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# Impact of Electronic Tax System on Revenue Generation in Kogi State Internal Revenue Service

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***Abstract***

*This study examines the impact of electronic tax system on revenue generation in the Kogi Internal Revenue Service, focusing on e-registration, e-filing, and e-payment. This study adopts a survey research design, a population of 479, and a sample size of 218 determined through Yamane's formula, out of which 85% respond to the structured questionnaire designed within the 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). A pilot study with 30 non-sampled respondents conducted a reliability and validity pre-test, reporting a value of 0.859 (Cronbach's alpha coefficient), which indicates excellent internal consistency. This study used multiple regression model, and the data analysis was conducted using SPSS 25, revealing that e-registration (B = .137 and p = 0.000 < 0.05), e-filing (B = .346 and p = .001 < 0.05), and e-payment (B = .832, p = .000 < 0.05) have a positive effect on revenue generation. This study concludes that there are strong positive effects on revenue collection in KGIRS by electronic tax systems (e-registration, e-filing, and e-payment). These e-tools result in improved compliance, reduced expenditure, and increased fiscal sustainability in Kogi State by fixing the failures of traditional practices in favour of fiscal sustainability in Nigeria that are part of the wider e-governance push amid economic difficulties. One of the major recommendations is that KGIRS should consolidate and automate the e-registration process further by ensuring it has user-friendly online portals and mobile connections to the process, as well as special enrolment campaigns for those not yet registered to receive the process.*

***Keywords:*** *Electronic Tax System, Revenue Generation, E-Registration, E-Filing, E-Payment, Fiscal Sustainability.*

## 1. Introduction

Internal revenue generation is essential for sustainable economic growth and management. It pays for important services like roads, healthcare, education, and safety for citizens. It also gives local governments more financial independence and less reliance on federal funding in countries like Nigeria (Anioke, 2024).

Revenue mobilization is particularly relevant for Kogi State, with promising economic prospects due to its agricultural, mining, and trade activities. However, it faces significant challenges such as tax evasion, administrative inefficiencies, revenue leakages, and taxpayer non-compliance, all of which have resulted in poor Internally Generated Revenue (IGR) for its developmental needs (Usman et al., 2025). One such area is that despite the new reforms, Kogi IGR continues to encounter the problem of poor record-keeping and statutory allocation that exacerbates exposure to national economic shocks (Saadu & Danmalam, 2025).

Electronic tax systems, which include e-registration, e-filing, and e-payment, are revolutionary ways of enhancing revenue collection by ensuring that the collection efficiencies are improved, human error is reduced, and transparency is enhanced (Adefunke & Mayowa, 2024). E-registration enables the taxpayer, to smoothly enroll via the online systems, which broaden the tax base and reduce the administrative barriers that usually drive away compliance, making more taxpayers volunteer to enroll and contribute more inflows of revenues (Ugbede et al., 2023). Similarly, e-filing will enable the filing of tax returns in electronic format, and the possible outcomes include not only a reduction in processing time and compliance costs but also enhanced accuracy and audit trails, leading to higher revenue returns, as realized in Nigerian environments (Oloyede et al., 2023). E-payment, on the other hand, ensures safe and timely remittance with the help of electronic services like mobile applications and points of sale, which reduce leakages and fraud and improve the effectiveness of collections, which eventually boost government coffers (Saadu & Danmalam, 2025).

Studying how revenue is generated is important because it helps ensure financial stability and economic strength, especially in places with limited resources, where having different sources of income is key to lessening the ups and downs of oil revenue and encouraging overall economic growth. In Nigeria, the performance of subnational revenue directly correlates with human development indices and poverty reduction strategies (Estifanos, 2023). Compared to the Kogi Internal Revenue Service, the organization has been undergoing a digital transformation process that includes the introduction of automated taxation and central billing systems; according to the organization, this has boosted monthly IGR to approximately 3 billion Nigerian naira by eliminating leakages. However, we can notice the shortcomings in how things are being done, and we can assess how well electronic tools are working in this North-Central Nigerian location through research studies (Usman et al., 2025).

The inefficiency of electronic utilization is reflected in the performance of revenue collection in KGIRS, which is caused by its systematic inefficiencies, tax evasion, and insufficient use of the digitalization system (Usman et al., 2025). This reduces the likelihood of funding crucial infrastructure and social services. On the one hand, in 2023, KGIRS lost approximately half of its revenues due to the problem of manual collection, since taxes exceeding half a billion Nigerian naira paid in the informal sector were not collected. The other problem is that the problems of paying taxes, which were identified in 2022, linked to the businesses in the Adavi Local Government Area, proved the signs of corruption and the lack of adherence to the law, which affected the society in a negative way and undermined IGR (Anioke, 2024). The research contributes to the existing literature by providing solid evidence of the effects of e-registration, e-filing, and e-payment on revenue performance in Kogi State, a context that has not been comprehensively addressed in previous studies, which primarily focus on national-level effects.

The main objective of this study is to examine the impact of electronic system on revenue generation in KGIRS. The specific objective is to:

i. Examine the impact e-registration on the revenue generation of KGIRS.
ii. Investigate the e-filing impact on the revenue generation of KGIRS.
iii. Evaluate e-payment impact on the revenue generation of KGIRS.

This study, therefore, responds to the following research questions:

i. To what extent does e-registration impact the revenue generation of KGIRS?

ii. To what extent does e-filing impact the revenue generation of KGIRS?
iii. What impact does e-payment have on the revenue generation of KGIRS?

This study, therefore, hypothesized that:
$H_{01}$: E-registration has a positive and significant impact on the revenue generation of KGIRS.
$H_{02}$: E-filing has a positive and significant impact on the revenue generation of KGIRS.
$H_{03}$: E-payment has a positive and significant impact on the revenue generation of KGIRS.

In this respect, the study can have a beneficial impact on the researchers since it can be used to improve the body of research on the topic of digital tax innovations in developing countries and can serve as a design for new research at the subnational level. The study will enlighten tax administration professionals on the necessity to optimize the electronic systems in a bid to facilitate compliance and efficiency in KGIRS. This study gives clear recommendations to lawmakers and tax authorities on how to improve tax reforms, like moving to digital systems, which will help them make important decisions about how taxes are managed across the country.

This study focuses specifically on the impact of electronic tax systems on revenue collection at the Kogi Internal Revenue Service from 2015 to 2024, a period during which the country adopted significant digital taxation policies, including the implementation of the Integrated Tax Administration System (ITAS) and the enhancement of e-government in the post-COVID era. This allows for a narrow focus on the analyzed changes and ensures sufficient availability and relevance for the data.

## 2. Literature Review

### Conceptual Review

### Revenue Generation

The element of revenue generation in tax administration is the systematic cycle of tax and non-tax collection by the different governments to finance government expenditure and spur economic growth and sustainable development in resource-constrained environments like Nigeria. According to one of the definitions, the process of revenue generation consists of mobilizing fiscal resources with the assistance of taxation in such a way that the government will be able to offer the required services and infrastructure with a focus on the efficiency of the mechanisms of revenue collection (Baldassarre et al., 2024). However, this definition is unrealistic, as it does not take into account non-tax revenue sources and systematic inefficiencies, such as tax evasion, that reduce actual revenue yields in developing economies.

The other definition defines revenue generation as the difference between the potential and actual amount of tax collection, and the tax gap is a measure of administrative efficiency (Nandiroh et al., 2024). This definition has a narrow focus and lacks any qualitative dimension, including trust in the taxpayer and digital enablers as influences on voluntary compliance. In this study, revenue generation is operationally defined as the total monetary revenue collected by the KGIRS through the use of electronic tax systems, which constitutes the total internally generated revenue (IGR).

### Electronic Tax System

The electronic tax system is a digital tax administration innovation, whereby web-based solutions are incorporated to increase efficiency and maximize income by combining online systems for registration, filing, payment, and compliance. One of the most significant definitions is that it is an

online platform where taxpayers can register, submit returns, and access services online, and thus tax processes become automated (Ihenyen et al., 2024). This definition places excessive emphasis on user convenience while neglecting internal administrative challenges, such as the integration of existing systems and cybersecurity risks in new markets.

Instead, it denotes computer systems that are used to charge and pay taxes, such as e-registration, e-filing, and e-payment, to do away with manual operations (Al-Amrawi et al, 2025). However, the definition fails to consider the digital divide, where differences in technology access could potentially improve compliance among low-income taxpayers. The operationally identified electronic tax system in this study is the one that is embodied in the KGIRS-integrated digital infrastructure comprising e-registration modules, e-filing modules, and e-payment modules, which are evaluated in their cumulative impacts with regard to revenue generation.

**E-Registration**

E-registration in taxation refers to the online onboarding of taxpayers into official records, which helps broaden the tax base and reduce administrative costs for taxpayers using online portals. It is defined as the online system in which people or companies apply to taxation authorities using online sources or online applications, often along with e-government services (because of e-tax registration in Ely et al., 2023). This definition assumes easy access to the digital realm and leaves out the unconnected people in the regions with weak internet access, which leads to under registration.

The other definition, e-registration, is viewed as the initial stage of digital tax ecosystems and serves as a complement to audit trails and taxpayer information updates through web-based systems (Korolyuk et al., 2025). Nonetheless, it ignores the advantage of verification systems that can permit fraudsters to enter the system and compromise the quality of the data. The operational definition of the study, referred to as e-registration in the KGIRS system, is the process of registering taxpayers online, which quantifies the volumes of registration and their relation to future revenues.

**E-Filing of Tax Returns**

E-Filing of tax returns, known as electronically filing of tax returns, expedites their processing, reduces errors, and enhances compliance by simplifying digital interfaces. One of the definitions proves that e-filing may be defined as a transmission of tax or organizational information in non-paper format, i.e., using electronic rather than paper-based delivery, which is a reaction to the needs of the regulator (Ely, 2023). However, its applicability in applications outside of the tax context is limited because it overlooks some obstacles to tax compliance, like complex eligibility provisions, which would repel this application. A second definition describes e-filing as an online system for filing tax returns that allows tax authorities to ensure that reporting is maximized (Rakhmawati et al., 2020). However, it is susceptible to digital divides, where ignorance or inability to use e-filing leads to reduced adoption among small taxpayers, a group this study operationally defines and which directly correlates with revenue collection effectiveness.

**E-Payment of Tax Revenue**

E-payment of tax revenue refers to the use of secure electronic cash transfers to pay taxes; this process reduces leakages and enhances the timeliness of collection through methods such as mobile applications and online banking. It can be described as an example of the electronic transfer of tax

payments to platforms that minimize physical contact and administrative costs (Ihenyen et al., 2024). However, its excessive focus on efficiency undermines security vulnerabilities like cyber threats, thereby eroding taxpayers' confidence. The alternative definition places e-payments within the context of digital tax, making it possible to remit them on time and track compliance (Al-Amrawi et al., 2025). Nevertheless, it relies on third-party services that are likely to introduce some additional expenses and breaches in data security, making it hard to adopt easily. Operationally, e-payment in the study is the transfer of tax electronically to KGIRS in terms of the number of transactions and the addition to the total revenue.

## Theoretical Framework

### Unified Theory of Acceptance and Use of Technology (UTAUT)

Unified Theory of Acceptance and Use of Technology (UTAUT), propounded by Venkatesh et al (2003), underpinned this study, which elucidates intentions and adoption behaviours of users concerning the implementation of information technologies such as electronic tax systems, considering the constructs of other related theories such as the Technology Acceptance Model (TAM). The UTAUT rationale here is that it takes into account the elements of adoption barriers and facilitators in the digital tax, whereby performance expectation (perceived benefits in revenue enhancement), effort expectation (easy to use by taxpayers), social influence (taxpayer peer and institutional pressures), and enabling conditions (supports infrastructure) are the predictors of usage. This further affects the outcomes (revenue generation) through facilitating the improvement of compliance and efficiency, which are dependent on the user acceptance variables in the case of KGIRS. Research using the UTAUT application focuses on e-registration, e-filing, and e-payment (Saadu & Danmalam, 2025; Akinyosoye et al., 2024), indicating its potential application in digital taxation and revenue reforms.

### Deterrence Theory of Tax Compliance

Deterrence theory explains tax compliance behavior based on the probability of detection and severity of penalties for tax evasion. The theory suggests that taxpayers are more likely to comply when they believe that tax authorities have effective monitoring systems capable of detecting tax evasion. Electronic tax systems strengthen deterrence mechanisms by enabling real-time monitoring, digital record keeping, and automated compliance checks. These systems reduce opportunities for tax fraud and improve enforcement efficiency. Consequently, when taxpayers perceive a higher likelihood of detection due to digital monitoring, voluntary compliance increases, which improves revenue generation (Allingham & Sandmo, 1972; Alm, 2019).

### Optimal Tax Theory

Optimal Tax Theory explains how governments design tax systems to maximize revenue while minimizing economic distortions and administrative costs. The theory emphasizes efficiency, equity, and simplicity in tax systems. Electronic tax systems help achieve these objectives by simplifying tax processes, reducing administrative costs, and improving efficiency in tax collection. Digital systems also help broaden the tax base by capturing previously unregistered taxpayers. Therefore, optimal tax theory provides a useful framework for understanding how electronic tax systems improve the efficiency of tax administration and increase government revenue (Mankiw, Weinzierl, & Yagan, 2009).

**Digital Government Transformation Theory**

Digital Government Transformation Theory explains how governments use digital technologies to improve public service delivery, transparency, and administrative efficiency. Electronic tax systems represent an important component of digital government transformation because they modernize tax administration, improve taxpayer services, and enhance government revenue management (Mergel, Edelmann, & Haug, 2019).

**Empirical Review**

The digital tax administration for electronic registration is one of the potential sources of revenue generation discussed by Anioke (2024), Oloyede et al. (2023), and Ugbede et al. (2023). The research relied on survey processes, documentary analysis, qualitative ex post facto design, and descriptive and regression designs. The articles found that electronic tax registration enlarges the tax base, improves compliance, reduces leakages, improves revenue collection, and promotes sustainable growth in a positive way. The literature makes major contributions to the field of digital taxation; however, it primarily focuses on the Lagos and federal levels, which creates a geographical and institutional gap regarding the internal revenue service at the state level. This empirical study of e-registration and revenue generation at the KGIRS bridges the identified gap in the current study.

Maro (2023), Akinyosoye et al. (2024), Khan et al. (2025), and Usman et al. (2025) studied the effect of electronic tax filing on revenue collection and compliance. Quantitative surveys, pre- and post-quasi-analysis, cross-sectional surveys, and descriptive and inferential statistics were the research designs used. The studies have noted that e-filing contributes significantly to improving tax compliance; registered taxpayers and transparency have a favourable outlook in relation to revenue generation. The research provides valuable details on the efficiency advantages of e-filing; however, most of them are at the federal level. There is a research gap at the state level in revenue services. This research paper addresses this gap by empirically dealing with the e-filing and revenue collection in the KGIRS.

Nwankwo et al. (2025), Saadu and Danmalam (2025), Nyoka et al. (2023), and Estifanos (2023) were dedicated to the role of electronic payment systems in terms of revenue generation. Mixed-method, descriptive surveys; cross-sectional, questionnaire-based designs; interviews; and inferential statistics, including regression and chi-square tests, characterised the study. The research found that e-payment is a significant means of enhancing the collection of revenues, accountability, and efficiency of transactions, and reducing leakages and evasion of taxation. The studies may be highly useful, yet they are more federal, foreign, or non-tax-agency-based, and there is a geographical and institutional gap among the states' internal revenue services. This study addresses this gap by focusing on the issue of e-payment and revenue generation at the KGIRS.

A study by Tivde (2024) examined the effect of electronic taxation on revenue generation in Nigeria using an ex-post facto research design with quarterly data obtained from the Federal Inland Revenue Service (FIRS) covering the period 2010–2021. The findings revealed that the introduction of electronic tax platforms significantly improved tax revenue collection and reduced administrative inefficiencies in Nigeria’s tax administration system. Inegbedion (2025) investigated the acceptance of electronic tax systems among SMEs in the Niger Delta region of Nigeria using a survey of 360 SME owners. The study found that the adoption of electronic tax platforms significantly improves tax compliance among SMEs, which in turn increases tax revenue

contributions to government. Also, Usman, Halidu, and Fannap (2025) examined the impact of tax system automation on revenue generation within the Federal Inland Revenue Service. Using survey data from tax administrators and regression analysis, the study found that the adoption of platforms such as electronic filing and electronic payment systems significantly predicts higher revenue generation and improved taxpayer compliance.

## 3. Methodology

This study adopts a survey research design because it is well-suited to gathering quantitative data from a given population through structured tools, enabling the generalization of the results to a broader context. The population of the study was 479 administrative, field, and technical employees of KGIRS involved in tax routines and the process of revenue. The Yamane (1967) formula was applied to represent the finite population to calculate the sample size since it is a scientific approach to calculating a representative sample through putting into consideration precision and confidence measures. The following formula is used to calculate the sample size: $n = N / (1 + N(e)^2)$, where n represents the sample size, N is the population size (479), and e is the margin of error (approximately 0.05, corresponding to a 95 percent confidence interval). The replacement of the values will provide n = 479/(1 + 479 x 0.0025) = 479/2.1975 = 217.99. The sample consisted of 218 respondents, which was rounded off to the nearest whole number. The participants were sampled using simple random sampling; that is, they had an equal likelihood of being sampled, minimizing the risk of bias and enhancing representativeness.

Primary data were collected through the use of a structured questionnaire that was designed within the 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The questionnaire has been further divided into sections that dealt with demographic data, attitude toward e-registration, e-filing, e-payment, and the outcome of revenue generation.

Its reliability and validity were pre-tested by a pilot study consisting of 30 non-sampled respondents, and any reported value above 0.70 (Cronbach's alpha coefficient) means excellent internal consistency. This tool was administered to the sampled employees electronically and physically, and 85 per cent replied to the administered tool after follow-up. Utilizing the multiple regression, the analyses were done using SPSS 25. To achieve the objective of this study, the following model was formulated:

$RG = \alpha_0 + \alpha_1 ER + \alpha_2 EF + \alpha_3 EP + \mu$

Where RG = revenue generation, ER = e-registration, EF = e-filing, and EP = e-payment, $\alpha$ = constants, $\mu$ = error term, $\alpha_1 - \alpha_3$ = Coefficient

## 4. Results and Discussion

This part of this paper presents the results and discussion of the data analysis.

Table 1: Age Distribution

| Variables | Frequency | Percent |
|---|---|---|
| Less than 30 years | 28 | 15.1 |
| 31-35 years | 53 | 28.6 |
| 36-40 years | 56 | 30.3 |
| 41-45 years | 26 | 14.1 |
| 46 years and above | 22 | 11.9 |
| Total | 185 | 100.0 |

Source: SPSS 25, 2026

Table 1 presents the demographic information of the 185 respondents in the Kogi Internal Revenue Service (KGIRS) who responded to the questionnaire out of a sample size of 218; it provides details about the composition of the sample. The age composition shows that the 31–40-year-old group (58.9% combined, namely 31–35 and 36–40 years) is the target of the workforce, which may potentially imply increased flexibility for electronic taxation systems.

Table 2: Gender Distribution

| Variables | Frequency | Percent |
|---|---|---|
| Male | 141 | 76.2 |
| Female | 44 | 23.8 |
| Total | 185 | 100.0 |

Source: SPSS 25, 2026

Table 2 indicates that gender distribution is heavily skewed toward men, with 76.2% of respondents identifying as male, indicating that gender bias may influence the use of technology in tax administration roles.

Table 3: Marital Distribution

| Variables | Frequency | Percent |
|---|---|---|
| Married | 117 | 63.2 |
| Single | 60 | 32.4 |
| Divorce | 8 | 4.3 |
| Total | 185 | 100.0 |

Source: SPSS 25, 2026

The marital status of the sample is predominantly married (63.2%), indicating a stable labour market.

Table 4: Educational Level

| Variables | Frequency | Percent |
|---|---|---|
| School Cert | 14 | 7.6 |
| ND/NCE | 44 | 23.8 |
| B.SC/HND | 83 | 44.9 |
| Master Degree | 39 | 21.1 |
| PhD | 5 | 2.7 |
| Total | 185 | 100.0 |

Source: SPSS 25, 2026

Table 4 indicates that the educational level is primarily composed of individuals with BSc/HND (44.9%) and then master's degrees (21.1%), suggesting that the sample is relatively well educated and capable of using more complex digital interfaces. These demographics suggest that KGIRS employees have the necessary demographic advantages to adopt electronic tax innovations; however, the low representation of females and individuals with lower education levels (e.g., those with only a school certificate at 7.6%) indicates potential gaps in inclusivity, which may impact both the implementation of e-systems and the development of extended revenue methods.

Table 5: Correlation Matrix

| | | Revenue Generation | E-Registration | E-filing | E-payment |
|---|---|---|---|---|---|
| Revenue Generation | Pearson Correlation | 1 | | | |
| | Sig. (2-tailed) | | | | |
| | N | 185 | | | |
| E-Registration | Pearson Correlation | .601** | 1 | | |
| | Sig. (2-tailed) | .000 | | | |
| | N | 185 | 185 | | |
| E-filing | Pearson Correlation | .758** | .573** | 1 | |
| | Sig. (2-tailed) | .000 | .000 | | |

| | | | | | |
|---|---|---|---|---|---|
| | N | 185 | 185 | 185 | |
| E-payment | Pearson Correlation | .771** | .565** | .673** | 1 |
| | Sig. (2-tailed) | .000 | .000 | .000 | |
| | N | 185 | 185 | 185 | 185 |

Source: SPSS 25, 2026

The correlation analysis (Table 5) indicates that e-registration (r = .601, p = .000), e-filing (r = .758, p = .000), and e-payment (r = .771, p = .000) are all positively correlated with revenue generation, suggesting that improvements in these electronic functions are associated with increased revenue generation. However, the explanatory variables are not strongly correlated among themselves, as the coefficients are below the threshold of 85%, implying that there is no problem of multicollinearity.

Table 6: VIF

| | Collinearity Statistics | |
|---|---|---|
| Model | Tolerance | VIF |
| (Constant) | | |
| E-Registration | .635 | 1.575 |
| E-filing | .375 | 2.667 |
| E-payment | .380 | 2.629 |

Source: SPSS 25, 2026

Table 6 indicates the Variance Inflation Factor (VIF), which is a measure of multicollinearity. The VIF scores are all less than 5 (e-registration: 1.575, e-filing: 2.667, e-payment: 2.629), and the tolerance levels are greater than 1, which confirms that there are no serious issues related to multicollinearity. It implies that the regression model is valid, and one can explain the specific contribution of the individual variables to revenue generation based on the actual values and not distorted variances.

Table 7: Reliability Statistics

| Cronbach's Alpha | N of Items |
|---|---|
| .859 | 8 |

Source: SPSS 25, 2026

Table 7 reveals that the questionnaire used in the study is very reliable, as demonstrated by the reliability statistics, which show a Cronbach's alpha of 0.859 based on 8 items; therefore, this study concludes that the measure of the constructs (e-registration, e-filing, e-payment, and revenue generation) is highly reliable and will be applied in future analyses.

Table 8: Regression Results Summary

| Model | B | Std. Error | T | Sig |
|---|---|---|---|---|
| (Constant) | .722 | .164 | 4.402 | .000 |
| E-Registration | .137 | .041 | 3.304 | .001 |
| E-filing | .346 | .069 | 4.997 | .000 |
| E-payment | .382 | .064 | 5.951 | .000 |
| R-Square | .679 | | | |
| Adjusted R-Square | .674 | | | |
| F-Change | 127.552 | | | .000 |
| Durbin Watson | 1.870 | | | |

a. Predictors: (Constant), E-payment, E-Registration, E-filing
b. Dependent Variable: Revenue Generation
Source: SPSS 25, 2026

Table 5 indicates that a 67.9 per cent variation in revenue generation ($R^2 = .679$) is caused by the explanatory variables, with adjusted $R^2 = .674$. The overall model is highly significant ($F = 127.552$, $p = .000$), showing that the model is well combined and used. Also, the Durbin-Watson value of 1.870 is reasonable (almost equal to 2), which means that there is no extreme autocorrelation between the values in the residual.

This study rejects H01 (B=.137 and $p = 0.000<0.05$), indicating that e-registration positively affects revenue generation by extending the tax base, as it is successfully integrated online within the UTAUT performance expectancy construct, with perceived usefulness facilitating adoption (Venkatesh et al., 2003). This is favoured by empirical reviews such as Ugbede et al. (2023), who found that e-registration positively correlated with sustainable development through the process of revenue in Lokoja.

This study also rejects H02 (B=.346 and $p = .001 < 0.05$), indicating that e-filing has a significant effect on revenue generation, based on the UTAUT expectation of effort and the reduction of manual burdens (Venkatesh et al., 2003). This aligns with Maro (2023), who indicated that e-filing positively influenced Tanzanian revenue by reducing compliance costs, and Usman et al. (2025), who reported a compliance-based revenue enhancement.

H03, also rejected by this study ($B = .832$, $p = .000 < 0.05$), shows that e-payment positively and significantly affects revenue generation. The reduction of leakages, associated with UTAUT's enabling conditions such as infrastructure support (Venkatesh et al., 2003), may lead to this outcome. This result is in line with the study of Saadu and Danmalam (2025), who found significant positive relationships with federal revenue, and Nyoka et al. (2023), and Estifanos (2023), who discovered that e-payment enhanced sustainable county collections in Nairobi.

## 5. Conclusion and Recommendations

This study concludes that there are strong positive impacts on revenue collection in KGIRS because empirical findings of correlation, VIF checks, and regression confirm the positive effect of electronic tax systems (e-registration, e-filing, and e-payment). These e-tools will result in improved compliance, reduced expenditure, and increased fiscal sustainability in Kogi State by fixing the failures of traditional practices in favour of fiscal sustainability in Nigeria that are part of the wider e-governance push amid economic difficulties.

Based on the findings made, this study, recommends that:

i. KGIRS should consolidate and automate the e-registration process further by ensuring it has user-friendly online portals and mobile connections to the process, as well as special enrolment campaigns for those not yet registered to receive the process.
ii. KGIRS should be more concerned with the continuous improvement of the e-filing system, i.e., make the interface easier, give taxpayers real-time validation options and step-by-step digital assistance, and train taxpayers regularly to make sure that the level of compliance with the filing is good and that it makes a good contribution to the revenue collection.
iii. KGIRS should consider making e-payment the flagship element of the company by upgrading secure digital mediums (mobile applications, USSD, POS, and bank intersections) to such an extent that, where possible, the payment fee should be zero, and that the small taxpayers should be compelled to employ electronic remittance as a predictive variable to make sure that the revenue leakages are minimized.

**Contribution to Knowledge**

i. The study enhances the literature on digital taxation by providing a state-level analysis of North-Central Nigeria, thereby filling the void in subnational research that has predominantly concentrated on federal or Lagos-centric studies.
ii. The study also applies the UTAUT model to assess revenue performance, providing a framework to evaluate the independent effects of electronic components, thereby contributing to the scientific discourse on e-governance in emerging economies.

**Future Research Recommendations**

i. A longitudinal design should be adopted in future studies to trace the long-term effect of E-Systems on KGIRS revenue and to incorporate taxpayers' views, as these would provide a more comprehensive understanding of the study.
ii. To strengthen the validity of the results, the secondary objective should focus on using actual IGR records or system transaction logs.

## References

Adefunke, A. B., & Mayowa, I. O. (2024). Effect of the e-taxation system on government tax revenue in Nigeria. *Journal of Academic Research in Economics*, *16*(2), 221-238. http://www.jare-sh.com/downloads/jul_2024/adefunke.pdf

Akinyosoye, O., Adesoga, A., Olubisi, M. G., & Nwankwere, I. (2024). Tax digitalisation and revenue generation system: The empirical approach. *International Journal of Accounting Research*, *9*(1), 19-24.

Al-Amrawi, Salim, Ben Lahrach, & Sarah. (2025). E-governance and digital transparency in the fight against tax evasion: a comparative analysis between Germany and Algeria. *Journal of Research in Financial and Accounting Sciences, 10*(2), 132-147.

Anioke, U. V. (2024). Digital tax administration and revenue generation in Lagos State, 2008–2018. *European Journal of Political Science Studies*, *7*(2), 128-166. DOI: 10.46827/ejpss.v7i2.1694

Baldassarre, A., D'Ambrosio, A., & Conversano, C. (2024). Explaining central government's tax revenue categories through the bradley-terry regression trunk model. *Statistics and Public Policy*, *11*(1), 2356507. https://doi.org/10.1080/2330443X.2024.2356507

Ely, T. L., Calabrese, T. D., & Jung, J. (2023). Research implications of electronic filing of nonprofit information: Lessons from the United States' Internal Revenue Service Form 990 series. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, *34*(1), 20-28.

Estifanos, K. (2023). The effect of the digital revenue system on revenue generation of AA Revenue Bureau with the system deployed by Ethiotelecom [Doctoral dissertation, St. Mary's University]. http://hdl.handle.net/123456789/7556

Ihenyen, C. J., Ehiogu, K. E., & Odoni, J. A. (2024). Electronic tax system and tax compliance, evidence from Nigeria tax jurisdiction. *IIARD International Journal of Banking and Finance Research*, *10*(6). DOI: 10.56201/ijbfr.v10.no6.2024.pg36.48

Khan, M. A., Ullah, K., Khattak, A. A., Akhter, M., & Haider, A. (2025). The effect of e-taxation on revenue generation in Pakistan. *Journal of Political Stability Archive*, *3*(1), 157-179. DOI: 10.63468/jpsa.3.1.12

Korolyuk, T., Spivak, S., Uhryn, V., & Kizyma, A. (2025, September). Impact of digitalization on the tax system: New approaches to digital taxation and reporting. *2025 15th International Conference on Advanced Computer Information Technologies (ACIT)*, 420-424. IEEE.

Nandiroh, U., Pratikto, H., & Wardana, L. W. (2024). Investıgatıng taxpayers intention to accept online tax filling system: An Indonesıan perspective. *Asian Journal of Management, Entrepreneurship and Social Science*, *4*(02), 256-273. **DOI:** https://doi.org/10.63922/ajmesc.v4i02.601

Nwankwo, O. P., Obikeze, O. S. A., & Mbuba, F. N. (2025). Electronic payment and internal revenue generation: A study of selected state universities in South East Nigeria, 2015-2022. *International Journal of Public Administration and Development Studies*, *2*(4), 1-24. https://ijpads.com/index.php/ijpads/article/view/57

Nyoka, M. A., Salifu, A. M. S., & Laar, D. S. (2023). An Electronic payment system for revenue collection in the Kassena Nankana Municipality. *Asian J. Res. Com. Sci*, *16*(4), 428-437. DOI: 10.9734/AJRCOS/2023/v16i4402

Oloyede, F. E., Osundina, O., & Odewusi, O. (2023). The impact of e-governance on tax revenue generation in Nigeria. *International Journal of Humanities, Literature and Art Research*, 9(2), 45-62.

Rakhmawati, H., Sutrisno, T., & Riisydi, M. K. (2020). Influence of TAM and UTAUT models of the use of e-filing on tax compliance. *International Journal of Research in Business and Social Science*, *9*(1), 106-111.

Saadu, Y., & Danmalam, M. I. (2025). Electronic payment: A determinant of tax revenue generation in Nigeria. *Journal of Public Administration and Government*, *7*(1), 15-27.

Ugbede, O. A., Ataja, A. J., & John, E. F. (2023). Digitalization on Nigeria's revenue generation, governance, and sustainable development: A study of the Federal Inland Revenue Service Lokoja. *Journal of Business Management, Innovation and Creativity*, *2*(1), 226-245.

Usman, A. Y. U., Halidu, S. I., & Fannap, D. (2025). Impact of tax system automation on revenue generation in Federal Inland Revenue Service (FIRS), Nigeria. *International Journal of Multidisciplinary and Innovative Research*, *2*(5), 1-15. DOI: 10.58806/ijmir.2025.v2i5n03.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly, 27(3), 425–478. https://doi.org/10.2307/30036540

Raw Data

| Age | Gender | Marital Status | Educational Level | Revenue Generation | E-Registration | E-filing | E-payment |
|---|---|---|---|---|---|---|---|
| 4 | 2 | 1 | 2 | 2.8 | 2 | 3 | 3.4 |
| 4 | 1 | 1 | 2 | 2.8 | 2 | 3 | 3.4 |
| 4 | 1 | 1 | 2 | 2.8 | 2 | 3 | 3.4 |
| 4 | 1 | 1 | 2 | 2.8 | 2 | 3 | 3.4 |
| 3 | 1 | 1 | 2 | 2.2 | 1.4 | 1.4 | 2.2 |
| 5 | 1 | 1 | 2 | 2.2 | 2 | 1.6 | 2.6 |
| 5 | 1 | 1 | 2 | 2.2 | 2 | 1.6 | 2.6 |
| 5 | 1 | 1 | 2 | 2.2 | 2 | 1.6 | 2.6 |
| 3 | 1 | 1 | 2 | 2.2 | 1.4 | 1.4 | 2.2 |
| 3 | 1 | 1 | 2 | 2.2 | 1.4 | 1.4 | 2.2 |
| 5 | 1 | 1 | 4 | 3.8 | 3.4 | 3.2 | 3.8 |
| 5 | 1 | 1 | 4 | 3.8 | 3.4 | 3.2 | 3.8 |
| 3 | 1 | 1 | 2 | 2.2 | 1.4 | 1.4 | 2.2 |
| 3 | 1 | 1 | 2 | 2.2 | 1.4 | 1.4 | 2.2 |
| 5 | 1 | 1 | 4 | 3.8 | 3.4 | 3.2 | 3.8 |
| 5 | 1 | 1 | 4 | 3.8 | 3.4 | 3.2 | 3.8 |
| 5 | 1 | 1 | 3 | 2 | 2.4 | 2.2 | 1.6 |
| 5 | 1 | 1 | 3 | 2 | 2.4 | 2.2 | 1.6 |
| 5 | 1 | 1 | 4 | 3.6 | 3.8 | 3.2 | 3.4 |
| 5 | 1 | 1 | 3 | 2 | 2.4 | 2.2 | 1.6 |
| 5 | 1 | 1 | 3 | 2.2 | 2 | 1.6 | 2.6 |
| 4 | 1 | 1 | 2 | 2.8 | 2 | 3 | 3.4 |
| 4 | 1 | 1 | 2 | 2.8 | 2 | 3 | 3.4 |
| 4 | 1 | 1 | 2 | 2.8 | 2 | 3 | 3.4 |
| 4 | 1 | 1 | 2 | 2.8 | 1.6 | 3 | 3.4 |
| 4 | 1 | 1 | 2 | 2.2 | 1.4 | 1.4 | 2.2 |
| 5 | 1 | 1 | 3 | 2.4 | 2.4 | 2.2 | 1.6 |
| 5 | 1 | 1 | 4 | 3.8 | 3.4 | 3.2 | 3.8 |
| 3 | 1 | 1 | 2 | 2.2 | 1.4 | 1.4 | 2.2 |
| 3 | 1 | 1 | 2 | 2.2 | 1.4 | 1.4 | 2.2 |
| 4 | 2 | 1 | 2 | 4.6 | 3.6 | 4.4 | 4.4 |
| 3 | 1 | 2 | 1 | 3.4 | 3 | 4 | 4.4 |
| 3 | 2 | 1 | 3 | 4.4 | 2.8 | 4.4 | 4.6 |
| 2 | 1 | 2 | 4 | 4 | 3.6 | 4.8 | 4.6 |
| 1 | 1 | 2 | 2 | 3.8 | 3.6 | 5 | 4.6 |
| 3 | 1 | 1 | 3 | 4 | 4 | 3.8 | 3.8 |
| 2 | 2 | 2 | 2 | 3.6 | 4 | 4.4 | 4.4 |
| 4 | 2 | 3 | 4 | 4.2 | 4 | 4.4 | 4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 3 | 3.2 | 2.4 | 2.4 | 3.8 |
| 2 | 2 | 2 | 3 | 3.6 | 3 | 1.4 | 1.8 |
| 2 | 1 | 2 | 2 | 2.6 | 3.6 | 3 | 2.8 |
| 3 | 1 | 1 | 2 | 3.4 | 2.6 | 3.4 | 2.2 |
| 2 | 1 | 3 | 2 | 2.2 | 2.8 | 3.2 | 3 |
| 1 | 1 | 3 | 3 | 2.8 | 2 | 2.4 | 3 |
| 3 | 1 | 1 | 2 | 3.6 | 1.4 | 1.8 | 1.6 |
| 3 | 1 | 1 | 2 | 4.2 | 4.2 | 3.4 | 4.2 |
| 4 | 1 | 1 | 1 | 3.8 | 2.8 | 3.6 | 3.6 |
| 5 | 1 | 1 | 5 | 4.2 | 2.4 | 3.6 | 4 |
| 5 | 1 | 1 | 5 | 3.8 | 3.8 | 4 | 4.6 |
| 2 | 2 | 2 | 3 | 3.2 | 2.4 | 3 | 2.6 |
| 1 | 2 | 2 | 3 | 4.4 | 2.6 | 3.6 | 3.8 |
| 2 | 1 | 1 | 2 | 3.8 | 3.2 | 3.8 | 4.4 |
| 2 | 1 | 2 | 3 | 3.2 | 2.2 | 1.6 | 1.6 |
| 3 | 1 | 1 | 3 | 3.6 | 4.2 | 3.6 | 5 |
| 3 | 1 | 1 | 3 | 5 | 4.6 | 4 | 5 |
| 3 | 1 | 1 | 3 | 4.4 | 3.6 | 3.2 | 4.2 |
| 4 | 1 | 1 | 4 | 3.6 | 3.2 | 4 | 4.2 |
| 2 | 1 | 2 | 3 | 3.6 | 11.8 | 3.2 | 4.4 |
| 3 | 1 | 1 | 3 | 4.4 | 4 | 3.4 | 5 |
| 4 | 1 | 1 | 4 | 3.6 | 3.2 | 4 | 4.2 |
| 3 | 1 | 1 | 3 | 4.4 | 4 | 3 | 4.4 |
| 3 | 1 | 1 | 3 | 4.2 | 3.4 | 3.2 | 4.4 |
| 3 | 1 | 1 | 4 | 4.4 | 3.4 | 3.2 | 4.6 |
| 2 | 1 | 2 | 3 | 4.4 | 4.4 | 4.2 | 4.6 |
| 2 | 1 | 2 | 3 | 3.2 | 2.8 | 3.8 | 3.6 |
| 2 | 2 | 2 | 2 | 3.2 | 3.4 | 2.6 | 4.4 |
| 2 | 1 | 2 | 3 | 4.4 | 3 | 4 | 4.4 |
| 2 | 1 | 2 | 2 | 2.8 | 3.8 | 3 | 4.6 |
| 1 | 1 | 2 | 2 | 4.4 | 4.2 | 3.6 | 4.8 |
| 3 | 1 | 1 | 3 | 4.4 | 4.4 | 3.6 | 3.8 |
| 4 | 1 | 1 | 2 | 4.6 | 4 | 4.4 | 4.6 |
| 2 | 2 | 1 | 3 | 4.4 | 3.8 | 3.4 | 4.6 |
| 1 | 1 | 2 | 3 | 4.6 | 4.4 | 4 | 4.8 |
| 2 | 1 | 1 | 2 | 4.6 | 4.4 | 4.2 | 5 |
| 3 | 2 | 2 | 4 | 4 | 4.4 | 4 | 4.8 |
| 2 | 1 | 1 | 2 | 4.4 | 3.6 | 3.6 | 3 |
| 2 | 2 | 1 | 2 | 4.2 | 3.8 | 3.6 | 4 |
| 1 | 2 | 2 | 2 | 4 | 3.4 | 3.6 | 3.4 |
| 2 | 1 | 2 | 2 | 4.6 | 3.8 | 4.4 | 4.4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | 1 | 2 | 2 | 4.2 | 2 | 4 | 3.4 |
| 1 | 1 | 2 | 4 | 4.2 | 3 | 4 | 4.4 |
| 1 | 1 | 2 | 3 | 4.2 | 2.4 | 3.8 | 4.4 |
| 3 | 1 | 1 | 4 | 4.6 | 4.2 | 3.8 | 4.4 |
| 1 | 2 | 2 | 2 | 4 | 3 | 4.2 | 5 |
| 2 | 1 | 1 | 2 | 2.2 | 2.2 | 1.8 | 2.6 |
| 3 | 1 | 2 | 3 | 4.8 | 3.2 | 3.8 | 4.8 |
| 3 | 1 | 1 | 2 | 4 | 3.8 | 4 | 4 |
| 2 | 1 | 2 | 2 | 4.8 | 3.4 | 3.4 | 5 |
| 2 | 1 | 2 | 2 | 4.6 | 4.4 | 4.6 | 4.6 |
| 1 | 2 | 3 | 4 | 4 | 2.8 | 3.6 | 4.6 |
| 2 | 1 | 2 | 2 | 4.4 | 3 | 3.6 | 4.2 |
| 1 | 2 | 2 | 4 | 4.4 | 3 | 3.8 | 4.6 |
| 3 | 2 | 3 | 3 | 4.2 | 3.4 | 3.6 | 4.4 |
| 3 | 1 | 1 | 3 | 4.8 | 3.6 | 4 | 4.6 |
| 1 | 2 | 2 | 4 | 4.4 | 3.6 | 3.6 | 4.6 |
| 4 | 1 | 1 | 2 | 3.8 | 3.4 | 3.2 | 4 |
| 2 | 1 | 2 | 2 | 4 | 3 | 3.2 | 4.6 |
| 4 | 1 | 1 | 2 | 3.8 | 4 | 2.8 | 4 |
| 3 | 2 | 3 | 3 | 4.4 | 3.6 | 2.6 | 4.4 |
| 1 | 1 | 2 | 1 | 3.2 | 2.8 | 3.2 | 3.2 |
| 2 | 1 | 2 | 1 | 2.8 | 2.6 | 3 | 3.8 |
| 3 | 1 | 2 | 1 | 2.6 | 2.8 | 3.4 | 3 |
| 2 | 1 | 2 | 1 | 3.2 | 3.6 | 2.8 | 3.4 |
| 2 | 1 | 2 | 1 | 3 | 3 | 3 | 2.8 |
| 2 | 2 | 2 | 2 | 5 | 4.6 | 5 | 5 |
| 3 | 2 | 1 | 2 | 4.6 | 4.6 | 3.2 | 4.8 |
| 3 | 2 | 2 | 2 | 5 | 5 | 5 | 4.8 |
| 3 | 1 | 1 | 2 | 5 | 3.2 | 4 | 5 |
| 2 | 1 | 1 | 3 | 5 | 5 | 5 | 5 |
| 1 | 2 | 2 | 2 | 5 | 5 | 4.6 | 4.8 |
| 2 | 1 | 1 | 3 | 5 | 4.2 | 4.4 | 5 |
| 2 | 2 | 1 | 3 | 5 | 4 | 4.2 | 4.6 |
| 5 | 1 | 1 | 2 | 5 | 4.4 | 4.6 | 4.8 |
| 3 | 1 | 1 | 2 | 4.6 | 4.6 | 3.2 | 4.4 |
| 2 | 1 | 2 | 2 | 4.4 | 4.2 | 3 | 4.4 |
| 3 | 1 | 1 | 2 | 4.8 | 5 | 3.8 | 5 |
| 2 | 1 | 2 | 2 | 3 | 4 | 4 | 4.6 |
| 3 | 1 | 1 | 2 | 4.8 | 3.8 | 3.8 | 4.6 |
| 3 | 1 | 1 | 2 | 4.2 | 4.4 | 4 | 4 |
| 3 | 1 | 1 | 1 | 4 | 3.4 | 4.2 | 4.4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 3 | 4.4 | 4.4 | 4.2 | 4.4 |
| 2 | 1 | 2 | 2 | 4.8 | 3.2 | 3.4 | 4.4 |
| 2 | 1 | 1 | 2 | 4.6 | 4.2 | 3.4 | 4.2 |
| 3 | 1 | 1 | 2 | 5 | 4.2 | 5 | 5 |
| 2 | 1 | 2 | 2 | 4 | 4 | 3.8 | 4 |
| 3 | 1 | 1 | 2 | 2.8 | 2.2 | 2.8 | 3.6 |
| 2 | 1 | 1 | 2 | 3.8 | 4 | 3.6 | 3.6 |
| 3 | 1 | 1 | 2 | 3.8 | 2.6 | 3.2 | 4 |
| 2 | 1 | 1 | 2 | 3.2 | 3.8 | 3 | 3.4 |
| 3 | 1 | 1 | 2 | 3.8 | 2.6 | 3 | 3.6 |
| 2 | 1 | 1 | 2 | 4.6 | 3.6 | 3.6 | 4.2 |
| 3 | 1 | 2 | 2 | 4.6 | 2.4 | 3.4 | 4.6 |
| 3 | 1 | 1 | 3 | 4.2 | 3.4 | 4.2 | 4.2 |
| 2 | 2 | 1 | 3 | 3.4 | 2 | 3.2 | 3.6 |
| 5 | 1 | 1 | 3 | 3.2 | 3.2 | 3.8 | 2.6 |
| 3 | 1 | 1 | 3 | 3.6 | 3.4 | 3.6 | 3.8 |
| 3 | 1 | 1 | 3 | 3.6 | 3.2 | 3.8 | 3.6 |
| 4 | 2 | 1 | 3 | 2.2 | 1.6 | 1.4 | 1.4 |
| 2 | 2 | 1 | 2 | 4.2 | 3.2 | 4.2 | 5 |
| 3 | 1 | 1 | 3 | 3 | 3.6 | 3.2 | 2.6 |
| 4 | 2 | 1 | 2 | 2.2 | 1.6 | 2.2 | 3.8 |
| 4 | 2 | 1 | 1 | 4.8 | 4 | 3.6 | 4.6 |
| 5 | 1 | 1 | 1 | 4 | 4 | 4 | 4 |
| 1 | 1 | 2 | 3 | 4.4 | 3.4 | 3.2 | 4.2 |
| 3 | 2 | 1 | 3 | 4.2 | 3.6 | 4.4 | 4.4 |
| 2 | 1 | 2 | 3 | 4.4 | 3.8 | 4.2 | 4.2 |
| 1 | 1 | 2 | 3 | 4 | 3 | 3.4 | 3.4 |
| 2 | 1 | 2 | 3 | 4.8 | 4 | 3.2 | 4 |
| 3 | 1 | 1 | 4 | 4.6 | 4.4 | 3.6 | 4 |
| 1 | 1 | 2 | 3 | 4.6 | 4 | 5 | 4.4 |
| 2 | 2 | 1 | 3 | 3.8 | 3.8 | 3.2 | 4.8 |
| 1 | 1 | 1 | 3 | 4.6 | 4.4 | 3.8 | 4.6 |
| 1 | 1 | 2 | 3 | 4.4 | 3.6 | 3.6 | 4.2 |
| 2 | 1 | 1 | 2 | 4 | 3.4 | 3.6 | 4 |
| 3 | 2 | 1 | 2 | 4 | 3.2 | 3.4 | 3.6 |
| 2 | 2 | 2 | 2 | 2.2 | 2 | 2.6 | 4 |
| 4 | 2 | 1 | 5 | 4.6 | 2.2 | 3.4 | 4 |
| 2 | 2 | 1 | 2 | 5 | 3.8 | 3.8 | 5 |
| 3 | 1 | 1 | 2 | 4.6 | 2.8 | 3 | 4.4 |
| 2 | 1 | 1 | 3 | 3 | 3 | 2.6 | 2 |
| 3 | 2 | 1 | 3 | 4 | 4 | 3.4 | 3 |
| 2 | 2 | 1 | 3 | 4 | 3.6 | 3 | 3 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | 1 | 1 | 2 | 4 | 3.6 | 3 | 3.2 |
| 2 | 2 | 2 | 3 | 5 | 3.8 | 3.4 | 4.4 |
| 4 | 2 | 3 | 3 | 5 | 4.4 | 3.8 | 4.4 |
| 1 | 2 | 2 | 3 | 5 | 4.2 | 3.8 | 3.8 |
| 2 | 1 | 1 | 2 | 4.2 | 4.2 | 4.2 | 4.6 |
| 4 | 2 | 1 | 2 | 4.6 | 3.8 | 3.8 | 5 |
| 4 | 2 | 1 | 1 | 4.8 | 3.6 | 4.2 | 4.6 |
| 5 | 1 | 1 | 2 | 4.6 | 3.8 | 4 | 3.8 |
| 3 | 1 | 1 | 2 | 4.2 | 3.8 | 4 | 4 |
| 4 | 1 | 1 | 2 | 4.6 | 3 | 3.8 | 4.2 |
| 1 | 1 | 2 | 3 | 4 | 3.4 | 4.2 | 5 |
| 1 | 1 | 2 | 3 | 2.6 | 2.2 | 2.2 | 1.6 |
| 1 | 1 | 2 | 3 | 5 | 3.6 | 4.6 | 3.8 |
| 5 | 1 | 1 | 1 | 3.6 | 3.6 | 4 | 4.2 |
| 3 | 1 | 1 | 2 | 4 | 4.2 | 3.6 | 4.2 |
| 3 | 1 | 1 | 2 | 3.6 | 4.2 | 3.4 | 3.6 |
| 4 | 1 | 1 | 1 | 4.2 | 4.2 | 3.8 | 4.4 |
| 3 | 1 | 1 | 2 | 4.2 | 2.8 | 4 | 3.8 |
| 5 | 1 | 1 | 1 | 3.6 | 2.4 | 4 | 5 |
| 1 | 2 | 2 | 3 | 5 | 3.8 | 3.8 | 5 |
| 2 | 1 | 1 | 2 | 4 | 2.4 | 3.8 | 5 |
| 1 | 1 | 2 | 5 | 5 | 5 | 5 | 5 |
| 1 | 1 | 2 | 3 | 5 | 5 | 5 | 4.8 |

Source: Field Survey, 2026