

An Examination of the Effect of Mobile Tax Services on Tax Compliance Among SMES in Zambia: A Case Study of Lusaka District

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Abstract

Tax compliance in Zambia remains a significant challenge despite increasing annual revenue collections. The country's tax-to-GDP ratio has remained between 16.6% and 18.8% from 2001 to 2022, falling short of the 20% target set in the National Development Plan. To improve compliance and efficiency, the Zambia Revenue Authority introduced modernization initiatives such as Tax Online (2013), electronic payments (2014), and Tax on App (2020). Despite these efforts, mobile tax services remain underutilized, particularly among small and medium enterprises (SMEs), limiting their potential impact on tax compliance. This study examined the effect of mobile tax services on tax compliance among SMEs in Lusaka District, with specific focus on mobile tax services, mobile tax knowledge, and perceived benefits. The study adopted a quantitative approach using a descriptive research design. Primary data was collected through structured questionnaires from a sample of 150 respondents, achieving a response rate of 84%. Purposive sampling was used to select respondents who were registered users of mobile tax services, as they possess relevant knowledge and experience. Data was coded and analyzed using the Statistical Package for Social Sciences (SPSS) version 26, employing both descriptive and inferential statistics, including chi-square tests and regression analysis. The results revealed a statistically significant relationship between mobile tax services and tax compliance ($\chi^2 = 68.222$, $p < 0.001$). Regression findings further showed that mobile tax services and mobile tax knowledge are significant predictors of tax compliance ($p < 0.001$), with the model explaining 20.8% of the variation ($R^2 = 0.208$), indicating a moderate positive relationship. The findings also revealed that most respondents frequently access tax information and are able to file tax returns using mobile tax platforms. The study concludes that enhancing taxpayer knowledge and improving system reliability are critical for strengthening tax compliance among SMEs. It recommends that the Zambia Revenue Authority intensify taxpayer education and awareness programs while ensuring continuous system availability. Future studies should adopt mixed-method approaches and expand the scope beyond Lusaka District to enhance generalizability.

1. Introduction

Taxation in layman terms can be defined as the levy that citizens of a country are obliged to pay to the government for the government to meet its budget expenditure such as social amenities. In Zambia the Zambia Revenue Authority (ZRA) is the organization tasked by the government to collect taxes on its behalf. (Zambia Revenue Authority, 2024). Many emerging economies, are heavily dependent on taxation as a means of generating the required financial capital to meet their ever-increasing spending requirements to ensure economic growth and improve the quality of citizens' lives (Susuwu, et al., 2020). Most governments in the world are turning to technology to ease service delivery and provide quality services. The era of globalization has provided many conveniences for humans in carrying out daily activities. One of the conveniences provided is the presence of sophisticated information technology that can complement human needs (Angelina, et al., 2019). According to ZRA Commissioner General Mr. Banda, the digitalization of tax administrations enables automation of most processes, reducing manual interventions that are inefficient and prone to manipulation, while enhancing service delivery through technology (Nzala, 2022). This digital transformation will in turn improve the provision of tax services making compliance easier. Therefore, Governments today are under an increasing pressure to improve the delivery of public services in cost-effective ways (Muturi & Nahashon, 2015).

1.1 Background of the Study

Tax compliance has been a very contentious issue since the inception of ZRA. Despite revenue collections steadily increasing every year, 80 percent of the revenue collected by ZRA is contributed by 0.1 percent of the taxpayer base (Zambian Revenue Authority, 2023) revealing that the compliance levels are very low. The GDP rate to revenue collection has been stagnant between the ranges of 16.6 to 18.8 from 2001 to 2022. Zambia's tax collection of 17.8 percent of GDP in 2022 is below the 20 percent the target set in the National Development Plan, which is inadequate to meet its development needs (United States Agency for International Development, 2024).

Since its inception ZRA had been using a manual system, this system proved to be ineffective and was prone to many errors, to improve tax compliance it embarked on a modernization program in 2013, which launched an ICT based business solution called Tax Online for the Domestic Taxes Division. The ZRA then introduced electronic payments in 2014 to help taxpayers pay their taxes electronically. These innovations were aimed at reducing the cost of tax compliance, provision of better services to taxpayers and increased tax compliance among taxpayers which would in turn increase revenue collection (Mukuwa & Jackson, 2020). The Tax online system was also aimed at ensuring accuracy and timely reconciliation of the tax data (Muturi & Nahashon, 2015) Despite these efforts aimed at developing better and easier electronic tax filing system, the system remains underutilized by the public, especially small business owners. This is demonstrated by the long queues observed at ZRA offices during peak periods for return filling and payments. The Tax online system despite its many advantages faces a few challenges like system breakdowns during peak periods and technical skills of taxpayers as many of them fear the notion and consequences of errors from online filing such as keying-in incorrect information (Kafusha, 2022).

To keep up with the technological advancements Tax on phone was launched in 2019 (Lab of Tomorrow, 2022) which is a USSD based service that allows taxpayers to register, make payments and includes an access register for TPINs. USSD is a basic innovation and is available from all mobile operators; it is an easy technology that even a layman can use with little or no training (Zubairu, et al., 2020) Further in 2020 the ZRA introduced a mobile application; tax on app application which was a way for the authority to increase tax compliance and increase efficiency in tax administration. Tax on app allows taxpayers to register for TPINs and Tax types, file returns, make payments, has a motor vehicle calculator, and provides general tax information.

The use of mobile software apps to facilitate many different functions of an individual's life has grown exponentially in recent years and has subsequently impacted society in many different and positive ways. Today individuals can do several tasks using apps i.e., make payments, send messages, make purchases etc. therefore it became apparent that the ZRA take advantage of this development to leverage better tax services to its taxpayers.

With these new additions to tax administration, it is important that the authority, policymakers, and the public understand the effects these changes have on tax compliance. This ensures that the right innovations are being introduced in the tax administration process.

1.2 Problem Statement

The globalization of tax systems has created opportunities for tax authorities to enhance tax administration through digital innovations such as mobile tax applications and USSD services. Despite the innovations of the mobile tax services, tax service centers remain congested (Chisala, 2021) and mobile tax services appear to be underutilized.

Small and Medium Enterprises (SMEs), which constitute approximately 55 percent of registered taxpayers in Zambia (Zambia Revenue Authority, 2022), continue to exhibit low levels of tax compliance (Nsangu & Haabazoka, 2024), contributing to the country's tax-to-GDP ratio remaining below the 20 percent target (United States Agency for International Development, 2024). While mobile tax services have the potential to simplify tax processes and improve compliance, there is limited empirical evidence on their effectiveness within the Zambian context. Existing studies have largely focused on general electronic tax systems, with little emphasis on mobile-specific platforms, creating an empirical gap. Failure to address this gap may result in continued underutilization of mobile platforms, inefficiencies in tax administration, and persistently low compliance levels among SMEs.

Therefore, this study seeks to examine the effect of mobile tax services, mobile tax knowledge, and perceived benefits on tax compliance among SMEs in Lusaka District.

1.3 Objectives

- To examine the effect of mobile tax services on tax compliance among SMEs in Lusaka District.
- To determine the effect of mobile tax services knowledge on tax compliance among SMEs in Lusaka District.
- To assess the perceived benefits of using mobile tax services on tax compliance among SMEs in Lusaka District.

Based on the objectives above the study set out to test the Hypotheses below:

- H₁: Mobile tax services have an effect on Tax compliance of SMEs in Lusaka district
- H₂: Mobile tax services knowledge has an effect on Tax compliance of SMEs in Lusaka district.
- H₃: There are perceived benefits of using Mobile tax services for SMEs in Lusaka district.

2 Literature Review

2.1 Theoretical Framework

This study is grounded in the Technology Acceptance Model (TAM), which explains user adoption of information systems based on perceived usefulness and perceived ease of use (Davis, 1989). The model suggests that individuals are more likely to adopt a system when they perceive it as beneficial to their performance and easy to operate. In the context of this study, perceived usefulness is reflected in the benefits associated with mobile tax services, while perceived ease of use relates to taxpayers' ability to understand and effectively utilize these platforms. These perceptions are critical in shaping taxpayers' willingness to adopt mobile tax services and, ultimately, their compliance behavior. To complement TAM, the study draws on the DeLone and McLean Information Systems Success Model (DeLone and McLean, 2003; Angelina et al., 2019), which provides a broader framework for evaluating information system performance. The model identifies key dimensions, including system quality, information quality, and service quality, which influence system use and user outcomes. These dimensions are particularly relevant in assessing the effectiveness of mobile tax platforms in delivering reliable, accurate, and user-friendly services to taxpayers.

The integration of TAM and the DeLone and McLean model provides a comprehensive perspective for analyzing mobile tax services. While TAM explains the behavioral drivers of technology adoption, the IS Success Model accounts for system-related factors that influence usage outcomes. In this

study, system quality, information quality, and service quality are treated as key determinants shaping user perceptions and experiences, while improved tax compliance represents the net benefit of effective system use. Although the broader IS Success Model includes additional dimensions such as user satisfaction and system use, this study focuses primarily on quality-related constructs and their influence on compliance outcomes. This integrated approach enables a more robust understanding of how both user perceptions and system characteristics jointly influence the adoption and effectiveness of mobile tax services among SMEs.

2.2 Tax Compliance

Tax may be defined as a compulsory financial obligation imposed by government without direct benefit to the taxpayer, used to finance public goods and services such as infrastructure, education, and healthcare (Tilahun, 2019). In this study, tax is viewed not only as a statutory obligation but also as a mechanism for economic development and public service provision. Consequently, tax compliance refers to the extent to which taxpayers correctly report income, file returns on time, and pay taxes as required by law. Despite its importance, achieving high compliance remains a challenge. Tilahun (2019), using a literature-based analysis in Ethiopia, identified factors such as audit probability, tax penalties, peer influence, and perceived fairness as key determinants of compliance. However, the study relied solely on secondary data, limiting its empirical validation, particularly for SMEs. Atawodi and Ojeka (2012), using survey data from SMEs in Nigeria, found that high tax rates and complex filing procedures significantly contribute to non-compliance. Their findings suggest that simplifying tax processes can improve compliance. However, the use of basic analytical tools limits the robustness of their conclusions.

Service delivery has also been identified as a critical factor. Susuawu et al. (2020) found that service quality dimensions such as reliability and responsiveness significantly influence SME compliance in Ghana. This indicates that supportive tax administration enhances voluntary compliance. However, the study did not incorporate technological variables, limiting its explanatory scope.

From a behavioral perspective, TAM explains compliance in digital environments, suggesting that perceived usefulness and ease of use influence system adoption (Davis, 1989). This implies that technological systems such as mobile tax platforms can enhance compliance if they simplify processes and improve user experience.

Overall, tax compliance is influenced by economic, behavioral, and institutional factors, but there is limited integration of these elements within a single framework, particularly in the context of mobile tax services.

2.3 Online Tax Systems

Online taxation refers to the use of digital platforms to administer tax processes, including registration, filing, and payment (Umenweke & Ifediora, 2016). These systems aim to improve efficiency, accuracy, and accessibility in tax administration (Haruna et al., 2021). The adoption of e-tax systems has been associated with increased transparency and reduced administrative costs (OECD, 2016). Masunga et al. (2020) found that such systems simplify tax procedures, thereby encouraging voluntary compliance. Similarly, Muturi and Nahashon (2015) reported that online registration and filing significantly improve compliance among small taxpayers in Kenya.

However, system adoption depends largely on user perception. Tahar et al. (2021) found that perceived usefulness and ease of use positively influence e-tax adoption, while Maisiba and Atambo (2016) observed that system complexity discourages usage. These findings align with TAM, which emphasizes user perception as a key determinant of technology adoption. The DeLone and McLean Information Systems Success Model further explains system effectiveness, highlighting system quality, information quality, and service quality as critical factors (DeLone & McLean, 2003). High-quality systems enhance user satisfaction and compliance, while poor system performance discourages usage.

Despite these benefits, challenges such as limited digital literacy and infrastructure constraints hinder effective adoption, particularly among SMEs (Olatunji et al., 2019). This suggests that technological solutions alone are insufficient without supporting institutional and behavioral factors.

2.4 Effects of E-Taxation on Compliance

Empirical studies provide mixed evidence on the effectiveness of e-tax systems. Masunga et al. (2020), using Structural Equation Modelling, found that system quality significantly influences user satisfaction and compliance. However, the study focused on large taxpayers, limiting its relevance to SMEs. Muturi and Nahashon (2015) found that e-tax services improve compliance among small taxpayers, although their small sample size reduces generalizability. Similarly, Rotimi et al. (2020) established a strong relationship between electronic tax systems and revenue performance in Nigeria using secondary data, though this approach lacks behavioral insights.

System quality remains a consistent determinant. Night and Bananuka (2019) found that reliable systems improve compliance, while Khairunnisa and Yunanto (2017) emphasized the role of information quality. However, Simuyu and Jagongo (2019) reported that perceived complexity reduces adoption among SMEs. Operational challenges also affect outcomes. Yudha et al. (2023) found that system failures discourage timely filing, while Kehelwalatenna and Soyza (2020) noted that system disruptions increase reliance on third-party agents, raising compliance costs.

These findings suggest that while e-tax systems can improve compliance, their effectiveness depends on usability, reliability, and user acceptance.

2.5 E-Taxation and Tax Compliance in Zambia

In Zambia, systems such as TaxOnline and Electronic invoicing have been introduced to enhance compliance. However, empirical findings remain inconsistent. Chisala (2021) found that e-filing did not significantly improve compliance among SMEs due to system complexity. In contrast, Mukuwa and Phiri (2020) reported a significant positive relationship between e-services and compliance using a larger sample.

These contradictory findings suggest that system effectiveness depends on usability and user acceptance rather than availability alone. Supporting evidence from Akram et al. (2019) and Roger (2021) indicates that digital systems can improve compliance when effectively implemented.

However, most Zambian studies focus on general e-tax systems, with limited attention to mobile tax services, highlighting a key research gap.

2.6 Mobile Taxation

Mobile taxation represents an extension of e-tax systems, enabling taxpayers to access services via mobile devices. Cortez (2019) found that perceived usefulness significantly influences the intention to use mobile tax applications, although ease of use was not significant. Setiyani (2022), using the Diffusion of Innovation Theory, found that compatibility and observability significantly influence mobile tax adoption. However, non-probability sampling limits generalization. Mustapha and Obid (2015) demonstrated that perceived usefulness and ease of use influence e-filing adoption, reinforcing TAM. Similarly, Zaidi et al. (2017) found that positive user perceptions increase compliance behavior.

Despite these insights, most studies focus on adoption rather than actual compliance outcomes, indicating a conceptual gap. Zubairu et al. (2020) further showed that USSD-based systems improve accessibility, particularly for informal sector taxpayers.

2.7 Benefits and Challenges of E-Tax Systems

E-tax systems offer several benefits. Allahverdi (2017) found that digital taxation increases revenue while reducing collection costs. Aisha et al. (2020) also reported improved efficiency and compliance.

However, challenges persist. Olatunji et al. (2019) identified infrastructure and digital literacy constraints, while Bellon et al. (2022) highlighted security concerns among SMEs. Nino and Tyas (2022) found that perceived risk reduces system adoption. Behavioural factors also matter. Oladele (2020) emphasized the role of taxpayer knowledge, while Yulianti (2022) found that tax education improves compliance.

These findings suggest that while e-tax systems enhance efficiency, their effectiveness depends on user trust, knowledge, and system reliability.

2.8 Summary of Research Gaps

The literature reveals three key gaps. First, empirical findings on e-tax systems are inconsistent, with some studies reporting positive effects and others highlighting challenges. Second, most studies focus on system adoption rather than actual compliance outcomes. Third, there is limited research on mobile tax services, particularly in Zambia.

This study addresses these gaps by examining the effect of mobile tax services, knowledge, and perceived benefits on tax compliance among SMEs in Lusaka District.

3 Materials and Methods

3.1 Research Design and Approach

This study adopts a quantitative research design grounded in the positivist paradigm, which assumes that relationships between variables can be objectively measured using statistical techniques (Saunders et al., 2019). A deductive approach was employed, whereby hypotheses derived from existing theories particularly the TAM and the DeLone and McLean Information Systems Success Model were empirically tested. The design is descriptive and explanatory, as it examines the relationship between mobile tax services and tax compliance among SMEs.

3.2 Study Area and Population

The study was conducted in Lusaka District, Zambia, the country's economic hub with a high concentration of SMEs. The target population comprised 1,023 SMEs registered on mobile tax services under the Zambia Revenue Authority, specifically those operating under the Turnover Tax (TOT) system. This group was selected due to its relevance as active users of mobile tax platforms.

3.3 Sample Size and Sampling Technique

The sample size was initially determined using the Yamane (1973) formula:

$$n = \frac{N}{(1 + N(e^2))}$$

Where n = Sample size, N= Target population of study, e= level of significance (0.05)

$$n = \frac{1023}{(1 + 1023(0.05^2))}$$

$$n = 287.3$$

At a 5% level of significance, the calculated sample size was approximately 287 respondents as shown above. However, due to practical constraints such as accessibility, time, and cost, a final sample of 150 SMEs was used.

A purposive sampling technique was employed to select respondents with direct experience in using mobile tax services. This approach ensured that only relevant participants with sufficient knowledge of the system were included, thereby enhancing the reliability of the data.

3.4 Data Collection

Primary data were collected using structured questionnaires consisting of closed-ended questions. The questionnaires were administered electronically via email and online survey platforms to improve accessibility and response rates. Data collection was conducted over a six-month period from November 2024 to April 2025.

3.5 Data Analysis

Data were analyzed using both descriptive and inferential statistical techniques. Descriptive statistics were used to summarize respondent characteristics and key variables. Inferential analysis included Pearson's correlation, chi-square tests, and multiple linear regression to examine relationships and test hypotheses.

The regression model used in the study is specified as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Where:

Y = Tax compliance (dependent variable), X1 = Mobile tax services, X2 = Mobile tax knowledge, X3 = Perceived benefits, β_0 = Constant term (intercept), representing the level of tax compliance when all independent variables are zero, $\beta_1, \beta_2, \beta_3$ = Regression coefficients, which measure the change in tax compliance resulting from a unit change in each independent variable, holding other variables constant, ϵ = Error term, capturing other factors affecting tax compliance not included in the model.

This model was used to estimate the individual and combined effects of the independent variables on tax compliance.

3.6 Validity and Reliability

Content validity was ensured by aligning the questionnaire with established theoretical constructs from TAM and the DeLone and McLean model. The instrument was reviewed by a subject expert and refined through a pilot study. Reliability was enhanced through the use of standardized questions and consistent data collection procedures.

3.7 Ethical Considerations

Participation in the study was voluntary, and respondents were assured of confidentiality and anonymity. Data were used strictly for academic purposes.

4 Results and Discussion

This section presents and discusses the empirical findings of the study based on data collected from SMEs in Lusaka District. Out of 150 questionnaires distributed, 126 were successfully returned, representing a response rate of 84%, which is considered adequate for statistical analysis (Baruch & Holtom, 2008).

The analysis combines descriptive statistics and inferential techniques, including chi-square tests, Pearson correlation, and multiple regression analysis, to examine the relationships between mobile tax services, mobile tax knowledge, perceived benefits, and tax compliance.

4.1 Demographic Characteristics of Respondents

The demographic findings indicate that the sample included both male and female respondents, with a slightly higher proportion of males. The majority of respondents were within the 26–35 age group, reflecting an economically active population more likely to engage with digital platforms.

Most respondents possessed tertiary-level education, suggesting a relatively high level of literacy among SME operators. The dominant sectors represented were retail and manufacturing, indicating that the findings reflect key segments of SME activity in Lusaka as depicted in Figure 4.1.

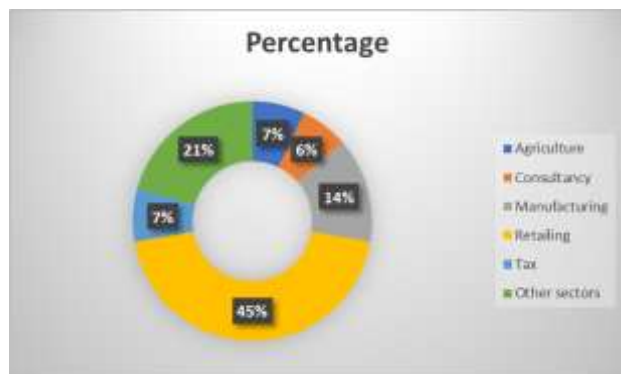


Figure 1: Sectors

While these characteristics may influence technology adoption, they are not the primary determinants of tax compliance examined in this study.

4.2 Determinants of Tax Compliance

Hypothesis Testing Results (objective 1 n 2)

The results of hypothesis testing using chi-square and Pearson correlation analysis are summarized in Table 1 below.

Table 1: Summary of Association and Correlation Results

Hypothesis	Relationship Tested	X2	P-value	r	strength	Hypothesis Result
H1	Mobile Tax Services	42.429	0.000	0.361**	Moderate (+)	Supported
H2	Mobile Tax Knowledge	105.556	0.000	0.271**	Weak (+)	Supported

Note: $p < 0.01$; (+) indicates positive relationship

The results indicate that both mobile tax services and mobile tax knowledge have statistically significant relationships with tax compliance among SMEs. However, the strength and practical influence of these relationships differ. Mobile tax services exhibit a moderate positive association with tax compliance, suggesting that increased utilization of mobile tax platforms is meaningfully linked to improved compliance behavior. This implies that SMEs that actively engage with mobile tax services are more likely to meet their tax obligations.

In contrast, mobile tax knowledge demonstrates a positive but weaker relationship with tax compliance. While statistically significant, the relatively low strength of this association indicates that knowledge alone has a limited effect on influencing compliance behavior. This suggests that although understanding how mobile tax systems operate may reduce uncertainty and improve user confidence, it does not necessarily translate into consistent compliance unless accompanied by actual system usage and supportive conditions.

Furthermore, these results imply that efforts aimed solely at improving taxpayer knowledge may not be sufficient to significantly enhance compliance levels. Instead, greater emphasis should be placed on improving system accessibility, usability, and reliability to encourage active usage of mobile tax services. This is particularly important in the SME context, where resource constraints and operational challenges may limit the translation of knowledge into actual compliance behavior.

Perceived Benefits of Mobile Tax Services

This section presents the descriptive results relating to Objective 3, which examined the perceived benefits of mobile tax services among SMEs. The analysis focuses on respondents’ ability to access tax information, file returns, and make tax payments using mobile platforms.

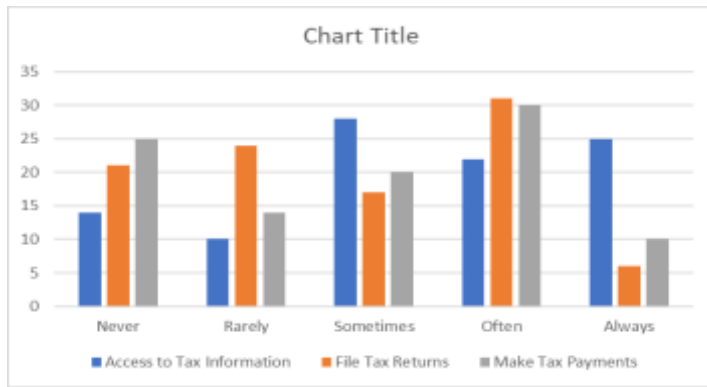


Figure 2: Perceived benefits of Mobile tax services

As illustrated in Figure 2, the distribution of responses indicates that a substantial proportion of SMEs report frequent utilization of mobile tax services across key functions, including accessing tax information, filing returns, and making tax payments. In particular, responses are concentrated in the “often” and “always” categories, suggesting that mobile tax platforms are actively used by a majority of respondents to meet their tax obligations. This reflects a generally positive perception of the functionality and accessibility of mobile tax services among SMEs in Lusaka District.

A closer examination of the individual components reveals some variation in usage patterns. Access to tax information appears to be the most consistently utilized feature, with a relatively high proportion of respondents indicating frequent access. This suggests that mobile tax services are effective in disseminating tax-related information, which may support informed decision-making and reduce uncertainty in tax processes. In contrast, the results for filing tax returns and making tax payments show slightly more dispersion across response categories. While a significant number of respondents reported frequent usage, there remains a notable proportion indicating “rarely” or “never” using mobile platforms for these functions. This may point to underlying constraints such as system usability challenges, transaction reliability issues, or user preferences for alternative channels when completing more complex tax activities.

Furthermore, the relatively higher proportion of respondents indicating limited use of mobile tax services for payments suggests that transactional features may face more barriers compared to informational functions. This distinction is important, as it implies that while mobile tax services are effective in improving access to information, their role in facilitating complete end-to-end tax compliance may still be evolving.

Regression Analysis Results

To further examine the combined effect of the independent variables on tax compliance, a multiple linear regression analysis was conducted. The results are presented in Table 2.

Table 2: Multiple Regression Model Summary

Statistic	Value
R	0.456
R Square (R2)	0.208
Adjusted R Square	0.195
Std. Error of Estimate	2.637

The results of the multiple linear regression analysis indicate a moderate positive relationship between the combined independent variables mobile tax services, mobile tax knowledge, and perceived benefits—and tax compliance among SMEs ($R = 0.456$). This suggests that, collectively, these variables are reasonably associated with variations in tax compliance behavior. The coefficient of determination ($R^2 = 0.208$) shows that approximately 20.8% of the variation in tax compliance is explained by the model. While this reflects a meaningful contribution of the included variables, it also indicates moderate explanatory power, implying that the model captures only part of the factors influencing compliance behavior.

However, the relatively low R^2 value implies that a substantial proportion (79.2%) of the variation in tax compliance remains unexplained by the model. This indicates that additional factors not included in this study may influence compliance behavior. Existing literature suggests that variables such as enforcement mechanisms, taxpayer attitudes, perceived fairness, and institutional trust play a significant role in shaping tax compliance (Tilahun, 2019).

Overall, these findings demonstrate that while mobile tax services, knowledge, and perceived benefits are statistically significant determinants of tax compliance, they do not fully account for taxpayer behavior. This highlights the need to consider a broader set of factors when examining compliance in the SME context.

4.3 Discussion of Findings

Mobile Tax Services and Tax Compliance

The findings reveal a statistically significant and moderate positive relationship between mobile tax services and tax compliance ($r = 0.361$, $p < 0.01$), indicating that increased utilization of mobile tax platforms is associated with higher compliance among SMEs.

This result is consistent with prior empirical studies on electronic taxation. For instance, Rotimi et al. (2020) found that electronic tax administration significantly improves compliance and revenue generation, while Muturi and Nahashon (2015) reported that online tax registration, filing, and payment systems positively influence compliance among small taxpayers. Similarly, Masunga et al. (2020) demonstrated that the effectiveness of e-tax systems contributes to improved compliance through enhanced system usage and user satisfaction.

From a theoretical perspective, this finding aligns with TAM (Davis, 1989), which posits that perceived usefulness and perceived ease of use influence technology adoption. In this study, mobile tax services appear to enhance compliance by simplifying tax processes such as filing returns and making payments, thereby increasing their perceived usefulness. The accessibility of mobile platforms also improves ease of use, encouraging adoption. However, the moderate strength of the relationship suggests that mobile tax services are not the sole determinant of compliance. This supports the findings of Simuyu and Jagongo (2019) and Maisiba and Atambo (2016), who observed that although digital tax systems can enhance compliance, challenges such as system complexity and usability issues may limit their effectiveness. Therefore, while mobile tax services contribute positively to compliance, their impact depends on complementary factors such as system quality, user experience, and institutional support.

Mobile Tax Knowledge and Tax Compliance

The study further found a statistically significant but weak positive relationship between mobile tax knowledge and tax compliance ($r = 0.271$, $p < 0.01$). This suggests that although knowledge contributes to compliance, its influence is relatively limited.

This finding is consistent with studies such as Zaidi et al. (2017), which emphasize that taxpayer knowledge and technological awareness play important roles in enhancing compliance by improving understanding of tax obligations and system usage. Similarly, Magasha et al. (2025) highlight that knowledge reduces uncertainty and errors in tax processes, thereby supporting compliance behavior.

However, the weak strength of the relationship contrasts with some studies that report stronger effects of knowledge on compliance. This divergence suggests that in the context of SMEs in Lusaka, knowledge alone may not be sufficient to significantly influence compliance behavior. This supports the argument by Tahar et al. (2021) that while ease of use is important, it must be complemented by perceived usefulness and system reliability to drive stronger behavioral outcomes.

From a theoretical standpoint, this finding partially supports TAM. While knowledge improves perceived ease of use, it may not significantly enhance perceived usefulness, which is a key determinant of adoption and continued usage. Therefore, knowledge acts more as a supporting factor rather than a primary driver of compliance.

Perceived Benefits of Mobile Tax Services

The descriptive findings indicate that a majority of respondents are able to access tax information, file returns, and make tax payments using mobile tax services. These findings suggest that mobile platforms provide key functional benefits that enhance accessibility and convenience in tax compliance processes. These results are consistent with prior studies. For example, Aisha et al. (2020) found that e-taxation systems improve revenue generation efficiency and compliance by simplifying tax processes. Similarly, the findings are also supported by OECD (2016), which highlights that digital tax systems improve efficiency, transparency, and taxpayer engagement.

From a theoretical perspective, these findings align with both TAM and the DeLone and McLean Information Systems Success Model. The ability to access information and perform transactions reflects system quality and information quality, which are key determinants of system use and outcomes (DeLone & McLean, 2003). At the same time, the convenience and accessibility of mobile tax services reflect perceived usefulness, which encourages adoption and continued usage (Davis, 1989).

However, despite these benefits, the regression results indicate that the explanatory power of the model is moderate ($R^2 = 0.208$), suggesting that perceived benefits alone do not fully explain variations in tax compliance. This finding supports the argument by Night and Bananuka (2019) that system effectiveness depends not only on perceived benefits but also on factors such as system reliability, service quality, and user trust.

Overall Discussion

Overall, the findings of this study are largely consistent with existing literature and theoretical expectations, particularly regarding the positive role of digital tax systems in enhancing compliance. The results confirm that mobile tax services improve accessibility and convenience, which in turn support compliance behavior among SMEs.

However, the study also reveals important nuances. The moderate effect of mobile tax services and the weak effect of knowledge suggest that technology alone is not sufficient to fully explain tax compliance. This finding aligns with prior studies (e.g., Chisala, 2021), which highlight that system complexity and usability challenges may limit the effectiveness of e-tax systems.

Furthermore, the findings reinforce the need for an integrated approach to tax compliance, combining technological innovation with taxpayer education, system quality improvements, and institutional support. This supports the broader literature, which emphasizes that compliance is influenced by a combination of technological, behavioral, and structural factors.

Importantly, this study contributes to the literature by addressing a gap in the context of mobile tax services, particularly among SMEs in Zambia. While previous studies have focused largely on general e-tax systems, this study demonstrates that mobile-based platforms play a significant but not dominant role in influencing compliance behavior.

5 Conclusion and Policy Implications

5.1 Conclusion

This study examined the effect of mobile tax services on tax compliance among SMEs in Lusaka District. The findings provide empirical evidence that technological factors play a meaningful role in shaping compliance behavior, although their influence is not exhaustive.

First, the study establishes that mobile tax services have a statistically significant and positive effect on tax compliance. This suggests that increased access to and utilization of mobile tax platforms enhances the ability of SMEs to fulfil their tax obligations. The results indicate that mobile tax services are an important predictor of compliance, highlighting the role of digital platforms in simplifying tax processes and improving accessibility.

Second, mobile tax services knowledge was found to have a statistically significant but relatively weak positive effect on tax compliance. This implies that while knowledge of mobile tax systems contributes to improved compliance, it is not sufficient on its own to strongly influence taxpayer behavior. The findings suggest that knowledge must be complemented by actual system usage and supportive conditions to produce a meaningful impact.

Third, the study finds that SMEs perceive mobile tax services as beneficial, particularly in facilitating access to tax information, filing of returns, and payment of taxes. These perceived benefits contribute to compliance by reducing the time, cost, and complexity associated with traditional tax processes.

All in all, the results confirm that mobile tax services, mobile tax knowledge, and perceived benefits jointly influence tax compliance. However, the moderate explanatory power of the regression model ($R^2 = 0.208$) indicates that these variables explain only a portion of compliance behavior. A substantial proportion of variation is influenced by other factors not captured in the model.

This suggests that tax compliance among SMEs is a multifaceted phenomenon influenced not only by technological factors but also by behavioral, institutional, and economic conditions. Factors such as enforcement mechanisms, taxpayer attitudes, perceived fairness of the tax system, institutional trust, regulatory complexity, and compliance costs are likely to play a significant role. Therefore, while mobile tax services are an important tool for enhancing compliance, they should be viewed as part of a broader compliance framework.

5.2 Policy Implications and Recommendations

The findings of this study provide several practical implications for policymakers, particularly the ZRA, in improving tax compliance among SMEs.

Strengthening Mobile Tax Services

The effectiveness of mobile tax services can be enhanced through improvements in system performance and user experience. Ensuring system availability and reliability is critical to maintaining user confidence and encouraging consistent usage. Frequent system disruptions may discourage adoption and reduce compliance levels. In addition, technical support mechanisms should be strengthened to assist SMEs in resolving challenges related to system use. Providing accessible and responsive support services can reduce user frustration and improve overall system effectiveness. Security enhancements are also essential. Strengthening data protection and system security can build trust among users, particularly SMEs who may be concerned about the confidentiality of financial information.

Enhancing Mobile Tax Knowledge

Although mobile tax knowledge has a positive effect on compliance, its relatively weak influence suggests the need for targeted interventions. The ZRA should intensify taxpayer education and awareness programs aimed at improving understanding of mobile tax systems. This can be achieved through training workshops, digital literacy initiatives, and simplified user guides that make the system more accessible to SMEs. Improving knowledge will enhance user confidence and may encourage greater engagement with mobile tax platforms.

Improving Perceived Benefits and System Functionality

The perceived benefits of mobile tax services play an important role in influencing their adoption and continued use. To sustain and enhance these benefits, the ZRA should ensure that mobile platforms provide clear, accurate, and timely tax information. Furthermore, core functionalities such as filing returns, making payments, and accessing tax records should be efficient and user-friendly. Enhancing these features will reinforce the usefulness of the system and support higher levels of compliance.

Broader Policy Considerations

Beyond system-specific improvements, a more integrated approach to tax compliance is required. Policymakers may consider linking mobile tax platforms with financial institutions to support SME access to credit and formal financial services. This could create additional incentives for compliance.

The development of offline functionality may also be explored to support SMEs operating in areas with limited internet connectivity. Expanding the mobile tax platform into a broader business support ecosystem, including access to licensing and other government services, could further increase its value to users. In addition, the introduction of user feedback mechanisms would enable continuous system improvement by incorporating user experiences into system design and policy decisions.

5.3 Directions for Future Research

While this study provides important insights, several areas remain for further investigation.

Firstly, the study adopted a quantitative approach, which effectively identified statistical relationships but provided limited insight into the underlying motivations and experiences of taxpayers. Future research could adopt a mixed-methods approach, incorporating qualitative techniques such as interviews or focus groups to gain deeper understanding of taxpayer behavior. Secondly, the study focused on SMEs in Lusaka District, which may limit the generalizability of the findings. Future studies should consider broader geographic coverage, including both urban and rural areas, to capture variations in technology access and compliance behavior.

Finally, the relatively low explanatory power of the model suggests the need to explore additional determinants of tax compliance. Future research could incorporate variables such as taxpayer attitudes, trust in tax authorities, perceived fairness, enforcement mechanisms, and socio-economic characteristics to develop a more comprehensive model of compliance behavior.

Declaration of Competing Interests

The authors declare that they not aware of any competing financial interests or personal relationships that may have influenced the work described in this document.

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Ethical considerations

The article followed all ethical standards appropriate for this kind of research.

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