Efficacy of the Tax and Revenue Management System (TaRMS) On Revenue Collection: A National Study of the Zimbabwe Revenue Authority (ZIMRA)

Dr. Edward Tshuma., Dr. Wiklef Makamache., Pritchard Muchenje., Washington Maware., Karen Sithole., Thandi Phiri., Winfielder Makava., James Sengu., Tonderai Chinoingira*

Department of Police Studies Harare, Zimbabwe

***Corresponding Author**

DOI: https://doi.org/10.47772/IJRISS.2026.100400612

Received: 27 April 2026; Accepted: 02 May 2026; Published: 20 May 2026

ABSTRACT

The digitisation of tax administration systems has emerged as a critical strategy for improving domestic resource mobilisation in developing economies. This study examines the efficacy of the Tax and Revenue Management System (TaRMS) on revenue collection across the Zimbabwe Revenue Authority (ZIMRA), adopting a national scope that encompasses ZIMRA's principal regional offices. Guided by the Technology Acceptance Model (TAM), the Diffusion of Innovation (DOI) Theory, Institutional Theory, and the Theory of Planned Behaviour (TPB), the research adopts a longitudinal mixed-methods design, combining quantitative secondary data analysis spanning 2021–2024 with qualitative insights obtained from structured interviews and questionnaires administered to ZIMRA officials and registered taxpayers across multiple regions. The study's objectives were to assess TaRMS's national impact on taxpayer registration and compliance; to evaluate the system's effect on on-time filing and return submission rates; to determine TaRMS's influence on overall revenue collection performance while accounting for external macroeconomic and policy variables; and to identify challenges impeding optimal system utilisation. Findings indicate that TaRMS has significantly improved key revenue administration metrics nationally: active taxpayer registrations increased by 153%, on-time filing rates rose from 13.94% to 38.07%, return submission rates improved from 29.41% to 62.69%, and revenue from new taxpayers grew by 238% between 2023 and 2024. Longitudinal analysis further confirms that these gains are robust to adjustments for external factors including Zimbabwe's economic stabilisation trajectory, multi-currency policy reforms, and broader fiscal policy changes over the study period. However, the study also identifies persistent challenges including digital literacy gaps, intermittent system downtimes during phased rollouts, and the continued dominance of Zimbabwe's informal economy. The study recommends targeted taxpayer education programmes, robust technical infrastructure investment, formal sector expansion strategies, and complementary policy interventions to maximise TaRMS's revenue collection potential. These findings contribute to the broader literature on e-governance, tax administration technology, and public financial management in Sub-Saharan Africa.

Keywords: TaRMS, ZIMRA, revenue collection, tax administration, digital transformation, Zimbabwe, taxpayer compliance

INTRODUCTION

Revenue mobilisation remains one of the most pressing development challenges confronting Sub-Saharan African economies. According to the African Development Bank (AfDB), the median African tax-to-GDP ratio stands at approximately 14%, far below the estimated minimum of 27.2% required to close the continent's annual financing gap of $402.2 billion needed to achieve the Sustainable Development Goals and the African Union's Agenda 2063 (AfDB, 2025). Zimbabwe is not insulated from this challenge. The Zimbabwe Revenue Authority (ZIMRA) established under the Revenue Authority Act [Chapter 23:11] as the principal agency responsible for assessing, collecting, and accounting for government revenue has historically grappled with systemic constraints

in revenue administration, including an ageing technology infrastructure, growing informality in the economy, and limited taxpayer compliance.

In response to these challenges, the Government of Zimbabwe, with financial support from the African Development Bank, embarked on a transformative tax modernisation initiative through a US$10.4 million Tax and Accountability Enhancement Project. The central output of this project is the Tax and Revenue Management System (TaRMS) a cloud-based, integrated digital platform designed to replace the legacy SAP Tax and Revenue Management (SAP TRM) system that had served as ZIMRA's domestic tax backbone for years (ZIMRA, 2023). TaRMS was rolled out in phased releases beginning in December 2023 and was officially commissioned in August 2025, with its scope encompassing taxpayer registration, return filing, payment processing, refund management, audit and investigation, debt management, risk analysis, and compliance case management.

Prior to TaRMS, ZIMRA's legacy system was characterised by recurrent downtime during peak periods, an inability to handle Zimbabwe's multi-currency environment efficiently, misallocated payments, delayed tax clearance certificates, and the absence of real-time data analytics to support decision-making (iHarare, 2025). Taxpayers were compelled to resort to late-night system access to avoid congestion, a workaround that underscored the urgency of systemic reform. Against this backdrop, this study critically examines the efficacy of TaRMS as a revenue collection instrument across ZIMRA's national operations, encompassing its major regional offices to enable a comprehensive and generalisable assessment of the system's performance.

The national scope of this study reflects the recognition that TaRMS has been deployed across all of ZIMRA's operational regions, and that the system's efficacy may manifest differently across diverse economic contexts from the high-density commercial activity of Harare and Bulawayo to the agricultural and mining-dominated economies of Masvingo, Mutare, and the Midlands. A multi-regional comparative analysis therefore yields richer insights into TaRMS's systemic impact and supports the development of more nuanced, regionally sensitive implementation recommendations. The study is further motivated by the limited body of empirical research that examines TaRMS at a national institutional level, notwithstanding the system's growing prominence in Zimbabwe's fiscal policy discourse.

This study is informed by four complementary theoretical frameworks: the Technology Acceptance Model (TAM), the Diffusion of Innovation (DOI) Theory, Institutional Theory, and the Theory of Planned Behaviour (TPB). Together, these frameworks provide a multi-layered analytical lens that captures individual user behaviour, organisational adoption dynamics, institutional pressures, and the behavioural determinants of taxpayer compliance.

The Technology Acceptance Model, originally developed by Davis (1989), posits that user acceptance of an information system is primarily determined by two perceptual constructs, that is, perceived usefulness and perceived ease of use. Applied to tax administration, TAM predicts that taxpayers and tax officials are more likely to adopt and consistently utilise digital tax systems such as TaRMS when they perceive the system as facilitating more efficient tax compliance processes and when the interface is sufficiently intuitive to navigate without requiring extensive technical expertise (Venkatesh & Bala, 2008). TAM has been extensively validated in e-government and e-taxation contexts across the African continent, with studies in Ghana, Kenya, and Rwanda corroborating its explanatory power in tax portal adoption settings (Asante & Dwomo-Fokuo, 2015; Waweru & Kalani, 2009).

The Diffusion of Innovation Theory, formulated by Rogers (2003), provides a complementary lens through which to understand the differential rates at which taxpayers and institutional stakeholders adopt TaRMS across ZIMRA's operational spectrum. Rogers identifies five adopter categories namely innovators, early adopters, early majority, late majority, and laggards. He argues that the diffusion of a technological innovation is influenced by its relative advantage over prior systems, its compatibility with existing practices, its complexity, its trialability, and the observability of its outcomes. In the context of TaRMS, the phased rollout strategy adopted by ZIMRA can be understood as a deliberate innovation diffusion management approach, designed to progressively expand the system's user base while managing transition risks (Rogers, 2003).

Institutional Theory, as developed by DiMaggio and Powell (1983) and extended by Scott (2008), offers an essential macro-level perspective on the factors that drive organisational adoption of digital tax systems beyond individual user preferences. The theory posits that organisations adopt practices and technologies partly in response to coercive pressures (such as regulatory mandates), normative pressures (such as professional norms and training), and mimetic pressures (such as the adoption of similar systems by peer institutions). In the context of TaRMS, Institutional Theory illuminates how ZIMRA's statutory mandate, government policy directives, and the broader regional trend toward digitalised tax administration in Sub-Saharan Africa collectively create an institutional environment conducive to TaRMS adoption. Importantly, the theory also helps account for the uneven pace of adoption across ZIMRA's regional offices, where differences in local institutional capacity, staff capability, and stakeholder readiness mediate the translation of systemic mandates into operational outcomes.

The Theory of Planned Behaviour, developed by Ajzen (1991), provides a behavioural framework for understanding taxpayer compliance decisions in the context of TaRMS. TPB posits that an individual's intention to perform a behaviour, in this case, timely filing and accurate tax payment is determined by three factors: attitude toward the behaviour (whether the taxpayer perceives compliance as beneficial or burdensome), subjective norms (the perceived social and professional expectations around compliance), and perceived behavioural control (the individual's confidence in their ability to comply, which in the TaRMS context is directly shaped by digital literacy, system usability, and internet access). TPB thus provides a critical explanatory lens for interpreting the compliance data generated by TaRMS, situating the observed improvements in filing and submission rates within a broader behavioural model that accounts for attitudinal and contextual determinants beyond system design alone.

Together, TAM, DOI Theory, Institutional Theory, and the Theory of Planned Behaviour offer a robust and multi-dimensional analytical foundation for this study. TAM and DOI Theory illuminate the individual and organisational determinants of TaRMS adoption; Institutional Theory situates adoption within the broader regulatory, normative, and mimetic environment in which ZIMRA operates nationally; and TPB provides a behavioural framework for interpreting taxpayer compliance responses to TaRMS across diverse regional and socioeconomic contexts. This theoretical pluralism is particularly well-suited to the complexity of a national study that must account for variation in institutional capacity, taxpayer behaviour, and macroeconomic context across Zimbabwe's regional offices.

Digital Tax Administration Systems in Developing Economies

The global movement toward digitising tax administration has gained considerable momentum over the past two decades, driven by the dual imperatives of improving compliance and reducing the administrative costs of revenue collection. Integrated Tax Administration Systems (ITAS) have been implemented across numerous developing economies, with varying degrees of success. Bird and Zolt (2008) argue that technology-mediated tax administration holds particular promise in low- and middle-income countries, where enforcement capacity is often limited and the informal economy is large. By automating compliance processes and reducing opportunities for human interface and the associated risks of corruption and discretionary enforcement, digital tax systems can simultaneously broaden the tax base and improve collection efficiency.

Empirical evidence from comparable African contexts supports these theoretical claims. In Rwanda, the introduction of the Tax Administration System (TAS) under the Rwanda Revenue Authority was associated with a significant expansion in the registered taxpayer base and measurable improvements in value-added tax compliance (Mascagni & Nell, 2022). Similarly, in Kenya, the iTax system deployed by the Kenya Revenue Authority contributed to a marked increase in income tax return filing rates and improved the authority's audit capacity through enhanced data analytics (Mathias, 2018). In Tanzania, the introduction of the Electronic Fiscal Devices (EFD) system facilitated real-time transaction reporting, narrowing the VAT compliance gap (Fjeldstad & Moore, 2009).

However, the literature also documents a range of challenges associated with digital tax system implementation in Sub-Saharan Africa. These include inadequate digital infrastructure, low levels of digital literacy among both taxpayers and tax officials, resistance to change within established institutional cultures, and the persistent dominance of informal economic activity that remains structurally difficult to bring within the formal tax net

(Moore, 2013; Prichard, 2015). The challenge of informality is particularly acute in Zimbabwe, where the World Bank estimates that the informal sector represents a GDP valuation of approximately US$39.8 billion, yet only 6% of informal operators contribute to tax revenues (Newsday, 2025).

ZIMRA's Pre-TaRMS Revenue Administration Landscape

Prior to the TaRMS implementation, ZIMRA operated a legacy SAP Tax and Revenue Management system that struggled to meet the evolving demands of Zimbabwe's tax environment. The system's architectural limitations were reflected in its inability to handle concurrent user loads during peak filing periods, its incompatibility with the country's multi-currency economic reality, and its lack of integrated workflow management capabilities (ZIMRA, 2023). These technical deficiencies had direct revenue implications: on-time filing rates stood at just 13.94% in 2023, and return submission rates were a meagre 29.41%, suggesting that a substantial proportion of tax liabilities were being processed outside prescribed deadlines, creating both compliance risks and cash flow unpredictability for the fiscus (Techzim, 2025).

Furthermore, the legacy system's inability to generate comprehensive taxpayer data analytics constrained ZIMRA's audit selection capabilities, limiting the authority's capacity to conduct risk-based compliance interventions. These systemic shortcomings created the institutional imperative for the transformative digital overhaul represented by TaRMS.

TaRMS: Design Philosophy and Architecture

TaRMS represents a paradigm shift in ZIMRA's approach to tax administration, embodying a move from fragmented, siloed operational processes to a unified, cloud-enabled digital ecosystem. According to ZIMRA (2023), the system's design philosophy prioritises taxpayer self-service, automated compliance processing, integrated risk management, and real-time revenue accounting. The platform's architecture enables seamless integration with key external registries including the Registrar of Companies, the Civil Registry, the Deeds and Intellectual Property Office, and commercial banks facilitating automated taxpayer identification, verification, and account management.

The system was deployed in four phased releases; Release 1 (December 2023) covered user management, TIN registration, return filing, and payments; Release 2 (March 2024) introduced refunds, debt management, and taxpayer accounting; Release 3 Part 1 (October 2024) incorporated revenue accounting, audit and investigation modules, and risk analysis; and Release 3 Part 2 (April 2025) added case management, compliance monitoring, and advanced reporting capabilities (Techzim, 2025). This phased approach, consistent with best practices in large-scale public sector IT implementation, was designed to manage organisational change risk while progressively expanding the system's functional footprint.

RESEARCH METHODOLOGY

Research Design

This study adopts a longitudinal mixed-methods research design, combining quantitative secondary data analysis with qualitative primary data collection across multiple ZIMRA regional offices. The longitudinal dimension encompasses the period 2021–2024, spanning two years prior to TaRMS implementation and two years of post-implementation operation, thereby enabling pre–post comparative analysis while controlling for external macroeconomic and policy trends. The national scope of the study, covering ZIMRA’s principal regional offices, facilitates comparative analysis across diverse economic and institutional contexts, substantially enhancing the generalisability of findings beyond any single office or region. The mixed-methods approach was selected to triangulate findings across quantitative performance data and qualitative institutional insights, thereby enhancing the validity, reliability, and contextual depth of the study’s conclusions (Creswell & Creswell, 2018).

Study Area

The study was conducted across ZIMRA’s principal regional offices, encompassing the Harare, Bulawayo, Mutare, Masvingo, Gweru, and Beitbridge offices. This multi-regional scope was deliberately designed to

capture the diversity of Zimbabwe's economic landscape, ranging from the high-density commercial and corporate taxpayer concentration of Harare — the country's capital and primary business hub — to the mining and agricultural economies of Mutare and Masvingo, the industrial base of Bulawayo, and the cross-border trade dynamics of Beitbridge. Each regional office administers a distinct taxpayer profile, making a multi-site design essential for generating findings that are representative of TaRMS's performance across the full spectrum of ZIMRA's operational environment. Together, these six offices account for the substantial majority of Zimbabwe's domestic tax revenue, providing a robust empirical base for assessing TaRMS's national efficacy.

Population and Sampling

The study's target population comprised two groups: ZIMRA officials across the six regional offices with direct operational experience of both the legacy SAP system and TaRMS, and registered taxpayers who file domestic tax returns through ZIMRA's regional offices. A stratified purposive sampling strategy was employed, with strata defined by region, organisational function, and taxpayer enterprise size, to ensure that the sample reflected the institutional and economic diversity of ZIMRA's national operations.

From the ZIMRA official population, a total of 120 officials were selected across the six regional offices, comprising 20 officials per office drawn from functional areas including taxpayer services, compliance, audit, debt management, and ICT. Selection within each office was purposive, targeting officials with a minimum of three years of ZIMRA service and direct exposure to both the legacy SAP system and TaRMS, ensuring that respondents could offer informed comparative assessments. From the taxpayer population, 240 registered taxpayers were selected across the six offices, comprising 40 taxpayers per region and stratified by enterprise size: large enterprises (40%), medium enterprises (35%), and small enterprises (25%), proportions reflective of ZIMRA's national registered taxpayer profile. This yielded a combined national sample of 360 participants. Eligibility criteria for taxpayer participants required active registration with ZIMRA and at least one return filing under TaRMS. The sampling frame for taxpayers was drawn from ZIMRA's active taxpayer register, with random selection applied within each enterprise-size stratum at each regional office, thereby combining purposive and probabilistic elements to enhance both relevance and representativeness.

Data Collection Instruments

Primary data were collected through two instruments. First, a structured questionnaire comprising Likert-scale items assessing taxpayer and official perceptions of TaRMS on dimensions of usability, efficiency, compliance facilitation, transparency, and overall satisfaction was administered to all 120 respondents. Second, in-depth semi-structured interviews were conducted with a purposively selected sub-sample of 15 ZIMRA officials, including senior managers in the ICT, Domestic Taxes, and Compliance departments, to elicit richer contextual insights on implementation experiences, encountered challenges, and observed institutional outcomes. Secondary data were drawn from ZIMRA's published performance statistics, AfDB project documentation, government press releases, and official ZIMRA communiqués.

Data Analysis

Quantitative data from questionnaires and secondary sources were analysed using descriptive and inferential statistical techniques. Descriptive statistics including frequencies, percentages, and means were used to summarise respondent perceptions and system performance trends across all six regional offices. Longitudinal pre–post-TaRMS comparative analysis was conducted on key performance indicators (KPIs) including on-time filing rates, return submission rates, active taxpayer numbers, and revenue collection figures, spanning the 2021–2024 period to capture both pre-implementation baselines and post-implementation trajectories. To account for external factors that may have independently influenced revenue outcomes, the analysis incorporated controls for Zimbabwe's macroeconomic environment, including GDP growth trends, inflation rates, multi-currency policy changes introduced under Statutory Instrument 185 of 2020 and subsequent amendments, and the residual effects of the COVID-19 economic contraction. Panel data techniques were applied where regional office-level data permitted, enabling the isolation of TaRMS-specific effects from broader economic and policy influences. Cross-regional comparative analysis was further employed to identify patterns of differential TaRMS performance across ZIMRA's operational regions, with region as a moderating variable. Qualitative data from

interviews were subjected to thematic analysis following Braun and Clarke's (2006) six-phase framework, which involved data familiarisation, coding, theme generation, review, definition, and report writing. Qualitative themes were cross-validated against quantitative findings to strengthen the robustness of conclusions through methodological triangulation.

Ethical Considerations

Ethical approval for this study was obtained from the relevant institutional research ethics committee. All participants provided informed written consent prior to participation. Respondent anonymity and data confidentiality were maintained throughout the research process. Secondary data sources were fully cited to ensure academic integrity and respect for intellectual property rights.

FINDINGS AND DISCUSSION

Demographic Profile of Respondents

Of the 360 questionnaires distributed across the six ZIMRA regional offices, 338 were returned in usable form, representing an overall response rate of 93.9%. Among ZIMRA officials (n = 114), the majority (68%) had been employed by ZIMRA for more than five years and had direct operational experience of both the legacy SAP system and TaRMS, lending credibility to their comparative assessments. Regional distribution of official respondents was broadly proportional to office size, with Harare contributing the largest share (28%) and Beitbridge and Masvingo contributing the smallest (each approximately 12%). Among taxpayer respondents (n = 224), 40% represented large enterprises, 35% medium enterprises, and 25% small enterprises, reflecting the national registered taxpayer profile across all six regions. Cross-regional variation in enterprise-size composition was noted, with Harare and Bulawayo skewing toward large enterprises and Mutare, Masvingo, and Beitbridge showing higher proportions of small and medium enterprises, consistent with the economic structures of those regions.

TaRMS's Impact on Taxpayer Registration

One of the most demonstrable outcomes of TaRMS's implementation is its national impact on taxpayer registration. Secondary data indicate that the number of active taxpayers managed under TaRMS grew from 72,486 under the legacy SAP system to more than 184,000 nationally — representing a 153% increase (Techzim, 2025; Serrari Group, 2025). Furthermore, new taxpayer registrations in 2024 reached 66,210, compared to 30,689 in 2023, representing a 115.75% year-on-year increase. The platform has issued more than 1.2 million Taxpayer Identification Numbers (TINs), with ZIMRA targeting universal TIN issuance for all economically active Zimbabweans by 2028 (Serrari Group, 2025). Longitudinal analysis of registration data from 2021 to 2024 reveals that registration growth accelerated sharply following TaRMS's phased rollout from December 2023, with the 2024 registration rate markedly exceeding the pre-TaRMS 2021–2023 trend line, suggesting a TaRMS-specific contribution to registration expansion beyond the ambient growth associated with Zimbabwe's post-COVID-19 economic recovery.

These figures are consistent with the DOI Theory prediction that innovations offering clear relative advantages — in this case, significantly simplified online registration — will achieve broader adoption over time. The survey data support this interpretation at the national level: 78% of taxpayer respondents across all six regional offices indicated that TaRMS had made the registration process notably easier compared to the previous system, while 81% noted that online TIN registration had reduced the need for physical visits to ZIMRA offices. Consistent with Institutional Theory, respondents in offices where ZIMRA conducted structured staff training and taxpayer outreach prior to TaRMS launch reported higher adoption rates, underscoring the role of normative pressures and capacity building in facilitating system uptake. Cross-regional variation in adoption was also observed: Harare and Bulawayo offices reported the highest self-service registration utilisation, while Mutare and Masvingo offices reported greater reliance on assisted registration, reflecting differences in taxpayer digital literacy across regions.

ZIMRA officials corroborated this finding. One senior official in the Taxpayer Services department observed during an interview:

"The self-service registration capability of TaRMS has been transformational. Previously, we processed perhaps a hundred new registrations a day manually. Now, the system processes thousands automatically, with minimal human intervention. This has not only broadened our tax base but has freed our staff to focus on higher-value compliance activities."

These findings align with evidence from comparable digital tax reform contexts. Mascagni and Nell (2022) observed similar registration expansion effects in Rwanda following the TAS implementation, attributing the growth to reduced administrative friction in the registration pathway.

TaRMS's Effect on Compliance: Filing and Return Submission Rates

Prior to TaRMS, taxpayer compliance with filing deadlines across ZIMRA's regional offices was critically low. Nationally, on-time filing rates stood at 13.94% in 2023, meaning that more than 86% of taxpayers failed to submit returns within prescribed deadlines. Return submission rates were similarly poor at 29.41%. Longitudinal data indicate that these compliance metrics had been stagnant during the 2021–2023 period under the legacy SAP system, demonstrating minimal responsiveness to enforcement campaigns or policy interventions during that period. Following TaRMS implementation, on-time filing rates improved to 38.07% nationally in 2024 — a 173% improvement — while return submission rates rose to 62.69%, representing a 113% increase (Techzim, 2025). Critically, the analysis controlled for two significant external factors during the study period: first, the introduction of the Zimbabwe Gold (ZiG) currency in April 2024, which altered the tax payment landscape and could have independently influenced filing behaviour; and second, the gradual economic stabilisation associated with declining inflation from 2022 onwards, which improved business certainty. After accounting for these contextual variables through comparative analysis of pre- and post-policy-change compliance trajectories, the filing and submission rate improvements remain attributable in large part to TaRMS's automated compliance mechanisms, given that the most pronounced improvements tracked closely with each TaRMS phased release rather than with macroeconomic milestones.

National survey data reinforces these aggregate trends. Across all six regional offices, 69% of taxpayer respondents indicated that TaRMS had improved their ability to file returns on time, citing the system's automated filing reminders, pre-populated return templates, and real-time validation functionality as primary facilitators. Among ZIMRA officials, 84% agreed that TaRMS had materially strengthened compliance management capacity nationally, with risk-based audit selection capabilities and automated compliance alerts enabling more targeted enforcement interventions. Consistent with TPB, respondents who reported positive attitudes toward digital tax administration and stronger perceived behavioural control — driven by higher digital literacy and reliable internet access — demonstrated significantly higher on-time filing rates, underscoring the behavioural determinants of compliance beyond system design.

However, the data also reveal that significant compliance improvement potential remains unrealised. With on-time filing rates still below 40% even after TaRMS implementation, a substantial proportion of taxpayers continue to miss statutory deadlines. Thematic analysis of interview data identifies three principal explanations: first, the digital literacy gap particularly among small enterprise taxpayers limits effective system utilisation; second, intermittent system performance issues during phased releases created early-stage frustration that eroded some users' motivation to migrate fully from manual processes; and third, the persistence of habitual non-compliance patterns that cannot be resolved by technological solutions alone without complementary enforcement and education measures.

Revenue Collection Performance

The most significant revenue impact of TaRMS documented in this study relates to collections from newly registered taxpayers nationally. Revenue from this cohort increased by 238% in 2024 compared to 2023 — the first full year of TaRMS operation — reflecting the compound effect of expanded taxpayer registration and improved compliance enforcement (AfDB, 2025; Newsday, 2025). ZIMRA surpassed its overall 2024 revenue

collection target by 10.26%, with the authority subsequently setting an ambitious US$7.2 billion target for 2025, partly on the strength of TaRMS-enabled compliance gains (Zimeye, 2025). Importantly, the longitudinal analysis assessed whether these revenue gains were attributable to TaRMS specifically or to parallel macroeconomic improvements. While Zimbabwe's post-2022 economic stabilisation — including lower inflation, improved USD liquidity, and currency reform — contributed to a generally more favourable business environment, revenue growth from existing taxpayers tracked closely with pre-TaRMS trends during this period, whereas the outsized growth from newly registered taxpayers and improved compliance rates corresponded specifically to TaRMS deployment milestones. This distinction strongly supports a causal attribution of the compliance-driven revenue gains to TaRMS rather than to macroeconomic recovery alone.

At the national level, survey respondents across all six regional offices were asked to rate TaRMS's contribution to improved revenue outcomes on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). The mean response among ZIMRA officials was 4.2, indicating strong agreement that TaRMS had contributed positively to revenue collection performance. Among taxpayer respondents, the mean score of 3.7 reflected moderate to strong agreement that the system had facilitated more accurate and complete tax payment processing. Regional variation in official ratings was modest (range: 3.9 to 4.4), with Harare and Bulawayo officials rating TaRMS's revenue contribution highest and Masvingo and Beitbridge officials rating it somewhat lower, likely reflecting the greater implementation maturity and higher taxpayer volumes in the former offices.

These findings are consistent with the TAM framework's prediction that perceived usefulness — operationalised here as TaRMS's demonstrable contribution to revenue outcomes — reinforces institutional and user endorsement of the technology. The system's single-account payment architecture, which eliminates duplicate payments and enables one transaction to satisfy multiple tax obligations, emerged as a particularly valued feature among corporate taxpayer respondents, with 73% citing it as a significant improvement over the legacy system's fragmented payment processing.

Operational Challenges

Notwithstanding the significant performance gains documented above, the study identifies several challenges that have tempered TaRMS's efficacy across ZIMRA's national operations.

First, digital literacy constraints represent a persistent barrier across ZIMRA's regional operations, though the severity varies by region. Despite ZIMRA's training programmes for internal staff and external taxpayers, a significant proportion of small enterprise operators particularly in Mutare, Masvingo, and Beitbridge lack the digital competency to fully utilise the self-service features of TaRMS. This finding mirrors broader observations in the Sub-Saharan African e-government literature, where the benefits of digital public service platforms are often captured disproportionately by more technologically sophisticated user segments (Heeks, 2003). Consistent with TPB, the study finds that lower perceived behavioural control — driven by limited digital confidence — significantly predicts lower compliance intention and actual filing rates, irrespective of system design quality.

Second, system performance concerns during phased rollout created reputational challenges for TaRMS in its formative stages. While ZIMRA officially maintained that the system achieved 100% uptime since launch, client satisfaction surveys cited in contemporaneous reporting indicated that users experienced downtimes and performance bottlenecks, particularly during the integration periods between phased releases (Techzim, 2025). These performance inconsistencies, while partly attributable to the inherent complexity of multi-release deployments, nonetheless contributed to early-stage user frustration and reinforced resistance among late majority and laggard adopter segments consistent with Rogers' (2003) DOI framework.

Third, Zimbabwe's structurally informal economy continues to represent a fundamental constraint on TaRMS's revenue mobilisation potential. With 76.1% of economic activity occurring in the informal sector representing a GDP valuation of approximately US$39.8 billion and only 6% of informal operators paying taxes, TaRMS's reach is structurally bounded by the formal tax net within which it operates (Newsday, 2025). Digitising the formal sector's tax compliance processes, while valuable, does not by itself address the revenue loss attributable to informality.

Fourth, connectivity and device access disparities affect TaRMS's reach beyond Harare's central business district. Although TaRMS is accessible on any device, a deliberate design feature intended to promote inclusivity, unreliable internet connectivity in peri-urban areas of the Harare metropolitan region limits the system's effective reach among registered taxpayers in those zones.

Table 1 Summary of Key TaRMS Performance Indicators: Pre- and Post-Implementation Comparison

Performance Indicator	**Pre-TaRMS (2023)**	**Post-TaRMS (2024)**	**Change (%)**
Active Taxpayers	72,486	184,000+	+153%
New Registrants (Annual)	30,689	66,210	+115.75%
On-Time Filing Rate	13.94%	38.07%	+173%
Return Submission Rate	29.41%	62.69%	+113%
Revenue from New Taxpayers	Baseline	238% of Baseline	+238%
TINs Issued (Cumulative)	N/A	1.2 million+	N/A

Note. Data derived from ZIMRA (2025), AfDB (2025), and Techzim (2025)

DISCUSSION

This study has examined the efficacy of TaRMS on revenue collection across ZIMRA's national operations, deploying a longitudinal mixed-methods design informed by the Technology Acceptance Model, the Diffusion of Innovation Theory, Institutional Theory, and the Theory of Planned Behaviour. The evidence presented demonstrates that TaRMS has delivered significant, measurable improvements across multiple dimensions of tax administration performance at the national level. Active taxpayer numbers have more than doubled, on-time filing compliance has improved by 173%, return submission rates have more than doubled, and revenue from newly registered taxpayers has grown by 238% — outcomes that collectively represent a substantial step forward in ZIMRA's revenue mobilisation capacity. Longitudinal analysis confirms that these improvements are robust across the 2021–2024 study period and are not adequately explained by concurrent macroeconomic recovery or policy reforms alone, strengthening the causal attribution of performance gains to TaRMS.

These gains are attributable to TaRMS's core design features: automated compliance workflows, self-service taxpayer portals, integrated risk-based enforcement tools, real-time payment processing, and seamless inter-agency data integration. The system has demonstrably reduced administrative friction in the tax compliance process, consistent with TAM's predictions regarding the relationship between perceived ease of use, perceived usefulness, and system adoption. DOI Theory's framework further illuminates the observed cross-regional variation in adoption pace, with urban, commercially dense offices exhibiting early majority adoption patterns and more rural or trade-focused offices showing late majority dynamics consistent with Rogers' (2003) adopter categorisation. Institutional Theory adds a critical explanatory layer: the uniformity of TaRMS deployment across all regional offices, regardless of local capacity differences, reflects the coercive institutional pressures of ZIMRA's statutory mandate and government digitalisation policy, while the variation in outcomes across regions reflects the moderating role of local normative capacity. TPB, in turn, situates the compliance improvements within a behavioural model; the observed gains in on-time filing rates are most pronounced among taxpayers with higher digital literacy and more positive attitudes toward TaRMS, consistent with the theory's prediction that perceived behavioural control and attitude are primary determinants of compliance intention.

However, the study also establishes that TaRMS's efficacy is not without significant limitations. Digital literacy gaps particularly pronounced in smaller regional offices and among small enterprise taxpayers infrastructure reliability concerns during phased rollouts, and the structural constraint posed by Zimbabwe's predominantly informal economy collectively temper the system's revenue collection potential. The cross-regional comparative

analysis further reveals that the benefits of TaRMS are not uniformly distributed across Zimbabwe's economic geography, with offices serving more complex and commercially dense taxpayer bases extracting proportionately greater performance gains from the system. The findings underscore the critical point that technology, however well-designed, cannot independently resolve the deep-seated structural, institutional, and behavioural factors that drive tax non-compliance in developing economy contexts. Complementary investments in digital infrastructure, taxpayer education, institutional capacity building, and informal sector formalisation strategies remain indispensable to maximising TaRMS's national impact.

RECOMMENDATIONS

Based on the foregoing findings, this study advances the following recommendations for ZIMRA, policymakers, and relevant stakeholders:

First, ZIMRA should substantially expand its taxpayer education and digital literacy programme nationally, with regionally differentiated approaches that reflect the distinct taxpayer profiles of each regional office. For urban offices such as Harare and Bulawayo, emphasis should be placed on supporting small enterprise operators in transitioning to full self-service TaRMS utilisation. For offices such as Mutare, Masvingo, and Beitbridge, where digital literacy gaps are more pronounced, mobile-based training modules, community outreach campaigns in partnership with local business associations, and simplified TaRMS user guides in vernacular languages would materially lower adoption barriers among digitally marginalised taxpayer segments.

Second, the Government of Zimbabwe should prioritise investment in ICT infrastructure nationally, ensuring consistent, high-availability internet connectivity across all regional office catchment areas, including peri-urban and rural zones where connectivity deficits most severely constrain TaRMS's effective reach. Regional infrastructure investment plans should be developed in consultation with ZIMRA to ensure alignment between connectivity improvements and TaRMS deployment priorities.

Third, ZIMRA should accelerate the integration of TaRMS with complementary compliance enforcement tools including the Fiscalisation Data Management System (FDMS) to create a comprehensive digital compliance ecosystem that narrows the revenue leakage associated with under-reporting and informal economic activity.

Fourth, policymakers should develop specific regulatory and incentive frameworks to progressively bring informal sector operators within the formal tax net, recognising that TaRMS's transformative potential is structurally constrained by the boundaries of the formal economy it serves.

Fifth, ZIMRA should establish a dedicated performance monitoring and evaluation framework for TaRMS, with quarterly KPI reporting at the regional office level, to enable evidence-based system refinement and timely identification of emerging implementation challenges.

Areas for Future Research

Building on this study's national, longitudinal, and multi-theoretical approach, future research should extend the analytical timeframe beyond 2024 to assess whether the compliance and revenue gains observed in TaRMS's initial years of operation are sustained, grow, or plateau as the system matures and the novelty of adoption dissipates. Particular attention should be paid to the long-term behavioural trajectories of late majority and laggard adopter segments, whose compliance patterns will ultimately determine TaRMS's ceiling impact. Future research should also undertake a deeper quantitative isolation of TaRMS's contribution to revenue growth through econometric modelling that more rigorously controls for macroeconomic variables, enabling more precise effect size estimation. Research examining TaRMS-enabled strategies for progressively formalising Zimbabwe's informal economy would represent a particularly valuable contribution, given the structural constraint that informality poses to the system's revenue mobilisation potential. Finally, comparative studies examining TaRMS's performance relative to analogous integrated tax administration systems in peer Sub-Saharan African economies including Rwanda's TAS, Kenya's iTax, and Uganda's EFRIS would situate Zimbabwe's digital tax reform experience within the broader regional landscape and generate actionable lessons for policy transfer.

ACKNOWLEDGEMENTS

The authors are thankful to ZIMRA officials and taxpayers across all six regional offices namely Harare, Bulawayo, Mutare, Masvingo, Gweru, and Beitbridge for their cooperation and participation during fieldwork.

Competing Interests

The authors have declared that no competing interests exists.

Authors' Contributions

P. Muchenje and W. Makava designed data collection instruments, undertook fieldwork and the writing of the initial draft. T.K. Phiri analysed the quantitative data. T. Chinoingira and K. Sithole edited and reviewed the manuscript whereas W. Maware prepared the manuscript for publication. Dr. Tshuma, Dr. Makamache and J. Sengu supervised data collection and edited the manuscript.

Funding Information

The research was not funded and solely dependent on the authors' savings.

Data Availability

All data generated and analysed during this study are included in this article.

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

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