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Software Solutions and Tax Performance: A Study of Federal Inland Revenue Service Offices in Selected States in North West, Nigeria

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ABSTRACT: This study examined the impact of software solutions on the tax performance of Federal Inland Revenue Service (FIRS) offices in North West Nigeria, with a focus on Government Integrated Financial Management Information System (GIFMIS), TaxPro Max and Systems Applications and Products (SAP). A quantitative research design was adopted using a structured questionnaire administered to 173 staff members across 14 FIRS offices in Kaduna, Kano and Katsina states. Data were analyzed using descriptive statistics and linear regression. The results revealed that software solutions have a significant and positive effect on tax performance. Specifically, TaxPro Max showed the highest impact ($R^2 = 0.810$), followed by SAP ($R^2 = 0.601$) and GIFMIS ($R^2 = 0.537$). The study concludes that the integration of digital financial systems significantly improves revenue generation, operational efficiency and accountability within the FIRS. The study among others recommends continuous investment in software infrastructure, user training and policy support to maximize the benefits of these technologies in Nigeria's tax administration.

KEYWORDS: Software Solutions, Tax Performance. Federal Inland Revenue Service, Revenue, Nigeria.

INTRODUCTION

In the digital age, the integration of technology in public sector financial management has become imperative for enhancing efficiency, accuracy and transparency, with software solutions serving as critical tools to streamline financial operations and improve performance (Mia & Clarke, 1999). The Federal Inland Revenue Service (FIRS), responsible for tax collection in Nigeria, faces challenges that necessitate adopting such solutions to optimize performance, as the public sector has often been associated with financial mismanagement, weak expenditure control, poor auditing, and lapses in record-keeping (Shehu, 2020). Although past governments have introduced reforms, their impact has been questioned (Onukelobi & Okoye, 2019), hence globalization and accountability demands must have necessitated the introduction of software solutions which, as Granlund and Malmi (2002) noted, can facilitate accurate reporting, improve data integrity and enhance decision-making.

In tax administration, effective systems can boost revenue forecasting, resource allocation and compliance (Osei-Assibey & Chansarkar, 2019), making the introduction of software packages in FIRS a reform in the right direction since the public sector focuses on service delivery and transparency (Amaefule & Iheduru, 2014). Software systems can also be tailored for public financial purposes and meet industrial and government standards since they capture, process and convey financial data (Heagy, Trimmer & Matson, 2008). Despite these benefits, FIRS's adoption of software solutions faces challenges, including inconsistency across departments, inefficiency in tax collection and persistent taxpayer non-compliance (Ogunleye, 2021).

In the public sector, effective tax collection performance is crucial in increasing revenue generation to the government. The implementation of the Government Integrated Financial Management Information System (GIFMIS) was intended to improve the efficiency and effectiveness of financial management within Nigerian public institutions, including the FIRS, but there is limited evidence on whether it has effectively enhanced the tax collection performance of FIRS offices in the North West region of Nigeria. While GIFMIS has been praised for promoting transparency and accountability (Olowookere, 2020), challenges related to adoption, technical infrastructure and staff training persist (Adeniran & Adebayo, 2019).

Similarly, the TaxPro Max software was introduced to streamline tax preparation, filing and management, yet despite its reported benefits in reducing processing times and increasing accuracy (Okafor & Olaniyan, 2020), issues such as inadequate training, technical support, staff resistance, and data integration challenges remain (Davis, 1989; Ogundele & Olanrewaju, 2021). Likewise, the Systems Applications and Products (SAP) software, widely adopted to optimize accounting, auditing and budgeting, has not been thoroughly explored in terms of its impact on FIRS tax performance in the North West. While acknowledged for integrating business functions and providing real-time data (Akinyele, 2020), SAP

still faces implementation, customization and training obstacles (Adeyemi & Ismail, 2018). Therefore, it is crucial to investigate whether GIFMIS, TaxPro Max and SAP have contributed to improving financial management practices and tax performance of FIRS offices in the North West region of Nigeria. To achieve this, the study aims to address inefficiency in tax collection performance in the Nigerian public sector with particular reference to the Federal Inland Revenue Service offices in the North West, Nigeria. Specifically, the study seeks to evaluate the impact of GIFMIS, TaxPro Max and SAP on tax collection performance of FIRS offices in the North West, Nigeria.

LITERATURE REVIEW

Conceptual Review

Software Solutions

Perceptions differ in an attempt for a better explanation and understanding of the concept of software solutions by different authors and researchers. Software solution is a range of software applications and services designed to solve specific problems so as to meet the needs of the user (Chien, 2024). These solutions can address series of issues, such as business automation, data management and communication. Similarly, Weyer (2024) viewed software solutions as applications that aid company's attainment of operational goals through the process of automation, resource management that enables data-driven decision-making. These can range from enterprise resource planning software systems that integrate customer relationship, human resource and supply chain management. The above views show that software solution is an automated technique built to provide a practical and efficient resolution to a defined problem within a given context.

Tax Performance

Tax performance refers to the extent to which a tax system efficiently generates revenue without excessive administrative costs or distortions to the economy (Bird, 2008). According to Alm, Jackson, and McKee (1992), tax performance is measured by the level of taxpayer compliance, which includes timely filing, accurate reporting, and payment of taxes as prescribed by the tax code. Also, Eze and Okafor (2016) as the efficiency with which taxes are collected to fund government expenditures and public services. Similarly, Oladipupo and Obazee (2016) viewed tax performance as to the level of adherence by taxpayers to tax laws, including timely filing, accurate reporting and payment. Additionally, Udo and Agboola (2020) defined tax performance as the generation of sufficient revenue to fund key sectors such as infrastructure, education, healthcare, and social welfare, thereby supporting long-term economic development. From these views, tax performance can be referred to as the ability to collect taxes effectively and how well tax revenues are used to achieve public policy goals.

Types of Software Solutions in FIRS

Government Integrated Financial Management Information System (GIFMIS): GIFMIS is a sub-component of Economic Reform and Governance Project aimed at supporting public resource management and anti-corruption scheme through updating monetary process with improved methods and information technology. It is also used to support the government in all aspects of budget preparation, execution and management of government financial resources. In line with the foregoing, GIFMIS (2014) observed that federal government since April 2nd, 2012 introduced GIFMIS to tackle the budget management and accounting across MDAs and to address key sources of economic inefficiency. GIFMIS is meant to advance the acquisition, allocation, utilization and conservation of public financial resources using automated and integrated, effective, efficient and economic information systems. This assists intentional management of public financial resources for enhanced accountability, transparency, cost effective public delivery, and economic growth and poverty reduction efforts. The overall objectives of GIFMIS include but not limited to increase in the ability of federal government to take central control and monitor the expenditure and receipts in the MDAs, increased access to information on financial and operational performance, better internal controls to prevent and detect potential and actual fraud, access to information on government cash position and economic performance and display of accountability and transparency to the public and cooperating partners.

Taxpro Max: TaxPro Max is a tax preparation software designed for tax professionals, providing them with tools to efficiently file federal and state tax returns (TaxPro Max, 2023). Also Gustafson (2022) conceptualises TaxPro Max as a comprehensive tax filing system that offers users the ability to prepare and file tax returns electronically, providing a range of services from simple individual returns to more complex corporate filings. Additionally, Choi and Lee (2021) refer to TaxPro Max as a software which offers a cloud-based tax solution, allowing tax professionals to access and prepare returns remotely, securely storing client data online and enabling easy collaboration. In the same vein, Smith and Williams (2021) view TaxPro Max as a tax filing automation tool designed to minimize manual tasks involved in preparing tax documents. From the above perceptions, TaxPro Max can be said to be a software product designed to aid tax professionals and tax payers in efficiently managing the preparation and filing of tax returns.

Systems Applications and Products (SAP): SAP is a comprehensive software platform widely used for enterprise resource planning (ERP). It helps organisations manage various activities like finance, human resources, and supply chain through centralised systems that allows departments to share data. According to Moe and Popovic (2014), SAP is a

modular software suite designed to facilitate the seamless flow of information across an organization, enabling better planning, management and tracking of business resources and activities. Also Gupta and Hock (2019) viewed SAP as a comprehensive suite of software applications that enable organisations to automate and manage core organisation functions in an integrated manner so as to improve data accuracy and consistency in information across all departments. These views are indications that SAP is an integrated system for managing business processes, with a strong emphasis on data accuracy, efficiency, and real-time decision-making.

Theoretical Framework

Public Finance Management Theory: The study dwells on the theory of public finance management theory. The public finance management theory makes a statement based on a management of financial resources. The theory believes that every aspect of financial resources which includes its mobilization and expenditure are to be properly managed by a government, providing benefits for the citizens in the process. The theory specifies provisions for resource mobilization, budgetary procedures, efficient management of resources, prioritization of programs and applying control to guide against threats. For instance, SAP, Tax Pro Max, and GIFMIS are products of financial management theory based on the principle that those systems are created primarily to avoid instances of misappropriation of public funds in the public sector (Kaoje, Nabila, Idris, Gambarawa & Ubandawaki, 2020).

Institutional Theory: Institutional theory is a theory aimed at tackling the problem of organisational performance. Sequel to the foregoing, Dacin, Goodstein and Scott (2002) recognized that institutional theory had been commended as a strong theory in explaining individual and organisational actions In the face of numerous oppositions, the institutional theory has been used in several studies.

The theories are in harmony in the sense that they try to integrate the resource management and contribute to the organisation as well, in spite of the different approaches. The two theories explain some good aspects of tax collection performance activities as it relates to this study. Therefore, they are used as bases for this research. This is so because public finance management theory focuses on effective management of financial resources while institutional theory focuses on the organisational overall performance and not just attainment of organisational goals.

Empirical Review

Osei-Assibey and Chansarkar (2019) conducted a study on the impact of integrated financial management information systems on financial reporting in Ghana. The study found that the implementation of GIFMIS significantly improved the accuracy and timeliness of financial reporting in Ghana, leading to better financial performance management. Similarly, Mekonnen (2021) conducted a study on the effect of GIFMIS on budget execution and financial accountability in Ethopia. The study showed a statistically significant relationship between GIFMIS usage and improved budget execution, resulting in enhanced financial accountability and performance in public sector institutions. Also, George (2021) conducted a study on the impact of integrated financial management information system on public sector service delivery in Cape Coast Metropolitan Assembly (CCMA). The results show that the automated budgeting and preparation, cash management and fraud prevention level of GIFMIS has a positive and significant impact on the delivery of the public service. In the same vein, Owolabi, Odunlade and Izang (2022) found that GIFMIS has significant effect on fraud prevention in Nigerian public sector. Namasasa and Kahiigi (2020) in a study on evaluating then effectiveness of GIFMIS on public financial management in Uganda, found no statistically significant impact of GIFMIS on improving financial performance management due to issues like inadequate training and poor system integration. In addition, Mali and Saidu (2021) highlighted that while GIFMIS was expected to enhance financial management; the actual impact on performance indicators was statistically insignificant, attributed to poor user engagement and lack of resources.

Alm and Martinez-Vazquez (2019) conducted a study on the impact of tax administration reforms on revenue performance: Evidence from TaxPro Max in Nigeria. The study found that the implementation of TaxPro Max significantly improved tax collection efficiency and enhanced overall financial performance management in Nigerian states. Similarly, Ajayi and Odebiyi (2020) found that the introduction of TaxPro Max led to significant improvements in financial reporting accuracy and transparency, positively impacting overall financial performance management in the public sector. Additionally, Ogunleye (2021) revealed a statistically significant positive relationship between the use of TaxPro Max and increased tax compliance rates, which in turn improved financial performance metrics for local governments. Also Oloyede and Adebayo (2022) found that the implementation of TaxPro Max did not lead to statistically significant improvements in overall financial management performance, attributing this to insufficient training and user resistance. Equally, Adeyemo and Onifade (2023) found no significant correlation between TaxPro Max usage and improved financial management outcomes, citing issues such as inadequate technical support and lack of comprehensive training for users.

Ismail and King (2007) carried out a study on factors influencing the effectiveness of accounting information systems: A study of Systems Applications and Product (SAP) users. The findings showed that SAP implementation significantly enhances tax performance by improving data accuracy and reporting timeliness, leading to better financial

decision-making. Similarly, Teece (2010) found that organizations adopting SAP significantly improved their financial management capabilities through better integration of business processes and enhanced data analytics, contributing to superior financial outcomes. Also Suh and Lee (2015) studied the role of SAP in enhancing financial performance: Evidence from Korean companies. The findings showed that companies using SAP reported significant improvements in financial performance metrics, including returns on interest and profitability, attributed to better operational efficiencies and financial control mechanisms. On the contrary, Zafar and Tufail (2020) highlighted that although SAP was implemented; its impact on financial performance was statistically insignificant, attributed to poor user engagement and a lack of strategic alignment.

Akinyemi and Oladapo (2021) found that despite the adoption of SAP, financial performance improvements were insignificant due to high implementation costs and resistance to change among employees. Correspondingly, Siddique and Shafiq (2022) in their study indicated that the financial management performance of SMEs using SAP showed no significant improvements, citing challenges related to resource limitations and lack of proper implementation strategies. Most of the studies reviewed found out that software solutions have a mixed impact on tax performance. Also most of the studies reviewed are on private sector while the present study focuses on public sector. This constitutes a gap to be filled by the study.

RESEARCH METHODS

3.1 Research Design: The research design for this study is the survey method. The reason for this methodological approach is to broaden the empirical data, its relative importance to the actualization of the research objectives and thus have a stronger backing for the conclusions.

3.2 Population of the Study: In this study, the population include thirty one FIRS offices in North West, Nigeria consisting of Kaduna, Kano, Katsina, Jigawa, Kebbi, Sokoto and Zamfara states.

3.3 Sample Size and Sampling Technique: The sample size of this study consists of fourteen FIRS offices in Katsina, Kano and Kaduna states. The study used convenience sampling technique to select the offices. The sample size of 14 offices were based on accurate representation of the diversity and characteristic of the entire population. Other justifications of the sample size include homogeneity of the population in terms of operation and performance.

3.4 Method of Data Collection and Analysis: The study employs a primary source of data collection through structured questionnaire and information generated from the FIRS website. In presenting and analyzing the data generated, descriptive statistics and linear regression were used.

3.5 Validity and Reliability: A copy of the questionnaire was given to experts to test the face, content and construct validity. Afterwards, a pilot study was conducted. Cronbach test was employed to assess the reliability of the research instrument. The results are presented below;

Variables	Item Statement	Cronbach Alpha (α)
Impact of Government Integrated Financial Management Information System on tax performance	1 – 5	0. 873
Impact of TaxPro Max on tax performance	6 – 10	0.948
Impact of Systems Applications and Products on tax performance	11 – 15	0. 841

Source: *Research Study, 2025*

3.6 Operationalisation and Measurement of Variables: Statement items in the questionnaire were measured using measurement scale adopted from prior studies such as Amaefula & Iheduru (2014); Kumar (2019); Ezenwaka, Ofor & Nwaorgu (2022).

Variable Items	Item Statement	Source
GIFMIS on tax performance	1 – 6	Amaefula & Iheduru (2014); Kumar (2019) and Ezenwaka, Ofor & Nwaorgu (2022)
TaxPro Max on tax performance	7 – 12	Amaefula & Iheduru (2014); Kumar (2019)
Systems Applications and Products (SAP) on tax performance	13 – 18	Ezenwaka, Ofor & Nwaorgu (2022)

Source: *Research Study, 2025.*

3.7 Model Specification: Stochastic model on a prior study carried out by Ezenwaka, Ofor and Nwaorgu (2022) were adopted and modified. Therefore, the general model for this study as is mostly found in existing literature is represented thus;

Financial Performance Management = f (GIFMIS + TPM + SAP) …… Model 1

The model is specified in a linear estimation form as;

FINPERFMANAGT=$\beta 0$+ $\beta 1$GIFMISi + $\beta 2$ TPMi + $\beta 3$SAPi + μi …….. Model 2

Dependent variable: FINPERFMANAGT = Financial Performance Management

Independent Variables: GIFMIS = Government Integrated Financial Management Information System

TPM = Taxpro Max

SAP = Systems Applications and Products

Stochastic Error Term/ Disturbance Factor= μ

Shift Parameters= b1, b2, b3

Constant Parameter= $\beta 0$

i = Cross sections

DATA ANALYSIS AND PRESENTATION OF RESULTS

4.1 Descriptive Statistics of GIFMIS and Tax Performance

This section presents descriptive statistics that illustrate the relationship between GIFMIS and tax performance which is shown in table below.

Table 1: Descriptive Statistics of GIFMIS and Tax Performance

Item Statements	N	Min	Max	Mean	Std. Dev.
1. GIFMIS has improved the monitoring and control of tax revenue and expenditures.	173	1	5	3.69	0.996
2. The integration of GIFMIS has enhanced the transparency and accountability of tax collection operations.	173	1	5	3.66	0.930
3. GIFMIS provides timely and accurate financial information that supports better tax decision-making.	173	1	5	3.55	1.096
4. The adoption of GIFMIS has led to a significant reduction in fraud and revenue leakages.	173	1	5	3.71	0.951
5. GIFMIS has improved the efficiency of budget execution and fund allocation processes in tax operations.	173	1	5	3.77	0.973
6. GIFMIS has positively influenced tax collection performance.	173	1	5	3.73	0.848
Grand Score				**3.69**	**0.966**

Source: *Research Study, 2025.*

Table 1 shows a generally positive perceptions across all measured indicators. The highest mean score 3.77 was recorded for the item statement which states that GIFMIS has improved the efficiency of budget execution and fund allocation processes, indicating strong agreement that GIFMIS enhances operational efficiency. Similarly, the statement that says that GIFMIS has positively influenced tax collection performance with a mean score of 3.73 and GIFMIS has reduced fraud and revenue leakages with an average of 3.71 also received high ratings,. This is an indication of significant perceived improvements in financial integrity and revenue assurance. Other aspects such as improved control of tax revenue and expenditures with a mean of 3.69, enhanced transparency and accountability with mean of 3.66, and the provision of timely, accurate financial information with a mean 3.55 were also positively rated, though the latter had the lowest mean and highest standard deviation 1.096, indicating more varied opinions. Overall, the results suggest that GIFMIS is perceived as an effective tool for strengthening financial management performance in key areas such as budgeting, transparency, control, and fraud reduction within the FIRS in North West Nigeria.

4.2 Descriptive Statistics of TaxPro Max and Tax Performance

This section presents descriptive statistics that illustrate the relationship between TaxPro Max and tax performance which is shown in table below;

Table 2: Descriptive Statistics of TaxPro Max and Tax Performance

Item Statement	N	Min	Max	Mean	Std. Dev.
1. TaxPro Max has simplified the process of tax filing and payment for taxpayers.	173	1	5	3.91	1.456
2. The use of TaxPro Max has enhanced voluntary tax compliance among taxpayers.	173	1	5	3.86	1.212
3. TaxPro Max has improved the speed and accuracy of tax processing and documentation.	173	1	5	3.97	1.053

4. TaxPro Max has strengthened communication and interaction between taxpayers and FIRS staff	173	1	5	3.85	1.012
5. TaxPro Max has helped in reducing manual errors and operational delays in tax administration.	173	1	5	3.90	1.242
6. The implementation of TaxPro Max has significantly enhanced tax collection performance.	173	1	5	3.83	1.370
Grand Score				**3.89**	**1.224**

Source: *Research Study 2025*

From table 2, the highest mean score 3.97 was recorded for the statement that TaxPro Max has improved the speed and accuracy of tax processing and documentation. This suggests that users largely agree that the system enhances efficiency. Similarly, the statements related to simplifying tax filing has mean 3.91 and reducing manual errors with a mean of 3.90 also received favorable ratings, highlighting the system's impact on convenience and accuracy.

Statements regarding enhanced voluntary compliance with mean 3.86, better communication with FIRS staff received a mean 3.85 and improved tax collection performance with a mean 3.83 also scored positively, although slightly lower. This implies that while the system is seen as effective, there may still be room for improvement in these areas. The standard deviations range from 1.012 to 1.456, indicating some variability in responses, with the highest variability seen in the statement about simplification of tax filing. Generally, the results suggest that TaxPro Max is perceived positively across several key areas of tax administration, particularly in improving efficiency and reducing errors.

4.3 Descriptive Statistics of Systems Applications and Products and Tax Performance

This section presents descriptive statistics that illustrate the relationship between Systems Applications and Products Max and tax performance which is shown in table below.

Table 3: Descriptive Statistics of Systems Applications and Products and Tax Performance

Item Statement	N	Min	Max	Mean	Std. Dev.
1. SAP enables better coordination and data sharing among departments involved in tax operations.	173	1	5	3.71	1.027
2. The use of SAP improves internal operational efficiency in tax administration processes.	173	1	5	3.76	0.938
3. SAP allows for real-time monitoring of tax transactions, improving decision-making and reporting.	173	1	5	3.74	1.032
4. The integration of SAP with other software solutions leads to more efficient workflow and process automation in tax collection.	173	1	5	3.70	1.068
5. SAP's internal control features reduces fraud and enhance accountability in tax operations.	173	1	5	3.69	0.944
6. SAP supports better strategic planning and decision-making in tax enforcement even without direct connection in taxpayer interaction.	173	1	5	3.80	1.145
Grand Score				**3.73**	**1.026**

Source: *Research Study, 2025.*

The descriptive statistics reveal generally positive perceptions of SAP's impact on tax operations among respondents. With mean scores ranging from 3.69 to 3.80, the data suggests that most respondents agree that SAP has enhanced various aspects of tax performance. The highest mean 3.80 relates to SAP's overall contribution to the performance of tax collection, indicating that respondents believe the system has had a significant and beneficial effect. Similarly, statements about improved coordination, data accuracy, real-time monitoring, and workflow efficiency all received favorable ratings, with means above 3.70.

Although all responses lean toward agreement, the standard deviations ranging from 0.938 to 1.145 show a moderate level of variation, particularly in how SAP is perceived to contribute to tax performance. This suggests that while the overall sentiment is positive, individual experiences may vary, possibly due to differences in implementation, training or user familiarity. In summary, the results reflect a consensus that SAP plays a constructive role in improving tax-related operations, particularly in enhancing performance and data accuracy. However, there remains room for further optimization, especially in ensuring consistent user

experience and maximizing the system's benefits across departments.

4.2 Hypotheses Testing

4.2.1 Hypothesis 1

Government Integrated Financial Management Information System (GIFMIS) has no impact on tax performance of Federal Inland Revenue Service offices in the North West, Nigeria.

Table 4: Linear Regression of GIFMIS and Tax Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	0.733	0.537	0.534	0.51684

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig
	Regression	52.887	1	52.887	197.985	0.000
	Residual	45.678	171	0.267		
	Total	98.565	172			

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	1.419	0.169		8.379	0.000
GIFMIS	0.638	0.045	0.733	14.071	0.000

Source: *Research Study, 2025*

Table 4 presents the results from the linear regression analysis which reveal a strong positive relationship between GIFMIS and tax performance, as indicated by an R-value of 0.733. The R-squared value of 0.537 suggests that approximately 53.7% of the variation in tax performance is explained by the use of GIFMIS.

The ANOVA table shows that the regression model is statistically significant, with an F-statistic of 197.985 and a p-value of 0.000. This p-value is well below the 0.05 significance level, indicating that the model as a whole is valid and that GIFMIS contributes significantly to predicting tax performance.

Additionally, the coefficients table confirms the significance of GIFMIS as an individual predictor. The coefficient for GIFMIS is 0.638 with a p-value of 0.000, which further supports the conclusion that GIFMIS has a significant positive effect on tax performance. Based on these findings, the null hypothesis is rejected. There is strong statistical evidence to conclude that GIFMIS has a significant and positive impact on the tax performance of Federal Inland Revenue Service offices in North West Nigeria.

4.2.2 Hypothesis 2

TaxPro Max has no impact on tax performance of Federal Inland Revenue Service offices in the North West, Nigeria.

Table 5: Linear Regression of TaxPro Max and Tax Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.900	0.810	0.809	0.48259

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig
	Regression	170.198	1	170.198	730.809	0.000
	Residual	39.824	171	0.233		
	Total	210.022	172			

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	0.473	0.131		3.622	0.000
TaxPro Max	0.865	0.032	0.900	27.033	0.000

Source: *Research Study, 2025*

The model summary shows a very high correlation between TaxPro Max and tax performance with R = 0.900 and R Square value of 0.810. This means that 81% of the variation in tax performance can be explained by the use of TaxPro Max, indicating a strong predictive power.

The ANOVA table confirms that the regression model is statistically significant with F = 730.809 and p < 0.001, showing that the relationship between TaxPro Max and tax performance is not due to chance.

Furthermore, the coefficients table reveals that the effect of TaxPro Max on tax performance is both positive and significant with B = 0.865, t = 27.033 and p < .001. Given these results, the null hypothesis is rejected. The results of the regression analysis provide strong evidence against the null hypothesis, which states that TaxPro Max has no impact on tax performance of Federal Inland Revenue Service offices in the North West, Nigeria.

4.2.3 Hypothesis 3

Systems Applications and Products (SAP) has no impact on tax performance of Federal Inland Revenue Service offices in the North West, Nigeria.

Table 6: Linear Regression of SAP and Tax Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.775	0.601	0.598	0.55245

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	78.556	1	78.556	257.391	0.000
Residual	52.189	171	0.305		
Total	130.745	172			

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	0.393	0.212		1.853	0.066
SAP	0.893	0.056	0.775	16.043	0.000

Source: *Research Study, 2025*

From table 6, the model summary reveals a correlation coefficient (R) of 0.775, indicating a strong positive relationship between SAP usage and tax performance. Furthermore, the R Square value of 0.601 suggests that approximately 60.1% of the variation in tax performance can be explained by the use of SAP. The Adjusted R Square value of 0.598, which is very close to the R Square, confirms that the model is reliable and not over fitted. This implies that SAP plays a significant role in explaining variations in tax performance among the FIRS offices studied.

The ANOVA table supports this conclusion. The F-statistic is 257.391 with a significance level (p-value) of 0.000. Since this p-value is well below the conventional alpha level of 0.05, the regression model is considered statistically significant. This means that the relationship observed between SAP usage and tax performance is unlikely to have occurred by chance. Based on these findings, the null hypothesis that SAP has no impact on the tax performance of FIRS offices in the North West, Nigeria is rejected.

Discussion of Findings

The study found a significant positive relationship between GIFMIS and tax performance, explaining over 53% of the variance in tax outcomes. This finding aligns with studies such by Osei-Assibey and Chansarkar (2019); Mekonnen (2021), and George (2021), which documented improvements in financial reporting accuracy, budget execution, and public service delivery as a result of GIFMIS adoption. Additionally, Owolabi, Odunlade, and Izang (2022)

emphasized GIFMIS's role in fraud prevention within the Nigerian public sector, reinforcing its value in enhancing financial accountability. Although studies by Namasasa and Kahiigi (2020); Mali and Saidu (2021) reported limited impact due to challenges such as inadequate training and poor system integration, the current findings suggest that when effectively implemented, GIFMIS contributes significantly to tax performance improvements.

The study also revealed that TaxPro Max has the strongest positive effect on tax performance among the three software solutions examined, explaining about 81% of the variance in tax performance. This substantial influence reflects earlier findings by Alm and Martinez-Vazquez (2019); Ajayi and Odebiyi (2020); Ogunleye (2021), who noted that TaxPro Max significantly enhances tax collection efficiency, compliance, and financial reporting transparency. Contrasting views from studies by Oloyede and Adebayo (2022); Adeyemo and Onifade (2023), which reported challenges related to user resistance and insufficient training, highlight the critical role of user engagement and capacity building in realizing the software's full benefits. Theoretically, the effectiveness of TaxPro Max strongly supports both the public finance management and institutional theories. The software's ability to improve tax mobilization aligns with public finance management focus on prudent financial resource management and accountability.

The study found that SAP has a significant positive impact on tax performance, accounting for roughly 60% of the variation in outcomes. This agrees with research by Ismail and King (2007); Teece (2010) and Suh and Lee (2015), who documented SAP's role in improving data accuracy, operational efficiency, and financial decision-making across organizations. Conversely, Zafar & Tufail, (2020); Akinyemi & Oladapo (2021); Siddique & Shafiq (2022) have highlighted limitations in SAP's effectiveness due to high implementation costs and resistance to change. The current study's results affirm SAP's potential to enhance tax performance in FIRS, provided it is well implemented and supported. SAP's contribution is well grounded in both theoretical frameworks. In line with public finance management theory, SAP facilitates integrated financial management, enhances internal controls and supports timely and accurate reporting, all crucial for effective public resource management. Institutionally, SAP embeds standardized workflows and formalizes business processes, reinforcing organisational structure and stability as outlined in institutional theory, thereby promoting sustained improvements in performance.

In synthesis, the findings demonstrate that the three accounting software solutions collectively contribute to improved tax performance by enhancing financial management, accountability, and organisational processes within the public sector. While all software positively impact tax outcomes, TaxPro Max emerged as the most influential, suggesting that tax-specific management tools may yield greater benefits in revenue mobilization contexts.

These findings contribute to the literature by filling regional gaps in Nigeria-specific empirical data and validating the relevance of public finance management and institutional theories in explaining the technological impacts on FIRS financial performance. They further highlight the importance of addressing challenges such as training, user resistance, and system integration to maximize the benefits of these digital financial management systems. In conclusion, this study underscores the critical role of software solutions in enhancing tax performance and public financial management, reinforcing the theoretical assertion that efficient resource management combined with stable institutional structures are key drivers of organisational success in the FIRS in the North West, Nigeria.

CONCLUSION AND RECOMMENDATIONS

The study concludes that accounting software solutions are vital enablers of improved tax performance in public sector institutions. Specifically, TaxPro Max's specialized focus on tax administration yielded the greatest positive impact on tax revenue mobilization and compliance. GIFMIS and SAP, while effective in enhancing financial reporting accuracy, internal control, and fraud prevention, demonstrated slightly lesser yet significant influences on tax outcomes. These results are consistent with the tenets of public finance management theory, which emphasize efficient management of public financial resources to benefit citizens, and institutional theory, which highlights the importance of organisational structures and processes in sustaining performance. However, the study also acknowledges challenges such as inadequate training, resistance to change, and poor system integration that may limit the full potential of these software systems. Addressing these challenges is critical to harnessing the full benefits of accounting technologies in enhancing tax performance. Therefore, it is recommended that;

1. There is need for FIRS to maximize the effectiveness of GIFMIS, TaxPro Max and SAP by investing in comprehensive and ongoing training programs.
2. Efforts should be made to ensure seamless integration of these software solutions with existing financial management systems. Upgrading IT infrastructure will enhance system reliability and data accuracy, which are crucial for improved financial accountability and reporting.
3. Given the resistance to change observed in some implementations, there should be deliberate change management strategies to foster organisational buy-

in, including stakeholder engagement, communication and incentives.

4. Establish monitoring mechanisms to track software performance and its impact on tax outcomes regularly. This will enable timely identification of challenges and opportunities for improvement.
5. Government agencies should provide the necessary policy framework and budgetary support to sustain the adoption and optimization of accounting software solutions, recognizing their critical role in enhancing public financial management.

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