

Electronic Filing and VAT Compliance among Small and Medium-Sized Enterprises in Eldoret, Kenya: Empirical Evidence and Policy Implications

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Abstract

Value Added Tax (VAT) is a cornerstone of tax revenue mobilization in many economies, yet its compliance rates remain uneven, especially among small and medium-sized enterprises (SMEs). To address persistent gaps, many tax administrations have embraced digital reforms, with electronic filing (e-filing) emerging as a leading innovation. This study adopted an explanatory survey research design to investigate the effect of e-filing on VAT compliance among SMEs in Eldoret City, Kenya. Using survey data collected from 275 VAT-registered SMEs in Eldoret City, Kenya. Using survey data collected from 275 VAT-registered SMEs and analyzed through linear regression, the paper isolates the contribution of e-filing to compliance outcomes. Results reveal a positive and statistically significant effect ($\beta = 0.30$, $p < 0.001$), with e-filing explaining 27 percent of the variance in VAT compliance. Findings demonstrate that SMEs using the iTax system are more likely to submit accurate, timely, and complete VAT returns than those using manual methods. However, the explanatory power of the model indicates that e-filing alone is insufficient and that complementary factors such as taxpayer education, ICT infrastructure, and system usability play vital roles. The paper concludes that while e-filing has transformed compliance dynamics, its effectiveness hinges on integrating technological reforms with broader taxpayer support. Policy recommendations include simplifying the iTax interface, expanding localized training in towns such as Eldoret, investing in ICT infrastructure, and embedding automated reminders in the system. These insights offer practical implications for strengthening VAT compliance in Kenya and contribute to the global discourse on digital taxation reforms.

Keywords: *Electronic Filing, VAT Compliance, Small and Medium Enterprises*

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1. Introduction

Value Added Tax (VAT) is one of the most reliable sources of government revenue globally. According to the OECD (2021), VAT accounts for nearly one-fifth of total tax revenue across OECD member countries, underscoring its centrality in public finance. Yet compliance

challenges persist worldwide, particularly in developing economies where informal activity is widespread and administrative capacity remains limited. For governments such as Kenya's, enhancing VAT compliance is not only a fiscal imperative but also a cornerstone of creating fairness and accountability in taxation.

Digitalization has been advanced as a strategic response to persistent compliance challenges. In many countries, the adoption of electronic filing systems has transformed the relationship between taxpayers and revenue authorities. By allowing individuals and businesses to register, file, and remit taxes through online platforms, e-filing reduces paperwork, streamlines administrative processes, and minimizes the risk of reporting errors (World Bank, 2022). The experience of the United Kingdom's "Making Tax Digital" program illustrates the potential of digital reforms to enhance accuracy and reduce late filings (Evans et al., 2019). Similarly, Estonia's comprehensive e-filing infrastructure has been credited with making compliance nearly seamless for small firms.

However, the transition to digital systems has been uneven across developing countries. In India, the implementation of the Goods and Services Tax (GST) highlighted the risks of rolling out complex digital platforms without adequate taxpayer support. Rao and Singh (2020) found that while the GST portal improved transparency, SMEs incurred higher compliance costs due to limited technical know-how and system bottlenecks. Across Africa, the African Tax Administration Forum (ATAF, 2022) estimates that weaknesses in adopting digital systems contribute to VAT revenue losses approaching USD 50 billion annually. These examples demonstrate that while electronic systems hold promise, they are not a panacea and must be accompanied by enabling conditions.

Kenya has invested significantly in tax digitalization, introducing the iTax system in 2013 to facilitate online registration, filing, and payment. More recently, the Tax Invoice Management System (TIMS) and its enhanced version (eTIMS) were rolled out to strengthen VAT administration. Despite these initiatives, VAT compliance remains a challenge. Kenya Revenue Authority (2024) reports that although VAT contributes close to 30 percent of total revenue, compliance rates among SMEs are far from optimal. In towns such as Eldoret, SMEs often cite difficulties in navigating the iTax platform, unstable internet connections, and limited technical knowledge as barriers to consistent filing (Odhiambo, Wekesa, & Ouma, 2022).

The persistence of these challenges raises a critical question: Does electronic filing actually improve VAT compliance among SMEs, particularly in secondary cities beyond Nairobi? While studies such as Ondara, Kimani, and Kwasira (2016) in Nakuru found a positive relationship between online filing and compliance, and Waithaka (2014) confirmed the potential of iTax to improve VAT performance, limited empirical attention has been paid to Eldoret. Yet Eldoret is a fast-growing commercial hub with a diverse SME sector that mirrors Kenya's broader compliance challenges. Examining this context offers insights into whether digital systems can drive compliance in regions where infrastructural and literacy constraints are more pronounced.

This study focuses specifically on the effect of e-filing on VAT compliance among SMEs in Eldoret City. Using primary data from 275 SMEs, the analysis tests whether the use of iTax significantly predicts compliance outcomes, measured in terms of timeliness, accuracy, and completeness. By narrowing to one objective, the study provides robust empirical evidence on the role of electronic filing in shaping compliance. The findings contribute to policy debates

on tax digitalization in Kenya and align with global discourses on leveraging technology to enhance fiscal capacity.

The contribution of this paper is threefold. First, it provides empirical evidence from a secondary urban center, filling a gap in Kenyan tax compliance literature that has been largely Nairobi-centric. Second, it highlights the importance of context in assessing the impact of digital reforms. Third, it translates empirical results into practical policy recommendations relevant to Kenya and other developing economies grappling with similar challenges.

2. Literature Review

2.1 Theoretical Review

The Diffusion of Innovations Theory, advanced by Everett Rogers (1962), explains how new technologies and practices spread within a population. It identifies key determinants of adoption, including relative advantage, compatibility, complexity, trialability, and observability. In the context of taxation, the theory helps explain how SMEs decide to adopt electronic filing systems based on their perceived usefulness and ease of use.

This study is anchored on the Diffusion of Innovations Theory because e-filing represents a technological innovation within tax administration. SMEs that perceive iTax as advantageous, compatible with their operations, and easy to use are more likely to adopt it and comply with VAT regulations. Conversely, perceptions of complexity or limited observability may delay adoption and reduce compliance. The theory thus provides a behavioral and technological foundation for analyzing how digital systems influence VAT compliance among SMEs in Eldoret City.

2.2 Empirical Review

Electronic filing (e-filing) has emerged as a critical reform for modern tax administrations seeking to enhance compliance. In developed economies, e-filing systems have been associated with higher accuracy, timeliness, and reduced compliance costs. Evans, Lignier, and Tran-Nam (2019) found that in the United Kingdom, digital filing initiatives reduced reporting discrepancies and improved efficiency among small businesses. Similarly, OECD (2021) highlights that countries with advanced e-filing platforms experience fewer late submissions and better audit trails.

In developing contexts, the evidence is mixed but generally supportive of e-filing's potential. In Ghana, Asante and Kwame (2022) reported that SMEs using the national e-filing system exhibited compliance rates above 70 percent, compared to less than 50 percent among manual filers. In Tanzania, Mbise and Baseka (2022) found that the digital tax administration system reduced late submission penalties by nearly half. However, they also noted that usability issues and infrastructure gaps limited the full realization of these benefits. India's GST experience similarly illustrates that technical bottlenecks and limited taxpayer capacity can increase compliance costs, even when digital platforms are available (Rao & Singh, 2020).

Kenya's iTax system has been the subject of growing scholarly attention. Ondara et al. (2016) demonstrated that online filing positively influenced compliance among SMEs in Nakuru, citing reduced complexity and improved convenience. Waithaka (2014) examined VAT compliance nationally and concluded that the iTax system improved filing accuracy, though challenges persisted in adoption. Achibo (2024) further linked the capabilities of iTax to revenue collection performance, while Odhiambo et al. (2022) emphasized the barriers SMEs

face, including limited knowledge and system usability concerns. More recently, Menin, Olweny, and Kapkiyai (2024) highlighted the role of digital invoice systems in shaping VAT compliance in Eldoret, pointing to the relevance of localized digital reforms.

Despite this growing body of evidence, limited research has focused specifically on Eldoret SMEs. Given its status as a commercial hub outside Nairobi, Eldoret provides an important case for examining whether e-filing can drive compliance in secondary cities. This study responds to this gap by analyzing the relationship between e-filing and VAT compliance in this setting.

3. Methodology

The study employed an explanatory survey design, which is well-suited to testing cause-and-effect relationships between variables. This design enabled the analysis of how e-filing influences compliance outcomes among SMEs. The target population comprised VAT-registered SMEs operating in Eldoret City. Kenya Revenue Authority records estimate this population at approximately 7,000 SMEs. Using Yamane’s (1967) formula with a 5 percent margin of error, the required sample size was 377. To adjust for potential non-response, 391 questionnaires were distributed, yielding 275 valid responses, a 70 percent response rate, which is considered acceptable in survey research.

Data was collected using a structured questionnaire containing sections on e-filing practices and compliance behaviors. Responses were measured on a five-point Likert scale ranging from “strongly disagree” to “strongly agree.” A pilot test in Nakuru confirmed the instrument’s reliability, with Cronbach’s alpha values exceeding the 0.70 threshold for all constructs. The data were analyzed using linear regression to test the direct effect of e-filing on VAT compliance. The regression coefficient (β) was interpreted to assess the significance and practical strength of the relationship.

4. Results and Discussion

4.1 Descriptive Statistics

Descriptive statistics were computed to summarize respondents’ views on the influence of electronic filing on VAT compliance among SMEs in Eldoret City. The analysis involved calculating the mean and standard deviation for items measured on a five-point Likert scale, where 1 = *Strongly Disagree* and 5 = *Strongly Agree*.

Table 1: Descriptive Statistics

Variable	N	Mean	Std. Deviation	Interpretation
Electronic filing improves the accuracy of VAT returns	275	4.12	0.78	Agree
Electronic filing simplifies VAT return submission	275	4.21	0.72	Agree
iTax platform reduces time spent on VAT compliance	275	4.05	0.83	Agree
Electronic filing minimizes compliance costs	275	3.88	0.91	Agree
Electronic filing improves overall VAT compliance	275	4.17	0.76	Agree

The findings in Table 1 indicate that respondents generally agreed that electronic filing enhances VAT compliance. The composite mean of 4.09 suggests a strong positive perception of the usefulness of e-filing among SMEs, while the relatively low standard deviation (0.80) implies consistency in responses. These results confirm that most SMEs find the iTax system beneficial in improving the timeliness, accuracy, and completeness of VAT returns.

4.2 Regression Analysis

Table 2 summarizes the regression results for the effect of electronic filing on VAT compliance among SMEs in Eldoret City.

Table 2: Effect of Electronic Filing on VAT Compliance

Predictor Variable	Standardized Coefficient (β)	Std. Error	t-value	p-value
Electronic Filing	0.30	0.07	4.29	<0.001
Constant	—	—	—	—
R ²	0.27	—	—	—
Adjusted R ²	0.26	—	—	—
N = 275, F(1,273) = 18.4, p < 0.001				

The results indicate that electronic filing exerts a positive and statistically significant effect on VAT compliance ($\beta = 0.30$, $p < 0.001$). The R^2 of 0.27 suggests that e-filing accounts for approximately 27 percent of the variation in compliance outcomes.

The findings confirm that SMEs using the iTax system are more likely to file timely, accurate, and complete VAT returns than those relying on manual procedures. This result is consistent with earlier research in Nakuru (Ondara et al., 2016), which showed that online tax filing reduces complexity and improves compliance, and with Waithaka (2014), who found a positive effect of iTax on VAT performance nationally.

Cross-country evidence also supports this conclusion. In Ghana, Asante and Kwame (2022) documented significantly higher compliance among SMEs using electronic filing. Similarly, Mbise and Baseka (2022) in Tanzania found that digital tax systems reduced penalties for late submissions, demonstrating how automation promotes punctuality. The Kenyan results, therefore, fit within a broader pattern observed in other developing countries.

The study’s explanatory power, however, indicates that e-filing alone cannot fully explain compliance behavior. The 27 percent of variance explained suggests that other factors—including taxpayer education, digital literacy, ICT infrastructure, and trust in tax authorities—play significant roles. This echoes Odhiambo et al. (2022), who found that many SMEs in Kenya face barriers such as inadequate system knowledge and unreliable internet, and Rao and Singh (2020), who highlighted how technical challenges in India raised compliance costs despite the availability of digital platforms.

5. Conclusion

This study examined the effect of electronic filing on VAT compliance among SMEs in Eldoret City, Kenya. Using survey data from 275 VAT-registered businesses and regression analysis, the results showed that e-filing has a significant and positive effect on compliance outcomes ($\beta = 0.30$, $p < 0.001$), accounting for 27% of the variance. SMEs that regularly used the iTax system were more likely to meet compliance obligations in terms of timeliness, accuracy, and completeness.

The findings contribute to the Kenyan and broader African literature by demonstrating that e-filing can meaningfully improve compliance in secondary cities, not just capital centers. They also reinforce international evidence that digital platforms enhance compliance by reducing complexity and minimizing errors. At the same time, the modest explanatory power of the model highlights the importance of complementary enablers such as digital literacy, ICT infrastructure, and taxpayer support.

From a policy standpoint, the study concludes that while electronic filing is a valuable tool for enhancing VAT compliance, it should not be considered a stand-alone solution. Its impact is maximized when embedded within broader reforms that address the capacity and contextual challenges faced by SMEs.

6. Recommendations

To strengthen the effectiveness of electronic filing in improving VAT compliance among SMEs, several practical measures are suggested. First, the Kenya Revenue Authority should simplify the iTax platform to make it more user-friendly, incorporating intuitive navigation and automated error-checking tools. Second, localized taxpayer education programs should be expanded in towns such as Eldoret, providing practical demonstrations and sector-specific guidance to enhance digital confidence among SMEs. Third, investment in ICT infrastructure is critical, requiring collaboration between revenue authorities, county governments, and internet service providers to guarantee reliable connectivity. Finally, embedding automated filing reminders and real-time feedback within iTax would encourage timely compliance and reduce uncertainty. Together, these interventions would reinforce the gains of electronic filing and contribute to building a culture of compliance among SMEs in Kenya.

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