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Assessing the Effectiveness of the TaxOnline ICT Tool in Enhancing Service Delivery at the Zambia Revenue Authority: A Case Study of the Domestic Taxes Division in Kabwe Office

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Abstract

The growing demand for efficient and transparent tax administration in Zambia necessitated the adoption of digital innovations such as the Tax Online system by the Zambia Revenue Authority (ZRA). This study assessed the effectiveness of the Tax Online tool in enhancing service delivery in the Domestic Taxes Division at the Kabwe Office, focusing on service delivery time, accuracy and reliability of taxpayer records, and taxpayer satisfaction in terms of accessibility, technical support, and ease of use. Guided by a descriptive research design, data were collected from 50 respondents, including ZRA staff, taxpayers, business owners, and consultants, using structured questionnaires. The data were analyzed using descriptive statistics and chi-square tests in STATA, providing both quantitative and inferential insights. The findings revealed that Tax Online had substantially improved service delivery efficiency, with an average transaction taking 15.5 minutes compared to prolonged manual processes, and 70% of respondents affirming the system's effectiveness in reducing processing time. In terms of accuracy, 68% of respondents rated taxpayer records as accurate or very accurate, with 66% acknowledging timely updates; however, 20% reported recurring issues such as duplication or incorrect entries, with statistical evidence ($\chi^2 = 110.17$, $p < 0.001$) confirming the significance of these inconsistencies. Taxpayer satisfaction was also found to be high, with 68% rating the system accessible and easy to use, 62% having used technical support, and 58% rating support quality as effective or very effective. Furthermore, 78% of respondents reported that Tax Online met or exceeded expectations, while 69.4% rated it better than other government e-services. Nevertheless, challenges such as system slowness, login issues, and occasional record errors persisted. The study concluded that Tax Online was an effective ICT tool that had transformed service delivery in Kabwe by improving efficiency, record accuracy, and taxpayer satisfaction, though continuous improvements in system reliability, technical support, and inclusivity remain necessary to maximize its impact.

Keywords: Tax Online, Service Delivery, Accuracy, Taxpayer Satisfaction, Zambia Revenue Authority

1. Introduction

1.1 Background of the Study

The adoption of ICT tools in tax administration has become essential for improving efficiency, transparency, and compliance worldwide. High-income countries like South Korea and the UK have leveraged digital systems with technologies such as AI and blockchain to enhance real-time monitoring and reduce fraud, though digital inequality still persists in rural areas. The global UN E-Government Development Index (EGDI) highlights this digital divide, with low-income countries lagging due to weak infrastructure and limited human capital.

In Sub-Saharan Africa, progress in tax system digitization is uneven. Zambia's Tax Online system, launched in 2013 and inspired by Uganda's e-tax platform, aimed to modernize tax administration but faces challenges compared to regional leaders like Mauritius and South Africa, which have stronger ICT infrastructures. Despite government measures such as tax exemptions on telecom imports (Budget 2023) to promote digital inclusion, Zambia's Online Service Index (OSI) and Human Capital Index (HCI) remain below average.

Tax Online has improved efficiency reducing processing times dramatically and digitizing most tax operations but issues persist. Limited internet access (only 40.2% in 2020), low digital literacy, reliance on foreign vendors, and insufficient technical support especially in rural areas like Kabwe continue to hinder equitable access and effective implementation. These challenges illustrate the gap between Zambia's digital transformation ambitions and practical realities on the ground.

1.2 Statement of the Problem

The Zambia Revenue Authority's Tax Online platform, lauded for digitizing 90% of registrations and 70% of payments nationally (Dreisbach, 2021) [17], underperforms in decentralized offices like Kabwe's Domestic Taxes Division, where "unstable ICT systems" and "inadequate infrastructure" persist (ZRA, 2025). Despite reducing processing times to under 24 hours, Kabwe faces accessibility barriers: 40.2% of residents lack reliable internet (Mulenga *et al*., 2020), and rural taxpayers report low digital literacy and frustration with authentication protocols (ZRA Workshop, 2024). Over 45% of SMEs experience unresolved technical queries during peak periods, while system downtimes and slow response rates exacerbate rural-urban satisfaction gaps (32% disparity). Manual data processes and understaffed support centers further undermine accuracy and efficiency, contradicting Zambia's Sixth National Development Plan goals (Ministry of Finance, 2023). The absence of localized data on Tax Online's impact specifically on service delivery KPIs like dispute resolution times or reduced physical visits leaves policymakers unable to address Kabwe's bottlenecks. Without evidence-based reforms targeting ICT infrastructure deficits and taxpayer readiness, Tax Online risks perpetuating inequitable service delivery and revenue leakage, undermining ZRA's domestic revenue mobilization targets. This study is vital to align ICT strategies with Kabwe's realities and ensure equitable, efficient tax administration.

1.3 General Objectives

The general objective of the study is to assess the effectiveness of the Tax Online ICT tool in enhancing service delivery in the Domestic Taxes Division at the Zambia Revenue Authority (ZRA), Kabwe Office.

1.3.1 Specific Objectives

1. To identify the effects of the Tax Online tool on service delivery time for tax-related transactions at the Domestic Taxes Division in Kabwe.
2. To examine the effectiveness of the Tax Online tool in improving accuracy and reliability of taxpayer records in the Kabwe Office.
3. To establish taxpayer satisfaction with Tax Online services in relation to accessibility, technical support, and ease of use in Kabwe.

1.4 Research Questions

1. How has the Tax Online tool affected service delivery time for tax-related transactions at the Domestic Taxes Division in Kabwe?
2. How effective is the Tax Online tool in improving the accuracy and reliability of taxpayer records in the Kabwe Office?
3. What is the level of taxpayer satisfaction with Tax Online services in terms of accessibility, technical support, and ease of use in Kabwe?

1.5 Theoretical Framework

This study adopted the DeLone & McLean IS Success Model as its theoretical foundation. The model's six dimensions system quality, information quality, service quality, user satisfaction, intention to use, and net benefits, are adapted to structure the relationships between the Tax Online ICT tool's attributes (independent variables) and service delivery outcomes (dependent variables) at ZRA's Kabwe Office. The framework positioned these dimensions as interconnected drivers of effectiveness, moderated by contextual factors unique to Kabwe.

1.6 Significance of the Study

This study holds critical importance for multiple stakeholders at local and district levels in Zambia. The Zambia Revenue Authority (ZRA) will benefit from evidence-based insights to refine Tax Online's implementation, addressing technical gaps in Kabwe and enhancing nationwide service delivery standards. Local taxpayers, particularly SMEs and informal sector operators in Kabwe, stand to gain from improved accessibility, reduced processing delays, and streamlined compliance processes, easing their administrative burdens. District policymakers can leverage findings to allocate resources toward ICT infrastructure upgrades, such as expanding broadband connectivity or funding digital literacy programs, ensuring equitable access to e-tax services. Additionally, academic researchers and ICT developers will gain empirical data on the challenges and opportunities of digitizing tax administration in resource-constrained settings, informing future innovations. By bridging gaps in service quality and taxpayer trust, the study supports Zambia's broader fiscal goals, fostering higher compliance rates and revenue mobilization to fund local development initiatives in Kabwe and beyond.

1.7 Scope of the Study

This study focused on assessing the effectiveness of the Tax Online ICT tool within the Domestic Taxes Division of the Zambia Revenue Authority (ZRA) in Kabwe, Zambia, from 2020 to 2025. Geographically, it was limited to Kabwe's jurisdiction, targeting taxpayers and ZRA staff interacting with the platform, with findings potentially informing similar regional offices. The research examined three core dimensions aligned with its objectives: (1) the tool's impact on service delivery time for tax transactions, (2) its role in improving the accuracy and reliability of taxpayer records, and (3) taxpayer satisfaction concerning accessibility, technical support, and ease of use. Data collection combined surveys from 35 taxpayers, interviews with 15 ZRA staff, and analysis of Tax Online system logs to triangulate findings. The study excluded broader national ICT policies, non-tax e-government services, and macroeconomic impacts of digitalization, concentrating solely on service delivery metrics within Kabwe. While the findings reflected localized challenges, such as rural-urban ICT disparities and sample bias toward active Tax Online users, the scope ensured a focused evaluation of the platform's operational efficacy, providing actionable insights for ZRA's decentralized offices.

2. Literature Review

2.1 Electronic Tax Systems and Service Delivery Time

Studies consistently show that digitalization improves service delivery speed by automating data entry, validation, and processing. In Europe, Nose and Mengistu (2023) [28] found that expanding e-filing and e-invoicing reduced administrative delays and boosted tax revenues by 1.6% of GDP. Advanced economies achieved up to 95% online filing rates, while low-income countries lagged due to weak infrastructure and limited staff capacity. Similarly, in North America, AI-driven tax tools and unified e-payment portals (e.g., IRS, Canada) cut processing times by up to 70%, illustrating how automation enhances efficiency when supported by strong IT systems.

Zambia's Tax Online system exemplifies both progress and challenges. It reduced VAT processing times in Lusaka by up to 37–75% but achieved limited gains in rural areas due to low broadband access (32%). Studies (Mwila, 2024; Nyirenda, 2025) show that SMEs with training benefited most, while informal traders reverted to manual filing due to technical glitches and poor interface design. Ongoing debates (Banda, 2023; Mulenga, 2025) highlight the trade-off between security investments and system integration**,** suggesting that interoperability gaps continue to hinder efficiency.

Studies demonstrate that electronic tax systems substantially enhance service delivery times**,** administrative efficiency, and compliance but only where institutional readiness, digital infrastructure, and human capacity are aligned. The global evidence underscores that technological innovation alone is insufficient; sustainable efficiency requires complementary reforms in governance, interoperability, and equitable access to ensure that digital tax transformation benefits all taxpayers.

2.2 Electronic Tax Systems and Accuracy of Taxpayer Records

A growing body of cross-country evidence demonstrates that electronic tax systems significantly improve the accuracy of taxpayer records, though outcomes depend on institutional readiness, digital literacy, and infrastructure. Nose and Mengistu (2023) [28] found that a 50% increase in e-filing adoption boosts tax revenues by 1.6% of GDP, as seen in the EU, where 95% online VAT filings correlated with a sevenfold revenue rise (2015–2022). Australia reduced reporting errors by 30%, Canada's e-invoicing cut VAT mismatches by 22%, and Eswatini's e-filing raised taxable income by 4% of GDP, though weak enforcement limited gains. Blockchain systems in Chile and China reduced fraud by 18% and audit adjustments by 34%, respectively, while India's GSTN saw a 27% drop in discrepancies but faced 41% literacy-related data errors. In Africa, Kenya's i-Tax reduced registration errors by 22%, Rwanda's education-linked e-filing improved record accuracy by 28% versus Ghana's 9%, and Tanzania's rural e-TIN errors (43%) tripled urban rates (12%). Zambia's Tax Online cut duplicate entries by 22% and improved filing timeliness from 60% to 70%, though 34% of rural SMEs faced access barriers and 15% of records showed cybersecurity inconsistencies. On average, IMF (2023) estimates digitization raises African revenues by 1.1% of GDP, with effectiveness varying threefold by governance quality. Despite advances such as South Korea's 40% mismatch reduction, Bangladesh's 58% drop in duplicates, and Rwanda's digital adoption surge from 30% to 73% challenges persist: informal economies, digital divides, and algorithmic opacity (linked to a 14% compliance decline in Japan) continue to constrain accuracy gains, underscoring the need for inclusive, well-governed digital tax ecosystems.

2.3 Taxpayer Satisfaction with Electronic Tax Services

Between 2020 and 2025, global studies on taxpayer satisfaction with electronic tax services highlight significant regional disparities shaped by accessibility, technical support, and ease of use. In Europe, 65% of 1,200 surveyed businesses rated VAT portals as user-friendly, though 40% cited delayed support responses and rural SMEs faced broadband barriers, while Denmark's AI chatbots cut query times by 30%. North American findings showed 72% of 850 taxpayers in Canada and the U.S. found cloud-based portals intuitive, though 55% criticized inconsistent support; Mexico's SAT reduced compliance costs by 15% after adding multilingual features, yet rural adoption lagged at 42%. Across Asia, India's GST portal was rated efficient by 68% of urban users but only 32% of rural taxpayers, while China's AI chatbots cut resolution times by 40% and South Korea's blockchain invoicing raised satisfaction by 22%; conversely, Japan's AI audit system faced 62% disapproval for intrusiveness. In Africa, Kenya's iTax accessibility was 58% in urban areas versus 29% rural, Nigeria's efficiency dropped from 63% in Lagos to 22% in Benue, and South Africa's SMS reminders lifted rural compliance by 18%. Rwanda's chatbots cut complaint resolution times by 35%, though 48% of elderly users found them frustrating, while Botswana's API integration reduced compliance errors by 27%. In Zambia, 68% of urban taxpayers rated Tax Online efficient, with processing times falling from 10–16 days to under 24 hours, yet only 32% of rural users found it accessible and 45% of SMEs faced query delays. Overall, studies emphasize that while automation, AI, and multilingual design enhance satisfaction, infrastructural gaps, complex authentication protocols (51% abandonment rate in Zambia), and insufficient technical support continue to undermine equitable taxpayer experiences globally.

2.4 Personal Critique of Literature Review

The literature review provides a broad and well-organized discussion on the relationship between electronic tax systems and service delivery, using global evidence to demonstrate their potential benefits. However, it falls short in contextualizing these findings within Zambia's socio-economic and infrastructural realities, particularly in semi-urban areas like Kabwe. Important contextual factors such as internet penetration, digital literacy, and system readiness are insufficiently analyzed, limiting the applicability of the conclusions drawn. While the review acknowledges improvements in data accuracy and taxpayer satisfaction, it overlooks critical challenges including data migration issues, cybersecurity threats, and system maintenance constraints common in developing economies. A more critical, balanced, and context-sensitive approach would strengthen the literature review's relevance for guiding effective digital tax implementation in Zambia.

2.5 Establishment of Research Gaps

Despite notable progress in implementing electronic tax systems in Zambia, several research gaps persist. Existing studies mainly emphasize urban contexts, neglecting the

experiences of SMEs and informal sector actors in rural areas where digital literacy and access to IT infrastructure remain limited. Furthermore, limited research examines how contextual factors such as institutional capacity, systemic corruption, and taxpayer trust influence the success of e-tax reforms. Most available studies rely on cross-sectional data, providing little insight into long-term outcomes, evolving taxpayer behavior, or the sustained impact of system upgrades. Additionally, there is a lack of research on how digital tax systems can support the formalization of informal businesses and enhance inclusivity. Addressing these gaps through longitudinal, comparative, and context-aware studies is crucial to ensuring that electronic tax reforms effectively improve compliance, transparency, and service delivery in Zambia.

3. Research Methodology

3.1 Research Design

A descriptive research design was adopted to examine the Tax Online tool's impact on service delivery, record accuracy, and taxpayer satisfaction. A case study approach focusing on the Domestic Taxes Division in Kabwe was used to gain in-depth, contextual insights.

3.2 Target Population

The study targeted 232,397 taxpayers in Central Province (including 17,455 with tax accounts and 214,942 TPIN holders without accounts) and ZRA staff at the Kabwe office key stakeholders in the Tax Online system.

3.3 Sampling Design

A simple random sampling technique was applied to ensure equal representation and minimize bias, aligning with the quantitative nature of the study and the use of structured questionnaires.

3.4 Sample Size Determination

A sample of 50 respondents (taxpayers and ZRA staff) was used. This number was deemed sufficient for meaningful quantitative analysis and comparable to sample sizes in similar Zambian tax studies.

3.5 Data Collection Methods

A mixed-methods approach was employed:
Primary data from structured questionnaires administered face-to-face at ZRA Kabwe.
Secondary data from ZRA Annual Reports, ICT policy documents, CSO ICT surveys, and academic literature. Triangulation enhanced the reliability and contextual understanding of findings.

3.6 Data Analysis

Data were cleaned in Microsoft Excel and analyzed using Stata for descriptive and inferential statistics (including chi-square tests). This ensured accuracy and meaningful interpretation of results.

3.7 Triangulation

Methodological triangulation compared questionnaire findings with official ZRA records and secondary data to verify consistency and improve validity of the conclusions.

3.8 Limitations of the Study

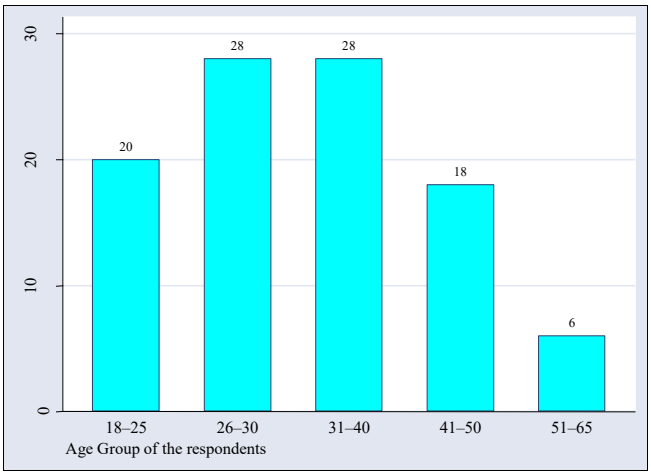
Limitations included the small sample size, potential response bias, and time/resource constraints. These were mitigated through pilot testing, careful questionnaire design, and data triangulation.

3.9 Ethical Considerations

Ethical approval was obtained from the university review board. Participants were informed of the study's purpose, assured of confidentiality and voluntary participation**,** and gave informed consent**.** Data were securely stored and used strictly for research purposes.

4. Research Findings and Discussion of Results

4.1 Background characteristics of the respondents



The age distribution of respondents indicates that the majority were within the 26–30 years (28%) and 31–40 years (28%) brackets, highlighting that most Tax Online users fall in the young to middle-adult working group. This was followed by those aged 18–25 years (20%), suggesting that younger taxpayers are also actively engaging with the system. A smaller proportion of respondents were aged 41–50 years (18%), while the least represented group was those aged 51–65 years (6%). Overall, the findings show that the Tax Online tool is predominantly utilized by individuals in their economically active years, reflecting a youthful and tech-adaptive user base.

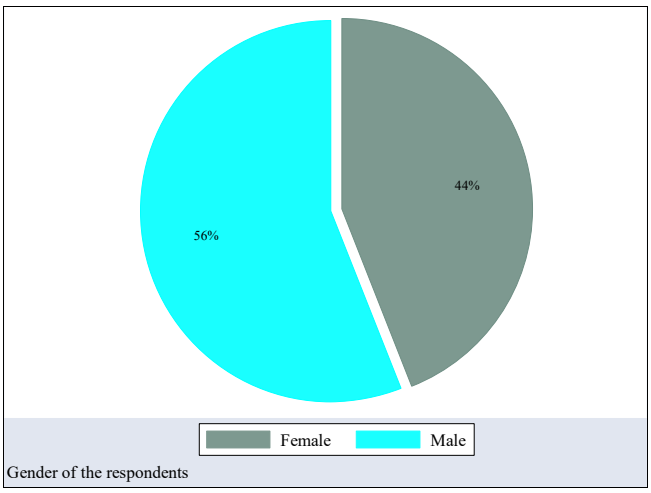


Fig 2: Gender of the respondents

The gender distribution of respondents shows that males accounted for the majority at 56%, while females made up 44% of the sample. This suggests that both genders are well represented among Tax Online users in Kabwe, though slightly more men are engaged with the system compared to women. The relatively balanced distribution also implies that perspectives from both male and female users were captured, providing a fair basis for assessing the effectiveness of the Tax Online tool.

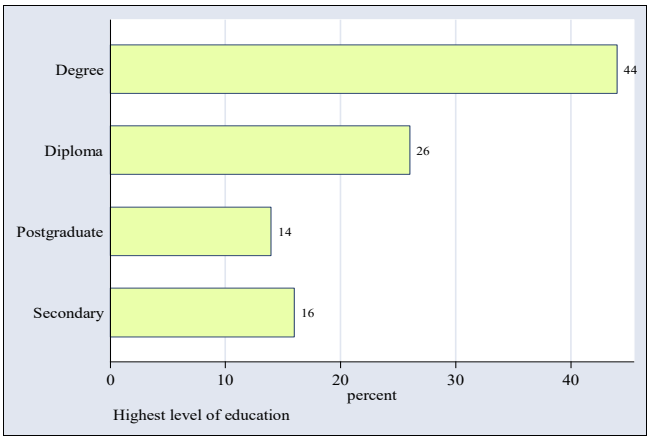


Fig 3: Highest level of education

The educational background of respondents reveals that the majority, 44%, hold a degree, followed by 26% with a diploma, and 16% who attained secondary education. A smaller proportion, 14%, reported having postgraduate qualifications. This distribution indicates that most Tax Online users are relatively well-educated, with a significant portion possessing tertiary education, which may positively influence their ability to adopt and effectively utilize digital tax systems.

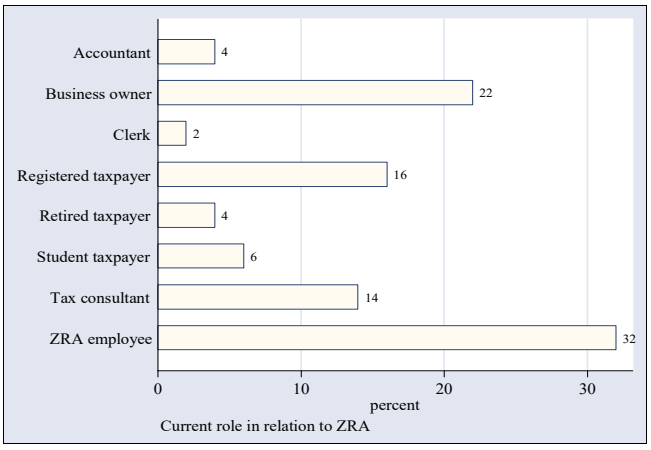


Fig 4: Current role in relation to ZRA

The findings on respondents' roles in relation to ZRA show that the largest group were ZRA employees (32%), followed by business owners (22%) and registered taxpayers (16%), while tax consultants accounted for 14%. Smaller groups included student taxpayers (6%), retired taxpayers (4%), and accountants (4%), with clerks being the least represented (2%). This diversity highlights that the study captured perspectives from a wide range of stakeholders, with a strong representation from both ZRA staff and active taxpayers, thereby providing a balanced understanding of the effectiveness of the Tax Online tool.

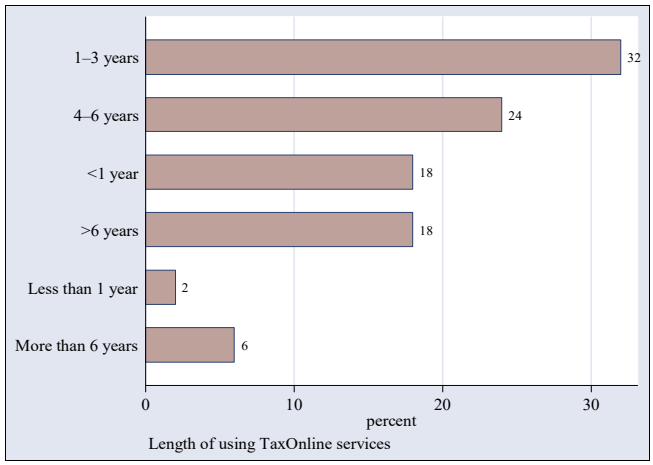


Fig 5: Length of using Tax Online services

The results show that the majority of respondents had 1–3 years (32%) of experience using Tax Online, followed by 24% with 4–6 years of usage. A smaller proportion, 18%, reported having used the system for less than one year, while another 18% indicated usage for more than six years. Additionally, 2% specified "less than 1 year" and 6% reported "more than 6 years," reflecting possible overlaps in responses. Overall, the findings suggest that most users have moderate experience with the system, indicating sufficient familiarity to provide informed feedback on its effectiveness, while also including perspectives from both relatively new and long-term users.

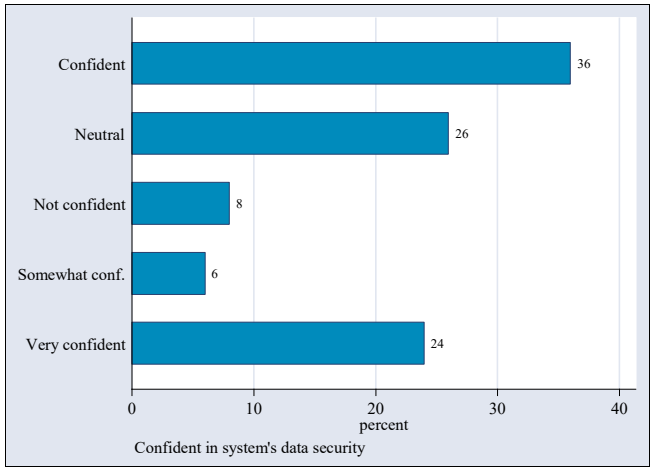


Fig 6: Confident in system's data security

The findings indicate that most respondents expressed trust in the system's data security, with 36% being confident and 24% very confident, together accounting for 60% of users. Meanwhile, 26% remained neutral, suggesting uncertainty about the robustness of the security measures. A smaller proportion reported lower levels of confidence, with 8% not confident and 6% somewhat confident. Overall, the results suggest that while the majority of users have confidence in Tax Online's data security, there is still a notable segment of users who remain unconvinced or uncertain, highlighting the need for continued assurance and communication on system safeguards.

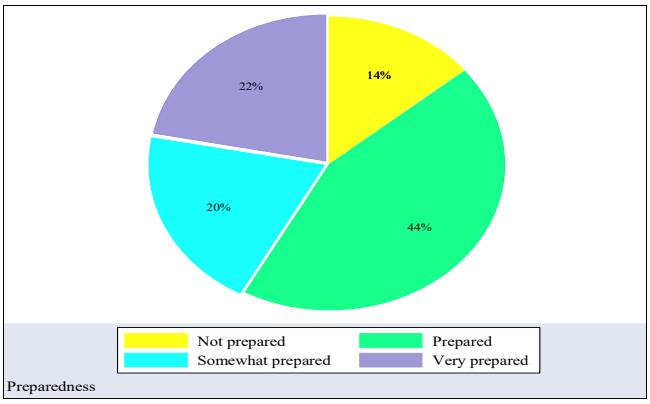


Fig 7: Preparedness

The results show that most respondents felt adequately ready to use Tax Online when it was first introduced, with 44% indicating they were prepared and 22% very prepared, together representing 66% of users. On the other hand, 20% felt only somewhat prepared, while 14% reported not being prepared at all. These findings suggest that although the majority of users were able to adapt to the system, a considerable proportion still faced initial challenges, underscoring the importance of user training and orientation to ensure smooth adoption of digital tax platforms.

4.2 The effects of the TaxOnline tool on service delivery time for tax-related transactions at the Domestic Taxes Division in Kabwe

Table 1: How long does it takes to complete a tax-related transaction using Tax Online

Variable	Obs	Mean	Std. Dev.	Min	Max
onaverageh~c	49	15.53061	7.665132	2	35

The results indicate that, on average, it takes respondents approximately 15.5 minutes to complete a tax-related transaction on Tax Online, with a standard deviation of 7.7 minutes. The shortest reported completion time was 2 minutes, while the longest was 35 minutes. This variation suggests that while most users experience relatively quick processing, some still face longer transaction times, possibly due to differences in internet connectivity, user familiarity, or occasional system delays. Overall, the average time demonstrates that Tax Online offers a reasonably efficient platform for completing tax processes compared to manual methods.

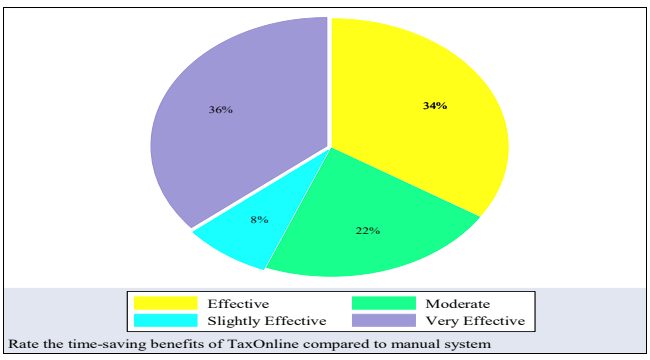


Fig 8: Time-saving benefits of Tax Online compared to manual system

The findings reveal that the majority of respondents acknowledged significant time-saving benefits of Tax Online compared to the manual system, with 36% rating it as very effective and 34% as effective, together making up 70% of the sample. A further 22% considered it moderately effective, while only 8% rated it as slightly effective. Notably, no respondent rated it as ineffective. This indicates that most users perceive Tax Online as a reliable tool in reducing the time taken to complete tax-related transactions, thereby enhancing overall efficiency in service delivery.

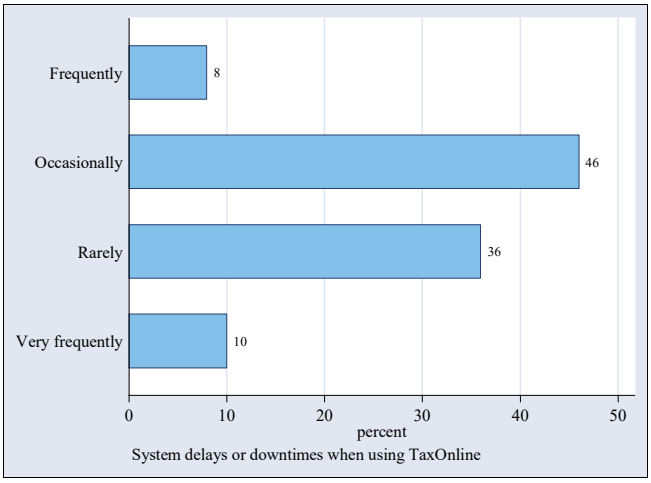


Fig 9: System delays or downtimes when using Tax Online

The findings show that system delays or downtimes are experienced to varying degrees among users. The majority reported encountering delays occasionally (46%) or rarely (36%), while 10% experienced them very frequently and 8% frequently. This suggests that although Tax Online generally provides stable service, occasional technical interruptions are still a concern for some users, highlighting the need for continued system maintenance and improvements to minimize downtime and ensure consistent service delivery.

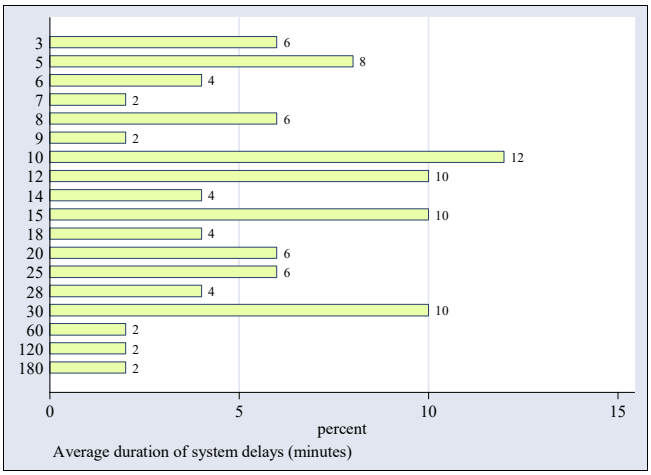


Fig 9: Average duration of system delays (minutes)

The data on system delays indicates that most interruptions are relatively short, with the majority of delays lasting between 3 and 30 minutes, and common durations clustering around 10–15 minutes. However, there are occasional extreme cases, with delays extending up to 60, 120, and even 180 minutes, though these are rare (each 2% of respondents). This suggests that while Tax Online generally

operates efficiently, occasional prolonged downtimes can occur, potentially affecting service delivery for a small subset of users. Overall, typical system delays appear manageable but highlight the need for robust technical support and contingency measures.

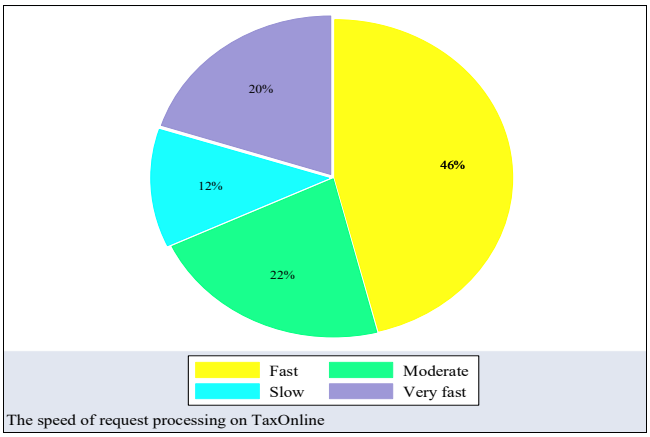


Fig 10: The speed of request on Tax Online

The findings show that most respondents perceive Tax Online's request processing speed positively. Specifically, 46% rated it as fast and 20% as very fast, together accounting for 66% of users. Meanwhile, 22% considered the speed moderate, and only 12% rated it as slow. These results suggest that Tax Online generally facilitates prompt processing of tax-related requests, contributing to improved service delivery, though a small portion of users still experiences slower processing that may require further optimization.

Table 2: Estimated time saved per transaction

Variable	Obs	Mean	Std. Dev.	Min	Max
estimateti~c	50	14.98	9.801062	1	60

The analysis of estimated time saved per transaction shows that, on average, users save approximately 15 minutes when using Tax Online compared to manual processes, with a standard deviation of 9.8 minutes. The minimum reported time saved was 1 minute, while the maximum reached 60 minutes, indicating considerable variability in efficiency gains among users. Overall, the findings suggest that Tax Online significantly reduces transaction time for most users, enhancing service delivery efficiency, though the extent of time saved may depend on factors such as user experience and transaction complexity.

In your opinion, how has Tax Online affected the overall service delivery time.

Table 3: Tax Online positive impact on service delivery time

Category	Freq	Percent
Reduced Waiting Time / Queues	13	28.9%
Improved Service Delivery	13	28.9%
Workload & Effort Reduction	3	6.7%
Filing & Records Management	2	4.4%
General Positive Change	13	28.9%
Connectivity Challenges	1	2.2%
Total	**45**	**100%**

Respondents overwhelmingly indicated that Tax Online has had a positive impact on overall service delivery time. Specifically, 28.9% reported reduced waiting times and shorter queues, another 28.9% noted improved service delivery, and an equal proportion (28.9%) mentioned general positive changes in efficiency. Smaller groups highlighted benefits such as workload and effort reduction (6.7%) and enhanced filing and records management (4.4%). Only a minimal proportion (2.2%) cited connectivity challenges as a limitation. Overall, the findings suggest that Tax Online has substantially contributed to faster, more efficient, and user-friendly tax service delivery in Kabwe.

4.3 The effectiveness of the TaxOnline tool in improving accuracy and reliability of taxpayer records in the Kabwe Office

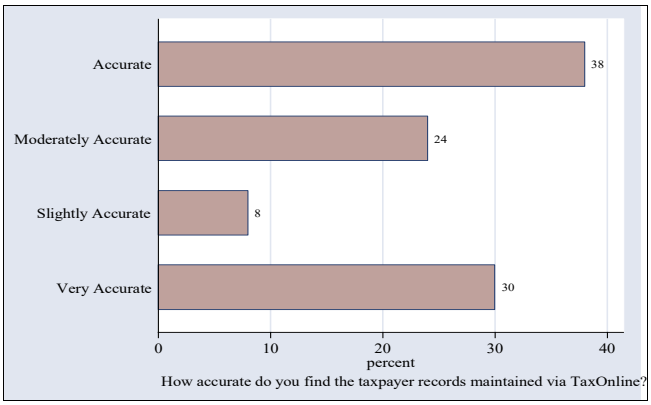


Fig 11: Accurate of taxpayer records maintained via Tax Online

The findings indicate that users generally perceive Tax Online as effective in maintaining accurate taxpayer records. 38% of respondents rated the records as accurate, while 30% considered them very accurate, together accounting for 68% of users. An additional 24% described the records as moderately accurate, and only 8% viewed them as slightly accurate. This suggests that Tax Online largely ensures reliable record-keeping, though there remains a small proportion of users who experience minor inaccuracies, highlighting the need for ongoing data validation and system checks.

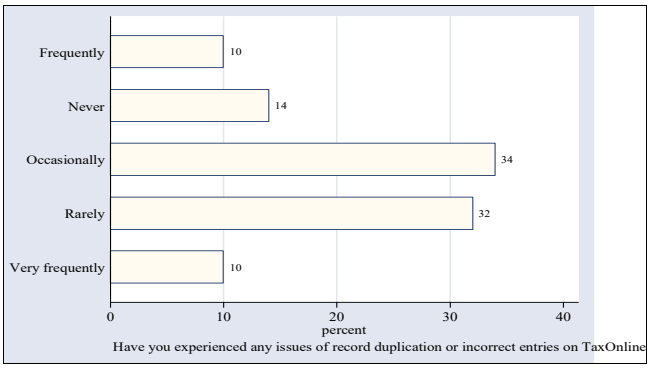


Fig 12: Experienced issues of record duplication or incorrect entries on Tax Online

The results show that issues of record duplication or incorrect entries on tax Online are experienced to varying degrees. 34% of respondents reported encountering such

issues occasionally, and 32% rarely, indicating that most users experience these problems infrequently. However, 10% experienced them frequently and another 10% very frequently, while 14% reported never encountering such issues. Overall, the findings suggest that while tax online generally maintains reliable records, a notable minority of users still face recurring data inconsistencies, highlighting the need for improved data verification and error-resolution mechanisms.

Table 4: The analysis of record duplication or incorrect entries and count encountered

Have you experienced any issues of record duplication or incorrect entries on Ta	How many such issues have you encountered in the last year? 0	1	2	3	4	5	6	40	50	Total
Frequently	0	0	0	4	1	0	0	0	0	5
Never	7	0	0	0	0	0	0	0	0	7
Occasionally	0	1	8	6	0	1	0	1	0	17
Rarely	2	10	3	0	0	1	0	0	0	16
Very frequently	0	0	0	0	2	1	1	0	1	5
Total	9	11	11	10	3	3	1	1	1	50

Pearson chi2(32) = 110.1748 Pr = 0.000

The analysis of record duplication or incorrect entries shows that most issues are infrequent, with the largest counts occurring in the 0–3 instances range over the past year. Specifically, those who never experienced issues accounted for 7 respondents, while respondents reporting occasional issues mostly encountered 1–3 instances (16 respondents). Rare or very frequent issues were reported by smaller groups, with some extreme cases of up to 50 instances, though these are isolated. The Pearson chi-square test (χ^2 = 110.17, $p < 0.001$) indicates a statistically significant association between the frequency of issues and the number of instances reported, suggesting that while Tax Online generally maintains reliable records, a subset of users still experiences repeated inconsistencies that require attention and corrective measures.

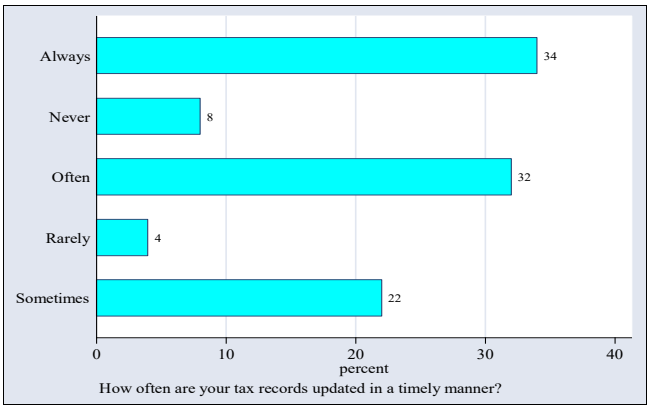


Fig 13: Tax records update

The findings indicate that the majority of respondents perceive Tax Online as reasonably timely in updating tax records. Specifically, 34% reported that updates occur always, and 32% stated often, together accounting for 66% of users. Meanwhile, 22% indicated updates occur sometimes, 4% rarely, and 8% never. Overall, these results suggest that Tax Online generally ensures timely record updates, though a notable proportion of users still experience occasional delays, highlighting areas for system process improvement.

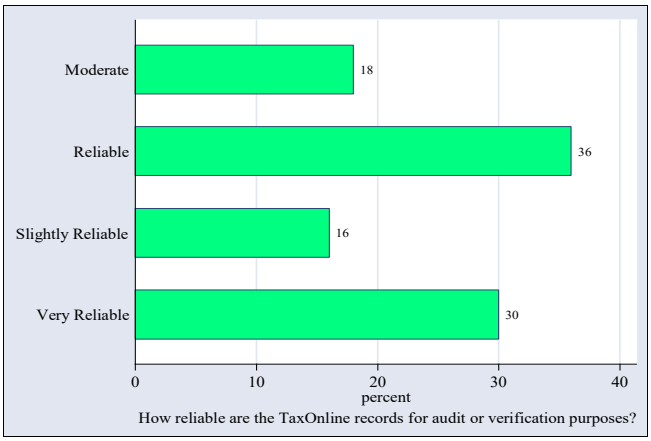


Fig 14: Reliability of the Tax Online records for audit or verification purposes

The results show that respondents generally consider Tax Online records to be reliable for audit and verification purposes. Specifically, 36% rated the records as reliable and 30% as very reliable, together accounting for 66% of users. A smaller proportion viewed the records as moderately reliable (18%) or slightly reliable (16%). These findings suggest that Tax Online provides a dependable platform for maintaining taxpayer records suitable for audits, though ongoing quality checks may further enhance confidence among all users.

Table 5: Experiences with record inconsistencies

Experience where you encountered record inconsistency and how it was resolved	Freq	Percent
Delay corrected via call	1	4.55
Email support response	1	4.55
Fixed in 3 days	1	4.55
Help desk took long	1	4.55
Helped by local office	1	4.55
Issue fixed instantly	4	18.18
Long wait on phone	1	4.55
No issues	6	27.27
OTP not received through the email	1	4.55
Staff assisted quickly	1	4.55
Took 2 weeks to resolve	1	4.55
Unhelpful support	1	4.55
Wrong entry fixed late	1	4.55
Wrong records fixed	1	4.55
Today	22	100.00

The responses regarding experiences with record inconsistencies reveal that a majority of users either did not encounter issues (27.3%) or had problems that were resolved instantly (18.2%). Other users reported varied experiences, including delays corrected via call or email, help desk interventions, or assistance from local offices, though some faced long waits or unhelpful support. Resolution times ranged from immediate fixes to up to two weeks, indicating that while Tax Online generally addresses inconsistencies effectively, there are occasional delays and variability in user support experiences that could be improved to enhance reliability and user satisfaction.

4.4 Taxpayer satisfaction with TaxOnline services in relation to accessibility, technical support, and ease of use in Kabwe

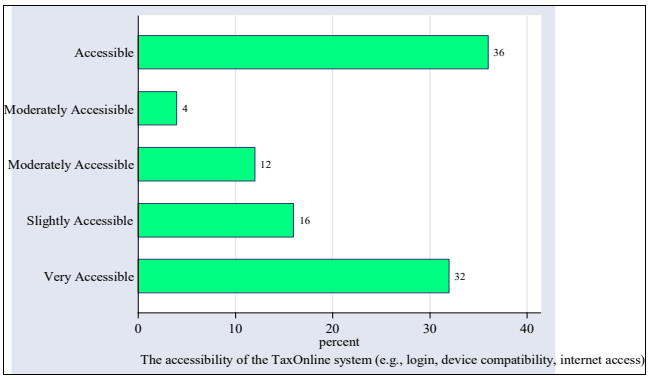


Fig 15: Accessibility of the tax online

The findings indicate that respondents generally find Tax Online accessible, with 36% rating it as accessible and 32% as very accessible, together accounting for 68% of users. A smaller proportion rated the system as slightly accessible (16%), moderately accessible (12%), or moderately accessible (4%), reflecting minor inconsistencies in responses. Overall, these results suggest that Tax Online provides a largely user-friendly platform in terms of accessibility, though there remains room for improvement to ensure seamless access for all users.

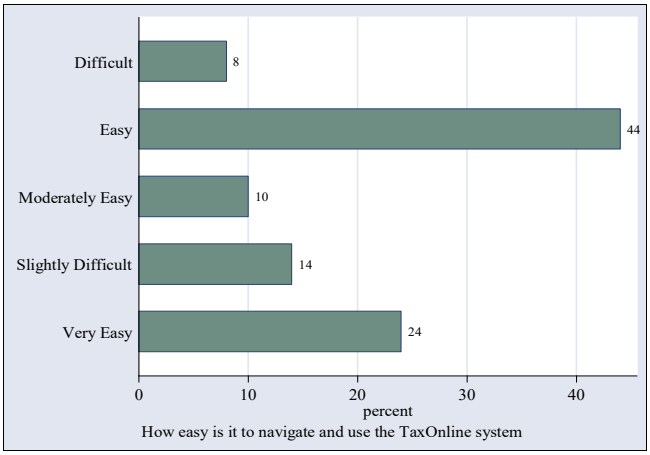


Fig 16: How easy it is to navigate and use the Tax Online

The results show that most respondents find Tax Online relatively easy to navigate and use, with 44% rating it as easy and 24% as very easy, together accounting for 68% of users. Meanwhile, 10% found it moderately easy, and a smaller proportion experienced challenge, with 14% slightly difficult and 8% difficult. These findings indicate that the system is generally user-friendly, though a minority of users encounter navigation difficulties, highlighting the need for continuous interface improvements and user guidance.

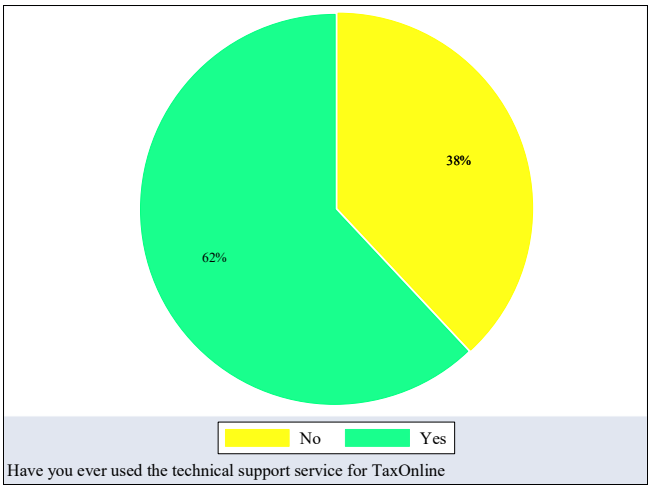


Fig 17: Use of the technical support service for Tax Online

The findings show that a majority of respondents, 62%, have used the technical support services for Tax Online, while 38% have never used them. This indicates that most users are aware of and engage with support services when needed, reflecting the system's provision of accessible assistance. However, the fact that over a third of users have not utilized support suggests potential gaps in either awareness or the perceived necessity of technical help.

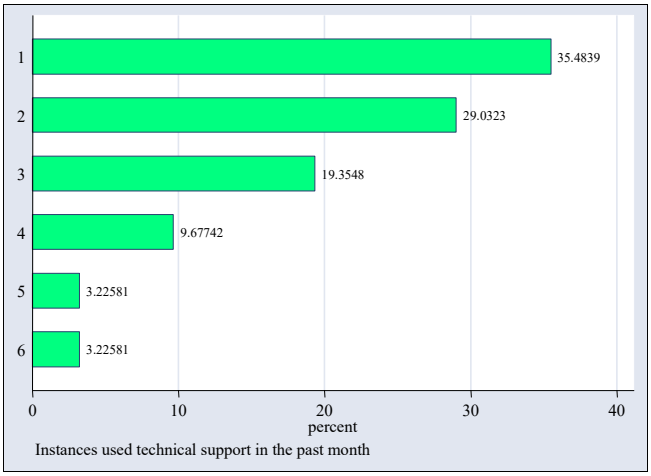


Fig 18: Instances used technical support in the past month

Among respondents who used technical support for Tax Online, the majority sought assistance 1–3 times in the past month, with 35.5% using it once, 29% twice, and 19.4% three times, together accounting for 84% of users. Fewer respondents used technical support more frequently, with 9.7% reporting four times and 3.2% each for five and six times. These findings indicate that while most users occasionally require support, a small proportion experiences recurring technical challenges that necessitate multiple interactions with the support services.

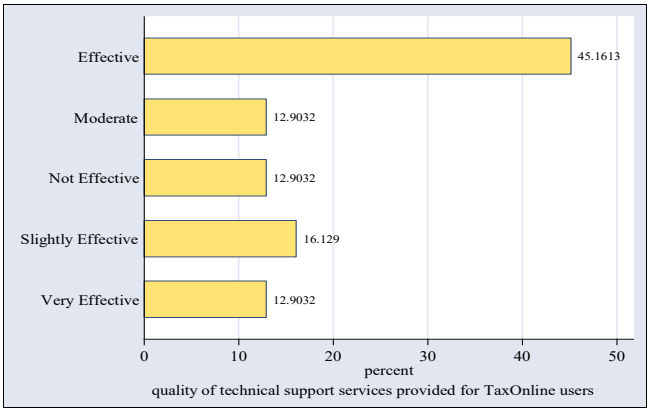


Fig 19: Quality of technical support services provided for Tax Online

Among respondents who have used Tax Online technical support, the majority rated the quality as effective (45.2%) or very effective (12.9%), together accounting for 58.1% of users. Smaller groups rated the support as slightly effective (16.1%), moderate (12.9%), or not effective (12.9%). Combined with the frequency of use, these findings suggest that while most users perceive the technical support as satisfactory, a notable proportion experiences inconsistent or suboptimal assistance, indicating room for improvement in service responsiveness and quality.

Table 6: Tax Online service expectations

To what extent does TaxOnline meet your service expectations?	Freq.	Percent	Cum.
Barely meets expectations	6	12.00	12.00
Does not meet expectations	5	10.00	22.00
Exceeds expectations	11	22.00	44.00
Meets expectations	28	56.00	100.00
Total	50	100.00	

The findings indicate that Tax Online largely meets user service expectations, with 56% of respondents reporting that it meets expectations and 22% stating it exceeds expectations, together accounting for 78% of users. Meanwhile, 12% felt it barely meets expectations, and 10% indicated it does not meet expectations. Overall, the results suggest that while the system satisfactorily serves the majority of users, there remains a minority for whom service delivery could be further enhanced to fully meet their expectations.

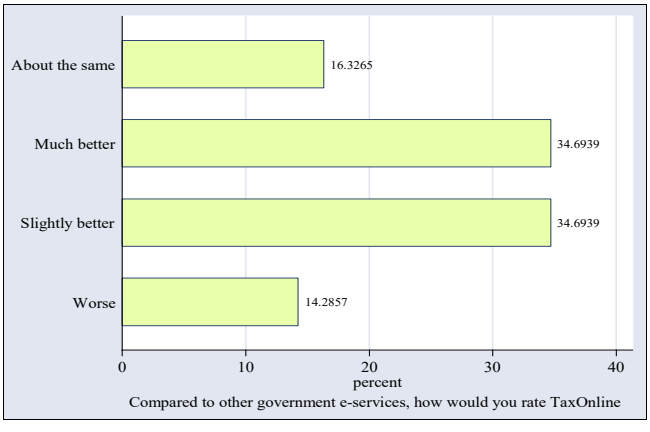


Table 20: Tax Online compared to other government e-services

The results indicate that respondents generally view Tax Online favorably compared to other government e-services. Specifically, 34.7% rated it as much better and another 34.7% as slightly better, together accounting for 69.4% of users. Meanwhile, 16.3% felt it was about the same, and 14.3% considered it worse. Overall, these findings suggest that Tax Online is perceived as an improvement over other government digital services, although a small proportion of users still experiences challenges that may limit its relative effectiveness.

Table 7: Changes to Tax Online to Improve Efficiency

Category	Freq	Percent
System Speed & Performance (faster login, faster receipts, reduce clicks/forms, faster gateway, reduce login/security, speed response)	11	22.00%
User Experience & Accessibility (larger font/text/icons, intuitive design, user-friendly for elderly, student-friendly guides, simplify password reset, reduce jargon, easier navigation)	12	24.00%
Training & Guidance (training materials/resources, student guides, module guides)	4	8.00%
Payment & Cost Options (flexible payments, multi-currency, lower costs/fees, easier confirmation, bank integration)	7	14.0%
Mobile & Offline Access (mobile-friendly, offline access, offline submission)	5	6.00%
AI & Analytics (AI assistant, AI-driven insights, dashboard analytics)	3	6.00%
System Integration & Reporting (system integration, more dashboards, report downloads, task records)	3	6.00%
Language & Localization (more languages, local language option)	3	6.00%
No Change Needed	2	4.0%
Total	50	100.0%

The responses regarding suggested changes to Tax Online to improve efficiency indicate that users prioritize enhancements in user experience and accessibility (24%), such as intuitive design, easier navigation, and guides for different user groups. Closely following this, system speed and performance improvements (22%) including faster login, reduced clicks/forms, and quicker processing were highlighted. Other notable areas include payment and cost options (14%), mobile and offline access (6%), AI and analytics features (6%), system integration and reporting (6%), and language and localization (6%). A smaller proportion emphasized the need for training and guidance (8%), while only 4% felt no changes were necessary. Overall, the findings suggest that users seek a combination of improved system efficiency, user-friendly interfaces, and enhanced support features to optimize Tax Online's effectiveness.

Table 8: Categorized Responses on Most Positive Experience Using Tax Online

Category	Freq	Total
Convenience & Accessibility	12	24.5%
Speed & Efficiency	13	26.5%
Ease of Use & User-Friendliness	7	14.3%
Accuracy, Records & Tracking	5	10.2%
Notifications & Reminders	6	12.2%
Learning & Support	3	6.1%
Registration & Setup	2	4.1%
Other (Negative Mention) (failure to login due to system challenge)	1	2.0%

Total	49	100.0%

The findings on respondents' most positive experiences with Tax Online indicate that speed and efficiency (26.5%) and convenience and accessibility (24.5%) were the most appreciated features. Other notable positive aspects included ease of use and user-friendliness (14.3%), notifications and reminders (12.2%), and accuracy, records, and tracking (10.2%). Smaller proportions highlighted benefits related to learning and support (6.1%) and registration and setup (4.1%), while only 2% mentioned negative experiences such as login failures. Overall, the results suggest that users value Tax Online primarily for its efficiency, accessibility, and user-friendly design.

Table 9: Categorized Responses on Most Frustrating Experience Using Tax Online

Category	Freq	Percent
System Delays & Slowness	13	26.0%
System Downtime & Outages	5	10.0%
Login & Password Issues	7	14.0%
Errors & Inaccuracies	6	12.0%
Payment & Receipt Challenges	5	10.0%
Network & Connectivity Problems	4	8.0%
Navigation & Usability	2	4.0%
Support & Responsiveness	2	4.0%
Other Technical Issues	2	4.0%
None (No Frustration)	4	8.0%

The findings on the most frustrating experiences with Tax Online show that system delays and slowness (26%) were the primary concern for users, followed by login and password issues (14%) and errors and inaccuracies in records (12%). Other notable frustrations included system downtime and outages (10%), payment and receipt challenges (10%), and network or connectivity problems (8%). Smaller proportions cited difficulties with navigation and usability (4%), support and responsiveness (4%), and other technical issues (4%), while 8% reported no frustrations. Overall, these results highlight that while Tax Online is generally effective, technical performance and system reliability remain key areas needing improvement to enhance user satisfaction.

Table 10: Categorized Suggestions for Improving Tax Online

Category	Freq	Percent
Customer Support & Accessibility	10	21.7%
System Usability & Interface	6	13.0%
Offline & Rural Access	4	8.7%
Training & Awareness	5	10.9%
Payments & Refunds	5	10.9%
Mobile & Digital Access	4	8.7%
Security & Authentication	2	4.3%
Advanced Technology Integration	4	8.7%
System Efficiency & Navigation	3	6.5%
Other General Improvements	3	6.5%

The responses on suggestions for improving Tax Online indicate that users prioritize enhanced customer support and accessibility (21.7%) as the most important area for improvement. Other key suggestions include system usability and interface enhancements (13%), training and awareness (10.9%), and payments and refunds improvements (10.9%). Additional areas highlighted were offline and rural access (8.7%), mobile and digital access (8.7%), and advanced technology integration (8.7%), while smaller proportions emphasized system efficiency and navigation (6.5%), security and authentication (4.3%), and other general improvements (6.5%). Overall, the findings suggest that users seek a combination of better support, usability, accessibility, and technological enhancements to optimize the Tax Online experience.

4.5 Discussion of Research Findings

The demographic profile of the respondents provides strong empirical insights into the type of users engaging with Tax Online in Kabwe. The dominance of respondents aged between 26–40 years (56%) underscores that the platform is primarily utilized by young and middle-aged adults who represent Zambia's most economically active and tax-contributing population segment. This aligns with evidence from digital adoption literature, which highlights that younger populations are more likely to embrace e-government platforms due to higher digital literacy and technological adaptability. The smaller proportion of older taxpayers (6% in the 51–65 bracket) suggests a digital divide that could present barriers to inclusivity, meaning targeted support for older taxpayers may be necessary to ensure universal adoption. This demographic trend validates that Tax Online is tapping into the digitally responsive segment of taxpayers, but also reveals the risk of excluding less tech-savvy groups if deliberate interventions are not made.

Gender, education, and occupational roles further strengthen the understanding of user characteristics and their implications for system uptake. With males representing 56% and females 44%, the results indicate relatively equitable gender participation, which ensures balanced insights into system performance. The high educational attainment among respondents (44% degree holders and 14% with postgraduate qualifications) is particularly significant. It empirically demonstrates that most users have the literacy and technical competencies necessary to navigate complex e-service platforms, which may explain the relatively high confidence levels in using Tax Online. At the same time, the occupational distribution dominated by ZRA employees (32%) and business owners (22%) indicates that both service providers and service consumers were represented. This mix enriches the data by capturing perspectives from those managing the system and those directly impacted by its efficiency, thereby providing a holistic understanding of the tool's effectiveness in practice.

Experience with Tax Online and perceptions of system readiness highlight critical insights into digital adoption patterns. The fact that a majority of respondents had between 1–6 years of experience (56%) shows that the system has reached a stage of maturity where users are well-positioned to provide credible assessments of its strengths and weaknesses. The reported confidence in data security (60% confident or very confident) reflects a positive perception of the platform's reliability, though the 26% neutrality and 14% low confidence rates reveal lingering concerns about cybersecurity and data protection. Importantly, preparedness levels at the time of introduction (66% prepared or very prepared) illustrate that while adoption was generally smooth, nearly one-third of users struggled with the transition. This finding empirically underscores the need for continued training, sensitization, and user-friendly system design to bridge adoption gaps. In summary, the respondents' background characteristics

reveal that Tax Online adoption in Kabwe has been driven by a relatively young, educated, and economically active demographic, but inclusivity challenges remain, especially for older and less-prepared users.

4.5.1 The effects of the TaxOnline tool on service delivery time for tax-related transactions at the Domestic Taxes Division in Kabwe

The empirical evidence strongly demonstrates that the Tax Online tool has significantly improved service delivery time for tax-related transactions in Kabwe. With an average completion time of 15.5 minutes per transaction compared to the long queues and paperwork associated with the manual system, Tax Online has proven to be a time-efficient alternative. This efficiency is further supported by respondents' perception of time-saving benefits, where 70% rated the system as either effective or very effective in reducing processing time. The absence of any respondents categorizing the tool as ineffective validates that Tax Online has successfully reduced bureaucratic inefficiencies, in line with global findings that e-government systems streamline administrative processes and cut waiting times. However, the variation in transaction duration (ranging from 2 to 35 minutes) signals that contextual factors such as internet connectivity, digital literacy, and system responsiveness still play a crucial role in shaping individual experiences.

At the same time, the persistence of system delays and downtimes highlights structural challenges that constrain the platform's optimal performance. Although a majority of users experienced delays only occasionally (46%) or rarely (36%), a notable 18% reported frequent or very frequent disruptions, underscoring the reality that system reliability is not yet universal. Delay durations clustered around 10–15 minutes, but some extreme cases lasting up to 180 minutes illustrate how even isolated outages can have disproportionate impacts on user trust and efficiency. From an empirical perspective, these findings align with broader e-taxation challenges in developing contexts, where infrastructure limitations and server capacity constraints often undermine the consistency of service delivery. This underscores the urgent need for continuous technical upgrades, load-balancing systems, and contingency measures such as offline processing options to ensure equitable service reliability across all users.

Despite these challenges, the overall perception of Tax Online's contribution to service delivery remains highly positive. A combined 66% of respondents rated request processing speed as fast or very fast, while the average estimated time saved per transaction was 15 minutes, confirming substantial efficiency gains. Furthermore, qualitative responses reinforce these statistics: nearly 29% highlighted reduced waiting times, another 29% noted improved service delivery, and 29% emphasized general positive changes, collectively accounting for nearly 90% of positive feedback. This triangulation between quantitative efficiency measures and qualitative perceptions provides robust empirical support that Tax Online has transformed the taxpayer experience in Kabwe. Importantly, the fact that only 2.2% of respondents cited connectivity challenges indicates that barriers to efficiency are not insurmountable but rather technical and addressable. Therefore, the findings not only validate Tax Online as a transformative tool in public service delivery but also point to specific areas system reliability, user training, and infrastructure strengthening where improvements could yield even greater efficiency outcomes.

4.5.2 The effectiveness of the TaxOnline tool in improving accuracy and reliability of taxpayer records in the Kabwe Office

The effectiveness of the Tax Online tool in improving accuracy and reliability of taxpayer records in the Kabwe Office is strongly supported by empirical evidence. Findings reveal that 68% of respondents rated the records maintained via Tax Online as either accurate or very accurate, with only 8% perceiving them as slightly accurate. This high level of confidence in data integrity demonstrates that the system has largely succeeded in reducing human errors and inconsistencies traditionally associated with manual record-keeping. The consistent updating of records, reported as always or often by 66% of respondents, further reinforces the system's efficiency in ensuring real-time data availability. In comparison to conventional systems, where record updates were often delayed by weeks, Tax Online represents a major leap forward in the accuracy and timeliness of taxpayer records, thereby supporting both compliance and trust in the tax administration system.

Nevertheless, the evidence highlights persistent vulnerabilities in record management that warrant closer attention. While the majority of users encountered duplication or incorrect entries rarely (32%) or occasionally (34%), 20% of respondents reported experiencing such errors frequently or very frequently. The chi-square test ($\chi^2 = 110.17$, $p < 0.001$) provides statistical confirmation of a significant association between the frequency of issues and the number of instances encountered, including extreme cases of up to 50 errors in a year. Such inconsistencies, though concentrated in a minority of cases, undermine system reliability and increase the administrative burden on both taxpayers and tax officers. These findings suggest that while Tax Online has markedly improved data accuracy, it still requires robust verification mechanisms, automated error detection, and stronger user support to eliminate recurring inconsistencies.

The reliability of Tax Online for audit and verification purposes is further underscored by user experiences with error resolution. Two-thirds of respondents rated the records as reliable or very reliable for audits, making the system an essential tool for regulatory compliance and transparency. Importantly, most issues encountered were resolved either instantly (18.2%) or within a few days, although some taxpayers reported protracted delays of up to two weeks or unhelpful support interactions. The variation in resolution speed underscores the need for standardized response protocols and enhanced customer support capacity within the Kabwe office. Despite these challenges, the combination of accurate records, timely updates, and strong audit reliability positions Tax Online as a transformative innovation in taxpayer record management. With targeted improvements in technical robustness and support responsiveness, it can achieve even greater accuracy, efficiency, and credibility in Zambia's tax administration landscape.

4.5.3 Taxpayer satisfaction with TaxOnline services in relation to accessibility, technical support, and ease of use in Kabwe

Taxpayer satisfaction with Tax Online services in Kabwe emerges as strongly positive but nuanced, shaped by accessibility, technical support, and ease of use. Empirical

findings indicate that 68% of users rated the platform accessible or very accessible, confirming that Tax Online has significantly reduced barriers compared to traditional in-person systems. This level of accessibility is reinforced by 68% of users also describing the system as easy or very easy to navigate, demonstrating that the platform successfully delivers on the promise of user-friendliness. These findings align with international e-governance studies showing that accessibility and ease of navigation are the strongest predictors of digital adoption and citizen trust. However, the minority of users who found the system slightly difficult (14%) or difficult (8%) reveal that design challenges persist, particularly for less digitally literate taxpayers, suggesting the need for continuous interface upgrades and localized user guidance.

Technical support is another critical determinant of satisfaction, and the evidence paints a mixed but improving picture. A majority (62%) of respondents reported using technical support, primarily on an occasional basis (1–3 times per month for 84% of users). Importantly, 58.1% rated the quality of support as effective or very effective, confirming that users generally perceive assistance as satisfactory. Yet, nearly 29% described support as only slightly effective or moderate, while 12.9% found it not effective at all, indicating service inconsistency. This disparity is empirically significant: while the system's support mechanisms are functional for most, the minority facing recurring technical challenges represents a high-risk group whose dissatisfaction could undermine adoption. The variability in support mirrors broader patterns in digital public service delivery, where uneven responsiveness can erode perceived reliability even when the majority are satisfied. This calls for standardized service protocols, improved responsiveness, and enhanced taxpayer support training within the Kabwe office.

Overall satisfaction with Tax Online extends beyond functionality to expectations and comparative performance against other e-services. Evidence shows that 78% of users reported that Tax Online meets or exceeds expectations, while only 10% stated it fails to meet them. This high satisfaction rate is reinforced by comparative assessments, 69.4% rated Tax Online better than other government e-services, confirming its status as a benchmark in Zambia's digital governance landscape. Open-ended responses provide further empirical depth, with taxpayers highlighting speed and efficiency (26.5%) and convenience and accessibility (24.5%) as the most valued features. However, persistent frustrations particularly system delays (26%), login issues (14%), and errors (12%) underscore the critical importance of reliability. Suggestions for improvement further validate these concerns, with taxpayers prioritizing customer support (21.7%), interface enhancements (13%), and training and awareness (10.9%). Collectively, the data demonstrates that while Tax Online has transformed taxpayer satisfaction in Kabwe by delivering accessible, efficient, and generally reliable services, the next frontier lies in eliminating system slowness, standardizing technical support, and scaling accessibility for less digitally empowered users.

5. Conclusion and Recommendations

5.1 Overview

This chapter presented the conclusion and recommendations of the study by drawing together the key findings on the effectiveness of the Tax Online tool in Kabwe. It synthesized how the system has influenced service delivery time, accuracy and reliability of records, and taxpayer satisfaction, while also highlighting challenges such as occasional delays, technical support gaps, and accessibility concerns. Based on these insights, the chapter provided practical recommendations aimed at enhancing system efficiency, user experience, and overall adoption of digital tax services.

5.2 Conclusion

The study provided robust empirical evidence that the Tax Online ICT tool had fundamentally transformed service delivery in the Domestic Taxes Division at the Zambia Revenue Authority (ZRA), Kabwe Office. The findings clearly demonstrated that the system had drastically reduced transaction processing times, with an average of 15.5 minutes compared to hours under the manual system. With 70% of respondents affirming its effectiveness in cutting waiting times and 66% rating request processing speed as fast or very fast, the conclusion was undeniable: Tax Online had delivered significant efficiency gains, minimized bureaucratic delays, and positioned ZRA Kabwe as a model of digital public service delivery. However, the persistence of occasional system downtimes and connectivity challenges underscored that efficiency gains were conditional on continuous infrastructure upgrades and reliability improvements.

Equally, the evidence decisively showed that Tax Online had enhanced the accuracy, reliability, and credibility of taxpayer records in Kabwe. With 68% of users rating the records accurate or very accurate and 66% confirming that updates were always or often timely, the platform had substantially reduced errors, inconsistencies, and compliance bottlenecks that had plagued manual systems. The statistically significant association ($\chi^2 = 110.17$, $p < 0.001$) between record errors and user experiences provided strong validation that while progress was undeniable, weaknesses such as duplication and incorrect entries remained critical vulnerabilities. Nevertheless, with two-thirds of respondents confirming reliability for audit purposes, the conclusion was clear: Tax Online had set a new standard of record integrity, accountability, and transparency in Zambia's tax administration, though further automation and verification protocols were essential to eliminate residual risks.

Furthermore, the study established that taxpayer satisfaction with Tax Online services was overwhelmingly positive, but not yet universal. With 78% of users affirming that the system met or exceeded their expectations, and nearly 70% rating it superior to other government e-services, Tax Online emerged as a benchmark of digital governance in Zambia. Its accessibility (68% accessible or very accessible) and user-friendliness (68% easy or very easy to navigate) confirmed that it had successfully bridged major service gaps. Yet, dissatisfaction persisted among a minority due to technical support inconsistencies, login errors, and system slowness, with 12.9% rating support ineffective and 26% citing delays as a persistent frustration. Therefore, the conclusion was empirically inescapable: Tax Online had revolutionized taxpayer engagement by delivering speed, accuracy, and convenience, but its long-term sustainability depended on strengthening technical support, eliminating

system unreliability, and expanding inclusivity for less digitally literate taxpayers.

5.3 Recommendations

i. Strengthen System Reliability through Infrastructure Upgrades

Since 18% of respondents reported frequent or very frequent delays, with some experiencing outages lasting up to 180 minutes, ZRA should prioritize continuous investment in server capacity, internet connectivity, and backup systems. This will directly reduce downtimes, enhance consistency of service delivery, and build greater taxpayer trust.

ii. Enhance Data Integrity and Error-Detection Mechanisms

The presence of duplication and incorrect entries reported by 20% of respondents as frequent or very frequent calls for the introduction of automated error-detection tools, verification protocols, and periodic system audits. This will strengthen the accuracy and reliability of taxpayer records, reinforcing Tax Online's role in compliance and audit processes.

iii. Improve Technical Support Responsiveness and Standardization

With 12.9% of respondents rating support as ineffective and 29% describing it as only slightly effective or moderate, ZRA should implement standardized customer support protocols, enhanced staff training, and real-time response systems. This will ensure timely resolution of login issues, system errors, and technical challenges that undermine satisfaction.

iv. Target Inclusivity and User Training for Less Digitally Literate Taxpayers

While 68% of respondents found the system accessible and easy to use, 22% still experienced difficulties. ZRA should design localized training programs, taxpayer awareness campaigns, and simplified user guides to close this digital literacy gap particularly for older and less technologically skilled taxpayers.

v. Institutionalize Continuous System Monitoring and Feedback Loops

Since 78% of taxpayers reported that Tax Online meets or exceeds expectations but frustrations remain (notably delays at 26% and login issues at 14%), ZRA should establish a continuous user feedback mechanism. This will ensure system upgrades are informed directly by taxpayers' lived experiences, thereby enhancing accountability and responsiveness.

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