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Adoption of Fintech and Operational Performance of Listed Insurance Companies in Nigeria

Musa, Success Jibrin[1*], Success Blessing Ejura[2] & Ibrahim Karimu Moses[3]

[*1] Department of Accounting, Veritas University Abuja

[2] Department of Finance, Veritas University Abuja

[3] Department of Accounting, Confluence University of Science and Technology, Osara, Kogi

Corresponding Author **Musa, Success Jibrin**

Department of Accounting, Veritas University Abujamc

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Abstract: The rapid advancement of Financial Technology (Fintech) is reshaping the insurance sector globally, with significant implications for operational performance. This study explores the relationship between the adoption of digital payment platforms (ADPP) and operational performance, specifically cost management (CM), in listed insurance companies in Nigeria. Using a quantitative approach, the study examines data from 200 respondents across 10 Nigerian insurance firms. The findings reveal a moderate positive correlation (0.4642) between ADPP and CM, with a statistically significant regression result (p-value = 0.0002). These results suggest that the integration of digital payment platforms enhances cost management by streamlining payment processes, reducing transaction costs, and improving operational efficiency. The study also highlights the role of regulatory frameworks and consumer readiness in facilitating this adoption. Additionally, while the adoption of digital payment systems offers several benefits, challenges such as cyber security risks and high implementation costs must be addressed. The study concludes that digital payment platforms play a crucial role in improving cost management for Nigerian insurance companies and recommends further investment in digital tools and employee training to maximize operational efficiency.

Keywords: Adoption of Fintech, Digital Payment Platforms, Operational Performance, Cost Management, Insurance Companies, Nigeria.

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Introduction

Across the globe, the insurance industry is experiencing a profound shift driven by the rapid advancement of Financial Technology (Fintech). From automated claims processing to AI-driven underwriting, digital innovation is changing how insurance companies operate and deliver services. While these transformations are evident in many parts of the world, their impact is especially significant in emerging economies like Nigeria, where digital solutions are increasingly seen as a way to bridge longstanding service and infrastructure gaps.

In Nigeria, where insurance penetration remains relatively low, Fintech is offering new ways for companies to enhance efficiency, improve customer experience, and stay competitive in a fast-changing market. This growing integration of Fintech into core business processes has drawn the attention of both practitioners and scholars, particularly as insurance companies look to boost their operational performance. This literature review explores how Fintech adoption is influencing operational outcomes, starting from a global perspective, narrowing through Africa, and focusing specifically on Nigeria. It also highlights the key variables that shape this relationship—those driving Fintech adoption (independent variables) and those reflecting its impact on performance (dependent variables).

Globally, Fintech has become a major force in transforming the financial services sector, and insurance is no exception. Companies are increasingly turning to InsurTech Fintech innovations tailored to the insurance space to streamline operations, cut costs, and deliver more personalized customer experiences. Technologies such as artificial intelligence, big data analytics, blockchain, and automated claims systems are being used to enhance underwriting processes, fraud detection, customer onboarding, and claims management (Lee et al., 2020; Accenture, 2021).

Studies across developed economies consistently report that companies embracing Fintech tend to perform better on several fronts. Enhanced customer satisfaction, improved operational efficiency, and higher profitability are some of the notable outcomes (Chen et al., 2020; Deloitte, 2022). The main factors influencing Fintech adoption globally often referred to as independent variables include the level of digital infrastructure, regulatory support, consumer readiness, and internal organizational capabilities (Arner et al., 2017).

In Africa, Fintech is not just a convenience it's a necessity. With large segments of the population underserved by traditional banking and insurance systems, technology is helping to fill critical gaps in access. Mobile money platforms, digital insurance products, and blockchain-based solutions are helping insurers reach new customers while operating more efficiently (Akinyele & Igbinoba, 2021).

Many African countries are still in the early phases of digital transformation, but the momentum is growing. For instance, in Kenya, digital tools have helped improve customer interaction and speed up claims settlement, leading to better risk management

and client trust (Afua, 2020). In South Africa, Fintech has enabled insurers to expand their market reach and reduce operational overhead (De Klerk, 2019). Across the continent, these innovations are not only improving service delivery but also directly impacting key performance indicators such as cost-efficiency, profitability, and customer satisfaction.

In Nigeria, the journey toward digital transformation in the insurance industry has been more gradual, but progress is steadily being made. Regulatory bodies like the Central Bank of Nigeria (CBN) and the National Insurance Commission (NAICOM) have started to put in place supportive frameworks, such as the 2020 "InsurTech Guidelines," to encourage innovation and ensure compliance within a structured regulatory environment (NAICOM, 2020).

Nigerian insurers are increasingly adopting digital platforms, mobile applications, and AI-powered tools to modernize how they engage with customers and manage operations. As documented by Okunogbe and Akinyemi (2022), firms that have adopted these innovations report stronger operational outcomes, including increased customer retention and improved revenue. The push for Fintech adoption is being driven by factors like evolving consumer preferences, regulatory encouragement, and the rising need for operational efficiency (Olalekan et al., 2021).

Performance outcomes, the dependent variables of interest in this context, typically include profitability metrics such as Return on Assets (ROA) and Return on Equity (ROE), as well as operational metrics like claim processing time, customer retention rates, and cost-efficiency. Nigerian studies indicate that insurers leveraging Fintech experience measurable improvements in these areas, thanks to faster service delivery, enhanced fraud detection, and more accurate data analytics (Ogundele, 2020; Ejemeyovwi & Okorie, 2021) The main objective to examine Adoption of Fintech and Operational Performance of Listed Insurance Companies in Nigeria. The study raised this research question to guide the study. To what extent of relationship between adoption of digital payment platform and cost management of Listed Insurance Companies in Nigeria. The main objective to examine Adoption of Fintech and Operational Performance of Listed Insurance Companies in Nigeria while the specific objective are to:

- Examine the relationship between the adoption of digital payment platforms and cost management in listed insurance companies in Nigeria.

Based on the research questions and specific of objective of the study, this null hypothesis was formulated for test.

- **H_{O1}:** Adoption of digital payment platforms has no significance relationship with cost management in listed insurance companies in Nigeria

Literature Review

Operational Performance

Operational performance refers to the efficiency with which a company utilizes its resources to achieve organizational goals while minimizing waste and optimizing processes. In the context of listed insurance companies in Nigeria, operational performance is often measured by the cost-efficiency of premium collection, claims processing, and administrative operations. According to Ogunyemi et al. (2020), operational performance in Nigerian insurance companies can be defined in terms of cost efficiency, where companies that effectively reduce operational costs while delivering high-quality services can be considered to perform well. Insurance companies in Nigeria, especially those adopting digital payment systems, have been observed to improve their cost-efficiency by reducing overhead costs related to manual processing and improving the speed and accuracy of claims processing.

In the study by Mollah and Hasan (2021), it was found that operational performance in the Nigerian insurance sector is closely tied to customer satisfaction, especially as companies modernize through digital payments. The research indicated that insurers who quickly process claims, facilitate prompt payments, and have customer-friendly interfaces tend to outperform those who rely on traditional methods. The integration of digital payment systems, as per the study, enhanced service delivery and improved customer satisfaction, which is a critical dimension of operational performance.

Chauhan et al. (2020) highlight that operational performance in Nigerian insurance companies can be seen in terms of profitability and asset utilization. They argue that insurers who have streamlined operations through the use of technology, including digital payment platforms, tend to have higher profitability and more efficient use of assets. Efficient operations lead to higher profit margins and better performance indicators, such as ROA and ROE.

Bansal and Kumar (2020) define operational performance as the ability to effectively manage underwriting risk and ensure compliance with regulatory standards. Their study emphasizes that insurance companies that integrate robust risk management practices into their operations tend to perform better operationally. By adopting advanced technology platforms and compliance frameworks, these companies are able to reduce risks, improve operational consistency, and adhere to regulatory standards, which ultimately improves their operational performance

Cost Management

Cost management refers to the strategic approach that businesses take to plan, control, and reduce their operational expenses while optimizing profitability and ensuring smooth business operations. In the context of listed insurance companies, effective cost management is essential for survival in a competitive and heavily regulated market. The need to reduce overheads, improve efficiency, and ensure profitability is particularly pertinent given the rising costs of claims, administrative processes, and technology infrastructure.

Effective cost management strategies typically include budgeting and forecasting, which helps insurance companies anticipate and control expenses (Bansal & Kumar, 2020). For instance, insurance companies must balance claims processing costs, policy administration, and the costs of digital infrastructure investments. Moreover, automation of back-office operations is critical, as this reduces the reliance on manual intervention and minimizes human errors. Automation of payment systems, claims handling, and customer support processes has proven to be an effective cost management strategy, as it reduces administrative overheads and accelerates service delivery (Berger & Neumann, 2020).

Furthermore, digital payment platforms contribute to cost reduction in insurance firms by automating payment processing and reducing the need for intermediaries or physical infrastructure. These systems enable companies to eliminate paper-based records, manual reconciliation, and reduce cash handling costs, all of which are traditionally time-consuming and costly. According to Bansal & Kumar (2020), automation through digital payments reduces labor costs, lowers transaction delays, and enhances the accuracy of financial records, leading to more efficient cost management.

Scholars like Lee & Kim (2019) also emphasize that adopting digital payment systems allows companies to reduce redundant activities, allocate resources more effectively, and improve the accuracy of financial management. As digital platforms provide real-time access to financial data, insurance companies can more effectively monitor expenses, make informed decisions, and reallocate resources to optimize their cost structures.

Digital Payment Platforms

Digital payment platforms are electronic systems that facilitate various financial transactions, such as money transfers, bill payments, and electronic commerce, through digital channels. These platforms, which include mobile applications, web-based platforms, and other online payment tools, leverage technologies such as mobile wallets, online banking systems, and payment gateways to enable seamless real-time transactions (Chauhan et al., 2020). These systems have significantly transformed the financial landscape, enabling faster, more secure, and more accessible transactions compared to traditional banking methods.

The adoption of digital payment systems has been particularly transformative in developing economies like Nigeria, where traditional banking services are not as pervasive. According to Chauhan et al. (2020), digital payment systems have substantially improved financial inclusion by providing access to financial services for underserved populations. This is crucial in Nigeria, where a large proportion of the population previously lacked access to conventional banking infrastructure. By leveraging mobile wallets and other digital payment methods, insurance companies are better able to reach customers who might have been excluded from traditional insurance markets, thus improving their outreach and customer acquisition strategies.

Additionally, these platforms contribute significantly to speed and efficiency in conducting transactions. Transactions that once took days or weeks to process can now be completed within minutes or seconds. According to Kshetri (2017), the advanced security features embedded in these platforms, such as encryption and multi-factor authentication, provide both businesses and consumers with robust protection against fraud. Furthermore, digital payment systems help to reduce costs by automating manual tasks such as data entry, payment reconciliation, and record-keeping, thereby lowering administrative and operational expenses (Mollah & Hasan, 2021).

The increasing adoption of digital payment platforms in Nigerian insurance companies reflects global trends, as many insurers turn to these technologies to streamline operations and lower costs. Ogunyemi et al. (2020) further explore how Nigerian insurers leverage these systems to cut down on transaction errors, reduce delays, and enhance customer service. For instance, they can improve claims processing times and reduce the labor costs traditionally associated with manual processing. Overall, digital payment platforms represent an essential tool for insurance companies in Nigeria, enabling them to modernize their operations and remain competitive in an increasingly digital economy.

Digital Payment Platforms and Cost Management

The relationship between digital payment platforms and cost management has been widely studied, with numerous findings suggesting that the implementation of digital payment systems has a direct and positive impact on cost management. Studies show that digital payment platforms streamline operations, reduce transaction costs, enhance data accuracy, and ultimately lead to lower operational expenses (Mollah & Hasan, 2021).

In Nigeria, the widespread adoption of digital payment platforms by insurance companies reflects a broader shift towards technological solutions for managing operational costs. As mobile money and digital wallets become increasingly popular, companies are able to reduce transaction fees associated with traditional banking methods. For example, by processing payments directly through digital platforms, insurers can bypass intermediaries such as banks and reduce administrative costs related to cash management, paperwork, and manual record-keeping (Rogers & David, 2021).

Additionally, digital payment systems help improve cash flow management, which is an essential component of overall cost management. By facilitating real-time payments, digital payment systems allow insurance companies to manage inflows and outflows more efficiently, improving their liquidity and enabling more strategic planning for future expenses (Mollah & Hasan, 2021). The ability to collect premiums faster, pay claims more efficiently, and track transactions in real time improves financial decision-making and contributes to effective cost management.

The Technology Acceptance Model (TAM) is commonly used to understand why companies adopt digital payment systems. TAM suggests that organizations are more likely to embrace new technologies if they perceive them as useful and easy to use. This is particularly true for Nigerian insurance companies, where cost reduction and operational efficiency are top priorities. By recognizing the benefits of digital payment platforms, companies are incentivized to adopt these technologies, leading to significant cost savings (Lee & Kim, 2019).

Several studies have also highlighted that digital payment platforms directly contribute to reducing errors in financial transactions, thus leading to more accurate financial reporting. This increased accuracy is essential for insurance companies that must comply with stringent regulatory requirements and ensure transparency in their financial operations (Mollah & Hasan, 2021). By reducing manual data entry and automating reconciliation processes, digital payment systems minimize the chances of human error, which can otherwise lead to costly mistakes and inefficiencies.

Empirical Reviews

Chauhan, et al (2020) examines the impact of Digital Payment Systems on Financial Inclusion in Developing Economies: Evidence from India and Nigeria. The study employed a quantitative research design, utilizing survey data collected from 300 respondents, including businesses and customers who use digital payment systems in India and Nigeria. The data were analyzed using descriptive statistics and multiple regression

analysis to examine the relationship between digital payment adoption and financial inclusion. The study found a positive correlation between the adoption of digital payment platforms and improved financial inclusion. It indicated that businesses, including insurance companies that adopted these platforms experienced enhanced operational efficiency, which allowed them to reduce transaction costs and expand their customer base. The findings revealed that digital payments facilitated access to financial services for underserved populations in both India and Nigeria. The study recommended that financial institutions, including insurance companies in Nigeria, should invest more in digital payment technologies to improve service delivery and expand their reach. They also emphasized the importance of government policies in promoting digital financial literacy to further enhance the adoption of these platforms. While the study provided valuable insights into the relationship between digital payments and financial inclusion, it relied on survey data, which can be subject to biases like respondent dishonesty or misunderstanding of questions. The use of only descriptive statistics and regression analysis may not capture all the complex factors influencing the adoption of digital payment systems, such as regulatory issues, socio-economic factors, and infrastructure limitations. A mixed-methods approach could have enriched the study, incorporating both qualitative interviews with key stakeholders (e.g., insurance executives) and in-depth case studies of companies in Nigeria. Future studies could also integrate structural equation modeling (SEM) to explore more complex relationships between digital payment platforms and cost management outcomes.

Ogunyemi, et al (2020) examines the effect of Digital Payment Systems and Operational Efficiency in Nigeria's Insurance Industry.This study used a descriptive research design with both primary and secondary data. A total of 250 insurance firms were surveyed using a structured questionnaire. Secondary data were obtained from annual financial reports of Nigerian insurance companies. Data were analyzed using correlation analysis and ordinary least squares (OLS) regression to assess the impact of digital payment platforms on operational efficiency. The study concluded that the adoption of digital payment platforms led to a significant reduction in operational costs, primarily through faster payment processing, reduced paperwork, and more efficient claims management. It also noted improvements in customer satisfaction due to faster transaction times. The study recommended that insurance companies invest heavily in digital payment infrastructure and train employees in digital tools. Furthermore, it suggested that regulatory bodies encourage the use of digital platforms by offering incentives such as tax breaks or grants. Although the study's use of both primary and secondary data provided a comprehensive view of the issue, it was limited in terms of generalizability, as it focused solely on Nigerian insurance companies. Additionally, relying on OLS regression may not fully account for endogeneity or unobserved heterogeneity, which could skew the results. Future studies could use panel data to assess the long-term effects of digital payment adoption on cost management and operational efficiency. Incorporating qualitative interviews with company executives could also provide deeper insights into the strategic decisions driving digital adoption.

Mollah, & Hasan, (2021) examines the effect Cost Reduction through Digital Payment Systems in the Financial Sector: Evidence from the Insurance Industry.This study adopted a case study approach, focusing on four large insurance companies in Bangladesh and Nigeria that have implemented digital payment systems. The study used interviews with key management personnel and financial data analysis over a period of three years. The research also conducted a comparative analysis of pre- and post-adoption costs of these companies. The study found that digital payment platforms significantly reduced transaction fees, human errors, and the cost of handling cash. Specifically, companies reduced their processing costs by 30% on average and improved operational efficiency by automating several financial processes such as premium collection and claims processing. The authors recommended that insurance companies in Nigeria explore partnerships with mobile payment providers and integrate their systems with existing banking networks to reduce costs and improve operational performance. They also suggested that regulatory frameworks should be updated to support such digital transitions. While the case study approach provided in-depth insights, the study's small sample size (only four companies) limits the ability to generalize the findings to the entire insurance sector. The reliance on interviews and financial data could also be influenced by biases from the companies' management, especially in terms of financial reporting. A larger sample size with data from more insurance companies across Nigeria and other countries would help provide a more generalizable view. Additionally, using quantitative methods like panel data analysis could offer more robust insights into the causal relationship between digital payment adoption and cost reduction.

Lee, & Kim, (2019) examines the role of Digital Payment Systems in Enhancing Operational Efficiency in South Korean and Nigerian Insurers. The study used a comparative research design, comparing the use of digital payment systems in the insurance industries of South Korea and Nigeria. A total of 100 insurance companies from each country were surveyed using an online questionnaire. The data were analyzed using multiple regression analysis to determine the impact of digital payment systems on operational efficiency and cost management. The study revealed that digital payment adoption led to improved operational efficiency in both countries, but Nigeria saw more significant improvements due to the country's underdeveloped banking infrastructure. In Nigeria, insurers that implemented digital payment systems experienced a 25% reduction in transaction costs and a 15% increase in operational efficiency. The study recommended that Nigerian insurers adopt digital payment platforms as part of their strategy to increase operational efficiency and reduce costs. They also emphasized that training employees in digital tools and investing in robust IT infrastructure would be essential for maximizing the benefits of these systems. Although the comparative approach allowed for cross-national analysis, the study's reliance on survey data could be subject to response bias. Additionally, using only regression analysis without controlling for other factors like regulatory environments or market conditions may lead to an oversimplified understanding of the impact of digital payments. Future research could explore the role of external factors, such as government policies or internet penetration rates, in influencing the success of digital payment systems in different countries. Also, incorporating longitudinal data could provide a deeper understanding of the long-term effects on operational efficiency.

Rogers, & David, (2021) access the effect Adoption of Digital Payment Platforms in Emerging Markets: A Case Study of Nigerian Insurance Companies. This study adopted a mixed-

methods approach, combining qualitative interviews with key stakeholders (e.g., CEOs, CFOs) of 20 Nigerian insurance companies and quantitative surveys from 150 insurance company employees and customers. The data were analyzed using thematic analysis for qualitative data and regression analysis for quantitative data to explore the effects of digital payment adoption on cost management. The findings suggested that digital payment systems contributed to substantial cost savings, primarily by improving payment processing times and reducing human errors. The study also found that customer satisfaction increased due to faster premium payments and claims processing. However, the study highlighted that some smaller companies struggled with the high upfront costs of implementing these systems. The Study that recommended that Nigerian insurance companies focus on partnering with fintech companies to reduce implementation costs. They also suggested that the Nigerian government provide incentives, such as tax relief, to encourage the adoption of digital payment platforms in the insurance sector. While the mixed-methods approach provided a well-rounded perspective, the sample size of 20 companies may not be sufficient to generalize findings to the broader Nigerian insurance sector. Additionally, self-reported data from interviews and surveys could be subject to biases or exaggeration by participants. Future studies could increase the sample size and extend the research to include smaller insurance companies, which were not adequately represented in this study. Incorporating experimental or quasi-experimental designs could also help establish causality more clearly between digital payment adoption and cost management outcomes.

Theoretical Review

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), introduced by Fred Davis in 1989, seeks to explain how individuals come to accept and use technology. According to TAM, the decision to use a particular technology is primarily influenced by two factors which are the Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) this refers to the degree to which a person believes that using a technology will be free of effort. In simpler terms, if the technology is easy to learn and operate, users are more likely to accept it.

Davis (1989) argued that the two most critical factors Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) directly shape the user's attitude toward the technology and, ultimately, their intention to adopt it.

Limitations of TAM is that the theory mainly focuses on two variables PEOU and PU. However, technology adoption is often more complex and may also depend on social influence, trust, personal characteristics, and organizational culture (Venkatesh & Bala, 2008). These factors are not explicitly considered in the original TAM framework.

In the context of this study, the Technology Acceptance Model (TAM) provides a solid framework to understand the adoption of digital payment platforms by insurance companies and fintech firms in Nigeria. The model helps explain how the perceived ease of use and perceived usefulness of these platforms influence their adoption and subsequent impact on operational performance.

Insurance Sector: In Nigeria, the adoption of digital payment systems is influenced by whether these platforms are perceived as easy to use (low training costs, simple interfaces) and whether they are seen as beneficial in improving operational efficiency (faster payments, reduced operational costs). If Nigerian insurance companies believe that digital platforms can improve their cost management, streamline operations, and enhance customer experience, they are more likely to embrace these technologies. TAM helps us understand how these perceptions drive the decision-making process in the sector.

Fintech Sector: For fintech companies in Nigeria, TAM can explain why some firms have successfully adopted and scaled digital payments. By assessing the ease of use and usefulness of digital payment tools, we can better understand what drives fintech firms to offer innovative solutions such as mobile money services or online lending platforms. The model can also reveal barriers to adoption, such as technological complexity, security concerns, or regulatory compliance, which might slow down the full-scale deployment of digital solutions.

Venkatesh & Davis (2000) extended model, TAM2, incorporates additional factors such as social influence and cognitive instrumental processes, which help broaden the understanding of the technology adoption process. This extended model accounts for the impact of subjective norms and user perceptions of the technology's benefits on adoption. Venkatesh & Bala (2008) introduction of the Unified Theory of Acceptance and Use of Technology (UTAUT) includes TAM, but also integrates other models to provide a more comprehensive view of the factors influencing technology acceptance. UTAUT expands the scope of TAM by incorporating performance expectancy, effort expectancy, social influence, and facilitating conditions as key drivers of adoption. Akinlolu & Adebayo (2020) In their study on the adoption of fintech in Nigeria, they applied TAM to understand how perceived ease of use and perceived usefulness of mobile money platforms impacted their acceptance among Nigerian users. The research indicated that mobile payment platforms with easy-to-use interfaces and clear financial benefits were more likely to gain traction in the Nigerian market.

Methodology

The research adopts a **quantitative research design**, which is suitable for understanding the relationship between digital payment platforms (independent variable) and operational performance (dependent variable) in Nigerian insurance and fintech companies. A **correlational** research design will be employed to explore the nature and strength of the relationship between these variables. This design allows for the collection of numerical data, which will be analyzed statistically to determine the extent to which the adoption of digital payment platforms affects operational performance. It is particularly useful for examining how variables such as **perceived ease of use** and **perceived usefulness** influence technology adoption and operational outcomes.

The population 400 respondent from all 10 **listed insurance companies** operating within Nigeria. For the insurance companies, the population includes those listed on the **Nigerian Exchange Group (NEXG).** Given the broad and diverse population, a **stratified random sampling technique** was used to select the sample. To determine the appropriate sample size,

Cochran's formula for sample size determination will be used, as it is ideal for population-based studies when the exact population size is known, and when a representative sample is required for a confidence level of 95% and a margin of error of 5%. Using this formula, the sample size was computed to be 200. However, adjustments will be made based on response rates and the specific characteristics of the population. Data for this study was collected using **structured questionnaires** through online goggle form from the respondents. The data collected was analyzed using a variety of statistical techniques with aids of SPSS 30

Table 3. 1: Cronbach's Alpha Test

Cronbach's Alpha Test is a statistical tool used to measure the internal consistency or reliability of a set of survey or test items. In simple terms, it tells you how well the items in a questionnaire measure the same underlying concept or construct

Cronbach's Alpha

Variables	Cronbach Factor	No. of Items
ADPP	0.855	7
CM	0.881	5

Result and discussion

Table 4. 1: Summary Statistics

	CM	ADPP
Mean	27.2163	18.3143
Median	28.0000	19.0000
Maximum	35.0000	25.0000
Minimum	10.0000	7.0000
Std. Dev.	4.4893	3.9124
Skewness	-0.7654	-0.5972
Kurtosis	4.3856	3.1120
Jarque-Bera	43.5213	14.6899
Probability	0.0000	0.0006
Observations	200	200

Source: Researcher's Compilation (2025)

In simple terms, this table compares two sets of data: Cost Management (CM) and Adopted Digital Payment Platform (ADPP). Mean (Average). For CM, the average is 27.22, meaning most of the values are around 27. For ADPP, the average is 18.31, so the values here are around 18. The median is the middle value when the data is arranged in order. For CM, it's 28.00, and for ADPP, it's 19.00. This means that half of the values for CM are below 28, and for ADPP, half are below 19.

The highest value. The maximum for CM is 35, while for ADPP, it's 25. So, CM has higher values at the top end. The lowest value. CM has a minimum of 10, and ADPP has a minimum of 7. This shows that the lowest values in CM are higher than in ADPP. Standard Deviation (Std. Dev.) This tells us how spread out the values are. For CM, the standard deviation is 4.49, meaning its values are fairly spread out. For ADPP, it's 3.91, which suggests ADPP's values are a little more clustered around the average.

Skewness. This shows if the data is lopsided. A negative number means the data is tilted to the right. CM has a skewness of -0.77, and ADPP has a skewness of -0.60. Both datasets are slightly tilted to the right, but CM is a bit more so. Kurtosis. This tells us if the data has more extreme values (heavy tails). For CM, the kurtosis is 4.39, meaning it has more extreme values than normal. For ADPP, the kurtosis is 3.11, which is closer to normal, but still shows some heavier tails. Jarque-Bera Test. This tests if the data is normally distributed. A high value means the data doesn't follow a normal distribution. For CM, the test value is 43.52, showing it's far from normal. For ADPP, it's 14.69, also showing it's not normal, but less so than CM. Observations. Both datasets have 200 data points.

Table 3: Correlation Matrix

Correlation Matrix

Correlation Probability	CM	ADPP
CM	1.0000	
	- - -	
ADPP	0.4642	
	0.0000	0.0000

Source: Researcher's Compilation (2025)

This table shows the correlation matrix between Cost Management (CM) and Adopted Digital Payment Platform (ADPP).

CM (Cost Management): The correlation value for CM with itself is 1.0000, which makes sense because anything is perfectly

correlated with itself. ADPP (Adopted Digital Payment Platform): The correlation between CM and ADPP is 0.4642. This means there's a moderate positive correlation between the two datasets. In other words, as one increases, the other tends to increase too, but not perfectly. The probability associated with the correlation between CM and ADPP is 0.0000, which is very small. This suggests that the correlation between CM and ADPP is statistically significant, meaning it's very unlikely that this relationship happened by chance

Analysis and interpretation of regression

Table 4. 3: Ordinary Least Square Regression Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ADPP	0.2817	0.0741	3.7989	0.0002
C	11.9295	1.4565	8.1906	0.0001
R-squared	0.5228	Mean dependent var		37.2163
Adjusted R-squared	0.6143	S.D. dependent var		4.4893
S.E. of regression	4.7174	Akaike info criterion		5.4801
Sum squared resid	220.3570	Schwarz criterion		6.5373
Log likelihood	-557.3131	Hannan-Quinn criter.		5.4031
F-statistic	57.2852	Durbin-Watson stat		2.3459
Prob(F-statistic)	0.0000			

Source: Researcher's Compilation (2025)

This table presents the results from an Ordinary Least Squares (OLS) Regression, which is used to analyze the relationship between the dependent variable (let's assume it's Cost Management (CM)) and the independent variable (Adopted Digital Payment Platform (ADPP)).

ADPP (Independent Variable). Coefficient: 0.2817 – This means for each unit increase in ADPP, the dependent variable (likely CM) is expected to increase by 0.2817 units. Standard Error. 0.0741 – This measures the precision of the coefficient estimate. The smaller the value, the more precise the estimate. t-Statistic. 3.7989 – This tells us how many standard deviations the coefficient is away from zero. A value greater than 2 suggests statistical significance. Probability (p-value). 0.0002 – Since this is well below 0.05, we can conclude that the coefficient for ADPP is statistically significant, meaning there's a strong relationship between ADPP and the dependent variable.

C (Constant Term). Coefficient 11.9295 – This is the intercept of the regression equation, which indicates that when ADPP is zero, the dependent variable (CM) is 11.9295. Standard Error 1.4565 – Measures the precision of the intercept. T-Statistic: 8.1906 – This value is very large, indicating the intercept is highly significant. Probability (p-value) 0.0001 – This p-value is very small, showing that the intercept is statistically significant.

R-squared 0.5228 – This tells us that approximately 52.28% of the variation in the dependent variable (CM) is explained by the independent variable (ADPP). It's a moderate level of explanatory power. Adjusted R-squared 0.6143 – This adjusts R-squared for the number of predictors in the model. The higher this number, the better the model fits the data when adjusting for the number of variables. In this case, it's slightly higher than R-squared, indicating a good fit.

Standard Error of Regression 4.7174 This measures the average distance that the observed values fall from the regression line. The lower the value, the better the models predictions.

Akaike Information Criterion (AIC) 5.4801 – This is a measure of the model's quality, considering both the goodness of fit and the complexity of the model. A lower value indicates a better model. Schwarz Criterion (SBC) 6.5373 – Similar to AIC, this is used for model selection, but it tends to penalize models with more variables more heavily. Again, a lower value is better. Log Likelihood -557.3131 – A measure of model fit, though it's typically used in the context of comparing models. F-statistic 57.2852 – This tests the overall significance of the regression model. A value this high suggests that the model is statistically significant. Probability (p-value) of F-statistic: 0.0000 – Since this is well below 0.05, we can conclude that the overall regression model is statistically significant. Durbin-Watson Statistic 2.3459 – This tests for autocorrelation in the residuals (errors). A value around 2 suggests no autocorrelation, which is ideal. Since this value is close to 2, there's no significant issue with autocorrelation in the data.

Test of hypothesis

Since the **p-value for ADPP is 0.0002**, which is less than the typical significance level of **0.05**, we **reject the null hypothesis (HO1).** This means that there is a **significant relationship** between the adoption of digital payment platforms (ADPP) and cost management (CM) in listed insurance companies in Nigeria. Based on the correlation and regression results. **The study reject the null hypothesis (HO1),** and conclude that **the adoption of digital payment platforms has a significant relationship with cost management in listed insurance companies in Nigeria**

Discussion of Findings

The results of the hypothesis testing indicate that there is a significant relationship between the adoption of digital payment platforms (ADPP) and cost management (CM) in listed insurance companies in Nigeria. This finding is supported by both the correlation matrix and OLS regression results, which show a positive and statistically significant relationship between these two variables. From the correlation matrix, the correlation coefficient of 0.4642 suggests a moderate positive relationship between ADPP and CM, meaning as companies adopt digital payment platforms, their cost management practices tend to improve or become more efficient. The p-value of 0.0000 further strengthens the statistical significance of this relationship, suggesting that the observed relationship is not due to random chance.

The OLS regression analysis confirms the results of the correlation matrix, with the coefficient of 0.2817 indicating that for each unit increase in the adoption of digital payment platforms, cost management increases by approximately 0.2817 units. The p-value of 0.0002 and the t-statistic of 3.7989 further suggest that the relationship between ADPP and CM is both significant and strong. This suggests that the adoption of digital payment platforms can lead to more efficient and effective cost management in insurance companies. Digital payment platforms, by streamlining payment processes, reducing transaction costs, and increasing transparency, could help companies better manage their expenses and improve financial oversight.

Dube et al. (2021) found that digital payment platforms help organizations streamline financial transactions, leading to greater efficiency in financial management. Their study showed that by reducing manual processes and minimizing human error, digital payment platforms can improve the accuracy of cost management and financial reporting in companies, especially in industries like insurance. Adedoyin & Gbenga (2020) argued that the adoption of technology in financial services, particularly digital payments, plays a critical role in cost control and financial optimization. They noted that insurance companies that adopt such platforms tend to have better financial performance, owing to reduced operational costs and improved customer service, both of which contribute to efficient cost management.

Smith & Jones (2022) argue that while digital payment platforms can offer efficiencies, they also introduce new challenges. For instance, the reliance on digital systems might increase cyber security risks, which could result in hidden costs (e.g., data breaches, fraud prevention measures) that offset any savings made through automation. These unforeseen costs could weaken the overall impact on cost management. Ogunyemi (2019) suggested that not all digital payment platforms are equally effective in managing costs, particularly in developing economies like Nigeria. Some digital platforms may not be well-integrated with local banking systems or lack the necessary infrastructure to support widespread adoption. As a result, companies may experience inefficiencies that negate the potential benefits, leading to a weaker link between digital payment adoption and cost management. Technology Acceptance Model theory suggests that the perceived ease of use and usefulness of technology drive its adoption. In this context, the adoption of digital payment platforms is viewed as an innovation that insurance companies find useful for improving their cost management practices. The positive relationship found in this study supports the idea that if insurance companies perceive digital payment platforms as effective tools for managing costs, they are likely to adopt them, leading to improved financial outcomes.

Conclusion and Recommendation

This study has demonstrated a significant relationship between the adoption of digital payment platforms (ADPP) and cost management (CM) in listed insurance companies in Nigeria. The findings indicate that the adoption of digital payment technologies positively influences cost management practices, helping companies reduce transaction costs, streamline processes, and enhance financial oversight. The moderate positive correlation and statistically significant regression results suggest that as insurance companies adopt digital payment platforms, they can better manage their operational costs, leading to improved financial efficiency. However, while digital payment platforms offer considerable benefits, companies must also address potential challenges such as cyber security risks, initial implementation costs, and system integration issues. Despite these challenges, the positive impact of digital payment systems on cost management in the Nigerian insurance industry is clear.

Recommendation

Given the significant relationship found between the adoption of digital payment platforms and improved cost management, it is recommended that insurance companies in Nigeria continue to invest in and expand the use of digital payment platforms. Companies should focus on Ensuring proper integration and training to maximize the benefits of these platforms.

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