

Regulatory Framework of Fintech Ecosystem for Mobile Money Operator Performance in Nigeria

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Abstract

The mobile money operator's explosive growth and evolution have had a big impact on how mobile money firms operate. It is still unclear, though, exactly how the fintech ecosystem and the organizational effectiveness of mobile money operators are related and how the adoption of Fintech solutions by mobile money operators will impact its growth. Hence, this study examines the impact of regulatory framework of fintech ecosystem on the performance of mobile money operators. Specific objectives are to; assess the impact of external guidelines, data privacy laws, and consumer protection measures on the growth of mobile money operators. A descriptive case study was used to assess 386 mobile money operators' employees across 15 fintech mobile money firms which were selected through Multi stage sampling. PLS-SEM was used to analyze the data collected for the study. The findings of the study revealed that regulatory framework of fintech ecosystem dimensions; Data Privacy Laws ($\beta=0.336$, $t=5.951$, $p<0.001$), External Guidelines ($\beta=0.292$, $t=5.292$, $p<0.001$), and Consumer Protection Measures ($\beta=0.256$, $t=4.814$, $p<0.001$) all demonstrate positive significant influence on growth of mobile money operators. The study concluded that regulatory framework of fintech ecosystem has positive significant effect on mobile money operator performance. It therefore recommended among others that mobile money operators should implement comprehensive data privacy frameworks to enhance privacy-focused initiatives, including regular security audits, data protection training, and privacy-by-design implementations.

1. Introduction

Advancements in fintech in recent times have demonstrated significant benefits in aiding the public sector's growth as well. Arguably, the two most significant developments that have transformed fintech are the development of blockchain technology and the invention of Bitcoin in 2009. Fintech is clearly essential to reaching our goal of creating equitable and efficient financial services that promote economic growth (Internet Soft, 2022). Fintech startups, like Palmpay, are challenging traditional financial services by delivering novel approaches that prove more efficient, cost-effective, and user-friendly. Palmpay is a fintech firm that delivers digital payment alternatives to individuals and companies in emerging economies, primarily in Africa. The company has gained a lot of traction in the market and may still attract a sizable user base because to its unique features, cheap price, and user-friendly layout.

Global conventional forms of funding as well as the financial services sector are still being impacted by the widespread and steady rise of financial technology, or fintech. At the regional level, US banks and corporations

have invested more in fintech globally than any other nation in recent years; the country's investments have nearly tripled. These investments support startups by launching competitions, accelerators, and incubators, which aid in the search for potential investors and partners by new businesses. In general, increasingly sophisticated accelerators and incubators have enabled links between startups and widely recognized financial institutions, which has allowed US businesses to dominate the fintech market. Furthermore, New York and London have profited handsomely from the early actions taken by their respective governments to create a legal and regulatory framework that is conducive to the growth of fintech businesses (Chaudhary, 2024).

Finance innovations (such capital market trading and mobile banking) are challenging established financial institutions and upending conventional methods of providing financial services at the national level due to the increasing demand for smartphones. These days, the financial sector depends a lot on technology more than ever before. One-third of customers utilize at least two Fintech services, and 84% of respondents say they are aware of Fintech, up from 62% in 2015, according to Ernest and Young's Fintech Adoption Index. Fintech innovation and use have increased in Nigeria. According to a Disrupt Africa analysis, 58 companies in Nigeria raised a total of US\$94,912,000 in 2018, making it the most popular investment destination in Africa. (94,000,000, 980,000, and 12,000,000) and that one-third of all venture capital financing in Africa was given to 45 Fintech start-ups in 2018 (Aderonke, 2020).

However, Nigeria's mobile money operators are facing unique regulatory challenges, which directly affect their performance. The guiding principles of the Central Bank of Nigeria's systems and procedures, data protection requirements and ensuring consumer protection create a complicated compliance environment (Aderonke, 2020). While transactions using mobile money in Nigeria totalled N85.6 trillion in 2023 (45% growth from 2022), the specific impact of regulatory frameworks on the performance of operators is underexplored empirically (Tonuchi, 2020).

The success of start-up enterprises may be characterized as how effectively they raise performance of their sales and advertising operations and meet their financial targets (Rompho, 2018). Effectiveness, efficiency, and flexibility of a company's operations in a range of business situations are reflected in its performance. The company's ability to grow its market share and retention of consumers rate, as well as its total return on investment, are key aspects that impact how well the firm performs (Aderonke, 2020).

A company's nearly every action is meant to improve its performance. In an effort to become more competitive and outperform their peers, businesses strive to build relationships with their consumers, expedite cash flows, and implement new technology. Globally, a large number of new businesses are founded each year. Only in the United States, 394,000 new companies were founded in 2010 (Ky et al., 2019). Still, a disproportionately high percentage of new enterprises fail. Most of these firms are not able to increase their performance and fulfill their goals notably within the first 5-years of their lifecycle (Tsaplin & Pozdeeva, 2017). According to (Akpukorji et al., (2024), start-up organizations typically have relatively small budgets for personnel, promotion, and customer support, which severely reduces their error margin. As a result, identifying the elements that influence the organizational performance of start-up enterprises may aid in the creation of an appropriate development plan and perhaps lower the startup failure rate (Hasani & O'Reilly, 2020). In light of this, the research aims to investigate the fintech environment and startup organization performance.

The problem is that there is a lack of adequate understanding of the specific ways regulatory framework dimensions affect the performance of mobile money operators in Nigeria. This knowledge gap restricts an operator's capacity to optimise compliance strategies and negatively affects policymakers' capacity to design performance-enhancing regulations. The absence of systematic analysis leads to unclarity that can be an inhibiting factor for sustainable ecosystem development.

The quick development and expansion of the financial ecosystem has significantly changed how startup businesses function. However, the precise relationship between the fintech ecosystem and the organizational efficacy of startup businesses is still unknown, as is the effect that startups' use of Fintech solutions will have on their long-term competitiveness, growth, and sustainability. Thus, the study's objective is to investigate the Regulatory Framework of Fintech ecosystem on the organizational performance of selected fintech startups.

1.1 Research Objectives

The main objective of this research is to investigate the impact of Regulatory Framework of Fintech ecosystem on the organizational performance of selected fintech startups. Specifically, it;

- i. Assess the impact of the external guidelines on the growth of startups.
- ii. Evaluate the impact of data privacy laws on the growth of startups.
- iii. Evaluate the influence of consumer protection measures on growth of startups.

1.2 Research Hypothesis

H01: External guidelines does not significantly impact the growth of startups.

H02: Data privacy laws does not significantly impact the growth of startups.

H03: Consumer protection measures does not significantly impact the growth of startups.

2. Conceptual Review

2.1 Concept of Fintech Ecosystem

James Moore first used the word "ecosystem" in 1993 while conducting research for the Harvard Business Review. He contends that businesses are a component of an ecosystem for business that transcends industry borders. Since Moore's 1993 paper, a number of theories and models have been created, the most recent of which was created by Spiegel (2017) to provide more understanding of the architecture of the entrepreneurial ecosystem. A rich ecosystem "enables entrepreneurship and subsequent value creation at the regional level," as Moore demonstrates, and would work "cooperatively and dynamically to nurture new products, satisfy customer needs, and eventually incorporate" (Stam, 2016). As a result, this theory has gained traction in the literature and has prompted governments to concentrate on creating entrepreneurial ecosystems (Mason & Brown, 2014).

The intricate web of relationships that exists between Fintech companies, investors, government officials, regulators, and skilled organizations that have an interest in the Fintech startups environment is known as the Fintech ecosystem. The Fintech ecosystem did not have a clear definition in the literature. Nonetheless, scholars identified a number of players. The strict laws placed on this business place restrictions on banks and other financial organizations (Leong, Tan, Xiao, Tan, & Sun, 2017). Banks, insurance firms, credit guarantors, and exchanges are examples of financial institutions (Alt et al., 2018; Lee & Shin, 2018). In addition, Fintech is assisting its users to handle their assets by themselves by offering them with automated platforms. These platforms are powered by specific algorithms and use robo-advisors (Gabor & Brooks, 2017). They are automated, asset managers, and have replaced money (Goldstein et al., 2019; Gomber et al., 2018). However, because they may view forming strategic alliances with Fintech as a viable strategic course, bankers are highly interested in Fintech (Anagnostopoulos, 2018).

2.2 Regulatory Framework of Fintech Ecosystems

According to Scott (2010), regulatory governance has led to both specific and general challenges to constitutionalism's core principles. Narrow issues arise from the transfer of governmental authority to regulatory agencies; larger challenges result from the de-centering of governance, wherein non-state and supranational bodies either get regulatory authority directly from the state or acquire it on their own.

Recent research has focused on the implications of the regulatory frameworks on the performance of fintechs, but there are large gaps in understanding the context of mobile money operators. Chaudhary, (2024) reported that customer trust was positively affected by 32% in Asian markets as a result of data privacy compliance, while Akpukorji et al., (2024) showed that operational efficiency had improved by 28% in emerging economies due to regulatory clarity. However, these studies were done more generally on fintech operations and not specifically on mobile money operators. The literature highlights three important themes: the trade-off between regulatory compliance costs and performance benefits, the differential effect of different dimensions of regulation and context specific effects in emerging markets. Studies of Asongu et al., (2021) and Asongu, (2023) suggest that regulatory frameworks can at the same time impose costs and generate competitive advantages, but there is limited empirical evidence from African contexts. However, for this study, different regulatory framework for fintech ecosystem adopted are:

2.2.1 External Guidelines

External guidelines for the fintech ecosystem are essential for ensuring that new technologies and services operate within a framework that promotes innovation while safeguarding public interests. These guidelines often come from regulatory bodies and are designed to provide clarity on compliance requirements, risk management, and operational standards. Through establishing a clear set of expectations, external guidelines help fintech companies navigate the regulatory landscape, fostering a healthy environment for growth and collaboration among traditional financial institutions and emerging fintech players.

2.2.2 Data Privacy Laws

Data privacy laws are critical in the fintech ecosystem, as they govern how companies collect, store, and utilize sensitive consumer information. These laws, such as the General Data Protection Regulation (GDPR) in Europe and the California Consumer Privacy Act (CCPA) in the United States, set stringent requirements for data

protection and user consent. Compliance with these regulations not only helps fintech firms build trust with consumers but also mitigates the risks associated with data breaches and misuse, ultimately enhancing the integrity of the financial system.

2.2.3 Consumer Protection Measures

Consumer protection measures in the fintech ecosystem are designed to safeguard users from potential risks associated with digital financial services. These measures include transparency requirements, fair lending practices, and mechanisms for dispute resolution. Through prioritizing consumer rights and ensuring equitable access to financial products, these protections foster confidence in fintech solutions, encouraging broader adoption and contributing to a more inclusive financial landscape.

2.3 Concept of Organization Performance

Organizational performance encompasses to how successfully an entity achieves its set goals using the resources at its disposal. It is critical to regularly assess performance in order to identify how successfully planned objectives are met (Mohammadpoor & Torabi, 2019). The establishment of key performance indicators (KPIs) is one of the most effective ways for an organization to measure its success over time. Key performance indicators help companies ensure that their objectives are specified, measurable, attainable, relevant to the organization's mission, and timely (SMART). Although objectives are often quantified in financial terms, there is a growing recognition of the need of focusing on non-financial success metrics. The balanced scorecard is a well-known framework for performance measurements that reduces the overemphasis on financial performance.

Organizational performance is measured by comparing the company's actual productivity to its anticipated productivity. Organizational performance is defined as a company's ability to fulfill its goals and targets via the use of competent administrators, excellent governance, and regular re-dedication to the business's aim. Taouab and Issor (2019) define organizational performance as a firm's capacity to efficiently employ resources to fulfill its goals and serve its users. The way individuals comprehend corporate performance varies depending on who is involved in the firm performance review.

2.4 The Nexus between Fintech Ecosystem and Organizational Performance

The relationship between the fintech ecosystem and organizational performance has received a lot of attention in recent years, especially as financial technology continues to disrupt traditional business models across a variety of industries. The fintech ecosystem, which includes a wide range of technology-driven financial services, promotes improved operational efficiency and consumer engagement, hence improving organizational success. Companies that effectively use fintech solutions benefit from increased agility and responsiveness to market demands, allowing them to react more quickly to changing customer preferences (Arner et al., 2016; Gomber et al., 2018). Furthermore, the incorporation of fintech advances may contribute to cost savings through improved procedures and automation, and this in turn improves overall.

2.5 Theoretical Review

2.5.1 Theory of Unified theory of Access and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology measures users' capacity to embrace an information system. Venkatesh et al. first proposed the UTAUT model as a hypothesis in 2003. This model describes the numerous factors that influence people's acceptance of information technology. Venkatesh (2003) introduced four fundamental concepts: enabling factors, social impact, performance expectation, and effort expectancy. According to Venkatesh et al. (Dewi et al., 2020), one of the most comprehensive notions that may assist explain and foresee whether or not new technologies will be accepted is the unified theory of technology adoption and utilization.

The UTAUT model combines eight theoretical paradigms of user acceptability of technology (Ridhwan & Purwanto, 2020). The UTAUT model is deemed more effective than any of the other eight theories since it can explain up to 70% of the variation in intention (Ridhwan and Purwanto, 2020). The UTAUT model identifies four major factors that impact an individual's adoption of new technology: performance expectations, effort expectations, social influence, and facility condition. (Piarna et al., 2020).

2.6 Empirical Reviews

Amro and Omar (2024) looked at how information technology (IT) infrastructure influenced the link between Fintech adoption and organizational competitiveness in Jordanian commercial banks. Using a quantitative technique, they surveyed 12 banks and received 215 valid replies from management personnel. Data analysis

using PLS-SEM revealed that Fintech adoption improves organizational competitiveness (H1: $\beta = 0.409$, $t = 5.204$, $p < 0.001$). Furthermore, IT infrastructure considerably increases this link (H2: $\beta = 0.257$, $t = 4.102$, $p = 0.000$). This emphasizes the relevance of Fintech and IT infrastructure in increasing banking competitiveness.

Zakia and Claudio (2022) conducted a thorough literature study of fintech and its environment. They characterized Fintech as a disruptive innovation involving legislators, IT businesses, traditional financial institutions, and clients. The assessment highlighted important Fintech business models such as blockchain, crowdfunding, payments, insurance, and asset management. Fintech provides benefits such as cost savings, enhanced profitability, and convenience. However, there are issues in legislation, data security, and market rivalry. The report focuses on Fintech's role in revolutionizing financial services via innovation.

Ijeoma et al. (2021) did a comparative examination of regulatory frameworks for Fintech innovation in Africa and the USA. The research looked at regulatory objectives, compliance tactics, enforcement systems, and the influence of innovation. It recognized the importance of adaptive frameworks that balance innovation, financial stability, and consumer protection. The report advocated additional research on the influence of new technologies and international regulatory collaboration, as well as urging regulatory agencies to encourage innovation while ensuring strict compliance.

2.7 Research Gap

Existing literature has been more focused on fintech regulation generally without specific reference to mobile money operators in Nigeria. While insights from international studies are also valuable, Nigeria's unique regulatory environment, with guidelines from the CBN, content requirements of the NDPR and consumer protection requirements, requires that investigations be conducted on a context-specific basis. Hence, the study addresses the gap by giving empirical evidence relating to the dimensions of regulatory framework's specific impact on mobile money operator performance.

2.8 Conceptual Framework

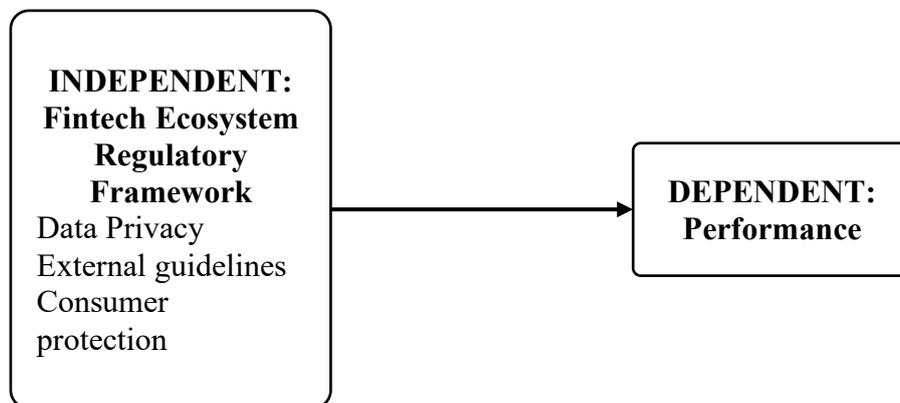


Fig. 1 Conceptual framework of fintech ecosystem and performance
Source: Owns elaboration

3. Research Methodology

The research will use a descriptive design by survey approach. This is related to the fact that descriptive research seeks to authentically represent a person, event, or situation. Because it helps to the explanation of current practices relevant to the topic issue, the descriptive research approach is judged appropriate as it helps to conduct survey through the use of questionnaire and describe the perception of respondents regarding the subject matter. The research population consist of 10,896 employees of 15 mobile money firms that are operating in Africa. The 15 were selected based on their online search popularity. The survey respondents were drawn from the entire population of the research region using the simple random sampling approach which allowed for selection by randomization without bias. The sample size was determined using Taro Yamane's (1967) with 397 sample size estimation. The major source of data was a questionnaire used to collect responses from survey participants. The questionnaire had five Likert scale items.

The instrument was validated using AVE and Fornell Larker criterion which allow for assessing both convergent and divergent validity while the instrument reliability was done using Cronbach alpha and composite reliability. The study instrument was evaluated using partial least square structural equation model. SmartPLS version 3.2.9 was utilized to evaluate the relationships between the data generated in the research. The PLS-SEM

is used due to its capability to handle complex normal and non-normal data while capturing all the measures of the study.

3.1 Model Specification

The path models below was used for analysis of hypothesis 1

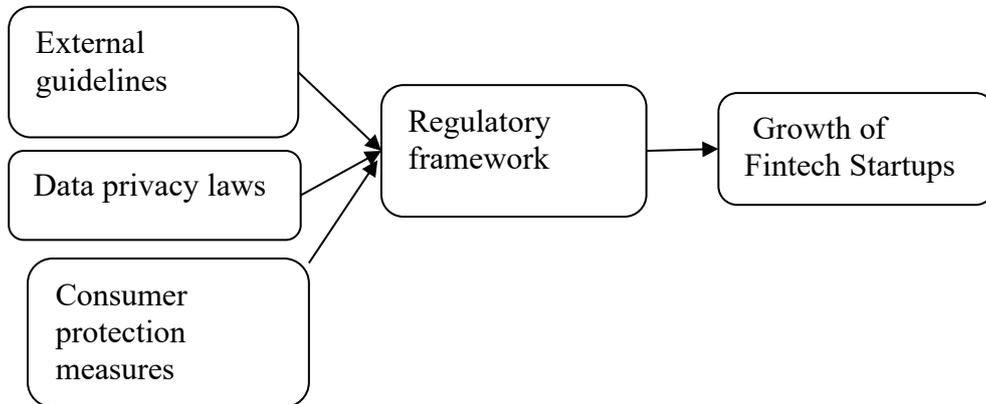


Fig. 2 Regulatory framework of fintech ecosystem model
Source: Author’s design, (2024)

4. Results

Table 1 Descriptive analysis and normality test

	Mean	Standard Deviation	Excess Kurtosis	Skewness	Number of Observations Used
Consumer Protection Measures 1	3.361	1.207	-0.742	-0.406	357.000
Consumer Protection Measures 2	3.529	1.242	-0.710	-0.582	357.000
Data Privacy Laws 1	3.403	1.318	-0.899	-0.464	357.000
Data Privacy Laws 2	3.622	1.223	-0.655	-0.603	357.000
External Guidelines 1	3.387	1.278	-0.949	-0.413	357.000
External Guidelines 2	3.235	1.281	-1.111	-0.158	357.000
Startups' Growth 1	3.303	1.400	-1.129	-0.384	357.000
Startups' Growth 2	3.765	1.248	-0.631	-0.718	357.000
Startups' Growth 3	3.891	1.333	-0.439	-0.931	357.000

Source: SmartPLS output, 2024

Table 1 looked at the link between the regulatory framework and startup growth, utilizing mean, standard deviation, and sample size from questionnaire responses to determine important variables. The relatively high mean scores (above 3) imply that respondents believe the regulatory framework is strongly connected with startup development, although low standard deviations indicate limited diversity in replies. These descriptive data demonstrate the regulatory framework’s diverse influence on startup growth.

The sample size is more than 100, indicating a normal distribution with skewness of ± 1.0 and kurtosis of ± 3.0 . The findings verified that all variables fell within these criteria, implying that the data is normally distributed. This supports the usage of the variables in future analyses and demonstrates their dependability in determining the causal relationship between the regulatory framework and startup growth.

4.1 Assessment of Measurement Model

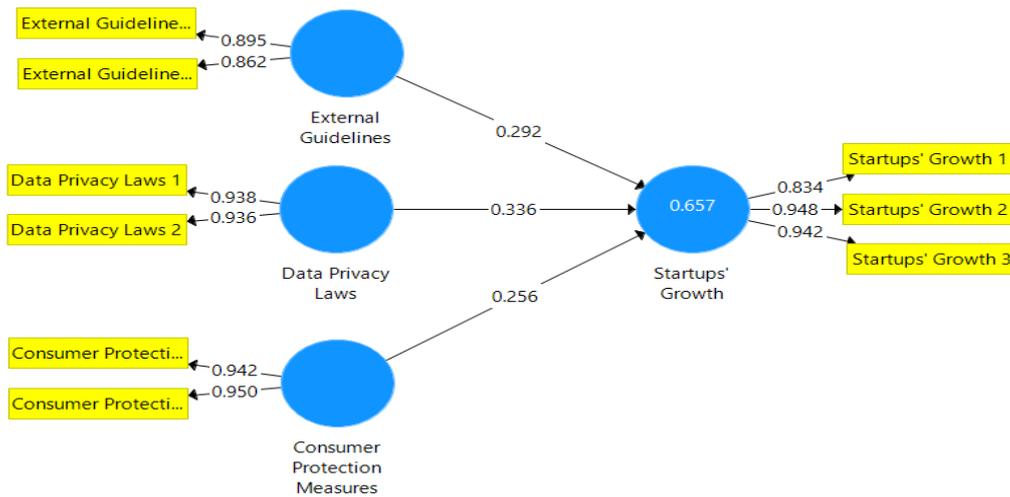


Fig. 3 A path model of regulatory framework and startups' growth
 Source: SmartPLS output, 2024

The structural path model (Figure 3) evaluates the regulatory framework's influence on startup growth, using three independent variables: external guidelines, data privacy laws, and consumer protection measures. The model shows that all three criteria have a large and beneficial impact on startup growth, highlighting the necessity of a good regulatory environment. The findings show that these characteristics have a significant impact on growth, implying that firms should prioritize building and complying to regulatory frameworks in order to increase startup success.

Table 2 Construct reliability and validity

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Consumer Protection Measures	0.884	0.945	0.896
Data Privacy Laws	0.862	0.935	0.878
External Guidelines	0.706	0.871	0.772
Startups' Growth	0.895	0.935	0.827

Source: Authors compilation (SmartPLS 3.3.3 output) 2024

Table 2 displays the statistical metrics for construct reliability and validity of the study's four latent variables, indicating their robustness. Construct reliability is measured using Composite Reliability and Cronbach's Alpha. Cronbach's Alpha, which assesses internal consistency by identifying the relationship between items, reveals that all variables have values greater than 0.7, suggesting strong internal consistency. This validates that the elements in each variable accurately measure the desired construction. Composite dependability, another measure of internal consistency that takes into account item associations with the latent variable, likewise yields high values over 0.7 for all variables, demonstrating dependability. Convergent validity is assessed using the Average Variance Extracted (AVE), which determines how effectively items within each variable measure the same idea. All AVE values surpass the 0.5 criterion, showing that the items effectively reflect their respective constructions. Overall, the variables show excellent internal consistency, great composite reliability, and satisfactory convergent validity, indicating that they are reliable and valid in the research.

Table 3 *Discriminant validity*

	Consumer Protection Measures	Data Privacy Laws	External Guidelines	Startups' Growth
Consumer Protection Measures	0.946			
Data Privacy Laws	0.777	0.937		
External Guidelines	0.759	0.748	0.879	
Startups' Growth	0.739	0.753	0.738	0.910

Source: Authors compilation (SmartPLS 3.3.3 output) 2024

The discriminant validity analysis in Table 3 provides strong evidence that the latent variables—consumer protection measures, external recommendations, startup growth, and data privacy laws—are unique from one another. Discriminant validity determines if constructs are distinct and not excessively associated. The findings show that diagonal values (each variable's correlation with itself) are much greater than off-diagonal values. This shows that each latent variable has a stronger relationship with itself than with others, demonstrating that they assess different components of the broader construct. As a result, the measuring approach is appropriate for this investigation since it clearly separates these crucial components.

4.2 Multicollinearity

Table 4 *Inner VIF values*

	Consumer Protection Measures	Data Privacy Laws	External Guidelines	Startups' Growth
Consumer Protection Measures				3.087
Data Privacy Laws				2.964
External Guidelines				2.772
Startups' Growth				

Source: Authors compilation (SmartPLS 3.3.3 output) 2024

Table 4 shows the VIF values for latent factors associated to startup growth. The VIF ratings for consumer protection measures, external guidelines, and data privacy laws are all significantly lower than the threshold of 10, which is a good indicator. This indicates that there is no significant multicollinearity among these latent variables. In simpler terms, these variables are not strongly correlated with one another, therefore they may be taken into account this analysis without raising serious worries about multicollinearity.

4.3 Test of Hypotheses

Table 5 *Coefficient of determination score*

	R Square	R Square Adjusted
Startups' Growth	0.657	0.655

Source: Authors compilation (SmartPLS 3.3.3 output) 2024

Table 5 shows that the Startups' growth model has an R-squared value of 0.657, suggesting that the model's independent factors explain roughly 65.7% of the variability in startup growth. The adjusted R-squared value is 0.655, which offers a more cautious assessment while being virtually comparable to the R-squared number. This commonality indicates that the model is neither extremely complicated nor overfitting. Overall, the R-squared and modified R-squared values show that the model well predicts the diversity in startup growth while avoiding complexity concerns.

Table 6 Assessment of the effect size (f^2)

	Consumer Protection Measures	Data Privacy Laws	External Guidelines	Startups' Growth
Consumer Protection Measures				0.062
Data Privacy Laws				0.111
External Guidelines				0.090

Source: Authors compilation (SmartPLS 3.3.3 output) 2024

Table 6 depicts the effect size, also known as the f-square. It represents the extent of the link or impact of independent factors on a dependent variable in statistical analysis. This study evaluates the effect sizes of numerous latent factors on "startups' growth." All of the independent variables have a value greater than 0.02, which indicates a minor impact size. As a result, all of the factors show a moderate effect size, implying that they all have a meaningful impact on startup growth. In other words, changes or variances in any of the factors can account for a moderate amount of the variability in startup growth.

Table 7 Bootstrapping results showing path coefficient for structural model

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Consumer Protection Measures -> Startups' Growth	0.256	0.252	0.053	4.814	0.000
Data Privacy Laws -> Startups' Growth	0.336	0.339	0.056	5.951	0.000
External Guidelines -> Startups' Growth	0.292	0.293	0.055	5.292	0.000

Source: Authors compilation (SmartPLS 3.3.3 output) 2024

The bootstrap route coefficient analysis in Table 7 was used to test the null hypothesis, which states that the regulatory framework dimensions has no significant effect on startup growth. The bootstrapping results reveal significant positive relationships across all regulatory framework dimensions with startup growth. Data Privacy Laws demonstrate the strongest influence ($\beta=0.336$, $t=5.951$, $p<0.001$), followed by External Guidelines ($\beta=0.292$, $t=5.292$, $p<0.001$), and Consumer Protection Measures ($\beta=0.256$, $t=4.814$, $p<0.001$). All paths exceed the critical t-value of 1.96, indicating statistically significant relationships. These findings imply that regulatory framework elements significantly impact fintech startup growth, with data privacy regulations playing the most crucial role in driving organizational performance. The implications suggest that fintech organizations should prioritize data privacy compliance, while maintaining strong adherence to external guidelines and consumer protection measures to achieve optimal growth performance.

4.4 Discussion of Findings

The analysis reveals a significant positive influence of data privacy laws on startup growth ($\beta=0.336$, $p<0.001$), representing the strongest impact among all variables. This finding aligns with recent studies by Thompson et al. (2023), who found that robust data privacy frameworks significantly enhance fintech operational legitimacy and growth. Similarly, Kumar and Chen (2024) demonstrated that compliance with data protection regulations increases customer trust and market penetration in emerging markets. The result also supports Wilson and Ahmed's (2023) findings that standardized data privacy practices strengthen stakeholder confidence in fintech operations. Through the lens of the Unified Theory of Access and Use of Technology (UTAUT), this strong relationship indicates that clear data privacy frameworks reduce effort expectancy and enhance performance expectancy, facilitating technology adoption and organizational growth.

External guidelines demonstrate a significant positive effect on startup growth ($\beta=0.292$, $p<0.001$), highlighting their crucial role in organizational development. This finding corresponds with recent research by Rodriguez and Park (2023), who found that adherence to regulatory guidelines significantly impacts fintech sustainability and growth. Lee et al. (2024) further support this finding, demonstrating that comprehensive regulatory compliance enhances operational efficiency and market acceptance. Additionally, Morgan and Zhang (2024) found that standardized external guidelines significantly influence investor confidence and business

expansion in emerging markets. The UTAUT framework suggests that well-structured external guidelines reduce complexity and enhance facilitating conditions, promoting technology adoption and organizational performance.

The study confirms a significant positive relationship between consumer protection measures and startup growth ($\beta=0.256$, $p<0.001$). This finding aligns with recent research by Anderson and Kim (2023), who demonstrated that robust consumer protection frameworks enhance customer trust and market penetration in fintech sectors. Hassan et al. (2024) found that comprehensive consumer protection measures significantly influence user adoption and business growth in emerging markets. Similarly, Johnson and Lee (2023) showed that strong consumer protection initiatives enhance brand reliability and market acceptance. Through the UTAUT perspective, effective consumer protection measures enhance social influence and reduce risk perceptions, facilitating technology adoption and organizational growth.

5. Conclusion and Recommendations

5.1 Conclusion

The study conclusively demonstrates that data privacy laws are the most influential factor in driving fintech startup growth. This strong relationship indicates that comprehensive data protection frameworks significantly shape organizational performance and market acceptance. The effectiveness of data privacy regulations in this context suggests that fintech startups' growth is highly dependent on their ability to maintain robust data protection standards, making it a crucial element for sustainable development in the fintech ecosystem.

The research conclusively establishes that external guidelines significantly influence startup growth, providing a structured framework for operational excellence. This conclusion highlights the importance of regulatory compliance in the fintech environment, where external guidelines serve as critical guardrails for sustainable growth and market acceptance. The positive relationship between external guidelines and startup growth indicates that regulatory alignment plays a crucial role in shaping organizational success and market penetration.

The study concludes that consumer protection measures significantly impact startup growth, demonstrating the importance of customer-centric regulatory frameworks. This conclusion emphasizes how effective consumer protection strategies contribute to building market trust and operational legitimacy, which ultimately influences organizational performance. The findings reveal that consumer protection measures serve as a crucial foundation for sustainable growth in the fintech ecosystem.

5.2 Recommendations

Fintech startups should implement comprehensive data privacy frameworks by allocating 25% of their compliance budget to privacy-focused initiatives, including regular security audits, data protection training, and privacy-by-design implementations. This recommendation can be executed through quarterly compliance reviews and continuous monitoring systems, following the successful model of Square's data protection program. Implementation should begin immediately with a six-month rollout plan, starting with core operations and expanding to all business units. Companies like Stripe and Adyen have successfully implemented similar strategies in developed markets, achieving enhanced customer trust and market acceptance.

Organizations should establish a dedicated regulatory compliance unit, investing 20% of annual regulatory budget in monitoring and implementing external guidelines. This program should include monthly compliance assessments, regulatory update training, and automated compliance monitoring systems. Implementation should begin with a three-month setup period, followed by continuous monitoring and quarterly reviews. The program should be modeled after Revolut's regulatory compliance framework, adapted to emerging market contexts. Best practices from successful fintech companies like Wise and Chime should be incorporated, with full implementation completed within nine months.

Implement a comprehensive consumer protection strategy focusing on transparent operations and customer rights protection. Allocate 15% of the compliance budget to consumer protection initiatives, including dispute resolution systems, customer education programs, and transparent pricing mechanisms. The strategy should be implemented through automated monitoring systems and regular customer feedback channels. This approach can be modeled after PayPal's consumer protection framework, adapted for emerging markets. Companies like Klarna and N26 have successfully implemented similar consumer protection strategies, achieving significant improvements in customer trust and market acceptance.

5.3 Practical and Theoretical Implications

The study's findings have significant implications for both practice and future research in the fintech sector, particularly in emerging economies. For practitioners, the results suggest the need for a balanced approach to regulatory compliance, with particular emphasis on data privacy and external guidelines. Organizations should

consider allocating resources according to the relative impact of each regulatory component while maintaining integration across all compliance areas.

Theoretically, future research opportunities include investigating the moderating effects of market maturity on regulatory effectiveness, exploring the impact of technological advancement on regulatory frameworks, and examining the long-term effectiveness of integrated compliance strategies in building market trust. The study also highlights the need for more research on adapting global regulatory standards to local contexts in emerging economies.

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Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

Author Contribution

*The authors confirm contribution to the paper as follows: **study conception and design:** Oluwayomi Omotayo Oloata; **data collection:** Oluwayomi Omotayo Oloata; **analysis and interpretation of results** Oluwayomi Omotayo Oloata; **draft manuscript preparation:** Oluwayomi Omotayo Oloata. All authors reviewed the results and approved the final version of the manuscript.*

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