics: These included frequencies, means, and standard deviations to summarize the demographic data and the responses to the Likert-scale items.
- Inferential Statistics: Multiple regression analysis was employed to test the hypotheses and examine the relationships between the independent variables (regulatory compliance costs, regulatory fragmentation, licensing delays) and the dependent variable (business risk or operational sustainability). Multiple regression is appropriate for this study as it allows for the simultaneous analysis of several predictor variables and their individual contributions to the outcome variable.

The regression model used for the analysis is:

$$BR_{it} = \beta_0 + \beta_1(RCC)_{it} + \beta_2 RF_{it} + \beta_3 LD_{it} + \mu_{it} \qquad (3.1)$$

Where:

- BR = Business Risk (Operational/Sustainability)
- RCC = Regulatory Compliance Costs
- RF = Regulatory Fragmentation
- LD = Licensing Delays
- β_0 = Constant term
- ε = Error term

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The regression coefficients (β_1, β_2, β_3) will help determine the strength and direction of the relationship between the independent variables and the business risk. Statistical significance will be determined at the 0.05 level.

5.6 Validity and Reliability

Validity of the instrument was ensured through face validity, which involves expert judgment to assess whether the questionnaire items truly measure the concepts they are intended to measure. Additionally, content validity was ensured by consulting with industry stakeholders to ensure that the questionnaire adequately captures all relevant aspects of the regulatory environment.

As previously mentioned, reliability was assessed using Cronbach's Alpha, and an alpha value above 0.70 is considered acceptable for internal consistency.

6.0 DATA ANALYSIS AND DISCUSSION

In this section, we present the analysis of the data collected from the Fintech firms in Nigeria. The data was analysed using descriptive statistics and inferential statistics, particularly multiple regression analysis, to assess the impact of regulatory compliance costs, regulatory fragmentation, and licensing delays on the operational sustainability and innovation capacity of these firms. The analysis also explores the relationships between the variables and tests the formulated hypotheses.

6.1 Descriptive Statistics

Descriptive statistics summarize the basic features of the data, providing simple summaries about the sample and the measures. The following summary statistics were computed for the key variables in this study:

1. Regulatory Compliance Costs (RCC):

Mean: 3.12

Standard Deviation (SD): 0.87

Interpretation: The average rating indicates a moderate perception of the financial burden associated with regulatory compliance. The standard deviation suggests that respondents varied in their views, with some indicating that compliance costs are significantly higher than others.

2. Regulatory Fragmentation (RF):

Mean: 3.35

SD: 0.92

Interpretation: The average score indicates that firms perceive regulatory fragmentation as a moderate issue. The higher mean suggests that firms experience challenges due to inconsistent or overlapping regulations across multiple bodies.

3. Licensing Delays (LD):

Mean: 3.05

SD: 0.89

Interpretation: Firms generally report delays in obtaining operational licenses, with a slight tendency towards a moderate concern. The variation in responses indicates that while some firms face substantial delays, others experience fewer obstacles.

4. Cybersecurity Risk (CR):

Mean: 3.50

SD: 0.91

Interpretation: A higher mean value indicates that cybersecurity risks are perceived as a major concern for Fintech firms, with considerable variability in experiences across firms, reflecting differing levels of preparedness and vulnerability.

5. Innovation Capacity (IC):

Mean: 2.87

SD: 1.01

Interpretation: The average score indicates that firms face challenges in innovating due to the regulatory environment. The relatively high standard deviation shows significant variability in how firms rate their ability to innovate under regulatory pressure.

6.2 Inferential Statistics: Multiple Regression Analysis

To test the hypotheses, multiple regression analysis was performed. The primary objective was to determine the relationship between the independent variables (regulatory compliance costs, regulatory fragmentation, and licensing delays) and the dependent variable (business risk or operational sustainability).

6.3 Model Summary

Table 4.1 presents the model summary for the regression analysis.

Model	R	R^2	Adjusted R^2	Error of estimate
1	0.635	0.403	0.389	0.541

R = 0.635: This indicates a moderate positive relationship between the independent variables and business risk (operational sustainability).

R^2 = 0.403: This means that 40.3% of the variance in business risk can be explained by the regulatory compliance costs, regulatory fragmentation, and licensing delays. This is a

significant proportion, suggesting that these variables play a substantial role in determining business risk.

Adjusted R^2 = 0.389: This adjusted value, accounting for the number of predictors, indicates that the model fits well, given the number of predictors.

Std. Error of the Estimate = 0.541: The standard error represents the average distance that the observed values fall from the regression line. A lower value indicates a better fit.

6.4 ANOVA (Analysis of Variance)

The ANOVA table tests the overall significance of the regression model. It determines whether the independent variables, as a group, significantly predict the dependent variable.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	22.56	3	7.52	8.65	0.000
Residual	33.24	164	0.20		
Total	55.80	167			

- F = 28.65: This F-statistic is significant, indicating that the overall model is statistically significant at the 0.05 level.
- Sig. = 0.000: This value indicates that the regression model is highly significant, meaning that at least one of the independent variables (regulatory compliance costs, regulatory fragmentation, licensing delays) significantly predicts business risk.

6.4 Coefficients

Table 4.2 shows the coefficients of the independent variables, representing the effect of each predictor on the dependent variable.

Predictor	β	Std error	t-value	sig
Constant	1.150	0.235	4.89	0.000
RCC	-0.452	0.062	-7.29	0.000
RF	0.381	0.055	6.93	0.000
LD	-0.294	0.071	-4.14	0.003

Researcher's compilation

Regulatory Compliance Costs (RCC); Regulatory Fragmentation (RF); Licensing Delays (LD)

RCC (β = -0.452, p = 0.000): This negative coefficient indicates that regulatory compliance costs significantly reduce innovation capacity. As compliance costs increase, firms are less able to innovate, which supports the hypothesis that high regulatory costs hinder innovation.

RF (β = 0.381, p = 0.000): The positive coefficient for regulatory fragmentation shows that fragmented regulations significantly increase cybersecurity vulnerabilities. When regulations are inconsistent or conflicting, firms struggle to implement effective cybersecurity measures, leading to increased risks.

LD (β = -0.294, p = 0.003): This negative coefficient suggests that licensing delays impede operational sustainability. The longer firms wait for regulatory approval, the more likely they are to face operational disruptions and reduced financial stability, which supports the hypothesis that licensing delays negatively affect sustainability.

6.5 Hypothesis Testing

Based on the regression results, we evaluate the following hypotheses:

H_{01}: Regulatory compliance costs have no significant impact on the innovation capacity of Fintech firms.

Reject H_{01}: The coefficient for regulatory compliance costs is significant (p = 0.000), indicating a strong negative impact on innovation capacity.

H_{02}: There is no significant relationship between regulatory fragmentation and the frequency of cybersecurity breaches.

Reject H_{02}: The coefficient for regulatory fragmentation is significant (p = 0.000), suggesting a positive relationship between fragmentation and cybersecurity risks.

H_{03}: Regulatory licensing delays do not significantly affect the operational sustainability of Fintech startups.

Reject H_{03}: The coefficient for licensing delays is significant (p = 0.003), indicating that delays negatively impact operational sustainability.

6.7 Discussion of Findings

The results of the regression analysis provide significant insights into the relationship between regulatory factors and business risks for Fintech firms in Nigeria.

1. Regulatory Compliance Costs: The study finds that high regulatory compliance costs severely hinder innovation. This aligns with findings from recent industry reports which emphasize that startups in Nigeria's Fintech sector are increasingly pivoting from R&D to compliance survivalism due to the growing costs of regulatory compliance tools, such as Anti-Money Laundering (AML) software and legal consultations.

2. Regulatory Fragmentation: The positive association between regulatory fragmentation and cybersecurity vulnerabilities is concerning. As fintech operators struggle with overlapping regulations from the CBN, NITDA, and SEC, they often face difficulties in implementing comprehensive security protocols, leaving them vulnerable to cyberattacks. This finding is consistent with studies showing that fragmented regulatory structures expose firms to greater operational risks.

3. Licensing Delays: The negative impact of licensing delays on operational sustainability is a major concern for Fintech firms, particularly for startups. With an average time-to-market delay of 12-14 months due to licensing bottlenecks, many firms experience cash flow issues and venture capital withdrawal, ultimately leading to business closure. This finding

corroborates industry reports indicating that licensing delays are among the top barriers for Fintech firms in emerging market.

7.0 SUMMARY, CONCLUSION & RECOMMENDATIONS

7.1 Summary of Key Findings

This study investigated how regulatory compliance costs, regulatory fragmentation, and licensing delays impact Fintech firms' innovation capacity, cybersecurity resilience, and operational sustainability in Nigeria. Using survey data from 152 management level respondents across licensed Fintech firms, multiple regression analysis revealed the following:

- Regulatory compliance costs significantly hinder innovation capacity (β = –0.452, $p < 0.001$), indicating that high compliance expenditures constrain firms' ability to develop and deploy new solutions.
- Regulatory fragmentation is positively associated with higher cybersecurity vulnerabilities (β = 0.381, $p < 0.001$), suggesting that inconsistent and overlapping regulatory mandates create gaps that increase cyber risk exposure.
- Licensing delays significantly undermine operational sustainability (β = –0.294, $p < 0.01$), showing that prolonged time to market erodes firms' financial viability and competitive positioning.

These results corroborate the perception that Fintech regulation in Nigeria involves a trade off between safeguarding financial stability and enabling innovation, a view widely reflected in industry reports and academic literature (CBN,2026; Obeng et al.,2024).

For example, the CBN Fintech Strategy Report 2026 recognizes that although Nigeria's regulatory reforms aim to strengthen market resilience and financial inclusion, uncertainty and compliance costs continue to challenge startups and innovators in the ecosystem. Its recommendations explicitly prioritize coordinated, technology enabled regulation to reduce time to market and legal risk for Fintech operators. (CBN, 2025,2026).

7.2 Conclusion

The findings firmly suggest that the current regulatory environment in Nigeria, despite its strengths, poses measurable business risks to Fintech firms:

1. **Innovation Constraints:** High compliance costs reduce the research, development, and product diversification capacities of Fintech startups. This aligns with industry observations that compliance expenses often divert resources away from strategic innovation initiatives.
2. **Cybersecurity Vulnerabilities:** Regulatory fragmentation correlates with increased cybersecurity risk, mirroring broader empirical evidence that inconsistent regulatory expectations can weaken firms' risk management postures.
3. **Operational Strain from Licensing Delays** — Extended licensing timelines impede Fintech firms' ability to enter and compete effectively, consistent with global research emphasizing that delayed approval processes heighten capital strain and dampen investor confidence.

These conclusions mirror research outcomes from comparative studies showing that well-coordinated regulatory landscapes tend to produce better innovation outcomes and stronger cybersecurity protections (Obeng et al,2025; Oni et al, 2025).

7.3 Recommendations

Based on the outcomes of this study and benchmarking against recent research and best practices, the following recommendations are proposed:

1. Establish a Single Regulatory Window

- ✓ Rationale: A unified regulatory authority or a coordinated regulatory framework would reduce overlapping mandates and eliminate conflicting requirements that currently impede compliance efficiency and increase fragmentation risks.
- ✓ Supporting Evidence: Policy discourse in the 2026 CBN Fintech Report underscores the need for harmonized regulatory structures to achieve scalable innovation without compromising stability.

2. Expand the Use of Regulatory Sandboxes and SupTech Tools

- ✓ Rationale: Sandboxes allow firms to test innovations under controlled regulatory supervision, reducing regulatory lag while protecting consumers. SupTech tools help regulators monitor risks in real time.
- ✓ Supporting Evidence: Global research highlights sandboxes and SupTech as effective mechanisms for balancing regulation with innovation and risk mitigation.

3. Promote RegTech Adoption Across Fintech Firms

- ✓ Rationale: Regulatory Technology (RegTech) solutions — such as automated AML/KYC systems — can reduce the cost and complexity of compliance, enabling firms to allocate more resources toward innovation and cybersecurity strengthening.
- ✓ Supporting Evidence: Studies on regulatory and innovation dynamics in Fintech consistently cite RegTech as essential for reducing compliance burdens while fortifying risk infrastructure.

4. Streamline Licensing Processes and Enhance Transparency

- ✓ Rationale: Clear, predictable, and expedited licensing processes will enhance investor confidence and reduce capital burnout among startups.
- ✓ Supporting Evidence: Academic and policy analyses emphasize that regulatory delays significantly harm operational sustainability, underscoring the need for transparent guidelines and timelines.

5. Strengthen Cybersecurity Frameworks and Enforcement

- ✓ Rationale: Integrating cybersecurity standards within regulatory compliance requirements — including mandatory threat reporting, encryption standards, and

incident response protocols — will reduce vulnerabilities associated with fragmented oversight.

✓ Supporting Evidence: Empirical literature identifies cybersecurity risk as a central concern in Fintech regulation and calls for harmonized, stringent security protocols embedded within compliance frameworks.

6. Encourage Public Private Collaboration and Capacity Building

✓ Rationale: Collaboration between regulators, industry associations (e.g., Fintech Association of Nigeria), and private sector firms can accelerate the development of best practice standards and shared risk intelligence.

✓ Supporting Evidence: Effective regulatory ecosystems in advanced jurisdictions often feature robust industry–regulator dialogues that inform responsive policy evolution while preserving room for innovation.

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