Effect of Digital Solutions on Performance of Internal Revenue Service of Enugu State

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Abstract

The study evaluated the effect of digital solutions on performance of internal revenue service of Enugu State from 2020 to 2024. The specific objectives were to: examine the effect of Document Automation on manual processing reduction and evaluate the effect of integrated e-Filing Portals on Revenue Collection Efficiency in Enugu State. Total populations of 289 employees of government ministries were used. Two hundred and fifty two (252) returned the questionnaire and accurately filled. Data was presented and analyzed. The hypotheses using Z - test. The findings indicated that Document Automation had significant effect positive on manual processing reduction, Z (9.764, P. < .05) and Integrated e- Filing Portals had significant effect positive on Revenue Collection Efficiency in Enugu State, Z (11.087,P. < .05). The study concluded that Document Automation and Integrated e- Filing Portals had significant effect positive on manual processing reduction Revenue Collection Efficiency in Enugu State. The study recommended among others that to maximize the benefits of document automation in reducing manual processing within Enugu State ministries and government agencies, it is recommended that the government should invest in standardized digital document management systems across all departments.

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Introduction

Digital tax administration has transformed global revenue systems by replacing inefficient manual processes with innovative digital tools, significantly boosting compliance, taxpayer convenience, and revenue collection. Advanced economies like the United Kingdom's "Making Tax Digital" initiative, South Korea's Home Tax System, and Singapore's fully electronic services exemplify how digitization drives efficiency and higher yields. In emerging and developing contexts, technologies such as e-invoicing, e-filing, and digital identification—supported by IMF analyses—offer strong potential to narrow revenue gaps when paired with sound policies and capacity building (RSIS International, 2023; International Monetary Fund, 2023). In Nigeria, national reforms like the Federal Inland Revenue Service's Integrated Tax Administration System (ITAS) have streamlined management and expanded compliance, with studies showing markedly higher post-digitalization revenue compared to manual eras (RSIS International, 2023; IJEAIS, 2024).

Enugu State has implemented localized digital solutions to enhance tax collection, including a unified e-ticketing platform for informal sector taxpayers to make annual payments via a single interface—eliminating multiple agency levies—and a Consolidated Demand Notice that merges charges like Land Use and ESWAMA fees into one bill with flexible options. These measures reduce administrative burdens and improve compliance for both informal and formal sectors (Voice of Nigeria, 2024; Enugu State Government, 2024). Empirical evidence from Enugu confirms that e-taxation adoption has led to better compliance and revenue growth, with average collections post-implementation exceeding pre-digital levels (AB Academies, 2024). The Enugu State Internal Revenue Service (ESIRS) has driven these gains through innovations like expanded payment gateways (e.g., Interswitch, Remita), GIS-enabled land charges for over 290,000 properties, activation of dormant streams such as capital gains tax, and elimination of manual collections.

Enugu State's internally generated revenue (IGR) exhibited dramatic growth between 2020 and 2024, reflecting the success of digital and structural reforms. IGR reached approximately ₦26.8 billion by the end of 2022 and rose to ₦37.4 billion in 2023. The surge accelerated in 2024, with cumulative IGR hitting ₦144.7 billion by September—a 286% increase—while the first seven months alone yielded ₦35.9 billion (averaging ₦5 billion monthly), surpassing the full-year 2023 total of ₦33.9 billion (The Guardian Nigeria, 2024, August 5 & October 17). Additional measures included recruiting over 200 staff and integrating information systems to close loopholes (Voice of Nigeria, 2024, May 14). Looking forward, Enugu projected an ambitious IGR target approaching or exceeding ₦600 billion for 2025, building on continued digital integration and e-governance efforts (ThisDay Live, 2025, June 30). These trends highlight the transformative impact of targeted digital tax strategies on fiscal autonomy and state development.

Statement of the Problem

In an ideal digital revenue administration system, technologies such as e-filing, e-payment platforms, automated taxpayer databases, and digital audit trails are intended to streamline tax collection, minimize human intervention, curb leakages, foster voluntary compliance, and significantly boost internally generated revenue (IGR). These innovations promote transparency, accountability, and a more inclusive, user-friendly environment that reduces corruption while benefiting both the government and taxpayers. In Enugu State, the Internal Revenue Service (ESIRS) has pursued digital reforms to align with global best practices and overcome longstanding inefficiencies in traditional tax administration, aiming to modernize processes and enhance overall performance.

Despite these initiatives, substantial challenges continue to impede the full effectiveness of digital tax solutions in Enugu State. Key obstacles include inadequate technological infrastructure, insufficient staff training, low digital literacy among taxpayers, resistance to shifting from manual collection methods, inconsistent policy enforcement,

poor data management, cybersecurity vulnerabilities, and limited real-time analytics capabilities. These issues raise valid questions about the actual impact of digital adoption on ESIRS performance in revenue generation, compliance monitoring, and administrative efficiency between 2020 and 2024. Without rigorous empirical evaluation, it remains difficult to quantify progress, pinpoint shortcomings, or formulate targeted improvements. Failure to promptly address these barriers risks perpetuating revenue leakages, underfunding essential public services, eroding taxpayer trust and compliance, increasing evasion, and undermining investor confidence, all of which could jeopardize the state's fiscal sustainability and long-term economic development. A critical assessment of digital solutions' effects on ESIRS performance is therefore essential to generate evidence-based recommendations for stronger, more sustainable tax administration.

Objectives of the Study

The main objective of the study was to evaluate the Effect of digital solutions on performance of internal revenue service of Enugu State 2020 -2024. The specific objectives were to:

i. Examine the effect of Document Automation on manual processing reduction in Enugu State

ii. Evaluate the effect of Integrated e-Filing Portals on Revenue Collection Efficiency in Enugu State

Research Questions

The following research questions guided the study

i. What is the effect of Document Automation on manual processing reduction in Enugu State?

ii. What is the effect of integrated e-Filing Portals on Revenue Collection Efficiency in Enugu State?

Statement of the Hypotheses

The following Hypotheses guided the study

i. Document Automation has no significant effect on manual processing reduction in Enugu State

ii. Integrated e- Filing Portals has no significant effect on Revenue Collection Efficiency in Enugu State

Scope of the Study

The scope of the was limited to the effect of digital solutions on performance of internal revenue service of Enugu State 2020 -2024. Specifically, the scope is limited to examine the effect of document automation on manual processing reduction in Enugu State, and evaluate the effect of integrated e-Filing portals on revenue collection efficiency in Enugu State.

Review of Related Literature

Conceptual Review

Digital

The term "digital" describes technologies, systems, and processes that operate using computerized, electronic, and data-driven formats to create, store, transmit, and process information. Unlike analog methods that rely on continuous signals, digital approaches convert data into binary code (0s and 1s), enabling precise, rapid, and scalable handling, reproduction, and distribution. Broadly, "digital" covers innovations such as digital communication, devices, platforms, and transformation strategies applied across sectors like finance, education, healthcare, and governance. Ghosh (2021) defines digital technologies as those leveraging computer systems and electronic devices to streamline processes, boost efficiency, and evolve traditional operations into intelligent, automated systems, while Brynjolfsson and McAfee (2022) highlight their role as primary drivers of innovation, productivity, and fundamental changes in how individuals, businesses, and governments interact and function in the modern economy.

Solutions

In the context of an Internal Revenue Service (IRS), such as the Enugu State Internal Revenue Service, "solutions" refer to the array of technological systems, strategic processes, and administrative reforms implemented to optimize tax operations and enhance service delivery. These encompass digital platforms for taxpayer registration, e-filing, e-payment, revenue accounting, and data analytics, all aimed at building an integrated, efficient, and transparent tax administration framework (International Monetary Fund, 2017). Central to effective IRS solutions is a unified taxpayer registration and identification module that issues Taxpayer Identification Numbers (TINs), eliminates duplicates, and connects taxpayer records in a single database, thereby supporting streamlined compliance and management (International Monetary Fund, 2024).

Digital solutions

For the Enugu State Internal Revenue Service (ESIRS), "digital solutions" involve the deliberate application of information and communication technologies—including e-payment systems, unified demand notices (such as e-tickets), integrated payment gateways, and data analytics—to modernize tax administration and strengthen revenue performance. These tools supplant outdated manual procedures with automated, accessible platforms that promote transparency, reduce inefficiencies, and improve user experience. Their adoption aligns with Nigeria's national drive toward tax digitalization, which research shows effectively curbs tax evasion, streamlines operations, and increases internally generated revenue when backed by robust e-tax policies and adequately trained staff (Nwankwo & Udu, 2022).

The components of digital solutions

The key components of digital solutions in tax administration include document automation, e-filing and self-service platforms, case and account management systems, artificial intelligence and analytics tools, cybersecurity measures, robotic process automation (RPA) with task orchestration, and workforce development initiatives. These elements collectively enable more efficient, secure, and intelligent tax processes, as highlighted in the literature (Aggarwal, 2024; Belahouaoui & Attak, 2024; Pires, 2024; Bassey et al., 2022).

Digital solutions that formed parts of the objectives of the study
Document Automation

Document automation utilizes intelligent software to automatically generate, populate, and manage documents by drawing from templates and dynamic data sources, thereby minimizing manual input, reducing errors, accelerating processing, and ensuring uniformity—essential in high-volume settings like tax administration. Within ESIRS, it can streamline taxpayer registration, e-ticket demand notices, receipts, assessments, and reminders using standardized templates and official records, improving accuracy, professionalism, and compliance. Nationally, automated tax processes in Nigeria have demonstrated strong links to enhanced revenue generation and greater system acceptance (Onuorah & Onwuka, 2024).

Integrated eFiling Portals

Integrated eFiling Portals provide a single, unified online platform where taxpayers can file returns, make payments, and manage accounts, consolidating multiple functions to eliminate bureaucratic hurdles, maintain data consistency, and deliver a seamless user experience. In Nigeria, such systems have proven beneficial for revenue growth when designed with user-friendliness and security in mind (Olusuyi & Yidiat, 2021). While some studies, such as one in Niger State, found e-filing alone did not significantly boost revenue, its impact strengthens considerably when combined with reliable e-payment integration, taxpayer education, and technical support (Usman & Okoroigwe, 2025).

Performance

In the context of the Enugu State Internal Revenue Service, performance reflects the effectiveness and efficiency of revenue collection, taxpayer compliance levels, operational transparency, and the ability to channel funds into public services and infrastructure. Key indicators include growth in internally generated revenue (IGR), success in closing leakages, deployment of innovations like e-ticketing and multi-gateway payments, and national recognition for advancements. ESIRS recorded an impressive ₦35.9 billion in IGR in the first seven months of 2024—exceeding the full-year 2023 total of ₦33.9 billion—driven by e-ticketing for the informal sector, activation of dormant taxes (e.g., capital gains), and expanded payment options, earning the agency accolades as Nigeria's Best State Revenue Agency in ICT Integration and its Chairman the GovTech Trailblazer award in October 2024 (The Guardian Ikenga Online; GMT News).

Components of Performance in Internal Revenue Service (IRS)

Performance components in an Internal Revenue Service (IRS) encompass revenue collection efficiency, taxpayer compliance rates, operational efficiency, customer (taxpayer) satisfaction, revenue growth, digital innovation adoption, recognition and capacity building, effective use of digital tax systems, accountability and transparency, and staff capacity enhancement through training, as identified in prior studies (Aggarwal, 2024; Bassey et al., 2022; Belahouaoui & Attak, 2024; Eze et al., 2021; Okoye & Ezejiofor, 2018; Omodero, 2019; Uchenna & Okoye, 2020; Udu & Ihemeje, 2017).

Components of Performance that formed parts of the objectives of the study

Manual processing reduction

Manual processing reduction involves systematically transitioning from paper-based, labor-intensive activities—such as manual data entry, document handling, and ledger maintenance—to automated digital workflows, aiming to eliminate error-prone repetitive tasks, accelerate operations, cut administrative costs, and improve consistency in tax administration. In Nigeria, platforms like the Federal Inland Revenue Service's TaxProMax have lowered compliance costs, integrated records, and reduced fraud by eliminating manual ledgers and physical documents, while broader adoption of e-filing, online payments, and real-time validation has minimized paperwork, boosted speed, and enhanced data accuracy (Adebayo & Ogunyemi, 2021; Chukwuemeka & Umeadi, 2020; Okon & Udu, 2022; Nwachukwu & Odo, 2023; World Bank, 2021).

Revenue Collection Efficiency

Revenue collection efficiency measures a tax authority's ability to maximize net revenue relative to resources used, incorporating timeliness, accuracy, cost-effectiveness, and compliance within the collection process. Efficient systems minimize leakages, reduce administrative overhead, and promote voluntary compliance while controlling costs. In Nigeria, the shift to electronic tax platforms has markedly improved collection performance in the post-digital era compared to manual methods (Tivde, 2024), with digital adoption in regions like Southwest Nigeria—through reduced manual interfaces and increased automation—directly correlating with higher revenue mobilization and lower evasion (Adejuwon & Olasunkanmi, 2023).

Internal revenue service

An Internal Revenue Service (IRS) is a government agency tasked with assessing, collecting, and managing taxes and internally generated revenues within a jurisdiction. In Enugu State, Nigeria, the Enugu State Internal Revenue Service (ESIRS) is responsible for gathering revenues such as personal income tax, road taxes, business premises levies, and other IGR sources to finance public services and infrastructure. Eze and Okonkwo (2022) describe state-level IRS bodies as statutory entities established by law to efficiently administer taxes and enhance sub-national revenue.

Chukwuemeka et al. (2023) highlight ESIRS and similar agencies as vital for achieving fiscal autonomy, sustainable development, and reduced reliance on federal allocations through efficient collection, expanded tax nets, voluntary compliance, and transparent operations.
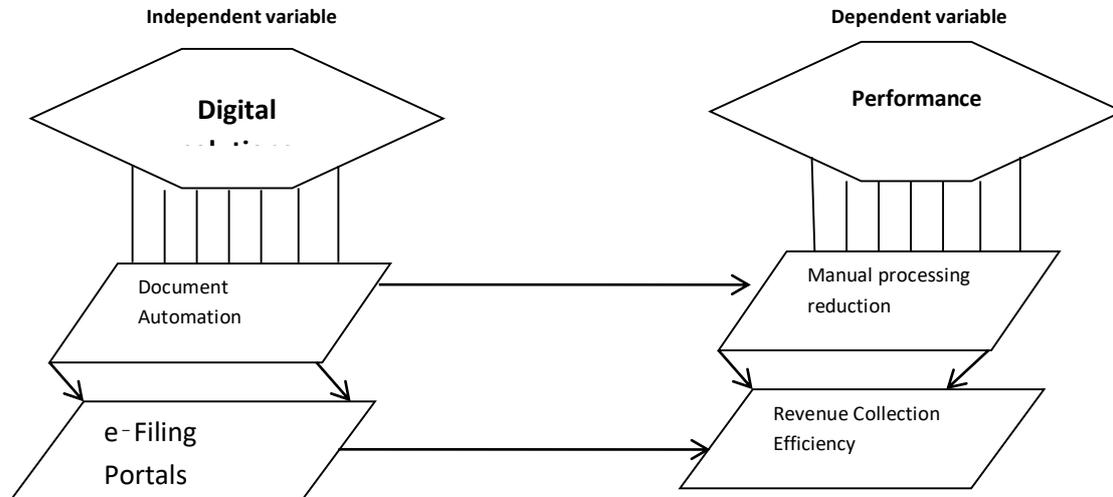
Conceptual Framework

Fig 2.1 conceptual framework of the study

Theoretical Framework

The following theories guided the study

    i.   The Technology Acceptance Model (TAM), developed by Davis (1989),

    ii.   The Systems Theory, proposed by Ludwig von Bertalanffy (1968)

The study was anchored on TAM because it provides a solid theoretical foundation for analyzing how the adoption of digital solutions influences performance in the IRS. It links technology**,** user behavior**,** and organizational outcomes which is the core focus of your study.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis (1989), explains how users come to accept and use a technology. It is based on two main factors:

    i.   **Perceived Usefulness (PU):** The degree to which a person believes that using a particular system would enhance their job performance.

    ii.   **Perceived Ease of Use (PEOU):** The degree to which a person believes that using a system would be free from effort.

In the context of the Internal Revenue Service (IRS) of Enugu State, TAM helps explain how tax officers and citizens respond to new digital solutions such as e-filing, automated documentation, and online tax payment systems. If these systems are perceived as useful and easy to use, there is a higher likelihood of adoption and usage, which ultimately enhances performance in revenue collection and taxpayer compliance (Venkatesh & Bala, 2008; Abubakar & Adebayo, 2022).

Systems Theory

The Systems Theory, proposed by Ludwig von Bertalanffy (1968), views an organization as a system composed of interrelated parts working together to achieve a common goal. For the IRS, digital solutions such as automated

document processing, integrated portals, and digital record management are subsystems that influence the overall performance of the agency.

When digital tools are effectively integrated, they improve communication, coordination, and service delivery within the revenue service system. Inefficiencies, errors, and delays are reduced, making the entire tax administration process more responsive and accountable. Thus, the performance of the IRS improves when the digital subsystems are effectively implemented and supported (Aliyu & Yusuf, 2021).

Empirical Review

Document Automation on manual processing reduction

Recent studies on digital and automated tax systems in Nigeria consistently demonstrate positive impacts on tax administration, compliance, revenue generation, and reduction of evasion and corruption. Adeyeye (2019) surveyed 219 Federal Inland Revenue Service (FIRS) staff using questionnaires, finding through regression analysis that information technology accounted for 76.3% improvement in tax administration, with strong support for the Theory of Planned Behavior in predicting adoption of electronic tax-filing; computer self-efficacy influenced behavioral intention via perceived ease of use, usefulness, and reduced risk. Irefe-Esema and Akinmade (2020) used a survey of FIRS staff and tax professionals to show that automation positively affects tax payment compliance while curbing corrupt practices by minimizing physical interactions between taxpayers and officials. Egbara, Asomba, and Ofodu (2023) employed an ex-post facto design with secondary data from FIRS, NBS, and ESIRS, revealing that e-taxation significantly reduced tax evasion nationally and tax avoidance in Enugu State, evidenced by higher mean revenue post-adoption compared to pre-e-taxation periods. Hussaini, Bukar, and Adamu (2023) analyzed data from FIRS and state revenue experts via questionnaires and chi-square tests, confirming a significant positive correlation between automated tax services and government revenue generation, as well as system acceptance. Onwunyi and Okoli (2025) examined e-governance's impact on tax management at FIRS Enugu (2015–2023) using mixed primary and secondary data sources, establishing a significant relationship between e-governance adoption and improved tax management, positioning it as a gateway to enhanced productivity and efficient service delivery in Nigeria's public sector. Overall, these findings affirm that digital innovations like e-taxation, automation, and e-governance substantially enhance compliance, revenue performance, and administrative integrity while mitigating traditional inefficiencies and malpractices.

Integrated e-Filing Portals on Revenue Collection Efficiency

Recent studies on electronic and integrated tax systems in Nigeria highlight their substantial positive effects on tax compliance, revenue generation, efficiency, and reduction of evasion and corruption. Mustapha et al. (2021) surveyed 400 taxpayers using the integrated e-tax filing management system introduced by the Federal Inland Revenue Service (FIRS), finding through descriptive analysis and SPSS that most respondents recognized its effectiveness in increasing revenue generation and tax compliance levels by simplifying registration, improving accuracy, and enhancing overall efficiency. Adegbie, Enerson, and Olaoye (2022) adopted a survey design with 2199 responses (82.4% rate) from selected Southwest states, using multiple regression to show that electronic tax management components—perceived ease of use, internet/mobile payments, and electronic billing machines—significantly improved the simplicity of tax filing and revenue collection efficiency (Adj R^2 = 0.113, $p < 0.005$). Olasunkanmi and Adejuwon (2023) employed an ex-post facto design with FIRS data from 1994–2021 and OLS regression, revealing that while manual VAT and early automation processes (Integrated Tax Administration System and Amanda) showed insignificant or negative coefficients, the TaxPro-Max system had a significant positive relationship with revenue generation ($p = 0.0066 < 0.05$), suggesting strong potential for full automation over longer periods. Okoye and Ezejiofor (2025) used primary and secondary data with Z-test analysis in Enugu State, concluding that e-taxation significantly enhances internally generated revenue, reduces tax evasion, and prevents corrupt practices among tax officials. Collectively, these findings affirm that digital tax innovations, particularly integrated

e-filing and advanced platforms, drive compliance, curb malpractices, and boost revenue performance in Nigeria when effectively implemented and understood by users.

Gap in Empirical Review

The studies done were carried outside Effect of digital solutions on performance of internal revenue service of Enugu State 2020 -2024 and did not focus to best of our knowledge on Document Automation on manual processing reduction and Integrated e-Filing Portals on Revenue Collection Efficiency in Enugu State. Most of the studies reviewed analysed their data through descriptive statistics and appropriate inferential statistics, Purposive Sampling technique, Pearson Moment Correlation Coefficient, Multiple sampling technique, Partial Least Square Structural Equation Modeling (PLS-SEM), Multiple Regression Analysis (MRA), Simple linear regression and Pearson correlation coefficient (r) while the present study made use of Z test to test the hypotheses. Therefore, the study aimed at filling this research gap by evaluating the Effect of digital solutions on performance of internal revenue service of Enugu State 2020 -2024.

Methodology

The area of the study was Enugu State, Nigeria. Two hundred and Eighty nine (289) employees of Internal Revenue Service's were selected for the study. The study used the descriptive survey design approach. The primary source of data was the administration of questionnaire. Two hundred and fifty two (252) Employees returned their questionnaire and accurately filled. That gave 87 percent response rate. The validity of the instrument was tested using content analysis and the result was good. The reliability was tested using the Pearson correlation coefficient (r). It gave a reliability co-efficient of 0.85 which was also good. Data was presented and analyzed by mean score and standard deviation. The hypotheses were analyzed using Z - test statistic tool.

Data presentation and Analyses

Data presentation

The effect of Document Automation on manual processing reduction in Enugu State

Table 1: Responses on the effect of Document Automation on manual processing reduction in Enugu State

		5 SA	4 A	3 N	2 DA	1 SD	∑FX	-X	SD	Decision
1	Automated systems streamline repetitive administrative tasks such as data entry, form filling, and document routing.	465 93 36.9	332 83 32.9	108 54 21.4	16 8 3.2	14 14 5.6	935 252 100.0	3.92	1.100	Agree
2	Automated systems reduces the time and manpower required to process government documents, allowing departments in Enugu State to handle a larger volume of work more quickly and accurately	675 135 53.6	332 83 32.9	18 6 2.4	10 5 2.0	23 23 9.1	1053 252 100.0	4.20	1.194	Agree
3	Document automation helps reduce manual workflows and enable Enugu State move towards a more paperless and technology-driven government.	470 94 37.3	332 83 32.9	135 45 17.9	10 5 2.0	25 25 9.9	972 252 100.0	3.86	1.229	Agree
4	Document automation helps Enugu state internal revenue align with global best practices and improving citizen engagement.	505 101 40.1	468 117 46.4	18 6 2.4	4 2 .8	26 26 10.3	1021 252 100.0	4.05	1.178	Agree
5	Embracing automation will position the state for improved public service delivery and digital transformation.	680 136 54.0	312 78 31.0	15 5 2.0	8 4 1.6	29 29 11.5	1044 252 100.0	4.14	1.283	Agree
	Total Grand mean and standard deviation							**20.17**	**5.984**	

Source: Field Survey, 2025

Table 1, 176 respondents out of 252 representing 69.8 percent agreed that Automated systems streamline repetitive administrative tasks such as data entry, form filling, and document routing with mean score 3.92 and standard deviation of 1.100. 218 respondents representing 86.5 percent agreed that Automated systems reduces the time and manpower required to process government documents, allowing departments in Enugu State to handle a larger volume of work more quickly and accurately with mean score of 4.20 and standard deviation of 1.194. 177 respondents representing 70.2 percent agreed that Document automation helps reduce manual workflows and enable Enugu State move towards a more paperless and technology-driven government with mean score of 3.86 and standard deviation of 1.229. 218 respondents representing 86.5 percent agreed that Document automation helps Enugu state internal revenue align with global best practices and improving citizen engagement mean score of 4.05 and 1.178. 214 respondents representing 85 percent agreed that Embracing automation will position the state for improved public service delivery and digital transformation with a mean score of 4.14 and standard deviation 1.283

The effect of Integrated e-Filing Portals on Revenue Collection Efficiency in Enugu State

Table 2: Responses on the effect of Integrated e-Filing Portals on Revenue Collection Efficiency in Enugu State

		5 SA	4 A	3 N	2 DA	1 SD	∑FX	-X	SD	Decision
1	Integrated e-Filing portals eliminate the manual handling of funds, thereby reducing corruption, manipulation, and revenue leakages.	400 80 31.7	452 113 44.8	15 5 2.0	52 26 10.3	28 28 11.1	920 252 100.0	3.76	1.303	Agree
2	By capturing all transactions digitally and providing audit trails, the system ensures accountability among both taxpayers and revenue officials, improving trust and compliance.	435 87 34.5	495 123 48.8	15 5 2.0	6 3 1.2	34 34 13.5	985 252 100.0	3.90	1.274	Agree
3	Automating the revenue collection process reduces the need for paperwork, physical offices, and manual labor.	595 119 47.2	480 120 47.6	15 5 2.0	4 2 .8	6 6 2.4	1100 252 100.0	4.37	.779	Agree
4	Automating results in lower administrative costs for the government while increasing collection efficiency and processing speed.	505 101 40.1	548 137 54.4	15 5 2.0	10 5 2.4	3 3 1.2	1081 252 100.0	4.30	.733	Agree
5	E-Filing system reflects good governance and encourages business owners to invest and expand operations in Enugu State, leading to higher tax revenue in the long run	395 79 31.3	544 136 54.0	15 5 2.0	44 22 8.7	10 10 4.0	1008 252 100.0	4.00	1.022	Agree
	Total Grand mean and standard deviation							**20.33**	**5.111**	

Source: Field Survey, 2025

Table 2, 193 respondents out of 252 representing 76.5 percent agreed that Integrated e-Filing portals eliminate the manual handling of funds, thereby reducing corruption, manipulation, and revenue leakages with mean score 3.76 and standard deviation of 1.303. 210 respondents representing 83.3 percent agreed that By capturing all transactions digitally and providing audit trails, the system ensures accountability among both taxpayers and revenue officials, improving trust and compliance with mean score of 3.90 and standard deviation of 1.274. 239 respondents representing 94.8 percent agreed that Automating the revenue collection process reduces the need for paperwork, physical offices, and manual labor with mean score of 4.37 and standard deviation of .779. 238 respondents representing 94.5 percent agreed that Automating results in lower administrative costs for the government while increasing collection efficiency and processing speed with mean score of 4.30 and .733. 215 respondents representing 36.7 percent agreed that -Filing system reflects good governance and encourages business owners to invest and expand operations in Enugu State, leading to higher tax revenue in the long run with a mean score of 4.00 and standard deviation 1.022.

Test of Hypotheses

Test of Hypotheses One: Document Automationhas no significant effect onmanual processing reduction in Enugu State

One-Sample Kolmogorov-Smirnov Test

		Automated systems streamline repetitive administrative tasks such as data entry, form filling, and document routing.	Automated systems reduces the time and manpower required to process government documents, allowing departments in Enugu State to handle a larger volume of work more quickly and accurately	Document automation helps reduce manual workflows and enable Enugu State move towards a more paperless and technology-driven government.	Document automation helps Enugu state internal revenue align with global best practices and improving citizen engagement.	Embracing automation will position the state for improved public service delivery and digital transformation.
N		252	252	252	252	252
Uniform Parameters[a,b]	Minimum	1	1	1	1	1
	Maximum	5	5	5	5	5
Most Extreme Differences	Absolute	.448	.615	.452	.615	.599
	Positive	.056	.091	.099	.103	.115
	Negative	-.448	-.615	-.452	-.615	-.599
Kolmogorov-Smirnov Z		7.118	9.764	7.181	9.764	9.512
Asymp. Sig. (2-tailed)		.000	.000	.000	.000	.000

a. Test distribution is Uniform.
b. Calculated from data.

Decision Rule

If the calculated Z-value is greater than the critical Z-value (i.e $Z_{cal} > Z_{critical}$), reject the null hypothesis and accept the alternative hypothesis accordingly.

Result

With Kolmogorov-Smirnon Z – value ranges from 7.118 < 9.764 and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms the assertion of the most of the respondents that Document Automationhas had significant positive effect on manual processing reduction in Enugu State

Decision

Furthermore, comparing the calculated Z- value ranges from 7.118 < 9.764 against the critical Z- value of .000(2-tailed test at 95percent level of confidence) the null hypothesis were rejected. Thus the alternative hypothesis was accepted which states that Document Automation had significant positive effect on manual processing reduction in Enugu State

Test of Hypotheses Two: Integrated e- Filing Portals has no significant effect on Revenue Collection Efficiency in Enugu State

One-Sample Kolmogorov-Smirnov Test

		Integrated e-Filing portals eliminate the manual handling of funds, thereby reducing corruption, manipulation, and revenue leakages.	By capturing all transactions digitally and providing audit trails, the system ensures accountability among both taxpayers and revenue officials, improving trust and compliance.	Automating the revenue collection process reduces the need for paperwork, physical offices, and manual labor.	Automating results in lower administrative costs for the government while increasing collection efficiency and processing speed.	E-Filing system reflects good governance and encourages business owners to invest and expand operations in Enugu State, leading to higher tax revenue in the long run
N		252	252	252	252	252
Uniform Parameters[a,b]	Minimum	1	1	1	1	1
	Maximum	5	5	5	5	5
Most Extreme Differences	Absolute	.516	.583	.698	.694	.603
	Positive	.111	.135	.024	.012	.040
	Negative	-.516	-.583	-.698	-.694	-.603
Kolmogorov-Smirnov Z		8.189	9.260	11.087	11.024	9.575
Asymp. Sig. (2-tailed)		.000	.000	.000	.000	.000

a. Test distribution is Uniform.

b. Calculated from data.

Decision Rule

If the calculated Z-value is greater than the critical Z-value (i.e $Z_{cal} > Z_{critical}$), reject the null hypothesis and accept the alternative hypothesis accordingly.

Result

With Kolmogorov-Smirnon Z – value ranges from 8.189 < 11.087 and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms the assertion of the most of the respondents that Integrated   e- Filing Portals had significant positive effect on Revenue Collection Efficiency in Enugu State

Decision

Furthermore, comparing the calculated Z- value ranges from 8.189 < 11.087 against the critical Z- value of .000(2-tailed test at 95percent level of confidence) the null hypothesis were rejected. Thus the alternative hypothesis was accepted which states that Integrated   e- Filing Portals had significant positive effect on Revenue Collection Efficiency in Enugu State

Discussion of Findings

Effect of Document Automation on manual processing reduction in Enugu State

The results of Hypothesis One indicate a significant positive effect of document automation on the reduction of manual processing within the Enugu State Internal Revenue Service, as shown by calculated Z-values ranging from 7.118 to 9.764, which substantially exceed the critical Z-value of 0.000 (confirming strong statistical significance).

This finding is supported by relevant literature on the transformative role of automation and digital technologies in tax administration. Adeyeye (2019) investigated technology innovation's impact on tax administration in Nigeria through a survey of Federal Inland Revenue Service staff, finding that information technology significantly improved processes and strongly aligned with the Theory of Planned Behavior in predicting adoption of electronic tax-filing systems, with computer self-efficacy influencing behavioral intention via perceived ease of use, usefulness, and reduced risk. Irefe-Esema and Akinmade (2020) examined automation's effects on tax compliance in Nigeria using data from FIRS staff and tax professionals, concluding that automation positively enhances tax payments while mitigating corrupt practices by eliminating or minimizing direct physical interactions between taxpayers and officials. Egbara (2023) focused on e-taxation's role in improving compliance in Enugu State through an ex-post facto analysis of secondary data from FIRS, NBS, and ESIRS, revealing that e-taxation significantly reduced tax evasion nationally and tax avoidance locally, evidenced by higher mean tax revenue post-adoption compared to pre-e-taxation periods.

Collectively, these studies reinforce that automation tools, including document automation, drive efficiency gains, minimize manual interventions, curb inefficiencies and malpractices, and elevate revenue performance in Nigeria's tax systems.

Effect of Integrated e-Filing Portals on Revenue Collection Efficiency in Enugu State
The results of Hypothesis Two demonstrate a significant positive effect of integrated e-filing portals on revenue collection efficiency in Enugu State, as indicated by calculated Z-values ranging from 8.189 to 11.087, which far exceed the critical Z-value of 0.000 (confirming strong statistical significance).

This outcome is supported by relevant literature on the benefits of digital and integrated tax filing systems. Mustapha et al. (2021) surveyed 400 Nigerian taxpayers using the Federal Inland Revenue Service's integrated e-tax filing management system, finding through descriptive analysis that most respondents recognized its effectiveness in boosting revenue generation and elevating overall tax compliance levels by simplifying registration and improving accuracy. Adegbie, Enerson, and Olaoye (2022) conducted a survey across selected Southwest Nigerian states with a high response rate, using multiple regression to show that electronic tax management components—such as perceived ease of use, internet and mobile payment systems, and electronic billing machines—significantly enhanced the simplicity of tax return filing and overall revenue collection efficiency. Okoye and Ezejiofor (2025) analyzed e-taxation's impact in Enugu State with primary and secondary data and Z-test statistics, concluding that e-taxation substantially increases internally generated revenue, reduces tax evasion, and curbs corrupt practices among tax officials.

Together, these studies affirm that integrated e-filing portals and related digital tax tools drive greater efficiency, higher revenue yields, improved compliance, and reduced malpractices in tax administration.

Conclusion
The study concluded that Document Automation and Integrated e- Filing Portals had significant effect positive on manual processing reduction Revenue Collection Efficiency in Enugu State. In summary, the performance of ESIRS from 2020 through 2024 showcases a compelling story of fiscal transformation. The transition from manual to digital processes, activation of dormant revenue channels, organizational capacity building, and strategic technology deployment fundamentally reshaped IGR performance. The figures speak volumes: from sub-₦30 billion in 2022 to over ₦144 billion by September 2024 a testament to the power of digital innovation in sub national revenue mobilization.

Recommendations

Based on the results, the following recommendations were proffered:

i.   To maximize the benefits of document automation in reducing manual processing within Enugu State ministries and government agencies, it is recommended that the government invest in standardized digital document management systems across all departments. This includes training staff on digital literacy and automating repetitive documentation processes such as data entry, file storage, and record retrieval. By doing so, Enugu State can significantly minimize paperwork delays, reduce human errors, and improve overall administrative efficiency and service delivery.

ii. It is recommended that the Enugu State Internal Revenue Service (ESIRS) fully adopt and continuously upgrade Integrated e-Filing Portals to enhance revenue collection efficiency. This includes ensuring the portals are user-friendly, secure, and accessible, allowing taxpayers to file returns, make payments, and access tax information seamlessly.

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