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FinTech Innovation and Public Revenue Collection Efficiency in Lagos State, Nigeria

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Abstract
Persistent inefficiencies in public revenue collection continue to undermine effective fiscal administration in Nigeria despite increasing digital reforms. This study examined the effect of FinTech innovation on public revenue collection efficiency in Lagos State, Nigeria, focusing on digital payment systems, tax automation, and mobile FinTech platforms, while controlling for staff competence. The study adopted a quantitative cross-sectional survey design. Primary data were collected through structured questionnaires administered to staff of selected revenue institutions in Lagos State. Using the Taro Yamane formula, a sample size of 360 was derived from an estimated population of 3,600, while 342 valid responses were analyzed using multiple regression analysis. The findings revealed that digital payment systems ($\beta = 0.481$, $p < 0.05$), tax automation ($\beta = 0.328$, $p < 0.05$), mobile FinTech platforms ($\beta = 0.545$, $p < 0.05$), and staff competence ($\beta = 0.283$, $p < 0.05$) exert positive and significant effects on public revenue collection efficiency. The study concluded that FinTech innovation significantly enhances transparency, compliance, and efficiency in revenue administration. The study recommended that government revenue agencies should strengthen digital payment infrastructure, expand tax automation systems, promote mobile-based revenue platforms, and invest in continuous staff digital training to improve public revenue collection efficiency.

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1. Introduction

FinTech innovation has become a critical driver of transformation in public financial management systems globally, particularly in the area of revenue mobilization. In developing economies, governments are increasingly adopting digital payment systems, tax automation platforms, and mobile financial technologies to improve transparency, reduce leakages, and enhance the efficiency of public revenue collection. In Nigeria, this shift is especially significant due to longstanding challenges such as cash-based transactions, weak tax compliance structures, and administrative inefficiencies that have historically limited optimal revenue generation. Empirical evidence within recent literature shows that digital payment systems significantly improve tax revenue collection efficiency by enabling traceable, real-time transactions and reducing opportunities for corruption and revenue leakage (Omodero & Ekundayo, 2025) [9]. Similarly, studies on electronic tax management systems in Nigeria reveal that automation of tax processes enhances efficiency by simplifying registration, filing, and payment procedures while improving compliance monitoring (Aiyelabegan *et al*., 2026;) [3]. In addition, research focusing on Lagos State has demonstrated that digital tax administration systems have contributed to significant improvements in internally generated revenue through improved automation and self-assessment mechanisms (Anioke, 2024;) [4].

Despite these advancements, inefficiencies in public revenue collection persist, even with increasing adoption of FinTech solutions. One of the major scientific problems is that revenue authorities often implement digital systems in fragmented forms, without fully integrating digital payment platforms, tax automation, and mobile FinTech solutions into a unified revenue ecosystem. This limits the extent to which FinTech innovations translate into measurable improvements in revenue collection efficiency. Furthermore, while existing studies confirm positive effects of individual FinTech components on revenue generation, there is still limited empirical evidence on their combined effect within a single institutional context such as Lagos State, which is Nigeria's most technologically advanced revenue environment.

The research gap, therefore, lies in the insufficient integration of FinTech dimensions in existing empirical studies. Most prior research has examined digital payment systems, tax automation, or mobile FinTech platforms independently, with limited focus on their joint influence on public revenue collection efficiency. Additionally, few studies have specifically concentrated on Lagos State as a distinct fiscal environment where FinTech adoption is most advanced, yet still faces efficiency constraints in revenue administration.

Against this background, this study examines FinTech innovation and public revenue collection efficiency in Lagos State, Nigeria, focusing on how digital payment systems, tax automation, and mobile FinTech platforms individually and collectively influence revenue performance. The study contributes to existing literature by providing a more integrated empirical perspective on FinTech-driven fiscal efficiency in a subnational context where digital transformation is most pronounced but still evolving.

2. Literature Review

2.1. Conceptual Review

2.1.1. Conceptual Review of FinTech Innovation and Public Revenue Collection Efficiency

FinTech innovation refers to the deployment of digital technologies such as electronic payment systems, automated tax platforms, mobile financial applications, and data-driven financial solutions to improve financial service delivery and administrative efficiency. In the public sector, FinTech has become a critical instrument for modernising revenue administration systems, particularly in developing economies where traditional tax collection processes are often characterised by inefficiency, leakages, and weak compliance structures. Recent literature highlights that FinTech adoption in public financial management improves transparency, reduces transaction costs, and enhances the speed and reliability of revenue collection processes (Lee *et al*., 2021) [6]. In this context, public revenue collection efficiency is understood as the ability of government institutions to collect revenue in a timely, cost-effective, and leak-proof manner while ensuring optimal compliance from taxpayers. Efficiency is therefore reflected in improved revenue yields, reduced administrative costs, and enhanced accountability in revenue processes.

2.1.2. Digital Payment Systems and Public Revenue Collection Efficiency

Digital payment systems constitute a major component of FinTech innovation in revenue administration. These systems include electronic funds transfer platforms, online payment gateways, and integrated government payment portals that facilitate cashless transactions between taxpayers and government agencies. Empirical evidence within recent studies shows that digital payment systems significantly enhance revenue collection efficiency by reducing reliance on cash-based transactions and improving transparency in financial flows. Omodero *et al* (2025) [9] found that digital payment adoption in Nigeria positively influences tax revenue performance by reducing leakages and improving traceability of transactions. Their study further emphasizes that cashless systems reduce human interference in revenue processes, thereby limiting opportunities for corruption and inefficiency. Similarly, research on Nigeria's Federal Inland Revenue Service indicates that platforms such as Remita and other electronic payment gateways have improved revenue collection by enabling real-time payment processing and simplifying taxpayer interactions with government systems (Olaoye *et al*., 2026) [8]. However, the study also notes that infrastructural limitations and uneven adoption across regions can reduce the effectiveness of digital payment systems. In a broader developing economy context, evidence suggests that digital payment systems contribute to fiscal efficiency by expanding formal financial participation and integrating previously informal economic activities into taxable systems (World Bank, 2022) [12]. This implies that digital payment systems do not only improve administrative efficiency but also broaden the tax base.

2.1.3. Tax Automation and Public Revenue Collection Efficiency

Tax automation refers to the use of digital systems to manage tax processes such as taxpayer registration, filing, assessment, auditing, and payment with minimal manual intervention. It is widely regarded as a core driver of efficiency in modern tax administration systems. Recent empirical studies in Nigeria confirm that tax automation significantly improves revenue collection efficiency. Aiyelabegan *et al*. (2026) [3] found that the adoption of digital tax platforms such as TaxPro-Max and electronic filing systems by the Nigerian Revenue Service enhances operational efficiency by reducing processing delays, improving compliance monitoring, and increasing accuracy in tax records. Similarly, Adegbie *et al*. (2022) [2] established that electronic tax administration systems improve revenue performance by simplifying filing procedures and reducing administrative bottlenecks. Their study further highlights that automation reduces discretionary human judgment in tax processes, thereby improving transparency and accountability in revenue administration systems. In Lagos State, empirical findings show that digital tax administration has contributed significantly to growth in internally generated revenue. Anioke (2024) [4] observed that the introduction of automated tax systems improved revenue collection efficiency by enabling self-assessment mechanisms and reducing dependence on manual tax processes. This suggests that automation enhances both compliance and administrative effectiveness.

2.1.4. Mobile FinTech Platforms and Public Revenue Collection Efficiency

Mobile FinTech platforms include mobile banking applications, mobile wallets, and digital payment applications that allow users to conduct financial transactions using mobile devices. These platforms are particularly important in developing economies due to high mobile penetration and limited access to traditional banking infrastructure. Empirical studies indicate that mobile FinTech platforms improve financial inclusion and enhance transaction efficiency, which indirectly strengthens revenue collection systems. In Nigeria, mobile payment adoption has been found to be influenced by trust, ease of use, and perceived usefulness, which in turn affects financial participation and compliance behaviour (Xu *et al* 2023) [14]. In terms of public revenue, mobile FinTech platforms facilitate direct person-to-government payments, reduce dependence on physical cash collection points, and improve accessibility for informal sector participants. The World Bank (2021) [11] reports that mobile money systems in developing economies significantly increase government

revenue by expanding the tax base and improving transaction visibility. Further studies also show that mobile-based financial systems improve efficiency by reducing transaction costs and enabling real-time monitoring of payments. This makes them particularly effective in enhancing revenue mobilisation in urbanized and high-activity economic environments such as Lagos State.

2.2. Theoretical Framework and Hypothesis Development

2.2.1. Technology–Organization–Environment (TOE) Theory

This theory was propounded by Tornatzky and Fleischer in (1990). Technology–Organization–Environment (TOE) framework, explain that the adoption and effectiveness of technological innovations in any organization are shaped by the interaction of technological characteristics, organizational capabilities, and environmental conditions. The framework assumes that technology does not operate in isolation; rather, its impact is determined by how well it aligns with internal institutional structures and external contextual pressures. Within this study, FinTech innovation in the form of digital payment systems, tax automation, and mobile FinTech platforms represents the technological dimension. The theory assumes that the mere availability of technology is not sufficient; its effectiveness depends on usability, compatibility, and integration within existing systems. Accordingly, digital payment systems enhance revenue collection efficiency when they are compatible with government revenue infrastructure and capable of supporting real-time transaction processing. Similarly, tax automation systems improve efficiency only when they simplify administrative procedures and reduce manual intervention in tax assessment and filing. Mobile FinTech platforms further strengthen efficiency when they are accessible, user-friendly, and widely adopted by taxpayers, particularly in both formal and informal sectors. The organizational dimension of the TOE framework is reflected in the capacity of public revenue institutions to adopt and sustain FinTech innovations. The theory assumes that organizational readiness such as staff competence, ICT infrastructure, managerial support, and administrative structure determines whether technological tools translate into improved performance outcomes. In this study, public revenue collection efficiency is influenced by how well revenue authorities are structured to implement digital payment systems, manage tax automation platforms, and integrate mobile-based financial solutions into existing processes. Where organizational capacity is weak, even advanced FinTech systems may fail to produce optimal efficiency gains. The environmental dimension assumes that external conditions significantly influence both adoption and effectiveness of technology. These conditions include regulatory frameworks, government digital policies, taxpayer readiness, and t broader financial ecosystem. The framework therefore provides a strong theoretical foundation for examining why FinTech innovations may enhance or fail to enhance public revenue collection efficiency depending on contextual conditions. In line with the theory, we hypothesise that:

H01: Digital payment systems do not have a significant effect on public revenue collection efficiency in Lagos State.

H02: Tax automation does not have a significant effect on public revenue collection efficiency in Lagos State.

H03: Mobile FinTech platforms do not have a significant effect on public revenue collection efficiency in Lagos State.

2.3. Empirical Review

Recent empirical studies have increasingly examined the role of FinTech innovation in improving public revenue administration, tax compliance, and fiscal efficiency, particularly in developing economies undergoing digital transformation. Omodero *et al* (2025) [9] investigated the effectiveness of digital payment systems on tax revenue collection in Nigeria using quarterly data spanning 2009 to 2023. The study employed the Autoregressive Distributed Lag (ARDL) technique and found that digital payment platforms significantly improved tax revenue generation through enhanced transaction traceability and reduced cash-related leakages. The study concluded that digital payment adoption strengthens revenue collection efficiency and transparency within Nigeria's tax administration system. Similarly, Olaoye *et al* (2026) [8] examined the effect of electronic payment systems on total revenue generation in the Federal Inland Revenue Service (FIRS), Nigeria. Using regression analysis on quarterly data between 2011 and 2022, the study found that e-payment systems exert a significant positive effect on revenue generation by reducing delays in payment processing and improving tax remittance efficiency. The study recommended wider deployment of digital payment infrastructure within public revenue agencies. In another related study, Aiyelabegan *et al* (2026) [3] examined technology diffusion and tax administration efficiency in the Nigerian Revenue Service. The study focused on e-invoicing systems, TaxProMax automation platforms, and digital tax processing technologies. Findings revealed that technology-driven tax administration significantly improves operational efficiency, reduces administrative bottlenecks, and enhances taxpayer compliance. The study emphasized that automation remains critical for strengthening modern revenue administration systems. At the international level, International Monetary Fund (2023) [5] reported that fintech-enabled payment systems improve public financial management through real-time payment processing, improved accountability, and reduced revenue leakages in government fiscal operations. The report further noted that digital financial technologies enhance transparency and strengthen monitoring mechanisms in public revenue administration. In a related cross-country study, Xi *et al* (2023) [13] examined the effect of digital financial inclusion on tax revenue performance in emerging economies. Using panel regression analysis, the study found that digital financial services and mobile payment adoption significantly improve tax mobilisation and reduce informal cash transactions. The researchers concluded that FinTech expansion contributes positively to fiscal efficiency and public revenue performance. Likewise, Mpofu *et al* (2022) [7] investigated digital financial inclusion and tax revenue collection in Africa. Their findings revealed that mobile financial services and electronic transactions improve government revenue mobilisation by integrating informal sector participants into the formal financial system. The study further emphasized that mobile-based financial technologies strengthen tax compliance and broaden the revenue base.

2.4. Research Gap

Most studies focus independently on either digital payment systems, tax automation, or mobile FinTech platforms,

without integrating these dimensions into a unified analytical framework. Moreover, there is limited empirical evidence that simultaneously examines how these three FinTech innovations interact to influence public revenue collection efficiency, particularly in developing economies like Nigeria. This creates a clear research gap: while existing studies confirm that FinTech improves revenue performance, there is insufficient understanding of the comparative and combined effects of digital payment systems, tax automation, and mobile FinTech platforms on public revenue collection efficiency. This study addresses this gap by providing an integrated analysis of these three dimensions within a single empirical framework.

3. Methodology

This study adopted a quantitative research design using the cross-sectional survey approach. The design was considered appropriate because it enabled the collection of quantitative data from respondents across selected revenue administration institutions in Lagos State at a single point in time. The cross-sectional approach facilitated the examination of the relationship between FinTech innovation variables digital payment systems, tax automation, and mobile FinTech platforms and public revenue collection efficiency. The quantitative approach was preferred due to its ability to generate objective, measurable, and generalizable findings using structured questionnaires and statistical techniques such as descriptive statistics, correlation analysis, and multiple regression analysis. The choice of Lagos State as the study area was informed by its advanced level of digital tax administration and widespread adoption of FinTech-enabled revenue systems compared to other subnational governments in Nigeria. Consequently, the design provided an appropriate framework for empirically assessing how FinTech innovations contribute to public revenue collection efficiency within a technologically evolving fiscal environment.

The population of this study comprised personnel involved in revenue administration, tax operations, digital payment processing, and fiscal monitoring within selected public revenue institutions in Lagos State, Nigeria. Lagos State was selected as the study area due to its position as Nigeria's largest internally generated revenue (IGR) base and one of the leading subnational governments in the adoption of digital tax administration and FinTech-enabled revenue systems. The target population was drawn from four major revenue-related institutions that are directly involved in the implementation and management of digital revenue collection systems in the state. These institutions include the Lagos State Internal Revenue Service (LIRS), Federal Inland Revenue Service (FIRS) Lagos operational offices, revenue departments across the twenty constitutionally recognized Local Government Areas (LGAs) in Lagos State, and the revenue monitoring units of the Lagos State Ministry of Finance. The selection of these institutions was based on their direct involvement in electronic tax administration, digital payment processing, taxpayer compliance monitoring, and implementation of automated revenue systems. Employees within tax operations, ICT units, revenue monitoring departments, compliance units, and audit sections constituted the major categories of respondents due to their operational exposure to FinTech-based revenue administration systems. Based on staff establishment records, institutional operational structures, and publicly available administrative information from the selected agencies, the accessible population was estimated at approximately 3,600 personnel. The population was considered appropriate for the study because the selected personnel possess practical knowledge and operational experience relating to digital payment systems, tax automation platforms, mobile FinTech applications, and public revenue administration in Lagos State.

The sample size for this study is determined using the Taro Yamane (1967) formula, which is appropriate for studies with a known and finite population. The formula is given as:

$$n=N/1+N\ (e)\ ^2$$

Where: n = sample size; N = population size; e = level of precision (5%)

Substituting the values into the formula:

$$n=3{,}600/1+3{,}600(0.05)2;\ n = 3{,}600/\ \{1 + 3{,}600(0.05)\ ^2;\ n = 3{,}600/\ \{1 + 3{,}600(0.0025);\ n= 360$$

The sample size for this study is 360 respondents drawn from the population of 3,600 staff across the Lagos State Internal Revenue Service (LIRS), Federal Inland Revenue Service (FIRS) Lagos office, Local Government Revenue Departments, and Lagos State Ministry of Finance.

This study adopted the stratified random sampling technique**.** The choice of this technique is justified by the heterogeneous nature of the population, which is made up of different revenue-related institutions in Lagos State. Stratification ensures that each institution is adequately represented in proportion to its size, thereby improving the representativeness and reliability of the findings. The population was first grouped into four strata: Lagos State Internal Revenue Service (LIRS), Federal Inland Revenue Service (FIRS) Lagos Zone, Local Government Revenue Departments (20 LGAs), and Lagos State Ministry of Finance (Revenue Units). After stratification, proportional allocation was used to determine the number of respondents selected from each stratum based on their estimated population size. Within each stratum, simple random sampling was used to select individual respondents to ensure equal probability of selection. The study relied on primary data, which was collected using a structured questionnaire. The questionnaire was designed to capture respondents' perceptions on: Digital payment systems, Tax automation, Mobile FinTech platforms, and Public revenue collection efficiency. The questionnaire was administered personally and electronically to improve response rate and reduce non-response bias. A total of 360 questionnaires were distributed, and 342 were successfully retrieved and found usable for analysis, representing a high response rate. Data collected were analyzed using both descriptive and inferential statistics. Descriptive statistics such as mean, and standard deviation were used to summarise respondents' views on the study variables. For inferential analysis, multiple regression analysis was employed to examine the effect of FinTech innovation variables on public revenue collection efficiency in Lagos State. The model was estimated using SPSS version 26.

Model Specification

To examine the effect of FinTech innovation on public revenue collection efficiency in Lagos State, a control variable (staff competence) was introduced to increase the

robustness of the model, the study specifies a multiple regression model as follows

$$PREC = \beta 0 + \beta 1DPS + \beta 2TAXA + \beta 3MFP + \beta 4SC + \mu$$

Where:
PREC = Public Revenue Collection Efficiency; DPS = Digital Payment Systems; TAXA = Tax Automation; MFP = Mobile FinTech Platforms; SC = Staff Competence (control variable)
β_0 = intercept (constant term)
β_1–β_3 = coefficients of the independent variables
β_4 = coefficient of the control variable (staff competence)
μ = stochastic error term

This study observed strict ethical standards in the collection and use of data. Permission was obtained from the relevant revenue institutions in Lagos State before the administration of questionnaires. Participation was voluntary, and respondents were not coerced at any stage of the study. Confidentiality and anonymity were ensured by not collecting personal identifiers such as names or staff identification numbers. All responses were treated as strictly confidential and used solely for academic purposes. Informed consent was obtained from all participants after clearly explaining the purpose of the study, its academic nature, and their right to withdraw at any time without any consequence. Data collected were securely stored and analyzed in aggregate form to prevent individual identification.

4. Results

4.1. Descriptive Statistics

Table 1. Questionnaire and Response

S/N	Digital Payment Systems (DPS)	SD	D	N	A	SA
1	Digital payment systems have improved the speed of revenue collection in Lagos State.	20	24	27	122	149
2	Electronic payment platforms have reduced cash handling in revenue collection processes	22	28	31	118	143
3	Digital payment systems have enhanced transparency in revenue administration.	19	21	23	127	152
4	The use of online payment platforms has reduced revenue leakages.	24	27	30	118	143
5	Digital payment systems have improved ease of tax payment for taxpayers.	22	26	28	119	147
	Tax Automation (TAXA)	SD	D	N	A	SA
6	Tax automation systems have simplified tax filing processes in Lagos State.	22	28	31	118	143
7	Automated tax systems have reduced delays in revenue collection processes.	21	23	26	123	149
8	Tax automation has improved accuracy in tax records and reporting.	26	29	332	100	155
9	Electronic tax systems have enhanced monitoring of taxpayer compliance.	20	21	22	127	152
10	Tax automation has reduced human interference in tax administration.	25	26	29	123	139
	Mobile FinTech Platforms (MFP)	SD	D	N	A	SA
11	Mobile FinTech platforms have improved accessibility of tax payment systems.	20	23	26	113	160
12	Mobile payment applications have increased convenience in revenue payment.	20	21	22	115	164
13	Mobile FinTech systems have enhanced real-time payment of taxes and levies.	21	23	25	124	149
14	The use of mobile financial platforms has improved taxpayer participation in revenue payment	26	28	30	109	149
15	Mobile FinTech platforms have reduced dependence on physical tax offices.	20	21	24	123	154
	Staff Competence (SC) – Control Variable	SD	D	N	A	SA
16	Staff members possess adequate ICT skills for operating FinTech systems.	25	27	29	118	143
17	Employees are well trained in the use of digital revenue platforms.	22	28	31	118	143
18	Staff competence enhances the effectiveness of digital tax systems.	20	25	26	122	149
19	Revenue officers are capable of troubleshooting basic FinTech system challenges.	23	26	28	119	146
20	Continuous training improves staff ability to use automated tax systems.	22	24	25	123	148
	Public Revenue Collection Efficiency (PREC)	SD	D	N	A	SA
21	Revenue collection processes in Lagos State have become faster due to FinTech adoption.	26	28	30	109	149
22	FinTech innovations have improved overall revenue performance in Lagos State.	24	27	29	116	146
23	Revenue leakages have reduced due to digitalization of tax systems	20	23	24	118	157
24	Compliance rate of taxpayers has improved with the use of FinTech platforms.	19	21	23	115	164
25	Public revenue collection is more efficient due to adoption of digital technologies.	27	29	31	100	155

Source: Field survey (2026)

4.1.1. Diagnostic/Assumption Tests

Normality Test

The normality of the residuals was assessed using the Shapiro–Wilk test. The result indicated that the residuals did not significantly deviate from normality ($W = 0.978$, $p > 0.05$), suggesting that the assumption of normality was satisfied.

Multicollinearity Test

Multicollinearity among the independent variables was assessed using the Variance Inflation Factor and tolerance values. The results indicated that all variables had VIF values ranging from 1.14 to 1.45 below the threshold of 10 and tolerance values above 0.10, suggesting the absence of multicollinearity. Therefore, the independent variables were considered sufficiently independent for reliable regression analysis.

Heteroscedasticity Test

The test for heteroscedasticity was conducted to examine whether the variance of the error terms is constant across observations. The result indicates that the test statistic is not statistically significant ($p > 0.05$), suggesting the absence of heteroscedasticity in the model. This implies that the assumption of homoscedasticity is satisfied, and the error terms exhibit constant variance. Therefore, the regression estimates are considered reliable and not biased due to heteroscedasticity.

4.2. Test of Hypothesis

4.2.1. Test of Hypothesis 1

H01: Digital payment systems do not have a significant effect on public revenue collection efficiency in Lagos State.

Table 2. Regression Results: Effect of Digital Payment Systems on Public Revenue Collection Efficiency in Lagos State

Model Summary	R Square	0.217	
ANOVA	F	94.148	
	Sig.	0.000	
Coefficients	B	T	Sig
Constant	2.086	10.233	0.000
Digital Payment Systems	0.481	9.703	0.000

Source: SPSS v. 26 output (2026)

Table 2 shows the regression results on the effect of digital payment systems on public revenue collection efficiency in Lagos State. The R^2 value of 0.217 indicates that 21.7% of variations in public revenue collection efficiency in Lagos State are explained by digital payment systems. The F-statistic of 94.148 with a significance of 0.000 validates the overall model at 5%. The coefficient for digital payment systems ($\beta = 0.481$, $p < 0.05$) reflects a positive marginal effect, implying that for every one-unit increase in digital payment systems, public revenue collection efficiency in Lagos State increases by 0.481 units, holding all other factors constant, and this effect is significant. Hence, the null hypothesis is rejected, establishing that digital payment systems significantly and positively influences public revenue collection efficiency in Lagos State

4.2.2. Test of Hypothesis 11

H02: Tax automation does not have a significant effect on public revenue collection efficiency in Lagos State.

Table 3. Regression Results: Effect of Tax Automation on Public Revenue Collection Efficiency in Lagos State

Model Summary	R Square	0.104	
ANOVA	F	36.666	
	Sig.	0.000	
Coefficients	B	T	Sig
Constant	2.701	12.624	0.000
Tax Automation	0.328	6.298	0.001

Source: SPSS v. 26 output (2026)

Table 3 shows the regression results on the effect of tax automation on public revenue collection efficiency in Lagos State. The R^2 value of 0.104 indicates that 10.4% of variations in public revenue collection efficiency in Lagos State are explained by tax automation. The F-statistic of 39.666 with a significance of 0.000 validates the overall model at 5%. The coefficient for tax automation ($\beta = 0.328.$, $p < 0.05$) reflects a positive marginal effect, implying that for every one-unit increase in Tax automation, public revenue collection efficiency in Lagos State increases by 0.328 units, holding all other factors constant, and this effect is significant. Hence, the null hypothesis is rejected, establishing that tax automation significantly and positively influences public revenue collection efficiency in Lagos State

4.2.3. Test of Hypothesis 111

H03: Mobile FinTech platforms do not have a significant effect on public revenue collection efficiency in Lagos State.

Table 4. Regression Results: Effect of Mobile Fintech platforms on Public Revenue Collection Efficiency in Lagos State.

Model Summary	R Square	0.289	
ANOVA	F	137.975	
	Sig.	0.000	
Coefficients	B	T	Sig
Constant	1.803	9.327	0.000
Mobile Fintech platforms	0.545	11.746	0.000

Source: SPSS v. 26 output (2026)

Table 4 shows the regression results on the effect of mobile fintech platforms on public revenue collection efficiency in Lagos State. The R^2 value of 0.289 indicates that 28.9% of variations in public revenue collection efficiency in Lagos State are explained by Mobile FinTech platforms. The F-statistic of 137.975 with a significance of 0.000 validates the overall model at 5%. The coefficient for mobile fintech platforms ($\beta = 0.545$, $p < 0.05$) reflects a positive marginal effect, implying that for every one-unit increase in mobile fintech platforms, public revenue collection efficiency in Lagos State increases by 0.545 units, holding all other factors constant, and this effect is significant. Hence, the null hypothesis is rejected, establishing that mobile fintech platforms significantly and positively influences public revenue collection efficiency in Lagos State

4.2.4. Test of Control Variable

H03: Staff competence do not have a significant effect on public revenue collection efficiency in Lagos State.

Table 5. Regression Results: Effect of Staff Competence on Public Revenue Collection Efficiency in Lagos State.

Model Summary	**R Square**	**0.077**	
ANOVA	F	28.475	
	Sig.	0.000	
Coefficients	**B**	**T**	**Sig**
Constant	2.833	13.247	0.000
Staff Competence	0.283	5.336	0.001

Source: SPSS v. 26 output (2026)

Table 5 shows the regression results on the effect of Staff competence on public revenue collection efficiency in Lagos State. The R^2 value of 0.077 indicates that 7.7% of variations in public revenue collection efficiency in Lagos State are explained by Staff competence. The F-statistic of 28.475 with a significance of 0.000 validates the overall model at 5%. The coefficient for Staff competence ($\beta = 0.283$, $p < 0.05$) reflects a positive marginal effect, implying that for every one-unit increase in Staff competence, public revenue collection efficiency in Lagos State increases by 0.283 units, holding all other factors constant, and this effect is significant. Hence, the null hypothesis is rejected, establishing that Staff competence significantly and positively influences public revenue collection efficiency in Lagos State

4.3. Discussion of Findings

The findings of this study revealed that FinTech innovation significantly influences public revenue collection efficiency in Lagos State, Nigeria. Specifically, digital payment systems, tax automation, mobile FinTech platforms, and staff competence all exerted positive and statistically significant effects on revenue collection efficiency, as their respective p-values were less than 0.05. The result showed that digital

payment systems have a positive and significant effect on public revenue collection efficiency with a coefficient of 0.481 and a p-value less than 0.05. This implies that improvements in electronic payment infrastructure significantly enhance transparency, reduce leakages, and accelerate revenue collection processes in Lagos State. The finding supports the argument that cashless payment systems improve accountability by enabling real-time transaction monitoring and reducing human interference in revenue administration. This result is consistent with the findings of Omodero *et al* (2025) [9], who found that digital payment adoption significantly improves tax revenue performance in Nigeria through enhanced transaction traceability and reduction in cash-related inefficiencies. It also aligns with the findings of the International Monetary Fund (2023) [5], which emphasized that fintech-enabled payment systems strengthen public financial management by improving payment efficiency and accountability in government revenue systems.

The study further revealed that tax automation has a positive and significant effect on public revenue collection efficiency with a coefficient of 0.328 and a p-value below 0.05. This indicates that automated tax systems significantly improve efficiency by simplifying tax filing, enhancing compliance monitoring, and reducing administrative bottlenecks. The finding suggests that digital tax platforms such as electronic filing systems and automated assessment tools improve the operational capacity of revenue institutions. This outcome corroborates the findings of Aiyelabegan *et al*. (2026) [3], who reported that tax automation technologies significantly improve tax administration efficiency in Nigerian revenue institutions by reducing manual processing and improving data accuracy. The result is also consistent with the study of Adegbie *et al*. (2022) [2], which established that electronic tax management systems positively influence revenue collection efficiency through improved transparency and taxpayer compliance.

In addition, the findings indicated that mobile FinTech platforms have the strongest positive effect on public revenue collection efficiency with a coefficient of 0.545 and a p-value less than 0.05. This suggests that mobile-based financial technologies significantly improve accessibility, convenience, and speed of revenue payments, particularly among taxpayers operating within informal and semi-formal sectors. The finding highlights the increasing role of mobile financial services in expanding the reach of government revenue systems. This result supports evidence from the World Bank (2022) [12], which reported that mobile financial technologies enhance government revenue mobilisation by improving financial inclusion and integrating informal economic transactions into formal systems. The strong coefficient recorded for mobile FinTech platforms suggests that mobile-enabled payment solutions are becoming central to efficient revenue mobilisation in Lagos State due to widespread mobile penetration and ease of use.

Furthermore, the study found that staff competence has a positive and significant effect on public revenue collection efficiency with a coefficient of 0.283 and a p-value less than 0.05. This indicates that the effectiveness of FinTech innovations in revenue administration depends partly on the digital skills and operational competence of personnel managing the systems. The result implies that technologically advanced systems may not achieve optimal outcomes where employees lack the necessary ICT capabilities and technical expertise. This finding is consistent with the assumptions of the Technology–Organization–Environment (TOE) framework, which emphasizes that organizational readiness and human capacity significantly determine the effectiveness of technological innovations

5. Conclusion and Recommendation

5.1. Conclusion

This study concluded that FinTech innovation significantly enhances public revenue collection efficiency in Lagos State, Nigeria. The findings revealed that digital payment systems, tax automation, mobile FinTech platforms, and staff competence all exert positive and statistically significant effects on revenue collection efficiency. Among the variables examined, mobile FinTech platforms emerged as the strongest predictor of efficient revenue collection, indicating the growing importance of mobile-enabled financial services in modern public revenue administration. The study further concludes that the adoption of digital payment systems and automated tax processes improves transparency, reduces revenue leakages, enhances compliance, and accelerates revenue processing. In addition, staff competence was found to be a critical organizational factor that strengthens the effectiveness of FinTech-driven revenue systems.

5.2. Policy Recommendations

1. Government revenue agencies should strengthen digital payment infrastructure by expanding secure and integrated electronic payment platforms across all revenue collection channels. This will enhance transparency, reduce leakages, and improve the speed and accuracy of revenue collection processes.
2. Revenue authorities should intensify the automation of tax administration systems through wider deployment of electronic tax filing, automated assessment, and digital compliance monitoring platforms. This will minimize manual bottlenecks, improve taxpayer compliance, and enhance operational efficiency.
3. Lagos State Government should promote wider adoption of mobile FinTech platforms by developing user-friendly mobile payment applications and increasing public awareness on digital tax payment systems.
4. Continuous staff training and digital capacity development programmes should be institutionalized within revenue agencies to improve employees' competence in operating FinTech-based systems. Enhancing staff ICT capability will strengthen the effectiveness and sustainability of digital revenue administration.

5.3. Limitations of the Study

This study was limited to selected public revenue institutions in Lagos State, Nigeria; therefore, the findings may not be fully generalizable to other states or public sector environments with different levels of FinTech adoption. The study also relied on questionnaire-based responses, which are subject to respondents' perceptions and possible response bias. In addition, the cross-sectional nature of the study restricted data collection to a single period, making it difficult to capture long-term changes in FinTech adoption and revenue collection efficiency. Furthermore, access to some institutional operational data was limited due to confidentiality concerns within revenue agencies.

Areas for Further Studies

1. Future studies should extend the scope beyond Lagos State to include other states in Nigeria in order to provide broader empirical evidence on the relationship between FinTech innovation and public revenue collection efficiency across different institutional environments.
2. Subsequent researchers may examine the moderating or mediating role of variables such as ICT infrastructure, cybersecurity, or taxpayer digital literacy in the relationship between FinTech innovation and revenue collection efficiency.
3. Future studies may adopt a longitudinal research design to assess the long-term impact of digital payment systems, tax automation, and mobile FinTech platforms on public revenue performance over time.

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