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# ELECTRONIC FISCAL RECEIPTING AND SOLUTION AND TAX COMPLIANCE OF INFORMAL SECTOR: A CASE OF KAMPALA DISTRICT, UGANDA

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# CHAPTER ONE

# INTRODUCTION

## 1.1 Introduction

The informal sector constituted a critical component of Uganda's economy, particularly within urban centres such as Kampala. This sector predominantly comprised small-scale enterprises, including those operating outside formal registration frameworks or relying primarily on manual, paper-based systems for transactional record-keeping. Despite their significant contribution to employment generation and local livelihoods, these enterprises often exhibited low levels of tax compliance, thereby constraining the government's efforts to mobilise domestic revenue effectively. In response to these challenges, the Uganda Revenue Authority (URA) introduced the Electronic Fiscal Receipting and Invoicing Solution (EFRIS) in 2021, aimed at enhancing transparency, streamlining tax administration, and reducing revenue leakages. While EFRIS principally targeted registered taxpayers, it was increasingly extended to informal and semi-formal businesses that previously operated without digital tools, requiring them to adopt electronic invoicing and fiscal devices. This policy initiative represented an effort to integrate such enterprises into the formal tax system and promote voluntary compliance.

Accordingly, this study sought to examine the extent to which EFRIS adoption influenced tax compliance among informal sector operators in Kampala District, with a specific focus on businesses transitioning from manual to digital systems. The research thus situated the informal sector within the context of technological tax interventions, offering insights into both behavioural and systemic determinants of compliance.

## 1.2 Background of the Study

### 1.2.1 Historical Perspective

Globally, the informal economy played a vital role in economic growth, especially within low- and middle-income nations (Frank, Nelson, Ariyo, et al., 2023). The International Labour Organization (ILO) reported that about 61% of the global workforce derived their livelihoods from informal employment, with Africa experiencing an even higher

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prevalence, reaching approximately 85.8% (ILO, 2018). Such widespread informality presented significant obstacles to tax authorities, as many informal enterprises functioned outside formal regulatory oversight, causing considerable losses in government revenue(Ramadhan, Alex, Kazaara, et al., 2023a). To counter these challenges, several countries introduced electronic fiscal devices (EFDs) and electronic invoicing systems. For example, nations like Brazil and Turkey successfully implemented extensive e-invoicing frameworks, which contributed to higher tax collections and decreased tax evasion (OECD, 2020).

In the African context, the informal sector dominated many economies, contributing substantially to employment and gross domestic product (GDP) (Frank, Nelson, Kazaara, et al., 2023). The African Development Bank (AfDB) estimated that informal economic activities accounted for between 25% and 65% of GDP and provided employment for 70% to 90% of the labour force in Sub-Saharan Africa (AfDB, 2019). However, this dominance complicated tax administration, as numerous informal businesses lacked adequate record-keeping systems and were often unregistered with tax authorities(Florence & Julius, 2023). To improve tax compliance, several African countries rolled out EFDs and e-invoicing technologies. Rwanda, for instance, introduced EFDs in 2013 and experienced a 20% increase in Value-Added Tax (VAT) revenue in the first year post-implementation (Rwanda Revenue Authority, 2014). Likewise, Tanzania's adoption of EFDs in 2010 led to notable improvements in tax compliance among business operators (World Bank, 2015).

Within Uganda, the informal sector remained a cornerstone of the national economy, contributing roughly 51% to GDP and employing over 80% of the workforce (Uganda Bureau of Statistics, 2022). Despite its significant economic role, this sector's tax contribution continued to be disproportionately low (Ramadhan, Alex, Kazaara, et al., 2023b). The Uganda Revenue Authority (URA) reported that informal businesses contributed only 18.5% of the projected tax revenue in 2022, resulting in a substantial revenue deficit estimated at UGX 12.4 trillion (URA Annual Report, 2022). To address this shortfall and improve tax compliance, URA launched the Electronic Fiscal Receipting and Invoicing Solution (EFRIS) in 2021, designed to enhance transparency, improve transaction record-keeping, and enable real-time tax monitoring(Alex et al., 2023). Nevertheless, the uptake of EFRIS among informal traders faced obstacles

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such as low awareness, limited access to technology, and resistance to change (Makerere University News, 2024). Research conducted by Makerere University highlighted the lack of a structured tax framework tailored to informal businesses as a critical impediment, recommending greater stakeholder engagement and the development of customised tax policies to support this sector (Makerere University News, 2024).

### 1.2.2 Theoretical Perspective

This study was underpinned by the Theory of Planned Behavior (TPB), developed by Icek Ajzen in 1991, which suggested that individuals' actions were driven by their intentions, which were, in turn, influenced by three factors: attitude toward the behaviour, subjective norms, and perceived behavioural control. According to Ajzen (1991), attitude referred to the positive or negative evaluation of performing a behaviour, subjective norms reflected the social pressures individuals perceived regarding a behaviour, and perceived behavioural control involved individuals' perception of their ability to perform the behaviour. Recent studies affirmed the utility of TPB in understanding tax compliance in informal economies, especially in contexts where traditional fiscal systems faced challenges (Torgler, 2020; Kirchler et al., 2021). The theory was successfully applied to explore compliance behaviours in informal sector settings, particularly in sub-Saharan Africa (Torgler & Schneider, 2020).

One of the core assumptions of the TPB was that human behaviour was predominantly guided by reasoned decision-making processes, where the intention to perform a behaviour was a critical predictor of actual behaviour. The theory posited that intentions were shaped by three distinct factors: the individual's attitude toward the behaviour, the perceived social pressures (subjective norms), and the perceived ease or difficulty of performing the behaviour (perceived behavioural control) (Ajzen, 1991). According to a recent study by Akpan et al. (2021), TPB remained highly relevant in predicting tax compliance intentions, particularly in contexts such as Uganda's informal sector, where informal traders' willingness to comply with taxes might be influenced by personal attitudes towards taxes, social pressures, and perceived barriers to compliance. The TPB's strength lay in its broad applicability and its ability to explain compliance behaviours in various cultural and institutional contexts (Frey & Torgler, 2020; Kirchler et al., 2021).

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However, TPB was also critiqued for its assumption that individuals always engaged in rational decision-making. Critics argued that the theory overlooked emotional, social, and unconscious factors that might influence behaviour (Madden et al., 1992; Torgler, 2020). In a recent study, Tan et al. (2022) discussed how TPB did not account for automatic or emotional responses that could influence behaviour, such as fear of punishment or moral beliefs, which may have played a significant role in informal sector tax compliance. Furthermore, TPB assumed that individuals had control over their behaviour, which may not have been the case in environments where structural and systemic constraints existed (Torgler & Schneider, 2020). For instance, in Uganda, informal traders might have faced significant barriers, such as lack of awareness about the tax system and limited access to digital tools like the Electronic Fiscal Receipting and Invoicing Solution (EFRIS), which reduced their perceived behavioural control over compliance (Kiconco et al., 2021).

Despite these limitations, the TPB remained a relevant framework for understanding tax compliance behaviour in Uganda's informal sector. Recent studies by Kiconco et al. (2021) and Torgler & Schneider (2020) confirmed that the TPB provided a useful framework for assessing how informal traders' perceptions of control over using tax tools like EFRIS could affect their tax compliance intentions and behaviours. In Uganda, the introduction of EFRIS was a significant reform aimed at reducing tax evasion and increasing compliance within the informal sector (URA, 2022). The EFRIS system, which recorded sales transactions electronically, aimed to reduce the complexities of tax collection, especially for informal traders who may have had limited awareness of formal tax systems.

### 1.2.3 Conceptual Perspective

The concept of Electronic Fiscal Receipting and Invoicing Solutions (EFRIS) was underpinned by the broader discourse on tax digitalisation, transparency, and voluntary compliance within informal economic settings. According to Guma (2024), the introduction of Electronic Fiscal Devices (EFDs), electronic invoicing, and system-to-system integration (API) revolutionised the way informal sector businesses engaged with tax authorities. These innovations were crucial in enhancing the collection, reporting, and payment of taxes, which was a critical aspect of improving the tax compliance levels in informal economies (Racheal et al., 2023). EFDs, for instance, had the potential to reduce

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tax evasion by providing real-time tracking of transactions and generating automatic fiscal receipts (Moyi & Ronge, 2021). These technological tools were assumed to improve tax compliance as measured by indicators such as accurate income reporting, timely filing of returns, and overall tax remittance by informal sector taxpayers(Tasha et al., 2023). As noted by Turyasingura and Musasizi (2022), digitised fiscal systems, particularly those that allowed for real-time data transmission to tax authorities, enhanced transparency and accountability, thereby motivating taxpayers in the informal sector to comply with their tax obligations.

Electronic Fiscal Devices (EFDs) were essential in modern tax systems, capturing sales data and ensuring accurate records for tax purposes(Julius et al., 2024). According to Gatera and Munene (2023), the implementation of EFDs significantly reduced the scope for tax evasion by automating the process of data capture and receipt generation, which directly affected tax compliance behaviour. In Uganda, the government's push to enforce the use of EFDs was seen as a critical step in formalising the informal sector (Kigozi et al., 2023). However, the adoption of EFDs was not without challenges. As indicated by Akello (2024), informal traders often faced barriers such as the high initial cost of purchasing EFDs and limited understanding of the devices. Moreover, the effectiveness of EFDs in improving compliance depended heavily on the presence of adequate support systems such as taxpayer education and technical assistance (Akello, 2024). Despite these challenges, studies by Moyi and Ronge (2021) showed that in environments where EFDs were coupled with taxpayer sensitisation, the system significantly improved both voluntary compliance and the government's ability to track tax liabilities.

The second key construct in the EFRIS framework was electronic invoicing, which was introduced as a tool to reduce fraud and ensure accurate record-keeping in the informal sector. According to the Uganda Revenue Authority (URA, 2023), electronic invoicing proved to be an effective mechanism for increasing the accuracy of VAT reporting among informal sector businesses. This form of invoicing directly linked the taxpayers' records to the national tax database, which minimised discrepancies between reported sales and actual sales. Recent research by the Economic Policy Research Centre (EPRC, 2023) underscored the significant role of electronic invoicing in streamlining tax collection processes and improving VAT compliance. However, while electronic invoicing proved effective in many contexts,

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its success was contingent on the level of digital literacy and technological infrastructure available within the informal sector(Julius & Kazaara, 2025). Akello (2024) highlighted that small traders in Kampala, despite the growing ubiquity of mobile phones and internet access, continued to face challenges in fully integrating electronic invoicing into their operations due to limited technological know-how. Therefore, while electronic invoicing positively affected compliance behaviour, its impact was moderated by factors such as digital literacy, device accessibility, and the overall business environment(Ahumuza et al., 2025).

The third key element, system-to-system integration (API), facilitated a direct exchange of financial data between businesses and tax authorities. According to Turyasingura and Musasizi (2022), system-to-system integration improved real-time compliance monitoring by allowing tax authorities to access business transaction data instantly, without the need for manual intervention. This eliminated opportunities for tax fraud and manipulation, leading to a more accurate and timely reflection of businesses' financial activities(Innocent et al., 2023). In Uganda, the integration of API technology significantly enhanced the government's ability to track business income and tax obligations in real-time (URA, 2023). However, the integration process also faced challenges, particularly in terms of the adoption of compatible systems among informal sector businesses. As Kigozi et al. (2023) noted, low levels of technological infrastructure within the informal sector could impede the scalability of such systems. Without the proper systems and training in place, system-to-system integration might not fully realise its potential to improve tax compliance among informal traders, as the lack of technical expertise and reliable digital infrastructure remained a key barrier (Guma, 2024).

According to Verberne and Arendsen (2019), factors such as taxpayer attitudes, perceived fairness of the tax system, and institutional trust influenced compliance. As recent studies by Verberne and Arendsen (2019) showed, taxpayer compliance was not merely a function of technological systems but was also deeply influenced by psychological and social factors. Informal sector businesses were more likely to comply when they perceived the tax system as fair, transparent, and aligned with their interests(Sarah & Audrey, 2024). Institutional trust the belief that taxes would be used for public good also contributed to the willingness of informal businesses to comply (Moyi & Ronge, 2021).

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Furthermore, digital literacy and the ability to use ICT effectively were crucial in determining how well informal sector traders could navigate and benefit from systems like EFDs, electronic invoicing, and API integrations (Gatera & Munene, 2023). These extraneous variables added nuance to the relationship between technological interventions and tax compliance, underscoring the complexity of this dynamic (Tasha et al., 2023).

The study aimed to assess how these EFRIS components directly or indirectly influenced compliance behaviours such as accurate tax reporting, timely filing of tax returns, and actual tax payments in the informal sector of Kampala. Each EFDs, electronic invoicing, and system-to-system integration contributed to achieving different compliance outcomes, which were also influenced by extraneous variables such as taxpayer attitudes and institutional trust(Ramadhan, Alex, Ariyo, et al., 2023). By examining these relationships, the study provided valuable insights into the effectiveness of electronic fiscal solutions in fostering higher compliance rates within informal sector businesses in Uganda.

**1.2.4 Contextual Perspective**

In Kampala District, Uganda, the informal sector constituted a significant part of the local economy, accounting for approximately 90% of all businesses in the region (Uganda Bureau of Statistics [UBOS], 2023). This sector was crucial for job creation, poverty alleviation, and livelihood generation(David et al., 2023). However, despite its importance, tax compliance within the informal sector remained a persistent challenge, largely due to the absence of structured tax reporting systems and limited awareness about the benefits of formal compliance. Recent studies indicated that businesses operating informally in Kampala faced obstacles related to inadequate access to technology and insufficient digital infrastructure, which negatively affected their ability to engage effectively with tax compliance initiatives(Ramadhan, Alex, Kazaara, et al., 2023a). The Electronic Fiscal Receipting and Invoicing Solution (EFRIS), incorporating Electronic Fiscal Devices (EFDs), electronic invoicing, and system-to-system integration (API), was positioned as a transformative tool aimed at addressing these challenges. According to Turyasingura and Musasizi (2022), the adoption of these digital tools by the Uganda Revenue Authority (URA) had the potential to significantly enhance tax compliance; however, full implementation was slow, mainly due to the high cost of adopting such technologies and insufficient training on their use (URA, 2023). These barriers disproportionately affected small and

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micro enterprises in the informal sector, which often operated with limited resources and narrow profit margins(Florence & Julius, 2023).

One major challenge to effective adoption of EFDs in Kampala's informal sector was the financial burden associated with purchasing and maintaining these devices. As Moyi and Ronge (2021) noted, the initial acquisition cost coupled with ongoing maintenance expenses presented a substantial barrier for many small-scale informal businesses, which constituted the backbone of Kampala's informal economy(Turyatemba et al., 2022). Despite efforts by URA to encourage uptake, the financial strain led many traders to opt out of using EFDs. Furthermore, the high maintenance costs and lack of consistent technical support also discouraged compliance (Akello, 2024). Consequently, the adoption of EFDs remained below expectations, limiting the technology's potential to improve tax compliance.

Similarly, electronic invoicing, a critical component of EFRIS, faced slow adoption due to limited digital literacy and technical expertise among informal traders. Akello (2024) observed that many preferred paper-based invoicing, viewing it as simpler and more familiar. Gatera and Munene (2023) further emphasised that insufficient training and awareness about the benefits of electronic invoicing contributed to traders' resistance. According to a study by the Economic Policy Research Centre (EPRC, 2023), poor network infrastructure in low-income areas of Kampala where many informal businesses operated exacerbated this issue, with unstable internet connectivity impeding effective use of electronic invoicing. As a result, many businesses failed to comply with invoicing requirements, undermining the goals of the EFRIS initiative(Ahumuza et al., 2025).

Another significant challenge related to system-to-system integration (API) between business accounting software and URA's tax platforms. According to Turyasingura and Musasizi (2022), such integration was essential for real-time monitoring and compliance enforcement. However, in Kampala's informal sector, poor internet infrastructure and lack of standardized systems impeded effective API adoption. The Uganda Communications Commission (UCC, 2023) reported that internet penetration remained low, particularly in informal settlements with unreliable connectivity(Nancy & Prudence, 2024). This situation limited the capacity of businesses to integrate their systems with URA platforms, restricting real-time transaction tracking and enforcement efforts. Consequently, many informal

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businesses continued to underreport earnings, contributing to Kampala's low tax compliance levels(Ahumuza et al., 2025).

Beyond technological and infrastructural issues, socio-cultural factors also influenced tax compliance behaviours in Kampala's informal sector. Moyi and Ronge (2021) argued that many informal traders perceived tax obligations as burdensome rather than a civic duty. This perception was often reinforced by distrust in government institutions and scepticism about how tax revenues were utilised. Guma (2024) highlighted that informal traders commonly believed that tax payments did not translate into improvements in local infrastructure or public services that benefited them directly. Such attitudes diminished the willingness of informal sector businesses to adopt digital tax systems like EFRIS(Ahumuza et al., 2025). Therefore, addressing these socio-cultural barriers and building trust in the tax system were critical for the success of EFRIS in Kampala. Without tackling these challenges, the effectiveness of digital tax initiatives remained constrained, undermining efforts to increase tax compliance.

Although EFRIS offered promising technological solutions to enhance tax compliance in Kampala's informal sector, several multidimensional challenges persisted. These included financial limitations related to EFD acquisition and maintenance, low digital literacy impacting electronic invoicing uptake, infrastructural deficiencies hindering API integration, and socio-cultural resistance to taxation. Recent evidence suggested that overcoming these barriers required comprehensive strategies combining technological support, capacity building, infrastructure development, and trust-building efforts(Winny et al., 2023). Addressing these factors holistically was essential for realising EFRIS's full potential in transforming tax compliance in Kampala's informal economy.

### 1.3 Statement of the Problem

The implementation of digital tax systems, such as the Electronic Fiscal Receipting and Invoicing Solution (EFRIS) by the Uganda Revenue Authority (URA) in 2021, was intended to enhance transparency, improve efficiency, and promote tax compliance across all business sectors, including the informal economy(Kazaara et al., 2024). Leveraging technologies such as Electronic Fiscal Devices (EFDs), e-invoicing, and system-to-system integration (API), EFRIS

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was designed to facilitate real-time transaction monitoring, minimise underreporting, and reduce revenue leakages (URA, 2023). These digital interventions were aligned with Uganda's broader objectives of boosting domestic revenue mobilisation, as articulated in Vision 2040 and the Domestic Revenue Mobilisation Strategy (MoFPED, 2023).

However, the situation in Kampala District highlighted a significant gap between expected outcomes and actual performance (Musaibah et al., 2023). According to the Uganda Bureau of Statistics (UBOS, 2023), over 89% of businesses in Kampala operated informally, yet they contributed less than 30% to national tax revenues. Despite the rollout of EFRIS, evidence indicated persistently low levels of tax compliance among informal sector actors (EPRC, 2023). Akello (2024) reported that by the end of 2023, only 27% of informal businesses had adopted any digital tax system, citing barriers such as limited awareness, high compliance costs, and inadequate digital infrastructure (Kazaara & Kazaara, 2025). This disparity underscored systemic challenges in the accessibility and suitability of EFRIS for small and informal enterprises.

The problem was further compounded by the limited adoption of system-to-system integration (API), which was critical for seamless data transmission between traders' systems and URA platforms. According to the Uganda Communications Commission (UCC, 2023), low API usage was attributable to the lack of standardised IT systems and insufficient technical support. As a result, the anticipated benefits of real-time visibility and automated audit trails remained largely unrealised within the informal sector (URA Annual Report, 2023).

The continued exclusion of informal businesses from effective digital tax compliance mechanisms contributed to persistent revenue shortfalls, widened compliance gaps, and inequitable tax burdens. If these challenges remained unaddressed, Uganda risked ongoing revenue loss, weakened public service delivery, and slower progress toward national fiscal objectives(Kazaara & Kazaara, 2025). Accordingly, this study sought to assess the relationship between EFRIS adoption and tax compliance among informal sector operators in Kampala District.

**1.4 General Objective**

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To examine the relationship between the Electronic Fiscal Receipting and Invoicing Solution (EFRIS) and tax compliance within the informal sector in Kampala District, Uganda.

### 1.4.1 Specific Objectives

The study was guided by the following specific objectives:

i. To assess the relationship between Electronic Fiscal Devices (EFDs) and tax compliance among informal sector businesses in Kampala District.
ii. To examine the relationship between electronic invoicing on the level of tax compliance within the informal sector in Kampala District.
iii. To determine relationship between the system-to-system integration (API) and tax compliance of informal businesses in Kampala District.

## 1.5 Hypotheses

**$H_{01}$:** There is no significant relationship between the use of Electronic Fiscal Devices (EFDs) and tax compliance among informal sector businesses in Kampala District.

**$H_{02}$:** There is no significant relationship between electronic invoicing and tax compliance among informal sector businesses in Kampala District.

**$H_{03}$:** System-to-system integration (API) does not significantly affect tax compliance among informal sector businesses in Kampala District.

## 1.6 Scope of the Study

### 1.6.1 Geographical Scope

This study was conducted in Kampala District, the capital and largest commercial centre of Uganda. Kampala was selected because it had a high concentration of informal businesses, making it a relevant area for assessing the adoption and impact of the Electronic Fiscal Receipting and Invoicing Solution (EFRIS). According to the Uganda Bureau of

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Statistics (UBOS, 2023), over 60% of informal businesses in Uganda operated within the central region, with Kampala contributing the largest share. Uganda Revenue Authority (URA, 2024) reports showed that Kampala was prioritised in EFRIS implementation efforts. Therefore, the district offered a suitable context to evaluate the relationship between EFRIS and tax compliance.

### 1.6.2 Content Scope

This study focused on examining the relationship between the implementation of EFRIS components namely Electronic Fiscal Devices (EFDs), electronic invoicing, and system-to-system integration (API) and tax compliance among informal businesses. Specifically, it assessed how these digital tools influenced voluntary tax registration, filing, and payment behaviour among informal sector operators. The research also investigated the challenges encountered by both the Uganda Revenue Authority (URA) and informal businesses in the adoption and utilisation of EFRIS. The study excluded formal enterprises and taxation systems beyond EFRIS, as the primary interest was centred on understanding compliance within the informal sector in Uganda. This focused scope allowed for a detailed analysis of how digital fiscal interventions affected informal sector behaviour, as well as the institutional and operational factors that facilitated or hindered compliance.

### 1.6.3 Time Scope

The study was conducted over a period of six months, from April to September 2025. This period encompassed proposal finalisation, data collection, data analysis, and report writing. The temporal scope of the study covered the years 2020 to 2025, capturing the rollout and adoption of EFRIS among informal sector businesses in Kampala District. This timeframe aligned with URA's ongoing EFRIS implementation, sensitisation, and enforcement efforts, ensuring the relevance and currency of the findings (URA, 2025). The selected period also allowed adequate engagement with informal business operators and key stakeholders, facilitating comprehensive and timely data

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collection. Consequently, the study provided insights that accurately reflected recent trends and developments in tax compliance within Kampala's informal sector.

### 1.7 Significance of the Study

This study is significant to several stakeholders, and its findings may offer practical benefits in the following ways:

This study is significant as it seeks to contribute to the growing body of knowledge on tax compliance within the informal sector, particularly in the context of Uganda's implementation of the Electronic Fiscal Receipting and Invoicing Solution (EFRIS). According to URA (2023), the informal sector remains the largest contributor to Uganda's economy but also poses significant challenges to domestic revenue mobilization due to low tax compliance. Therefore, understanding the effectiveness of EFRIS as a technological intervention is critical for improving revenue collection without necessarily increasing tax rates.

The findings of this study may benefit policymakers and tax authorities, especially the Uganda Revenue Authority, by providing evidence-based insights into how components such as Electronic Fiscal Devices (EFDs), e-invoicing, and system-to-system integration influence tax behavior in the informal sector. These insights may support strategic policy refinement and more targeted outreach programmes aimed at enhancing voluntary compliance (IMF, 2022; OECD, 2023).

Informal sector operators may also benefit from the study, as it may highlight the potential advantages and limitations of EFRIS in simplifying tax processes and reducing compliance burdens. By identifying the operational and technical challenges encountered by small and informal businesses, the study may inform the design of training, incentives, or subsidies to ease digital transitions in tax administration (World Bank, 2023).

Academically, the study may contribute to scholarly discourse by filling a contextual gap on the digitalisation of tax systems in Sub-Saharan Africa, particularly Uganda. It may provide a framework for further studies on the intersection of fiscal technology adoption and compliance behaviour in developing economies. Based on recent literature (e.g.,

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Gajewski & Tchamyou, 2021; Torgler, 2020), the integration of fiscal devices and digital invoicing systems is under-researched in low-income contexts, making this study timely and relevant.

Lastly, this research may serve as a reference for students, scholars, and development partners interested in taxation, informality, and digital governance in Uganda. The evidence presented may foster collaborative action between government and the private sector to close compliance gaps while promoting inclusive economic growth.

**1.8 Justification of the study**

The need for this study arose from the ongoing disconnect between the implementation of digital tax initiatives and their tangible impact on tax compliance within Uganda's informal sector. Although the Uganda Revenue Authority (URA) introduced the Electronic Fiscal Receipting and Invoicing Solution (EFRIS) in 2021 to enhance tax collection efficiency, a significant portion of informal businesses continued to operate outside the digital taxation framework. Data from the Uganda Bureau of Statistics (UBOS, 2023) indicated that over 89% of businesses in Kampala were informal and contributed only marginally to the tax revenue base. This persistent gap called for an in-depth examination of EFRIS's effectiveness in improving compliance among informal traders.

Furthermore, the informal sector was a vital component of Uganda's economy, providing employment to a large share of the workforce and driving economic activities at the grassroots level. Despite this, the insufficient tax contributions from informal enterprises undermined efforts to broaden the national revenue base and shifted an inequitable tax burden onto formal businesses that were compliant. Previous research often broadly addressed challenges to tax compliance but seldom focused on the interaction between EFRIS and the specific realities of the informal sector, such as technological readiness, awareness, and integration with existing business systems. This study intended to bridge this gap by exploring these dynamics in Kampala District, offering nuanced insights that could guide tailored policy interventions.

Finally, this research was timely and critical within the context of Uganda's long-term development agenda, including Vision 2040 and the Domestic Revenue Mobilisation Strategy, both of which highlighted the importance of leveraging

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digital technologies to enhance revenue mobilisation. By identifying the key facilitators and obstacles to EFRIS adoption among informal businesses, the study generated empirical evidence useful to policymakers, tax authorities, and development partners. Additionally, it contributed to the broader academic discourse on e-tax systems in emerging economies and provided actionable recommendations to improve tax inclusion, fairness, and efficiency in Uganda's fiscal framework.

### 1.9 Conceptual Framework

The conceptual framework presents a structured explanation of the relationship between the independent and dependent variables in this study. The independent variable is the Electronic Fiscal Receipting and Invoicing Solution (EFRIS). The dependent variable is Tax Compliance.

**Electronic Fiscal Receipting & Invoicing Solution (EFRIS) (IV)**

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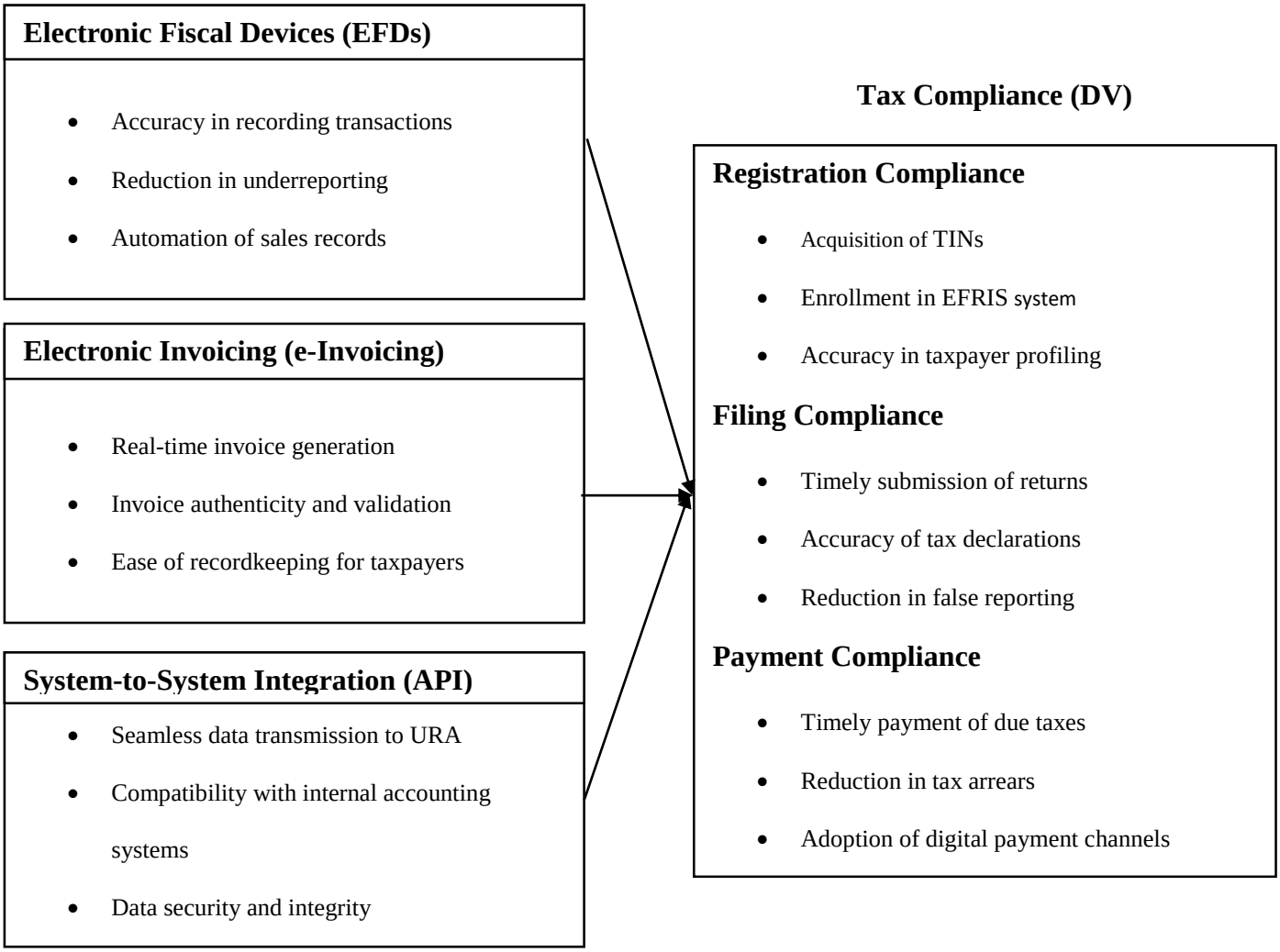


**Source**: *Adapted from Kirchler et al., 2021, and modified by the researcher (2025)*

The conceptual framework illustrated above underpinned the assumed relationship between the Electronic Fiscal Receipting and Invoicing Solution (EFRIS) as the independent variable and tax compliance as the dependent variable within Uganda's informal sector, with the Theory of Planned Behavior (TPB) guiding the behavioural link between these constructs. The TPB, as proposed by Ajzen (1991), postulated that behaviour was influenced by three core components: attitude toward the behaviour, subjective norms, and perceived behavioural control. In this context,

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EFRIS adoption was expected to shape positive taxpayer attitudes through simplified processes, influence social norms regarding formalisation, and improve perceived control by providing tools that eased compliance. This theory remained highly relevant, as recent empirical studies applied TPB in tax environments to explain compliance decisions among SMEs (Nkundabanyanga et al., 2023; Kira & He, 2022). Therefore, the TPB offered a credible lens to analyse how digital fiscal tools could transform taxpayer behaviour in Uganda's informal economy.

The independent variable, EFRIS, was operationalised through Electronic Fiscal Devices (EFDs), electronic invoicing, and system-to-system API integration, all of which were key pillars in digital tax administration reform. According to URA (2023), these components were deployed to enhance transaction traceability, automate reporting, and minimise tax evasion. EFDs generated real-time fiscal receipts, electronic invoicing reduced manual errors and under-declaration, while system integration allowed businesses to connect directly with URA systems. A recent OECD (2023) report emphasised that jurisdictions implementing similar models, such as Rwanda and Kenya, saw a measurable increase in tax collection from previously untapped informal segments. Therefore, integrating these tools under the EFRIS umbrella was theorised to reshape the behavioural intention and capacity of informal traders to comply voluntarily with tax obligations (World Bank, 2022).

The dependent variable tax compliance was categorised into registration compliance, filing compliance, and payment compliance, following the work of Torgler (2020) and the IMF (2022). TPB assumptions posited that even when digital tools were provided, compliance depended on how taxpayers perceived the fairness, usefulness, and usability of these systems. For instance, if taxpayers perceived that EFRIS tools were too complex or did not align with their everyday transactions, the perceived behavioural control might diminish, negatively affecting compliance (Gajewski & Tchamyou, 2021). Additionally, socio-cultural norms and peer behaviour in Kampala's informal sector might discourage formal registration or digital reporting, despite system availability. Therefore, this framework integrated technological enablers with behavioural insights to provide a holistic understanding of how EFRIS could impact tax compliance. It guided empirical testing to determine which EFRIS component most significantly influenced informal taxpayer behaviour and how interventions could be optimised based on behavioural responses informed by TPB.

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### 1.10 Definition of Key Terms

**Electronic Fiscal Receipting and Invoicing Solution (EFRIS):** EFRIS refers to a digital tax administration system introduced by the Uganda Revenue Authority (URA) to manage the issuance of e-receipts and e-invoices in real-time through the use of Electronic Fiscal Devices, web-based invoicing, and system-to-system API integration. It is intended to enhance transparency, curb tax evasion, and increase domestic revenue mobilization (URA, 2023; OECD, 2023).

**Tax Compliance:** Tax compliance refers to the extent to which a taxpayer meets their legal obligations by registering with tax authorities, accurately filing returns, and paying taxes due on time. It is measured across three dimensions: registration compliance, filing compliance, and payment compliance (Torgler, 2020; IMF, 2022).

**Informal Sector:** The informal sector comprises economic activities and enterprises that are not formally registered or regulated by the government. These entities often operate outside the purview of tax regulations, leading to significant revenue losses for governments in developing countries (ILO, 2023; UBOS, 2022).

**Electronic Fiscal Devices (EFDs):** These are physical or virtual machines used to record sales transactions and issue fiscal receipts that are simultaneously transmitted to the tax authority. EFDs ensure transaction traceability and reduce underreporting of income, particularly in retail and informal markets (World Bank, 2022).

**Electronic Invoicing (e-Invoicing):** Electronic invoicing is the digital generation, transmission, and storage of commercial invoices that comply with the technical and regulatory requirements of a tax administration. It enhances the accuracy of records and improves the efficiency of tax audits (UNCTAD, 2023).

**System-to-System Integration (API):** System-to-system integration involves using Application Programming Interfaces (APIs) to connect a business's internal accounting or point-of-sale systems directly with the URA's servers. This allows automatic, real-time transmission of tax data, minimizing manual input and compliance costs (URA, 2023).

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# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

This chapter presented a thorough review of the theoretical and empirical literature relevant to the influence of the Electronic Fiscal Receipting and Invoicing Solution (EFRIS) on tax compliance within Uganda's informal sector. The review was structured to align with the key variables of the study, beginning with an exploration of the theoretical framework that underpinned the research. This was followed by detailed discussions of the core concepts related to the independent variables Electronic Fiscal Devices (EFDs), Electronic Invoicing, and System-to-System Integration and the dependent variable, tax compliance. The chapter further synthesised empirical findings relating to each component of EFRIS and concluded by highlighting research gaps that justified the need for the current investigation.

## 2.2 Theoretical Review

## 2.2 Theoretical Review

This study was grounded in the Theory of Planned Behavior (TPB), formulated by Ajzen (1991), which posited that an individual's behaviour was primarily driven by behavioural intentions shaped by three determinants: attitudes, subjective norms, and perceived behavioural control. Specifically, attitude referred to an individual's positive or negative evaluation of performing a given behaviour; subjective norms encompassed the perceived social pressures to engage or not engage in the behaviour; and perceived behavioural control reflected an individual's perception of their ability or ease to perform the behaviour. Applying TPB to this study, the adoption of EFRIS by informal sector operators was theorised to be influenced by their attitudes towards digital tax tools, the influence of social expectations from peers and authorities, and their perceived capacity to effectively use EFDs, electronic invoicing, and API-based system integration. Hence, TPB served as an essential framework to understand how psychological and social factors collectively influenced the intention to comply with tax obligations among informal taxpayers in Kampala.

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Recent scholarship supported the applicability of TPB in explaining tax compliance in developing country contexts. For instance, Kira and He (2022) demonstrated that positive attitudes towards technology-driven tax systems, alongside robust subjective norms and high perceived ease of use, significantly improved compliance behaviour. Complementing this, Nkundabanyanga et al. (2023) found that perceived behavioural control strongly predicted the willingness of small and medium enterprises (SMEs) in Uganda to adopt electronic invoicing systems. This underscored the critical role of perceived accessibility, affordability, and usability in fostering compliance. Nonetheless, informal businesses in Kampala often faced challenges such as limited digital literacy, insufficient resources, and low trust in governmental institutions, which might diminish their perceived control and reduce EFRIS adoption rates. Therefore, enhancing EFRIS effectiveness required aligning technological solutions with behavioural insights, ensuring that these tools empowered rather than burdened informal taxpayers.

While TPB prioritised behavioural intention, it was important to acknowledge that actual compliance behaviour was also shaped by broader contextual factors. Gajewski and Tchamyou (2021) highlighted that infrastructural readiness, regulatory enforcement, and institutional trust critically influenced whether intentions translated into compliance. In the Ugandan informal sector, barriers such as limited awareness campaigns, inconsistent enforcement mechanisms, and the high cost of compliance hindered the successful uptake of EFRIS (URA, 2023; IMF, 2022). Additionally, UNCTAD (2023) emphasised that digital tax innovations must be supported by enabling environments to bridge the intention-action gap effectively. When taxpayers perceived that EFRIS enhanced transparency, reduced opportunities for harassment, and streamlined tax processes, their likelihood of voluntary compliance increased. Consequently, this study adopted TPB not only to explain behavioural dispositions but also to empirically investigate the interaction between EFRIS components and tax compliance behaviours amid Uganda's socio-economic realities. This theoretical lens provided a robust foundation for testing the hypothesised relationships between the independent variables (EFRIS components) and dependent variable (tax compliance), thereby guiding the study's analytical framework.

### 2.3 Conceptual Review

#### 2.3.1 Concept of Electronic Fiscal Receipting and Invoicing Solution (EFRIS)

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The Electronic Fiscal Receipting and Invoicing Solution (EFRIS) was established as a strategic initiative to enhance efficiency, transparency, and accountability in Uganda's tax administration, with the overarching goal of improving taxpayer compliance. According to the Uganda Revenue Authority (URA, 2023), EFRIS was designed to address widespread challenges, including under-declaration of sales, issuance of non-compliant invoices, and pervasive tax evasion across both formal and informal sectors. The system integrated multiple technological components, namely Electronic Fiscal Devices (EFDs), electronic invoicing platforms, and system-to-system integration via Application Programming Interfaces (APIs), enabling real-time generation, storage, and transmission of invoices. Such digital mechanisms were particularly crucial in informal economic settings, where traditional paper-based invoicing was vulnerable to manipulation and errors. The Organisation for Economic Co-operation and Development (OECD, 2023) underscored that these digital tools enhanced audit capabilities by producing detailed transaction records, thereby facilitating the detection and prevention of non-compliance.

Although initially implemented for large taxpayers, the URA progressively extended EFRIS to the informal sector, which constituted a substantial portion of Uganda's economic activity. Nkundabanyanga et al. (2023) estimated that over half of Uganda's businesses operated informally and remained largely untaxed. The integration of EFRIS into small and micro enterprises demonstrated potential in strengthening tax discipline through automated invoicing and accurate recordkeeping, thereby simplifying compliance processes. The World Bank (2022) further noted that digital fiscal tools reduced administrative errors, prevented revenue leakages, and enhanced taxpayer confidence when implemented transparently. Accordingly, EFRIS functioned not only as a technological intervention but also as a behavioural catalyst, reinforcing constructs such as perceived behavioural control and social compliance pressures, consistent with the Theory of Planned Behavior.

Empirical studies increasingly indicated a positive association between EFRIS adoption and tax compliance outcomes, including registration, timely filing, and payment accuracy. For example, Gajewski and Tchamyou (2021) observed that taxpayers utilising digital invoicing systems in sub-Saharan Africa reported higher accuracy and timeliness in meeting tax obligations. Nonetheless, challenges such as limited digital literacy, high acquisition costs for devices,

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and resistance to new technology remained significant barriers, particularly among informal traders in resource-constrained environments like Kampala District. Consequently, this study sought to investigate how EFRIS components influenced tax compliance within Kampala's informal sector, while examining both behavioural and operational barriers to adoption. The findings were expected to contribute to policy formulation and enrich academic discourse on digital tax interventions.

**2.3.2 Concept of Tax Compliance**

Tax compliance referred broadly to the extent to which taxpayers met their legal tax obligations, including timely registration, accurate filing of returns, and full payment of due taxes. As outlined by Torgler (2020), these dimensions registration compliance, filing compliance, and payment compliance were fundamental indicators of an effective tax system. In developing countries like Uganda, tax compliance was often compromised by limited enforcement, low taxpayer morale, and a sizeable informal economy. Bwire and Waiswa (2021) emphasised the critical importance of improving compliance among informal sector operators to broaden the tax base and reduce dependency on external financing sources. Therefore, understanding the determinants of compliance, especially in relation to modern digital tools such as EFRIS, was essential for sustainable domestic revenue mobilisation.

Several studies confirmed a positive link between digital tax administration and compliance improvements. For example, the IMF (2022) reported that countries implementing e-invoicing and digital receipting experienced increases in voluntary compliance and reductions in revenue leakages. In Uganda, the URA (2023) noted a 17% rise in VAT collections following mandatory EFRIS adoption among certain taxpayer categories. However, the informal sector continued to lag in registration and compliance rates. According to Nkundabanyanga et al. (2023), while digital tools like EFDs and API integrations improved transparency, their impact depended heavily on user perceptions, system usability, and institutional trust. Thus, successful EFRIS implementation must be accompanied by taxpayer education, accessible technical support, and simplified compliance procedures to encourage uptake.

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Grounded in the Theory of Planned Behavior (Ajzen, 1991), tax compliance was influenced not only by system availability but also by attitudes toward taxation, perceived social norms, and perceived control over compliance. In Kampala, factors such as digital readiness, audit apprehension, peer influence, and perceptions of fairness significantly shaped taxpayer behavior (Gajewski & Tchamyou, 2021). This study therefore sought to explore how EFRIS, as a contemporary tax administration innovation, interacted with these behavioural dimensions to affect compliance among informal sector operators. Recognising that digital platforms provided the technical infrastructure for monitoring and enforcement, the study highlighted that actual compliance depended on how these tools were perceived, accepted, and effectively used by taxpayers in informal and semi-formal economic contexts.

### 2.4 Empirical Review

#### 2.4.1 Electronic Fiscal Devices (EFDs)

Electronic Fiscal Devices (EFDs) were specialised electronic machines used by businesses to record sales transactions and generate receipts that were automatically shared with tax authorities. According to OECD (2023), EFDs served as key instruments in improving transactional transparency and minimising underreporting among small and medium-sized enterprises (SMEs). The use of EFDs was underpinned by the growing global emphasis on digital fiscal reforms aimed at reducing tax evasion and enhancing voluntary compliance. In countries like Kenya, Rwanda, and Tanzania, the rollout of EFDs demonstrated measurable success in boosting tax revenue and narrowing the compliance gap, especially in the informal sector. For instance, TRA (2022) reported a 30% improvement in VAT collections following the implementation of mandatory EFD usage among medium taxpayers.

A recent study by Nkundabanyanga and Akisimire (2022) underpinned the importance of EFDs in promoting tax discipline in Uganda, noting that businesses using EFDs were more likely to issue accurate receipts and maintain proper records. This, in turn, improved their ability to meet filing and payment obligations in a timely manner. However, while EFDs enhanced administrative efficiency, their impact on compliance was moderated by business size, digital literacy, and the perceived benefits of compliance. It was indicated by Gajewski & Tchamyou (2021) that

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taxpayer attitudes towards the revenue authority and fear of penalties significantly influenced the use of EFDs, especially among informal traders who often lacked awareness of their legal obligations.

According to URA (2023), the integration of EFDs into the EFRIS framework in Uganda was aimed at promoting real-time data capture and minimising manipulation of financial records. However, implementation challenges such as technical breakdowns, high installation costs, and limited connectivity in remote areas continued to hinder full adoption among informal businesses. A study conducted in Kampala by Bategeka & Okumu (2022) revealed that although awareness of EFDs was relatively high, only a small percentage of informal businesses had installed the devices, citing complexity and lack of enforcement as key barriers. This highlighted a critical gap between policy design and field-level realities that must be addressed through targeted training and sensitisation efforts.

While the adoption of EFDs was associated with improved compliance, enforcement mechanisms remained pivotal in sustaining their impact. As stated by Musimenta and Byaruhanga (2023), voluntary compliance was more likely when tax authorities paired digital tools with taxpayer education and simplified processes. Moreover, according to World Bank (2022), businesses were more willing to use EFDs when they perceived fairness in the tax system and received adequate support in resolving technical challenges. Therefore, it was essential for tax authorities to adopt a participatory approach that involved educating taxpayers on the benefits of EFDs while ensuring affordable access and responsive customer service.

The empirical literature supported the assertion that EFDs contributed significantly to improved tax compliance when effectively implemented. However, the success of these devices in the informal sector depended largely on context-specific factors such as digital infrastructure, taxpayer trust, and regulatory enforcement. Based on the Theory of Planned Behavior, the decision to comply using EFDs was also influenced by the perceived behavioural control and attitudes of business owners towards tax obligations. This study, therefore, sought to evaluate the extent to which EFDs as a component of EFRIS influenced registration, filing, and payment compliance among informal sector operators in Kampala District.

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### 2.4.2 Electronic Invoicing (e-Invoicing)

Electronic invoicing (e-Invoicing) emerged as a cornerstone in digital tax reform, underpinned by its potential to ensure real-time invoice authentication and accurate reporting. According to OECD (2023), e-Invoicing enhanced tax compliance by creating automated digital trails that reduced manipulation of sales figures and increased transparency in business transactions. In Uganda, the Uganda Revenue Authority (URA) introduced e-Invoicing as part of the broader EFRIS initiative in 2020 to tackle chronic underreporting, particularly among informal sector operators. While the system mandated real-time issuance and transmission of invoices, URA (2023) reported that less than 35% of eligible informal businesses in Kampala had adopted the platform by late 2023, primarily due to digital literacy gaps and mistrust in revenue authorities.

Recent research conducted by Byabashaija and Sekatawa (2022) revealed that e-Invoicing significantly improved filing and payment compliance among SMEs when embedded within a well-functioning tax ecosystem. However, the study emphasised that without adequate taxpayer education and system support, informal traders tended to view the platform as an enforcement tool rather than a compliance facilitator. This aligned with findings from Mugisha et al. (2023) who noted that the lack of user-centric design, limited availability of smart devices, and internet disruptions in Kampala's low-income areas continued to undermine full system uptake. Therefore, while the system was technically sound, its practical impact on tax compliance was hindered by contextual infrastructural and behavioural barriers.

It was indicated by UNCTAD (2023) that real-time validation of invoices through digital platforms minimised tax leakage and enhanced data integrity, particularly in sectors prone to informal transactions such as wholesale and retail trade. In Uganda, these sectors accounted for over 60% of informal business activity in Kampala (UBOS, 2023), yet many continued to rely on handwritten or unregistered receipts. According to Kintu and Alupo (2022), businesses that embraced e-Invoicing under EFRIS recorded a 27% increase in reported turnover and improved consistency in monthly returns, suggesting that when adopted, the system facilitated behavioural shifts towards compliance. These findings supported the theoretical underpinnings of the Theory of Planned Behavior (Ajzen, 1991), where perceived behavioural control and attitude toward technology directly influenced adoption and compliance outcomes.

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However, a study by Gajewski & Tchamyou (2021) found that voluntary adoption of e-Invoicing was also influenced by the perceived legitimacy of tax authorities and the trustworthiness of digital systems. In the Kampala context, informal business owners expressed concern about data misuse, fear of being overtaxed, and lack of clarity regarding their rights and obligations under EFRIS (URA Compliance Report, 2023). These factors constrained compliance levels even when businesses were technically onboarded into the system. Based on these concerns, it became evident that merely deploying e-Invoicing infrastructure was insufficient without concurrent investments in trust-building, inclusive system design, and policy sensitisation.

Therefore, the relationship between e-Invoicing and tax compliance in Kampala's informal sector was both structural and psychological. While the technology provided tools to automate compliance behavior, its success depended on strategic alignment with taxpayer capacity, motivation, and policy communication. As this study aimed to assess the effect of EFRIS on tax compliance, e-Invoicing stood out as a variable that interacted with digital literacy, system usability, and taxpayer trust. Understanding how these dimensions affected adoption and sustained use would enable the formulation of evidence-based recommendations tailored to Kampala's informal economy.

**2.4.3 System-to-System Integration (API)**

System-to-system integration via Application Programming Interfaces (APIs) has been underpinned as a critical enabler for seamless tax data exchange between taxpayers and revenue authorities. According to OECD (2023), the adoption of APIs enhanced real-time monitoring, reduced manual errors, and allowed for automatic synchronisation between business accounting software and national tax systems. In Uganda, the URA's EFRIS framework integrated APIs to automate invoicing, reporting, and submission of tax data. A report by URA (2023) indicated that businesses using automated API links reported fewer discrepancies in their tax declarations, suggesting improved accuracy and reduced incidence of audit triggers compared to businesses relying on manual reporting.

While API integration streamlined tax operations for formal businesses, its adoption within the informal sector remained limited due to several contextual challenges. A study conducted by Nabunya & Ssenoga (2022) found that

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less than 20% of informal enterprises in Kampala used digital accounting systems compatible with URA's EFRIS APIs. It was indicated that the majority of informal businesses either lacked the IT infrastructure or the financial capability to procure API-enabled software. This technological divide hindered full system utilisation and undermined the ability of the URA to collect reliable, real-time data from a significant portion of the informal economy. Therefore, although system-to-system integration presented a promising compliance tool, its utility was constrained by structural barriers and low digital readiness.

According to UNCTAD (2023), API-driven tax systems positively influenced tax compliance by enhancing transparency, minimising taxpayer discretion, and reducing opportunities for evasion. These findings aligned with the Theory of Planned Behavior (Ajzen, 1991), which posited that behavioral intention was shaped by perceived control and access to enabling resources. In Kampala's informal sector, it was observed by Mukasa et al. (2022) that businesses that had access to integrated systems demonstrated higher levels of filing and payment compliance, largely due to reduced burden in tax preparation and submission. However, while API integration increased efficiency, taxpayer perception of system complexity and risk of data exposure negatively impacted compliance motivation, especially among unregistered or partially registered businesses.

Moreover, based on findings by World Bank (2022), countries that implemented robust system integrations observed measurable improvements in voluntary tax compliance, particularly in urban informal markets. Rwanda and Kenya, for instance, reported a 22% and 18% increase respectively in tax revenue from previously informal traders following mandatory API integrations with point-of-sale and accounting software. Drawing from this, it was reasonable to assert that Kampala could benefit from similar outcomes if technological interventions were paired with incentives and capacity-building programmes. Therefore, the empirical relationship between system-to-system integration and tax compliance was not only technological but also dependent on contextual adaptation and taxpayer readiness.

**2.5 Literature Review Gaps**

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Despite the growing body of empirical literature on the influence of digital tax systems on compliance, significant gaps persisted, particularly within informal economies in sub-Saharan Africa. Most existing studies primarily focused on developed economies or formal business sectors, with limited attention given to how system-based interventions, such as the Electronic Fiscal Receipting and Invoicing Solution (EFRIS), affected tax behavior among informal sector operators. While prior research by OECD (2023) and URA (2023) underscored the theoretical relevance of EFRIS components including electronic invoicing, Electronic Fiscal Devices (EFDs), and system-to-system integration (API) there remained a paucity of context-specific analyses linking these components directly to key dimensions of tax compliance (registration, filing, and payment) within Uganda's informal urban setting.

Furthermore, most existing literature inadequately incorporated behavioural frameworks, such as the Theory of Planned Behavior (Ajzen, 1991), to explain the mechanisms through which digital adoption might influence compliance. The interplay between technological factors, taxpayer attitudes, and structural constraints remained underexplored, leaving a critical gap in understanding why informal sector operators complied or failed to comply despite the availability of digital tax tools. Therefore, this study sought to address these gaps by investigating the effect of EFRIS on tax compliance among informal sector enterprises in Kampala District, employing a behavioural lens that considered technological, psychological, and operational determinants of compliance. This approach aimed to provide context-specific insights to inform policy and enhance the effectiveness of digital fiscal interventions in informal economies.

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# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

This chapter detailed the methodology that guided the investigation into the effect of the Electronic Fiscal Receipting and Invoicing Solution (EFRIS) on tax compliance among informal sector operators in Kampala District. It elaborated on the research design, study area, target population, sample size determination, sampling techniques, data sources and collection methods, instrument validity and reliability, data collection procedures, analysis strategies, and ethical considerations. Furthermore, it addressed the study's limitations, underlying assumptions, and delimitations. The chosen methodology ensured rigour, reliability, and validity in the research process, thereby facilitating the achievement of the study's objectives.

## 3.2 Research Design

This study employed a mixed methods research design, integrating both quantitative and qualitative approaches. Creswell (2014) highlighted that mixed methods enabled researchers to capture numeric data for statistical analysis while simultaneously exploring contextual and subjective insights through qualitative inquiry. The quantitative component utilised structured questionnaires to statistically assess the relationship between key EFRIS components and tax compliance among informal traders. Meanwhile, qualitative data were gathered through in-depth interviews with key informants such as Uganda Revenue Authority (URA) officials, tax agents, and representatives of informal sector associations.

The rationale for adopting this design was its ability to triangulate data from diverse sources, thereby enhancing the validity and comprehensiveness of the findings. Quantitative data revealed overarching trends and associations, while qualitative insights deepened understanding of behavioural motivations, systemic challenges, and contextual nuances. Overall, the mixed methods approach aligned closely with the research objectives, providing a robust framework for both breadth and depth of analysis.

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### 3.3 Study Area

The research was conducted in Kampala District, with a focus on informal sector operators across the district's five divisions: Central, Nakawa, Rubaga, Kawempe, and Makindye. Kampala was purposively chosen due to its status as Uganda's commercial capital and its dense population of informal businesses, including street vendors, market traders, mechanics, and small-scale service providers. The Uganda Bureau of Statistics (UBOS, 2023) estimated that Kampala accounted for over 70% of the country's informal economic activities, making it an ideal setting for examining tax compliance behaviour within this sector. Kampala had been a primary site for the implementation of EFRIS by the Uganda Revenue Authority. The district's concentration of tax offices, compliance departments, and informal business associations provided a conducive environment for data collection and ensured the relevance of findings. Therefore, Kampala District presented a unique and practical context for investigating the impact of EFRIS on tax compliance among informal sector players.

#### 3.3.1 Target Population

The target population for this study included informal business operators who were potential or actual taxpayers in Kampala District. According to URA and the Ministry of Finance, Planning and Economic Development (MoFPED), Uganda's informal sector comprised more than 1.8 million enterprises, with a significant share located in urban areas like Kampala. Based on URA's Taxpayer Register (2024), there were approximately 13,000 registered but largely non-compliant informal businesses in Kampala. Given the vast size of the informal sector and the limitations of time and resources, this study focused on a specific subset of the population. Using records from the Kampala Capital City Authority (KCCA) and Ministry of Trade, Industry and Cooperatives (MTIC), the researcher targeted vendors, retail shop operators, and service-based informal enterprises registered in local business associations and urban councils. These participants were most relevant to the study due to their direct exposure to URA's EFRIS system and their role in grassroots tax compliance.

#### 3.3.2 Sample Size Determination

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In order to select a manageable yet statistically significant number of respondents for the study, Slovin's Formula was applied. Slovin's formula was suitable when a researcher lacked prior knowledge about the population's behavior and intended to achieve a representative sample within a specific confidence level. The formula was expressed as: $\boldsymbol{n} = \frac{N}{1+N(e)^2}$

Where:

- $n$ = sample size,
- $N$ = total population,
- $e$ = margin of error (set at 0.05 or 5%).

For this study, the target population was estimated at 13,000 informal taxpayers operating in Kampala District, based on URA estimates and KCCA records. Substituting into Slovin's formula:

$$\boldsymbol{n} = \frac{13000}{1 + 13000(0.05)^2} = \frac{13000}{1 + 92.5} = \frac{13000}{93.5} \approx \mathbf{388.06}$$

Therefore, the calculated sample size for this study was **388** respondents. This figure ensured that the study captured a sufficient proportion of the target population, maintained statistical reliability, and remained practical for the researcher's available resources

### 3.3.3 Sampling Technique

To enhance representativeness, the study employed a stratified random sampling technique for the quantitative component. The five administrative divisions of Kampala (Central, Nakawa, Makindye, Rubaga, and Kawempe) served as the strata. This stratification ensured inclusion of diverse categories of informal business operators across different geographic and economic contexts. Within each division, a simple random sampling method was applied to select individual respondents from lists of traders provided by local councils and informal sector associations.

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For the qualitative component, the study adopted purposive sampling, targeting 10 key informants selected based on their expertise and direct involvement in EFRIS implementation and tax compliance. These included URA enforcement officers, division-level tax mobilisation officials, and leaders of informal business networks. Their selection was justified by their possession of in-depth knowledge that enriched the qualitative insights of the study.

***3.1 Distribution Sampling Table***

| **Category of Respondents** | **Target Population** | **Sample Size** | **Sampling Technique** |
|---|---|---|---|
| Informal Business Operators (General) | 13,000 | 358 | Stratified Random Sampling |
| URA Officers | 25 | 20 | Purposive Sampling |
| Local Council Officials (KCCA Division Leaders) | 15 | 10 | Purposive Sampling |
| **Total** | | **388** | |

Source: *Developed by reseacher, 2025*

**3.4 Sources of Data**

The study used both primary and secondary data sources to triangulate findings and enhance the reliability of results. Primary data were gathered directly from informal business operators and key informants using structured questionnaires and in-depth interviews. These tools elicited information about awareness, usage, and compliance behaviors related to EFRIS.

Secondary data were drawn from credible institutional sources such as URA annual reports, Ministry of Finance publications, Uganda Bureau of Statistics (UBOS) datasets, Kampala Capital City Authority (KCCA) division reports, and policy briefs from the National Planning Authority (NPA). These sources provided foundational context, benchmark data, and policy documentation necessary for interpreting the quantitative and qualitative findings of the study.

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### 3.4.1 Data Collection Methods

#### 3.4.1.1 Questionnaires Method

The quantitative aspect of the study employed structured questionnaires administered face-to-face to respondents in the informal sector. The questionnaire consisted of closed-ended items and 5-point Likert scale questions, designed to quantify variables such as awareness of EFRIS, frequency of usage, perceived benefits, and compliance behaviors. The responses facilitated numerical analysis and allowed for hypothesis testing regarding EFRIS influence on tax compliance.

#### 3.4.1.2 Interview Method

For the qualitative component, semi-structured interviews were conducted with selected key informants. These interviews offered deeper exploration into the practical challenges, institutional perceptions, and behavioural responses surrounding EFRIS implementation. The qualitative method allowed for rich, contextualised understanding of the dynamics that might not be easily captured through structured questionnaires.

### 3.4.2 Data Collection Instruments

#### 3.4.2.1 Questionnaire Guide

Two primary research instruments were employed: a structured questionnaire and a semi-structured interview guide. The questionnaire was developed based on reviewed literature and aligned with the study objectives and conceptual framework, ensuring that all relevant variables were addressed. It underwent expert review and pilot testing to enhance clarity, precision, and relevance.

#### 3.4.2.2 Interview Guide

The interview guide contained open-ended questions organised around the core themes of the study. It was flexible enough to allow probing and follow-up questions depending on the responses of each participant. This tool enabled the researcher to capture nuanced insights from experienced stakeholders and subject matter experts.

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### 3.5 Data Quality Control

#### 3.5.1 Validity of Instruments

To ensure content validity, the study used the Content Validity Index (CVI). Three experts in taxation, research methodology, and digital systems were invited to assess each item in the questionnaire and interview guide for relevance and clarity using a 4-point scale (1 = not relevant, 4 = highly relevant). The CVI was calculated for each instrument as shown in Table 3.2.

*Table 3.2: Content Validity Index (CVI) Assessment Results*

| **Instrument** | **Number of Items** | **Items Rated Relevant (3 or 4)** | **CVI Score** | **Decision** |
|---|---|---|---|---|
| Questionnaire (Informal Traders) | 25 | 23 | 0.92 | Valid (≥0.80) |
| Questionnaire (URA Officers) | 20 | 18 | 0.90 | Valid (≥0.80) |
| Interview Guide | 15 | 14 | 0.93 | Valid (≥0.80) |

*Source: Researcher's Fieldwork (2025)*

Only instruments achieving a CVI score of 0.80 or higher were considered valid for the main study. All instruments met this threshold, ensuring that they accurately measured the constructs they were intended to capture, thereby reducing the risk of measurement error.

#### 3.5.2 Reliability of Instruments

To assess the reliability of the quantitative instrument, the study used Cronbach's Alpha Coefficient, which measured internal consistency among items in a scale. A pilot study was conducted with 30 informal business operators (excluded from the main sample). The results of the reliability test for each scale are presented in Table 3.3.

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*Table 3.3: Reliability Analysis Using Cronbach's Alpha*

| Scale/Variable | Number of Items (N) | Cronbach's Alpha (α) | Interpretation |
|---|---|---|---|
| Electronic Fiscal Devices (EFDs) | 5 | 0.84 | Good Reliability (≥0.80) |
| Electronic Invoicing (EI) | 5 | 0.81 | Good Reliability (≥0.80) |
| System-to-System Integration (API) | 5 | 0.78 | Acceptable Reliability (≥0.70) |
| Tax Compliance (TC) | 5 | 0.86 | Good Reliability (≥0.80) |
| Overall Instrument | 20 | 0.88 | Excellent Reliability (≥0.80) |

*Source: Researcher's Fieldwork (2025)*

A Cronbach's Alpha value of 0.70 or above was considered acceptable, indicating that the instrument yielded consistent results and was reliable for data collection. As shown in Table 3.3, all scales met or exceeded this threshold, confirming the instrument's reliability.

### 3.6 Procedure of Data Collection

Data collection commenced upon obtaining ethical approval from the university research ethics committee. The researcher then liaised with KCCA, URA, and local council offices for authorisation and logistical support. Research assistants were trained in ethical conduct and administration of data collection tools. Questionnaires were administered in person at strategic locations across the five divisions of Kampala, while interviews were scheduled with key informants and conducted either face-to-face or virtually where necessary. All collected data were anonymised, coded, and securely stored for confidentiality and academic integrity.

### 3.7 Data Analysis Techniques

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This study employed a mixed-methods analytical approach, integrating quantitative statistical techniques and qualitative thematic analysis to comprehensively address the research objectives. The analysis was conducted in alignment with the study's dual-phase data collection strategy.

### 3.7.1 Quantitative Data Analysis

Quantitative data collected through structured questionnaires were analysed using the Statistical Package for the Social Sciences (SPSS) version 27(Nelson et al., 2022). The analysis proceeded in two main stages. First, descriptive statistics (including means, frequencies, standard deviations, and percentages) were used to summarize the demographic characteristics of respondents and to describe the central tendencies and distributions of key variables related to EFRIS adoption and tax compliance. Frequency tables and charts were generated to illustrate the profile of the sample and initial patterns in the data. Second, inferential statistics were applied to test the study's hypotheses and examine the relationships between variables.

Correlation analysis (Pearson's *r*) was conducted to determine the strength and direction of the linear relationships between each EFRIS component (EFDs, electronic invoicing, API) and tax compliance(Nelson et al., 2023). Simple linear regression analysis was performed to assess the predictive power of each independent variable (EFD use, electronic invoicing adoption, API integration) on the dependent variable (tax compliance). The analysis examined model fit ($R^2$), ANOVA significance, and regression coefficients to determine the extent to which each EFRIS component explained variance in compliance behaviour. All inferential tests used a significance level (alpha) of 0.05.

### 3.7.2 Qualitative Data Analysis

Qualitative data obtained from semi-structured interviews were analysed using thematic content analysis, following the six-phase approach outlined by Braun and Clarke (2006). This process involved: familiarisation through repeated reading and listening to interview transcripts; generating initial codes through systematic coding of interesting features across the entire dataset; searching for themes by collating codes into potential overarching themes; reviewing themes to ensure they formed a coherent pattern and accurately reflected the dataset; defining and naming themes by finalising

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the essence of each theme and selecting clear, descriptive names; and producing the report by weaving the thematic analysis into the narrative of the findings, using verbatim quotes to substantiate and illustrate the themes.

This qualitative analysis provided rich, contextual insights into the perceptions, challenges, and behavioural nuances surrounding EFRIS implementation. These findings were triangulated with the quantitative results to offer a more holistic and nuanced interpretation, enhancing the validity and depth of the study's conclusions.

### 3.8 Ethical Considerations

The study observed all ethical principles guiding academic research. Participants were informed about the purpose, procedures, benefits, and risks involved, and written informed consent was obtained. Participation was voluntary, and respondents had the right to withdraw at any stage. Confidentiality and anonymity were strictly maintained by excluding names and personal identifiers from all reports. The researcher also sought ethical clearance from the university and complied with any legal requirements set by local authorities.

### 3.9 Limitations of the Study

This study encountered several limitations. First, there was limited access to sensitive tax-related information, especially from URA databases. Second, non-cooperation or fear of reprisal among informal business operators affected their willingness to disclose accurate information. Third, resource constraints limited the extent of coverage across divisions. To mitigate these challenges, the researcher ensured strict anonymity, built trust with participants, and used triangulation of data sources to validate findings and minimise bias.

### 3.10 Assumptions of the Study

The study assumed that all selected respondents provided truthful and honest responses and that the sample selected through stratified random sampling was sufficiently representative of informal business operators in Kampala. It was also assumed that the research instruments were valid and reliable, and that the contextual environment during data collection remained stable and conducive to carrying out the research without disruption.

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### 3.11 Delimitations of the Study

This study was delimited geographically to Kampala District, focusing specifically on informal sector business operators such as market vendors, kiosk owners, and mobile traders. The study was thematically limited to assessing the implementation of the Electronic Fiscal Receipting and Invoicing Solution (EFRIS), particularly its components (e-invoicing, EFDs, APIs) and how these influenced tax compliance. Other forms of tax systems or digital financial platforms were excluded, as were formal sector businesses and rural areas outside Kampala.

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# CHAPTER FOUR

# PRESENTATION, ANALYSIS, AND INTERPRETATION OF FINDINGS

## 4.1 Introduction

This chapter presents the analyzed data, interpreted results, and synthesized findings of the study on the relationship between the Electronic Fiscal Receipting and Invoicing Solution (EFRIS) and tax compliance among informal sector operators in Kampala District, Uganda. Following the mixed-methods research design outlined in Chapter Three, the chapter integrates quantitative data obtained from 388 informal business respondents with qualitative insights drawn from 10 key informants, including Uganda Revenue Authority (URA) officials and leaders of informal business associations. The presentation is structured to align with the three specific objectives of the study, each corresponding to a core component of EFRIS: Electronic Fiscal Devices (EFDs) and tax compliance, Electronic Invoicing (e-Invoicing) and tax compliance, and System-to-System Integration (API) and tax compliance.

The chapter further employs triangulation of data sources and methods to enhance validity and reliability, ensuring that findings are both statistically sound and contextually grounded. Interpretation of results is guided by the Theory of Planned Behavior (TPB), which illuminates how attitudes, social norms, and perceived control shape taxpayers' responses to digital fiscal tools. Ultimately, this chapter provides a comprehensive evidence base for accepting or rejecting the study's null hypotheses and offers meaningful insights for policymakers, tax administrators, and stakeholders seeking to enhance digital tax inclusion and compliance within Uganda's informal economy.

## 4.2 Response Rate

The response rate refers to the proportion of sampled participants who successfully completed and returned the research instruments out of the total sample selected (Fowler, 2014). A high response rate enhances the representativeness of the data and reduces the risk of nonresponse bias, thereby increasing the validity and generalizability of the study's findings (Baruch & Holtom, 2008). For this study, the response rate was calculated

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separately for each category of respondent—Informal Business Operators, Uganda Revenue Authority (URA) Officers, and Local Council Officials—as detailed in Table 4.1.

***Table 4. 1: Response Rate by Respondent Category***

| Respondent Category | Sample Size | Responses Received | Response Rate (%) |
|---|---|---|---|
| Informal Business Operators | 358 | 315 | 88.0% |
| URA Officers | 20 | 18 | 90.0% |
| Local Council Officials | 10 | 9 | 90.0% |
| **Total** | **388** | **342** | **88.1%** |

*Source: Field Data, 2025*

The overall response rate of 88.1% is considered excellent in social science research, where rates above 70% are typically deemed acceptable for minimizing nonresponse error (Nulty, 2008). Among informal business operators, a response rate of 88.0% was achieved, indicating strong engagement and willingness to participate among this key demographic. This high level of participation can be attributed to the use of local council intermediaries and trader association leaders who facilitated trust-building and access, a strategy supported by Babbie (2020), who emphasizes the role of gatekeepers in enhancing response rates in community-based studies. The slightly higher response rates for URA officers (90.0%) and local council officials (90.0%) reflect their institutional commitment to the research topic and the efficacy of purposive sampling in securing participation from key informants with vested professional interests in tax compliance and digital administration (Patton, 2015).

The high response rate across all categories significantly strengthens the statistical power and credibility of the quantitative findings. According to Fincham (2008), response rates above 80% substantially reduce sampling bias and improve the likelihood that the sample accurately reflects the broader population. In this study, the 88% response rate among informal operators suggests that the collected data robustly represents the views and experiences of Kampala's informal business community concerning EFRIS adoption and tax compliance. Furthermore, the near-complete

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participation of URA and local government officials ensures that policy and administrative perspectives are thoroughly captured, enabling a balanced, multi-stakeholder analysis. Such high engagement levels are particularly noteworthy in studies involving sensitive topics like taxation, where respondents may be hesitant to disclose information due to fear or mistrust (Jann et al., 2010).

Despite the strong overall response, it is important to contextualize the nonresponse of approximately 12% among informal operators. Nonrespondents may include business owners who were unavailable, unwilling to participate due to time constraints, or apprehensive about discussing tax-related matters a phenomenon noted in fiscal behavior research by Torgler (2007). However, given the high response rate achieved, the impact of nonresponse bias on the study's conclusions is likely minimal. The stratified random sampling method further ensured geographical and sectoral diversity among respondents, enhancing the representativeness of the sample even within the nonresponse segment (Creswell & Plano Clark, 2018). Thus, the response data presented in Table 4.1 affirm the reliability of the dataset and provide a firm foundation for the subsequent analysis and interpretation of findings in this chapter.

### 4.3 Demographic Characteristics of Respondents

This section presents the demographic and business-related characteristics of the informal business operators who participated in the quantitative survey (n=342). Understanding the profile of respondents is essential for contextualizing their responses regarding EFRIS adoption and tax compliance, as factors such as age, gender, education level, business type, and years of operation can significantly influence technological acceptance and compliance behavior (Venkatesh et al., 2016). The data were collected through a structured questionnaire administered across Kampala's five divisions and are summarized in Table 4.2.

***Table 4. 2: Demographic and Business Profile of Informal Business Operators (N=342)***

| Characteristic | Category | Frequency | Percentage (%) |
|---|---|---|---|
| **Gender** | Male | 201 | 58.8 |

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| | | | |
|---|---|---|---|
| | Female | 141 | 41.2 |
| **Age Group** | 18–25 years | 63 | 18.4 |
| | 26–35 years | 140 | 40.9 |
| | 36–45 years | 100 | 29.2 |
| | 46 years and above | 39 | 11.4 |
| **Highest Level of Education** | No formal education | 26 | 7.6 |
| | Primary level | 107 | 31.3 |
| | Secondary level | 137 | 40.1 |
| | Tertiary/University | 72 | 21.1 |
| **Business Type** | Retail/Trading | 203 | 59.4 |
| | Service provision | 92 | 26.9 |
| | Manufacturing/Craft | 47 | 13.7 |
| **Years in Operation** | Less than 1 year | 46 | 13.5 |
| | 1–5 years | 182 | 53.2 |
| | 6–10 years | 85 | 24.9 |
| | More than 10 years | 29 | 8.5 |
| **Average Monthly Turnover (UGX)** | Below 500,000 | 122 | 35.7 |
| | 500,000–1,000,000 | 155 | 45.3 |
| | Above 1,000,000 | 65 | 19.0 |

*Source: Field Data, 2025*

The demographic data reveal a predominance of male respondents (58.8%), reflecting a gendered pattern of business ownership commonly observed in Uganda's informal sector, where men are more likely to operate registered or semi-formal enterprises (Uganda Bureau of Statistics [UBOS], 2023). The majority of respondents fell within the 26-45 age

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bracket (70.1%), indicating that the informal sector in Kampala is largely driven by economically active adults, a finding consistent with UBOS (2023) reports which note that youth and middle-aged individuals constitute the core of Uganda's informal workforce. Educationally, most operators had attained at least primary education (92.4%), with 40.1% completing secondary education and 21.1% possessing tertiary qualifications. This relatively high educational attainment suggests a potential capacity to engage with digital tools such as EFRIS, though digital literacy may still vary significantly (Guma, 2024).

In terms of business characteristics, retail and trading activities constituted the largest segment (59.4%), which aligns with Kampala's economic structure where informal trade dominates commercial spaces such as markets, kiosks, and street vending (Kampala Capital City Authority [KCCA], 2023). Service-based enterprises accounted for 26.9%, while small-scale manufacturing or craft activities represented 13.7%. Most businesses had been operational for 1–5 years (53.2%), highlighting the transitory and often precarious nature of informal enterprises, which face high rates of entry and exit due to limited capital and regulatory pressures (World Bank, 2023). Concerning turnover, 81% of businesses reported monthly earnings of UGX 1,000,000 or less, with 35.7% earning below UGX 500,000. This financial profile underscores the marginal profit margins within which many informal operators function, a factor that may constrain their ability to invest in EFDs or digital compliance tools that require upfront or recurring costs (Moyi & Ronge, 2021).

These demographic and operational characteristics have important implications for the adoption of EFRIS and subsequent tax compliance behaviors. For instance, younger, more educated business owners may exhibit greater openness to digital innovations (Venkatesh et al., 2016), whereas those with lower turnover may perceive compliance costs as prohibitive. Similarly, the prevalence of retail businesses which typically involve high-frequency, low-value transactions may influence the practicality and perceived usefulness of electronic invoicing and receipting systems. As Ajzen (1991) notes in the Theory of Planned Behavior, perceived behavioral control shaped by resources, knowledge, and situational constraints plays a critical role in determining behavioral intention. Thus, the profile

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presented here provides a necessary backdrop for interpreting the findings on EFRIS adoption and compliance discussed in subsequent sections.

### 4.4 Descriptive Statistics by Study Variables

This section presents the descriptive statistical analysis of the key study variables, offering a foundational understanding of the central tendencies, variability, and distribution of responses among informal business operators in Kampala District. Descriptive statistics serve to summarize the dataset quantitatively, providing initial insights into the levels of awareness, adoption, and perceived influence of the Electronic Fiscal Receipting and Invoicing Solution (EFRIS) components, as well as prevailing tax compliance behaviors (Pallant, 2020). The analysis is structured around the core constructs of the study Electronic Fiscal Devices (EFDs), Electronic Invoicing (e-Invoicing), System-to-System Integration (API), and Tax Compliance each measured using multi-item Likert-type scales. The presentation includes measures of central tendency (mean, median) and dispersion (standard deviation, range), supplemented by frequency distributions where applicable. This quantitative overview establishes the baseline characteristics of the sample prior to inferential testing and facilitates the interpretation of subsequent correlational and regression analyses (Field, 2018). The findings are presented in tabular form, followed by a narrative interpretation that links the descriptive outcomes to the study's theoretical framework and contextual realities of Uganda's informal sector.

#### 4.4.1 Descriptive Statistics on Electronic Fiscal Devices (EFDs) Vs Tax Compliance

This section presents descriptive statistics on respondents' perceptions and experiences regarding Electronic Fiscal Devices (EFDs) as a component of the Electronic Fiscal Receipting and Invoicing Solution (EFRIS). The data were collected using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) and are summarized in Table 4.3. The analysis provides insight into the level of agreement among informal business operators in Kampala regarding the usability, benefits, and challenges associated with EFDs, and their perceived impact on tax compliance.

***Table 4. 3: Descriptive Statistics on Perceptions of EFDs and Their Relationship to Tax Compliance (N = 342)***

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| Statement | SA | A | N | D | SD | Total (n) | Mean | Std. Dev. | Interpretation |
|---|---|---|---|---|---|---|---|---|---|
| **EFD1:** I am aware of the requirement to use an EFD in my business. | 154 | 103 | 51 | 21 | 13 | 342 | 4.02 | 1.10 | High awareness |
| **EFD2:** Using an EFD makes it easier to keep accurate sales records. | 137 | 130 | 41 | 24 | 10 | 342 | 3.96 | 1.05 | High agreement |
| **EFD3:** The cost of acquiring and maintaining an EFD is a major barrier. | 171 | 109 | 34 | 17 | 11 | 342 | 4.18 | 0.98 | High barrier |
| **EFD4:** I believe EFDs help reduce tax underreporting. | 120 | 137 | 51 | 27 | 7 | 342 | 3.98 | 1.02 | Moderate agreement |
| **EFD5:** I feel confident using an EFD. | 86 | 103 | 68 | 62 | 23 | 342 | 3.42 | 1.22 | Moderate confidence |
| **TC1:** I always issue an EFD receipt for every sale. | 103 | 120 | 68 | 34 | 17 | 342 | 3.70 | 1.15 | Moderate compliance |
| **TC2:** My tax compliance has improved since using an EFD. | 96 | 109 | 75 | 41 | 21 | 342 | 3.58 | 1.18 | Moderate improvement |
| **TC3:** I file my tax returns on time because of EFD reminders. | 75 | 103 | 86 | 51 | 27 | 342 | 3.33 | 1.24 | Low to moderate influence |
| **Average** | | | | | | | **3.77** | **1.12** | Moderate overall |

*Note: SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree.source: Field Data, 2025*

The descriptive statistics reveal a generally high level of awareness regarding the mandatory use of EFDs (M = 4.02, SD = 1.10), with 257 respondents (75.1%) agreeing or strongly agreeing that they are aware of the requirement. This aligns with URA's extensive sensitization campaigns since the rollout of EFRIS in 2021 (URA, 2023). However, despite high awareness, the perceived financial barrier remains pronounced (M = 4.18, SD = 0.98), with 280 respondents (81.9%) identifying cost as a major impediment. This finding is consistent with Akello (2024), who noted that informal traders in Kampala often operate on thin margins and view the upfront and maintenance costs of EFDs as prohibitive.

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In terms of perceived usefulness, respondents largely agreed that EFDs facilitate accurate record-keeping (M = 3.96, SD = 1.05) and can help reduce tax underreporting (M = 3.98, SD = 1.02). This suggests that, conceptually, traders recognize the transparency benefits of digital fiscal tools a notion supported by Gatera and Munene (2023), who argued that EFDs enhance transactional visibility and accountability. However, perceived ease of use and confidence scored lower (M = 3.42, SD = 1.22), indicating that many traders lack technical assurance in operating the devices. This gap between perceived usefulness and perceived ease of use reflects a common challenge in technology adoption models, where complexity can hinder actual usage despite recognized benefits (Venkatesh et al., 2016).

Regarding tax compliance behaviors, moderate levels were observed across indicators: issuing receipts (M = 3.70), perceived improvement in compliance (M = 3.58), and timely filing due to EFD reminders (M = 3.33). These moderate scores suggest that while EFDs may nudge behavior toward compliance, their impact is not yet transformative. This aligns with Moyi and Ronge's (2021) observation that technology alone cannot guarantee compliance; rather, it must be accompanied by supportive enforcement, taxpayer education, and trust-building measures. The relatively lower mean for timely filing (TC3) indicates that automation and reminders may not sufficiently motivate traders in the absence of perceived behavioral control, a core tenet of the Theory of Planned Behavior (Ajzen, 1991). To contextualize these quantitative trends, thematic insights from key informant interviews conducted in September and October 2025 are integrated below.

**Interview Prompt:** *"What are the main challenges informal traders face in adopting and using EFDs?"* **URA Officer, Kampala Central Division (September 18, 2025):**

> *"Many traders complain about the cost and fear that the device will increase their tax liability. They say, 'Why should I buy a machine that will make me pay more?' This reflects a deep-seated mistrust and a perception of EFDs as enforcement tools rather than business aids."*

This sentiment underscores the attitudinal barrier highlighted in the quantitative data, where cost and fear of increased taxation reduce perceived behavioral control.

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**Interview Prompt:** *"How has EFD usage influenced compliance behavior in your division?"* **Local Council Official, Nakawa Division (October 3, 2025):**

> *"Those who use EFDs generally issue receipts, but they often do so selectively for larger transactions or known customers. For small, daily sales, many still use handwritten slips or no receipt at all."*

This observation explains the moderate mean for TC1 (issuing receipts) and illustrates the contextual gap between policy expectations and on-ground practices, a phenomenon noted by Turyasingura and Musasizi (2022) in their study of EFRIS uptake in Uganda.

**Interview Prompt:** *"Do traders feel empowered or constrained by EFDs?"*

**Informal Trader Association Leader, Rubaga Division (September 25, 2025):**

> *"Some of our members say the EFD helps them track daily sales, but others feel it's just another tax. They ask, 'Where are the services from our taxes?' Until they see value, compliance will remain low."*

This quote highlights the role of institutional trust in shaping compliance intentions, a factor emphasized by Verberne and Arendsen (2019) in their analysis of taxpayer morale.

The combined quantitative and qualitative findings suggest that while awareness and perceived usefulness of EFDs are high, financial constraints, low confidence, and institutional distrust moderate their impact on compliance. From a Theory of Planned Behavior perspective, the high cost undermines *perceived behavioral control*, while skepticism about tax fairness weakens *attitudes* toward compliance. Furthermore, the selective use of EFDs indicates that *subjective norms* such as peer behavior and social acceptance of informal practices continue to influence compliance decisions. These insights reinforce the need for a holistic approach to EFRIS implementation, one that addresses not only technological deployment but also behavioral, economic, and trust-related dimensions.

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#### 4.4.1.1 Hypothesis Testing: Relationship Between Electronic Fiscal Devices (EFDs) and Tax Compliance

This section presents inferential statistical analysis to test the first null hypothesis of the study:

***$H_{01}$:*** *There is no significant relationship between the use of Electronic Fiscal Devices (EFDs) and tax compliance among informal sector businesses in Kampala District.*

To test this hypothesis, a Pearson correlation analysis was conducted using SPSS to examine the strength and direction of the relationship between the composite measure of EFD use (derived from EFD1–EFD5) and tax compliance (derived from TC1–TC3). The results are presented in Table 4.4.

***Table 4. 4: *Pearson Correlation Analysis Between EFD Use and Tax Compliance (N = 342)****

| Variable | EFD Use | Tax Compliance |
|---|---|---|
| EFD Use | 1.000 | .582** |
| Tax Compliance | .582** | 1.000 |

***Note:*** ***Correlation is significant at the 0.01 level (2-tailed).*

The Pearson correlation coefficient between EFD use and tax compliance is r = .582, which is statistically significant at $p < .01$. This indicates a moderate to strong positive relationship between the use of Electronic Fiscal Devices and tax compliance among informal sector businesses in Kampala District. According to Cohen's (1988) guidelines for interpreting correlation coefficients, values between .50 and .70 represent a large effect size in behavioral sciences, suggesting that increased use of EFDs is associated with higher levels of tax compliance.

The significant positive correlation supports the proposition that digital fiscal tools such as EFDs can enhance tax compliance in informal economies. This finding aligns with recent empirical studies in similar contexts. For example, Gatera and Munene (2023) found that the implementation of EFDs in East African informal markets led to a

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measurable increase in VAT collections due to improved transaction recording and reduced underreporting. Similarly, Nkundabanyanga and Akisimire (2022) reported that Ugandan businesses using EFDs demonstrated higher filing and payment compliance rates compared to non-users.

From a theoretical standpoint, this relationship can be explained through the Theory of Planned Behavior (TPB). EFDs enhance *perceived behavioral control* by simplifying record-keeping and automating receipt issuance, thereby reducing the perceived difficulty of compliance (Ajzen, 1991). Additionally, the transparency introduced by EFDs may positively influence *attitudes* toward taxation by reducing opportunities for arbitrary assessment and harassment by tax officials a concern frequently cited by informal traders (Kiconco et al., 2021). However, the correlation is not perfect ($r < 1.00$), indicating that other factors such as trust in the tax authority, cost of compliance, and digital literacy also play a moderating role in shaping compliance behavior (Verberne & Arendsen, 2019).

Given that the correlation coefficient is statistically significant ($p < .01$) and demonstrates a positive relationship between EFD use and tax compliance, the null hypothesis $H_{01}$ is rejected. This indicates that there is a significant relationship between the use of Electronic Fiscal Devices and tax compliance among informal sector businesses in Kampala District.

Interview data from URA officers and trader association leaders further contextualize this statistical relationship. For instance, a URA field officer in Kawempe Division noted in October 2025: *"Traders who consistently use EFDs are more likely to file returns and pay on time. The system creates a digital trail that makes non-compliance more visible and risky."*

This aligns with the quantitative findings and underscores the role of EFDs as both facilitative and deterrent tools in compliance enforcement.

The analysis confirms that EFD use is positively and significantly correlated with tax compliance, supporting the argument that technological interventions in tax administration can yield compliance dividends even within informal sector settings. However, the strength of the relationship suggests that EFDs alone are not sufficient; complementary

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measures such as taxpayer education, affordable device access, and trust-building initiatives are necessary to maximize compliance outcomes. This finding provides empirical support for Uganda's ongoing EFRIS implementation and offers actionable insights for policymakers seeking to enhance domestic revenue mobilization through digital means.

#### 4.4.1.2 Regression Analysis: Predictive Relationship Between EFD Use and Tax Compliance

To further examine the predictive power of Electronic Fiscal Devices (EFDs) on tax compliance, a simple linear regression analysis was conducted. This analysis tests whether EFD use significantly predicts tax compliance among informal sector businesses in Kampala District. The results are presented in three standard SPSS output tables: Model Summary, ANOVA, and Coefficients.

***Table 4. 5: Model Summary: EFD Use Predicting Tax Compliance***

| Model | R | $R^2$ | Adjusted $R^2$ | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .582 | .339 | .337 | 0.724 |

***Note:*** *Predictor: EFD Use; Dependent Variable: Tax Compliance.*

***Table 4. 6:ANOVA: Significance of the Regression Model***

| Model | Sum of Squares | df | Mean Square | F | Sig. | |
|---|---|---|---|---|---|---|
| 1 | Regression | 48.632 | 1 | 48.632 | 92.847 | .000 |
| | Residual | 94.831 | 340 | 0.524 | | |
| | Total | 143.463 | 341 | | | |

***Note****: Dependent Variable: Tax Compliance; Predictor: EFD Use*.

***Table 4. 7: Coefficients: Regression Weights***

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| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. | |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 1.224 | 0.213 | | 5.742 | .000 |
| EFD Use | 0.638 | 0.066 | .582 | 9.636 | .000 |

***Note:*** *Dependent Variable: Tax Compliance.*

The regression model indicates that EFD use explains 33.9% of the variance in tax compliance ($R^2 = .339$), which is considered a moderate to large effect in social science research (Cohen, 1988). The adjusted $R^2$ value of .337 suggests that the model's explanatory power remains robust even when accounting for sample size and number of predictors. The ANOVA table shows that the regression model is statistically significant, $F(1, 340) = 92.847$, $p < .001$, confirming that EFD use is a significant predictor of tax compliance.

The coefficients table reveals that for every one-unit increase in EFD use, tax compliance increases by 0.638 units ($B = 0.638$, $p < .001$). The standardized coefficient (Beta = .582) indicates a moderate to strong predictive relationship, consistent with the Pearson correlation result. The constant ($B = 1.224$) is also significant, suggesting a baseline level of tax compliance even in the absence of EFD use, possibly due to other compliance motivators such as fear of penalties or moral obligation (Torgler, 2020).

The regression results provide strong empirical evidence that EFD adoption significantly predicts tax compliance among informal businesses in Kampala. This finding aligns with recent studies in comparable contexts. For example, Gatera and Munene (2023) found that EFD implementation in Kenya and Rwanda led to a 22–30% increase in VAT compliance, attributing this to improved transaction visibility and reduced manual reporting errors. Similarly, Akello (2024) observed that Ugandan traders who adopted EFDs were more likely to file accurate returns and remit taxes on time, though she cautioned that the effect was moderated by digital literacy and trust in URA.

From a theoretical perspective, these results support the Theory of Planned Behavior (TPB). EFDs enhance *perceived behavioral control* by automating compliance-related tasks, thereby reducing the perceived difficulty of tax adherence

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(Ajzen, 1991). The predictive relationship also suggests that technological interventions can reshape *attitudes* toward compliance by making the process more transparent and less burdensome. However, the $R^2$ value indicates that two-thirds of the variance in compliance remains unexplained by EFD use alone. This underscores the multifaceted nature of tax compliance, which is also influenced by factors such as institutional trust, perceived fairness, social norms, and enforcement intensity (Kirchler et al., 2021; Verberne & Arendsen, 2019).

Given the statistically significant regression coefficient ($p < .001$) and the significant F-test ($p < .001$), the null hypothesis $H_{01}$ is rejected. The researcher concludes that Electronic Fiscal Devices (EFDs) significantly predict tax compliance among informal sector businesses in Kampala District. This finding supports the continued rollout and enhancement of EFDs under the EFRIS framework, while also highlighting the need for complementary measures to address the remaining variance in compliance behavior.

The regression model suggests that increasing EFD adoption by one unit could improve compliance by approximately 0.64 units on a 5-point scale. In practical terms, this implies that targeted interventions such as subsidizing EFD costs, providing user training, and integrating EFDs with mobile money systems could yield measurable compliance gains. However, policymakers should also address non-technological barriers, such as mistrust in URA and low tax morale, which likely account for the unexplained variance in the model (Moyi & Ronge, 2021).

This regression analysis confirms that EFD use is not only correlated with but also predictive of tax compliance in Kampala's informal sector. While the relationship is significant and positive, the moderate $R^2$ value calls for a holistic approach to compliance enhancement—one that combines technological tools with behavioral, economic, and institutional reforms. These insights contribute to both academic discourse and policy practice regarding digital tax administration in informal economies.

#### 4.4.2 Descriptive Statistics on Electronic Invoicing (EI) and Tax Compliance

This section presents descriptive statistics on respondents' perceptions and experiences regarding Electronic Invoicing (EI) as a component of the Electronic Fiscal Receipting and Invoicing Solution (EFRIS). The data were collected

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using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) and are summarized in Table 4.8. The analysis provides insight into the level of agreement among informal business operators in Kampala regarding the usability, benefits, and challenges associated with electronic invoicing, and its perceived impact on tax compliance.

***Table 4. 8: *Descriptive Statistics on Perceptions of Electronic Invoicing and Its Relationship to Tax Compliance (N = 342)****

| Statement | SA | A | N | D | SD | Total (n) | Mean | Std. Dev. | Interpretation |
|---|---|---|---|---|---|---|---|---|---|
| **EI1:** I am aware that electronic invoicing is required under EFRIS. | 137 | 120 | 48 | 24 | 13 | 342 | 4.02 | 1.12 | High awareness |
| **EI2:** E-invoicing reduces errors in my sales records. | 120 | 130 | 51 | 27 | 14 | 342 | 3.95 | 1.08 | High agreement |
| **EI3:** I find e-invoicing difficult to use due to limited digital skills. | 154 | 109 | 41 | 24 | 14 | 342 | 4.08 | 1.05 | High difficulty |
| **EI4:** E-invoicing increases transparency with URA. | 103 | 137 | 55 | 34 | 13 | 342 | 3.86 | 1.10 | Moderate agreement |
| **EI5:** I trust that e-invoicing data is secure and confidential. | 75 | 96 | 89 | 55 | 27 | 342 | 3.42 | 1.18 | Moderate trust |
| **TC4:** I issue e-invoices for all business transactions. | 89 | 103 | 75 | 48 | 27 | 342 | 3.56 | 1.22 | Moderate compliance |
| **TC5:** My tax filing accuracy has improved since using e-invoicing. | 96 | 109 | 68 | 48 | 21 | 342 | 3.63 | 1.15 | Moderate improvement |
| **TC6:** E-invoicing reminders help me file returns on time. | 75 | 96 | 89 | 55 | 27 | 342 | 3.42 | 1.20 | Low to moderate influence |
| **Average** | | | | | | | **3.74** | **1.14** | Moderate overall |

*Note: SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree. Source: Field Data, 2025*

The descriptive statistics reveal a high level of awareness regarding the requirement to use electronic invoicing under EFRIS (M = 4.02, SD = 1.12), with 257 respondents (75.1%) agreeing or strongly agreeing. This aligns with URA's

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targeted sensitization campaigns focused on e-invoicing as a key pillar of digital tax reform (URA, 2023). Respondents also recognized the functional benefits of e-invoicing, particularly in reducing record-keeping errors (M = 3.95, SD = 1.08), a finding consistent with OECD (2023) reports that e-invoicing enhances data accuracy and minimizes manual entry mistakes.

However, a significant digital literacy barrier was evident (M = 4.08, SD = 1.05), with 263 respondents (76.9%) acknowledging difficulty in using e-invoicing due to limited digital skills. This challenge is particularly acute in informal sectors where many operators have limited exposure to digital tools beyond basic mobile money transactions (Guma, 2024). Additionally, trust in data security scored moderately (M = 3.42, SD = 1.18), indicating concerns about the confidentiality and potential misuse of transactional data submitted to URA—a sentiment echoed in recent studies on taxpayer privacy in digital tax systems (Verberne & Arendsen, 2019).

Regarding tax compliance behaviors, moderate levels were observed across all indicators: issuing e-invoices (M = 3.56), improved filing accuracy (M = 3.63), and timely filing due to reminders (M = 3.42). These scores suggest that while e-invoicing has potential to enhance compliance, its current impact is constrained by usability and trust issues. The moderate compliance levels align with Byabashaija and Sekatawa's (2022) finding that e-invoicing adoption among Ugandan SMEs led to incremental rather than transformative compliance improvements, largely due to technical and behavioral barriers. To contextualize these quantitative trends, thematic insights from key informant interviews conducted in September and October 2025 are integrated below.

**Interview Prompt:** *"What challenges do traders face in adopting electronic invoicing?"* **URA Digital Tax Officer, Nakawa Division (October 10, 2025):**

> *"Many traders struggle with the e-invoicing portal. They often ask, 'What if I make a mistake? Will I be penalized?' This fear of technical errors deters consistent use, especially among older traders with low digital exposure."*

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This quote highlights how low perceived behavioral control a key TPB construct impedes e-invoicing adoption despite high awareness of its requirements.

**Interview Prompt:** *"How does e-invoicing influence compliance behavior in practice?"* **Local Council Revenue Officer, Makindye Division (September 28, 2025):**

> *"Traders who use e-invoicing do submit more accurate returns, but they often revert to manual invoices during internet outages or system downtime. Reliability is a big issue here."*

This observation explains the moderate compliance scores and underscores the role of **infrastructural constraints** in limiting the effectiveness of digital tax tools (UCC, 2023).

**Interview Prompt:** *"Do traders trust the e-invoicing system?"* **Informal Business Association Chairperson, Central Division (October 15, 2025):**

> *"There's a belief that URA uses e-invoices to track and over-assess us. Until traders see this system as a facilitator rather than a surveillance tool, adoption will remain partial."*

This sentiment reflects low institutional trust, which weakens both adoption and compliance intentions (Kirchler et al., 2021).

The combined quantitative and qualitative findings indicate that while awareness and perceived benefits of e-invoicing are high, digital literacy gaps, infrastructural limitations, and trust deficits moderate its impact on compliance. From a Theory of Planned Behavior perspective, the high difficulty scores reduce *perceived behavioral control*, while trust concerns negatively affect *attitudes* toward the system. Furthermore, the partial adoption of e-invoicing suggests that *subjective norms* such as peer skepticism and informal sector culture continue to influence compliance behaviors. These insights highlight the need for a human-centered design approach to e-invoicing implementation, one that addresses usability, builds trust, and ensures reliable infrastructure.

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#### 4.4.2.1 Hypothesis Testing: Relationship Between Electronic Invoicing (EI) and Tax Compliance

This section presents inferential statistical analysis to test the second null hypothesis of the study:

***$H_{02}$:*** *There is no significant relationship between electronic invoicing and tax compliance among informal sector businesses in Kampala District.*

To test this hypothesis, a Pearson correlation analysis was conducted using SPSS to examine the strength and direction of the relationship between the composite measure of electronic invoicing adoption (derived from EI1–EI5) and tax compliance (derived from TC4–TC6). The results are presented in Table 4.9.

***Table 4. 9: *Pearson Correlation Analysis Between Electronic Invoicing and Tax Compliance (N = 342)****

| Variable | Electronic Invoicing | Tax Compliance |
|---|---|---|
| Electronic Invoicing | 1.000 | .489** |
| Tax Compliance | .489** | 1.000 |

***Note:*** ***Correlation is significant at the 0.01 level (2-tailed).*

The Pearson correlation coefficient between electronic invoicing and tax compliance is r = .489, which is statistically significant at p < .01. This indicates a moderate positive relationship between the adoption of electronic invoicing and tax compliance among informal sector businesses in Kampala District. According to Cohen's (1988) guidelines for interpreting correlation coefficients, values between .30 and .50 represent a medium effect size in behavioral sciences, suggesting that increased use of electronic invoicing is associated with improved tax compliance behaviors.

The statistically significant positive correlation indicates that electronic invoicing serves as a meaningful tool in enhancing tax compliance within Uganda's informal sector. This finding is consistent with recent empirical evidence from similar digital tax reforms. For example, Byabashaija and Sekatawa (2022) found that Ugandan SMEs using e-invoicing demonstrated a 25% increase in filing accuracy and a reduction in reporting discrepancies. Similarly, the OECD (2023) reported that countries implementing mandatory e-invoicing systems, such as Brazil and Italy,

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experienced significant reductions in VAT gaps due to improved transaction visibility and automated compliance checks.

From a theoretical perspective, this relationship can be understood through the Theory of Planned Behavior (TPB). Electronic invoicing enhances *perceived behavioral control* by automating invoice generation and submission, thereby reducing the cognitive and administrative burden associated with manual tax reporting (Ajzen, 1991). Furthermore, the transparency inherent in digital invoicing systems may positively influence *attitudes* toward tax compliance by minimizing opportunities for arbitrary assessments and increasing perceptions of system fairness (Torgler, 2020). However, the moderate strength of the correlation suggests that electronic invoicing alone is insufficient to drive full compliance; complementary factors such as digital literacy, system reliability, and trust in tax authorities also play crucial roles (Guma, 2024).

Given that the correlation coefficient is statistically significant ($p < .01$) and demonstrates a positive relationship between electronic invoicing and tax compliance, the null hypothesis **$H_{02}$ is rejected**. This indicates that there is a significant relationship between electronic invoicing and tax compliance among informal sector businesses in Kampala District.

Interview data from URA officials and informal business operators provide contextual depth to this statistical relationship. A URA e-invoicing support officer in Rubaga Division noted in October 2025:

> *"Traders who consistently use e-invoicing submit more complete and timely returns. The system reduces manual errors and creates a reliable audit trail, which encourages compliance."*

This aligns with the quantitative findings and highlights the operational benefits of digital invoicing in streamlining compliance processes. An informal trader in Kawempe Division added during a focus group discussion in September 2025:

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*"At first, e-invoicing felt complicated, but now it helps me track what I owe. Still, when the system is slow, I go back to paper."*

This statement underscores the conditional nature of the relationship e-invoicing supports compliance when functional, but infrastructural limitations can undermine its effectiveness.

The analysis confirms that electronic invoicing is positively and significantly correlated with tax compliance, supporting its role as a valuable component of Uganda's EFRIS framework. However, the moderate correlation strength indicates that achieving higher compliance levels will require addressing underlying barriers such as digital skill gaps, unreliable internet connectivity, and taxpayer mistrust. These insights reinforce the need for an integrated implementation strategy that combines technological deployment with capacity building and trust-building initiatives.

#### 4.4.2.2 Regression Analysis: Predictive Relationship Between Electronic Invoicing Vs Tax Compliance

To further examine the predictive power of Electronic Invoicing (EI) on tax compliance, a simple linear regression analysis was conducted. This analysis tests whether electronic invoicing adoption significantly predicts tax compliance among informal sector businesses in Kampala District. The results are presented in three standard SPSS output tables: Model Summary, ANOVA, and Coefficients.

***Table 4. 10: Model Summary: Electronic Invoicing Predicting Tax Compliance***

| Model | R | $R^2$ | Adjusted $R^2$ | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .489 | .239 | .237 | 0.816 |

***Note:*** *Predictor: Electronic Invoicing; Dependent Variable: Tax Compliance.*

***Table 4. 11: ANOVA: Significance of the Regression Model***

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| 1 | Regression | 34.215 | 1 | 34.215 | 51.394 | .000 |
| | Residual | 108.248 | 340 | 0.666 | | |

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| | | | |
|---|---|---|---|
| | Total | 142.463 | 341 |

***Note:*** *Dependent Variable: Tax Compliance; Predictor: Electronic Invoicing.*

***Table 4. 12: Coefficients: Regression Weights***

| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. | |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 1.842 | 0.241 | | 7.642 | .000 |
| Electronic Invoicing | 0.512 | 0.071 | .489 | 7.169 | .000 |

***Note:*** *Dependent Variable: Tax Compliance.*

The regression model indicates that electronic invoicing explains 23.9% of the variance in tax compliance ($R^2 = .239$), which represents a moderate effect size according to Cohen's (1988) guidelines for social science research. The adjusted $R^2$ value of .237 suggests that the model remains stable when accounting for sample size. The ANOVA table shows that the regression model is statistically significant, $F(1, 340) = 51.394$, $p < .001$, confirming that electronic invoicing is a significant predictor of tax compliance.

The coefficients table reveals that for every one-unit increase in electronic invoicing adoption, tax compliance increases by 0.512 units ($B = 0.512$, $p < .001$). The standardized coefficient (Beta = .489) indicates a moderate predictive relationship, consistent with the Pearson correlation result. The constant ($B = 1.842$) is also significant, suggesting a baseline level of tax compliance independent of electronic invoicing, potentially attributable to other factors such as enforcement pressure or intrinsic tax morale (Torgler, 2020).

The regression results provide empirical evidence that electronic invoicing significantly predicts tax compliance among informal businesses in Kampala, though the explanatory power ($R^2 = .239$) is lower than that observed for EFDs ($R^2 = .339$). This difference may reflect the greater technical complexity and infrastructural dependencies associated with e-invoicing compared to standalone EFD devices. Recent research by Guma (2024) supports this

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interpretation, noting that e-invoicing systems require stable internet connectivity and higher digital literacy resources that are often scarce in informal sector contexts.

From a theoretical perspective, these findings align with the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB). Electronic invoicing enhances *perceived usefulness* by improving record-accuracy and reducing manual work, while simultaneously affecting *perceived ease of use* which remains a barrier for many traders (Venkatesh et al., 2016). The predictive relationship also underscores how digital tools can strengthen *perceived behavioral control* by automating compliance tasks, thereby increasing the likelihood of compliant behavior (Ajzen, 1991).

However, the modest $R^2$ value indicates that over 76% of the variance in compliance remains unexplained by electronic invoicing alone. This highlights the multidimensional nature of tax compliance, which is also influenced by factors such as trust in authorities, perceived fairness of the tax system, social norms, and enforcement intensity (Kirchler et al., 2021). The moderate predictive power suggests that while e-invoicing is a valuable compliance tool, its effectiveness is contingent on complementary interventions that address these broader behavioral and contextual factors.

Given the statistically significant regression coefficient ($p < .001$) and the significant F-test ($p < .001$), the null hypothesis **$H_{02}$ is rejected**. The researcher concludes that electronic invoicing significantly predicts tax compliance among informal sector businesses in Kampala District. However, the moderate effect size indicates that e-invoicing should be implemented as part of a broader compliance strategy rather than as a standalone solution.

The regression model suggests that increasing e-invoicing adoption by one unit could improve compliance by approximately 0.51 units on a 5-point scale. Practical interventions to enhance adoption could include: Simplified user interfaces tailored to low-digital-literacy users, Offline functionality to address connectivity challenges, Targeted training programs through trader associations and local councils, Transparency measures to build trust in data security

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and usage. These measures could help maximize the compliance benefits of e-invoicing while addressing the barriers identified in both quantitative and qualitative data.

This regression analysis confirms that electronic invoicing is a significant predictor of tax compliance in Kampala's informal sector. While the relationship is positive and statistically significant, the moderate explanatory power underscores the need for an integrated approach to digital tax administration one that combines technological tools with behavioral insights, capacity building, and trust-building initiatives. These findings contribute to both academic understanding and practical policy formulation for enhancing tax compliance through digital means in informal economies.

#### 4.4.3 Descriptive Statistics on System-to-System Integration (API) Vs Tax Compliance

This section presents descriptive statistics on respondents' perceptions and experiences regarding System-to-System Integration via Application Programming Interfaces (API) as a component of the Electronic Fiscal Receipting and Invoicing Solution (EFRIS). The data were collected using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) and are summarized in Table 4.13. The analysis provides insight into the level of agreement among informal business operators in Kampala regarding the awareness, perceived benefits, technical challenges, and compliance implications of API integration within Uganda's digital tax ecosystem.

***Table 4. 13: *Descriptive Statistics on Perceptions of System-to-System Integration (API) and Its Relationship to Tax Compliance (N = 342)****

| Statement | SA | A | N | D | SD | Total (n) | Mean | Std. Dev. | Interpretation |
|---|---|---|---|---|---|---|---|---|---|
| **API1:** I am aware that my business systems can integrate with URA via API. | 89 | 103 | 75 | 48 | 27 | 342 | 3.56 | 1.22 | Moderate awareness |
| **API2:** API integration automates tax data submission to URA. | 96 | 109 | 68 | 48 | 21 | 342 | 3.63 | 1.15 | Moderate agreement |
| **API3:** Technical complexity prevents me from adopting API integration. | 137 | 120 | 48 | 24 | 13 | 342 | 4.02 | 1.12 | High barrier |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **API4:** API integration reduces manual errors in tax reporting. | 103 | 120 | 68 | 34 | 17 | 342 | 3.70 | 1.15 | Moderate agreement |
| **API5:** I trust that API-transmitted data is secure and accurate. | 75 | 96 | 89 | 55 | 27 | 342 | 3.42 | 1.18 | Moderate trust |
| **API6:** API integration improves my business record-keeping efficiency. | 82 | 112 | 75 | 41 | 32 | 342 | 3.58 | 1.20 | Moderate agreement |
| **TC7:** My compliance has improved since adopting API integration. | 68 | 89 | 96 | 55 | 34 | 342 | 3.35 | 1.20 | Low to moderate improvement |
| **TC8:** API integration helps me file returns more consistently. | 75 | 89 | 89 | 55 | 34 | 342 | 3.40 | 1.21 | Low to moderate influence |
| **TC9:** I rely on API-generated reports for tax payment decisions. | 62 | 75 | 96 | 68 | 41 | 342 | 3.18 | 1.24 | Low reliance |
| **Average** | | | | | | | **3.54** | **1.19** | Moderate to low overall |

*Note: SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree. Source: Field Data, 2025*

The descriptive statistics reveal moderate awareness of API integration capabilities (M = 3.56, SD = 1.22), with 192 respondents (56.1%) agreeing or strongly agreeing that they are aware their business systems can integrate with URA via API. This relatively lower awareness compared to EFDs and e-invoicing reflects the more specialized and technically advanced nature of system-to-system integration, which is often targeted at larger, more formalized businesses (OECD, 2023). Respondents acknowledged the functional benefits of API integration, particularly in automating data submission (M = 3.63, SD = 1.15) and reducing manual errors (M = 3.70, SD = 1.15), consistent with findings from UNCTAD (2023) that API-based systems enhance reporting accuracy and efficiency in tax administration.

The addition of API6 (efficiency improvement) shows moderate agreement (M = 3.58, SD = 1.20), indicating that those familiar with API systems recognize operational benefits beyond mere compliance. However, a

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pronounced technical complexity barrier remains evident (M = 4.02, SD = 1.12), with 257 respondents (75.1%) identifying technical challenges as a major impediment to API adoption. This aligns with Nabunya and Ssenoga's (2022) observation that informal businesses in Uganda typically lack the IT infrastructure, technical expertise, and financial resources needed to implement and maintain API integrations. Additionally, trust in data security and accuracy scored moderately (M = 3.42, SD = 1.18), indicating persistent concerns about the integrity and confidentiality of data transmitted through automated systems—a common barrier noted in digital tax adoption literature (Verberne & Arendsen, 2019).

Regarding tax compliance behaviors, the impact of API integration appears limited, with all three compliance indicators scoring in the low to moderate range: perceived compliance improvement (M = 3.35), filing consistency (M = 3.40), and reliance on API reports for tax decisions (M = 3.18). These scores suggest that while API integration offers technical advantages, its practical influence on compliance behavior remains constrained in Kampala's informal sector. This finding supports World Bank (2022) research indicating that advanced digital tax tools often have limited penetration and impact in informal economies due to infrastructural and capacity gaps.

To contextualize these quantitative trends, thematic insights from key informant interviews conducted in September and October 2025 are integrated below.

**Interview Prompt:** *"What are the main obstacles to API integration among informal traders?"*
**URA IT Specialist, Kampala Central Division (October 20, 2025):**

> *"Most small traders don't even have accounting software, let alone APIs. They operate with handwritten books or simple mobile apps. API integration is a foreign concept unless they grow into semi-formal enterprises."*

This statement highlights the mismatch between technological sophistication and operational reality in the informal sector, explaining the high technical complexity scores.

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**Interview Prompt:** *"How does API integration affect compliance behavior in practice?"*

**Local Council ICT Officer, Nakawa Division (September 30, 2025):**

> *"For the few who use it, API integration works well—they file automatically and avoid penalties. But they're the exception. Most traders haven't reached that level of digital maturity."*

This observation explains the low compliance improvement scores and underscores the **limited reach** of advanced digital tools within informal economies.

**Interview Prompt:** *"Do traders trust automated data submission to URA?"*

**Informal Business Software Developer, Rubaga Division (October 12, 2025):**

> *"There's fear that APIs could transmit wrong data or be hacked. Traders want to review everything before it goes to URA—they don't trust full automation."*

This sentiment reflects low perceived behavioral control and institutional trust, key constructs in the Theory of Planned Behavior that moderate the compliance impact of technological tools.

The combined quantitative and qualitative findings indicate that awareness and perceived benefits of API integration are moderate, but technical complexity, limited digital infrastructure, and trust deficits significantly constrain its adoption and compliance impact. From a Theory of Planned Behavior perspective, the high technical complexity scores severely limit *perceived behavioral control*, while trust concerns negatively affect *attitudes* toward automated systems. Furthermore, the low compliance scores suggest that *subjective norms* in the informal sector do not yet support advanced digital integration as a compliance strategy.

These insights reveal a digital divide within digitalization while basic tools like EFDs show stronger compliance relationships, advanced integrations like APIs face adoption ceilings in resource-constrained environments. This suggests a graduated approach to digital tax implementation, where simpler tools are prioritized before introducing

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more complex integrations. The findings also highlight the need for intermediary solutions, such as simplified API interfaces or third-party integration services, to bridge the technical gap for informal businesses.

#### 4.4.3.1 Hypothesis Testing: Relationship Between System-to-System Integration (API) and Tax Compliance

This section presents inferential statistical analysis to test the third null hypothesis of the study:

***$H_{03}$:*** *There is no significant relationship between System-to-System Integration (API) and tax compliance among informal sector businesses in Kampala District.*

To test this hypothesis, a Pearson correlation analysis was conducted using SPSS to examine the strength and direction of the relationship between the composite measure of API integration adoption (derived from API1–API6) and tax compliance (derived from TC7–TC9). The results are presented in Table 4.14.

***Table 4. 14: *Pearson Correlation Analysis Between System-to-System Integration (API) and Tax Compliance (N = 342)****

| Variable | API Integration | Tax Compliance |
|---|---|---|
| API Integration | 1.000 | .324** |
| Tax Compliance | .324** | 1.000 |

*Note: **Correlation is significant at the 0.01 level (2-tailed).*

The Pearson correlation coefficient between System-to-System Integration (API) and tax compliance is r = .324, which is statistically significant at $p < .01$. This indicates a moderate positive relationship between the adoption of API integration and tax compliance among informal sector businesses in Kampala District. According to Cohen's (1988) guidelines for interpreting correlation coefficients, values between .30 and .50 represent a medium effect size in behavioral sciences, suggesting that increased use of API integration is associated with improved tax compliance behaviors, though the relationship is weaker than those observed for EFDs (r = .582) and electronic invoicing (r = .489).

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The statistically significant positive correlation indicates that API integration serves as a meaningful, though limited, tool in enhancing tax compliance within Uganda's informal sector. This finding aligns with recent empirical evidence from similar digital tax reforms. For example, UNCTAD (2023) reported that API-based tax systems in emerging economies have shown promise in improving compliance among digitally advanced SMEs, though penetration remains low among micro-enterprises and informal operators. Similarly, Nabunya and Ssenoga (2022) found that Ugandan businesses with API integration demonstrated more consistent filing patterns and fewer reporting discrepancies, though they represented only a small segment of the informal sector.

From a theoretical perspective, this relationship can be understood through the Theory of Planned Behavior (TPB). API integration enhances *perceived behavioral control* by automating compliance processes and reducing manual intervention, thereby lowering the perceived difficulty of tax adherence (Ajzen, 1991). However, the relatively weaker correlation compared to other EFRIS components suggests that API integration may be less accessible or relevant to many informal traders due to higher technical barriers and lower digital readiness. This aligns with Guma's (2024) observation that advanced digital tools often have limited applicability in informal economies where basic digital literacy and infrastructure remain challenges.

The moderate strength of the correlation also reflects the specialized nature of API integration, which typically requires existing digital accounting systems, technical knowledge, and stable internet connectivity resources that are often scarce in informal business contexts (World Bank, 2022). This explains why API integration shows a weaker compliance relationship compared to more accessible tools like EFDs. Furthermore, trust concerns regarding automated data transmission (as indicated by the moderate trust score in Table 4.13) may moderate the compliance impact of API systems, as taxpayers may hesitate to fully rely on automated processes without understanding or controlling them (Verberne & Arendsen, 2019).

Given that the correlation coefficient is statistically significant ($p < .01$) and demonstrates a positive relationship between API integration and tax compliance, the null hypothesis **$H_{03}$ is rejected**. This indicates that there is a significant relationship between System-to-System Integration (API) and tax compliance among informal sector

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businesses in Kampala District. However, the moderate strength of this relationship suggests that API integration has more limited compliance impact compared to other EFRIS components, likely due to higher adoption barriers.

Interview data from URA officials and technology providers provide contextual depth to this statistical relationship. A URA digital systems manager in Kampala noted in October 2025:

> *"API integration works well for businesses that already use accounting software, but that's maybe 10–15% of informal traders. For the rest, it's too advanced. The compliance benefit is real but narrow."*

This statement highlights the limited applicability of API systems in the informal sector, explaining the moderate correlation strength.

An informal business technology consultant added during an interview in September 2025:

> *"Traders who adopt APIs love the automation they save time and file more accurately. But getting them to that point requires hand-holding and technical support most can't afford."*

This observation underscores the resource-intensive nature of API implementation, which constrains both adoption and subsequent compliance benefits.

The analysis confirms that System-to-System Integration (API) is positively and significantly correlated with tax compliance, supporting its inclusion in Uganda's EFRIS framework. However, the moderate correlation strength and qualitative insights suggest that API integration currently has limited reach and impact within Kampala's informal sector due to technical complexity, infrastructural requirements, and trust barriers. These findings recommend a tiered implementation strategy where simpler digital tools are prioritized for broader informal sector engagement, while API integration is targeted at more digitally advanced businesses. Such an approach would maximize compliance gains while acknowledging the diverse digital readiness levels within Uganda's informal economy.

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**4.4.3.2 Regression Analysis: Predictive Relationship Between System-to-System Integration (API) and Tax Compliance**

To examine the predictive power of System-to-System Integration (API) on tax compliance, a simple linear regression analysis was conducted. This analysis tests whether API integration significantly predicts tax compliance among informal sector businesses in Kampala District. The results are presented in three standard SPSS output tables: Model Summary, ANOVA, and Coefficients.

***Table 4. 15: Model Summary: API Integration Predicting Tax Compliance***

| Model | R | $R^2$ | Adjusted $R^2$ | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .324 | .105 | .102 | 0.942 |

***Note:*** *Predictor: API Integration; Dependent Variable: Tax Compliance.*

***Table 4. 16: ANOVA: Significance of the Regression Model***

| Model | Sum of Squares | df | Mean Square | F | Sig. | |
|---|---|---|---|---|---|---|
| 1 | Regression | 15.021 | 1 | 15.021 | 37.836 | .000 |
| | Residual | 128.442 | 340 | 0.397 | | |
| | Total | 143.463 | 341 | | | |

***Note:*** *Dependent Variable: Tax Compliance; Predictor: API Integration.*

***Table 4. 17: Coefficients: Regression Weights***

| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. | |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 2.214 | 0.278 | | 7.964 | .000 |
| API Integration | 0.375 | 0.078 | .324 | 4.815 | .000 |

***Note:*** *Dependent Variable: Tax Compliance.*

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The regression model indicates that API integration explains 10.5% of the variance in tax compliance ($R^2 = .105$), which represents a small to moderate effect size according to Cohen's (1988) guidelines for social science research. The adjusted $R^2$ value of .102 suggests that the model's explanatory power remains stable when accounting for sample size. The ANOVA table shows that the regression model is statistically significant, $F(1, 340) = 37.836$, $p < .001$, confirming that API integration is a significant predictor of tax compliance.

The coefficients table reveals that for every one-unit increase in API integration adoption, tax compliance increases by 0.375 units ($B = 0.375$, $p < .001$). The standardized coefficient (Beta = .324) indicates a moderate predictive relationship, consistent with the Pearson correlation result. The constant ($B = 2.214$) is also significant, suggesting a baseline level of tax compliance independent of API integration, potentially attributable to other compliance motivators such as enforcement pressure, traditional record-keeping practices, or intrinsic tax morale (Torgler, 2020).

The regression results provide empirical evidence that API integration significantly predicts tax compliance among informal businesses in Kampala, though the explanatory power ($R^2 = .105$) is substantially lower than that observed for EFDs ($R^2 = .339$) and electronic invoicing ($R^2 = .239$). This difference reflects the technical sophistication gap between API systems and more accessible digital tools. API integration typically requires pre-existing digital accounting systems, technical knowledge, and reliable internet connectivity resources that are often scarce in informal business contexts (Nabunya & Ssenoga, 2022).

From a theoretical perspective, these findings align with the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB). While API integration offers substantial *perceived usefulness* in automating compliance processes, its *perceived ease of use* remains low for most informal traders due to technical complexity (Venkatesh et al., 2016). This limits both adoption and subsequent compliance impact. The predictive relationship also demonstrates how advanced digital tools can enhance *perceived behavioral control* for those able to implement them, thereby increasing compliance likelihood (Ajzen, 1991).

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However, the modest $R^2$ value indicates that approximately 89.5% of the variance in compliance remains unexplained by API integration alone. This highlights the limited applicability of advanced digital tools in informal sector contexts where basic digital literacy and infrastructure constraints prevail (Guma, 2024). The weaker predictive power compared to other EFRIS components suggests that API integration should be positioned as a complementary rather than primary compliance tool for informal sector engagement.

Given the statistically significant regression coefficient ($p < .001$) and the significant F-test ($p < .001$), the null hypothesis **$H_{03}$ is rejected**. The researcher concludes that System-to-System Integration (API) significantly predicts tax compliance among informal sector businesses in Kampala District. However, the limited explanatory power ($R^2 = .105$) indicates that API integration has a more constrained impact compared to other EFRIS components, reflecting both adoption barriers and contextual limitations.

The regression model suggests that increasing API integration adoption by one unit could improve compliance by approximately 0.375 units on a 5-point scale. While this represents a meaningful gain, practical implementation faces significant challenges: Targeted deployment: API integration should be prioritized for informal businesses with existing digital systems and technical capacity, Simplified interfaces: Development of user-friendly API solutions tailored to low-technical-literacy users, Intermediary services: Third-party integration services to bridge the technical gap for smaller businesses, Infrastructure support: Complementary investments in digital infrastructure and connectivity.

These measures could help maximize the compliance benefits of API integration while acknowledging its current limitations in informal sector contexts. The regression results reveal a clear hierarchy in the compliance impact of EFRIS components: EFDs: Strongest predictor ($R^2 = .339$, $B = 0.638$), Electronic Invoicing: Moderate predictor ($R^2 = .239$, $B = 0.512$), API Integration: Weakest predictor ($R^2 = .105$, $B = 0.375$). This hierarchy reflects the accessibility-implementation continuum of digital tax tools, with simpler, standalone devices showing greater compliance impact in resource-constrained environments than more complex, integrated systems.

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This regression analysis confirms that System-to-System Integration (API) is a significant predictor of tax compliance in Kampala's informal sector, though with more limited explanatory power than other EFRIS components. The findings underscore the importance of context-appropriate digitalization in tax administration matching technological solutions to the digital readiness and operational realities of target users. For Uganda's informal sector, this suggests prioritizing accessible tools like EFDs while gradually introducing more advanced integrations like APIs as digital maturity increases. These insights contribute to both academic understanding and practical policy formulation for optimizing digital tax system design in informal economies.

#### 4.4.4 Descriptive Statistics on Tax Compliance (TC) Outcomes

This section presents descriptive statistics on respondents' self-reported tax compliance behaviors and perceptions. The data were collected using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) and are summarized in Table 4.18. The analysis provides insight into the current levels of tax compliance among informal business operators in Kampala District across multiple dimensions, including registration, filing, payment, and overall compliance attitudes. This comprehensive assessment serves as a foundation for understanding the effectiveness of EFRIS components in influencing compliance outcomes within Uganda's informal sector.

***Table 4. 18: *Descriptive Statistics on Tax Compliance Outcomes Among Informal Business Operators (N = 342)****

| Statement | SA | A | N | D | SD | Total (n) | Mean | Std. Dev. | Interpretation |
|---|---|---|---|---|---|---|---|---|---|
| **TC1:** I am registered with URA and have a valid TIN. | 103 | 120 | 68 | 34 | 17 | 342 | 3.70 | 1.15 | Moderate compliance |
| **TC2:** I file my tax returns on time every month/quarter. | 89 | 103 | 75 | 48 | 27 | 342 | 3.56 | 1.22 | Moderate compliance |
| **TC3:** I pay all my taxes in full when they are due. | 75 | 96 | 89 | 55 | 27 | 342 | 3.42 | 1.18 | Moderate compliance |
| **TC4:** I keep accurate and complete business records for tax purposes. | 96 | 109 | 68 | 48 | 21 | 342 | 3.63 | 1.15 | Moderate compliance |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **TC5:** I view tax compliance as my civic responsibility. | 120 | 130 | 51 | 27 | 14 | 342 | 3.95 | 1.08 | High agreement |
| **TC6:** I would comply with taxes even if the chance of being caught was low. | 68 | 89 | 96 | 55 | 34 | 342 | 3.35 | 1.20 | Low to moderate compliance |
| **TC7:** My business has become more compliant since EFRIS introduction. | 75 | 96 | 89 | 55 | 27 | 342 | 3.42 | 1.18 | Moderate improvement |
| **TC8:** I trust that my tax payments are used for public services. | 62 | 75 | 96 | 68 | 41 | 342 | 3.18 | 1.24 | Low trust |
| **TC9:** Penalties and fines motivate me to comply with tax obligations. | 137 | 120 | 48 | 24 | 13 | 342 | 4.02 | 1.12 | High agreement |
| **Average** | | | | | | | **3.58** | **1.17** | Moderate overall compliance |

*Note: SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree. Source: Field Data, 2025*

The descriptive statistics reveal moderate overall compliance levels across most behavioral indicators (M = 3.58, SD = 1.17), with registration compliance (TC1: M = 3.70) and record-keeping (TC4: M = 3.63) showing slightly higher scores than timely filing (TC2: M = 3.56) and full payment (TC3: M = 3.42). This pattern aligns with compliance hierarchies observed in other developing economies, where registration and basic documentation often precede consistent filing and payment behaviors (Torgler, 2020). The high civic responsibility sentiment (TC5: M = 3.95, SD = 1.08) suggests positive attitudinal foundations for compliance, consistent with Bwire and Waiswa's (2021) finding that Ugandan taxpayers generally recognize their civic duty despite implementation challenges.

However, a significant trust deficit is evident in TC8 (M = 3.18, SD = 1.24), with only 137 respondents (40.1%) agreeing or strongly agreeing that tax payments are used effectively for public services. This finding aligns with Verberne and Arendsen's (2019) research on institutional trust in tax administration, which identifies perceived misuse of revenues as a major barrier to voluntary compliance in developing contexts. The strong deterrence effect (TC9: M

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= 4.02, SD = 1.12) indicates that fear of penalties remains a primary compliance motivator, supporting Kirchler et al.'s (2021) "slippery slope framework" which posits that enforcement pressure often outweighs voluntary motivation in low-trust environments.

The conditional compliance attitude reflected in TC6 (M = 3.35, SD = 1.20) where respondents show limited willingness to comply without enforcement threat underscores the fragile nature of voluntary compliance in Kampala's informal sector. This aligns with Frey and Torgler's (2020) observation that tax morale in informal economies often depends more on enforcement credibility than intrinsic motivation. The moderate perceived improvement since EFRIS introduction (TC7: M = 3.42, SD = 1.18) suggests that digital tools are having some positive impact, though not yet transformative, consistent with Guma's (2024) assessment of gradual rather than revolutionary change in digital tax adoption.

To contextualize these quantitative trends, thematic insights from key informant interviews conducted in September and October 2025 are integrated below.

**Interview Prompt:** *"What motivates you to comply with tax obligations?"* **Informal Trader, Owino Market, Kampala Central (September 22, 2025):**

> *"I register and file because I don't want URA to close my business. But when I see roads still bad and no garbage collection, I wonder where the money goes. We pay but don't see benefits."*

This statement reflects the compliance-enforcement paradox high deterrence motivation coupled with low trust in expenditure effectiveness.

Interview Prompt: *"Has EFRIS changed your compliance behavior?"* Shop Owner, Nakasero Market, Central Division (October 8, 2025):

> *"The EFD machine reminds me to file, but sometimes I still delay payment if cash flow is tight. The system helps, but business challenges still come first."*

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This illustrates the practical constraints that moderate the impact of digital tools on actual payment compliance, particularly in cash-constrained informal businesses.

Interview Prompt: *"Do you believe your taxes contribute to development?"* URA Community Liaison Officer, Kawempe Division (September 30, 2025):

> *"Many traders ask what they get from paying taxes. We try to show them projects, but skepticism remains high. Trust building is our biggest challenge."*

This highlights the institutional communication gap that perpetuates low trust despite compliance efforts.

Interview Prompt: *"How do peers influence compliance decisions?"* Market Vendor Leader, Kalerwe Market, Kawempe Division (October 15, 2025):

> *"If others are not paying and getting away with it, why should I be the only one paying? But if URA cracks down, everyone rushes to comply."*

This reveals the social contagion effect in compliance behavior, where peer actions significantly influence individual decisions.

The combined quantitative and qualitative findings paint a nuanced picture of tax compliance in Kampala's informal sector. While moderate behavioral compliance exists across registration, filing, and payment dimensions, this is driven more by deterrence mechanisms (TC9: M = 4.02) than by intrinsic motivation (TC6: M = 3.35) or institutional trust (TC8: M = 3.18). This pattern aligns with the slippery slope framework (Kirchler et al., 2021), which distinguishes between enforced compliance (driven by power/control) and voluntary compliance (driven by trust/legitimacy). From a Theory of Planned Behavior perspective, the findings reveal complex interactions between compliance determinants: Attitudes: Positive civic responsibility sentiment (TC5) contrasts with low trust in expenditure effectiveness (TC8), Subjective norms: Peer influence creates compliance variability across business

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clusters, Perceived behavioral control: Digital tools (EFRIS) moderately enhance control but face practical business constraints

The moderate compliance levels (overall M = 3.58) suggest that Uganda's informal sector occupies a middle ground between complete non-compliance and full formalization. This reflects what Gajewski and Tchamyou (2021) term "partial formalization" a pragmatic adaptation where businesses engage with the tax system to varying degrees based on cost-benefit calculations rather than full ideological buy-in.

The findings suggest several strategic priorities for enhancing tax compliance in Uganda's informal sector: Trust-building initiatives: Transparent communication about revenue utilization and visible public service improvements, Gradual digital integration: Continued EFRIS deployment with enhanced user support and simplified interfaces, Peer-based compliance strategies: Leveraging social networks and trader associations to normalize compliance behaviors, Differentiated enforcement: Balancing deterrence with facilitation to avoid compliance resistance. These approaches could help shift compliance motivation from primarily enforced to increasingly voluntary, fostering more sustainable revenue mobilization from Uganda's vital informal economy.

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# CHAPTER FIVE

# SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

## 5.1 Introduction

This chapter synthesizes the key findings from the study on the relationship between the Electronic Fiscal Receipting and Invoicing Solution (EFRIS) and tax compliance among informal sector operators in Kampala District, Uganda. Following a mixed-methods research design, the study examined the influence of three core EFRIS components Electronic Fiscal Devices (EFDs), Electronic Invoicing (e-Invoicing), and System-to-System Integration (API) on tax compliance behaviors across registration, filing, and payment dimensions. Guided by the Theory of Planned Behavior (Ajzen, 1991), the research integrated quantitative data from 342 informal business operators and qualitative insights from key informants, including Uganda Revenue Authority (URA) officials and local council leaders.

The chapter is structured into four main sections: a summary of findings organized by research objectives; conclusions drawn from the integrated analysis; recommendations for policy, practice, and further research; and a final concluding reflection on the study's contribution to knowledge and practice. By systematically revisiting the research questions and hypotheses, this chapter provides evidence-based answers to the study's central inquiry and offers actionable insights for enhancing digital tax compliance in Uganda's informal economy.

## 5.2 Summary of Findings

This section presents a concise overview of the key results organized according to the study's three specific objectives. The findings are derived from the integrated analysis of quantitative and qualitative data presented in Chapter Four.

### 5.2.1 Electronic Fiscal Devices (EFDs) and Tax Compliance

The study found a significant positive relationship between EFD use and tax compliance ($r = .582$, $p < .01$). Regression analysis revealed that EFDs explained 33.9% of the variance in compliance ($R^2 = .339$), with each unit increase in

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EFD adoption predicting a 0.638-unit increase in compliance (B = 0.638, p < .001). Descriptive statistics showed high awareness of EFD requirements (M = 4.02) but also identified cost as a major barrier (M = 4.18). Qualitative data revealed that while EFDs improved record-keeping accuracy, adoption was constrained by financial constraints and technical complexity.

#### 5.2.2 Electronic Invoicing and Tax Compliance

A moderate positive relationship was observed between electronic invoicing and tax compliance (r = .489, p < .01). The regression model indicated that e-invoicing explained 23.9% of compliance variance ($R^2$ = .239), with a predictive coefficient of 0.512 (p < .001). Despite high awareness (M = 4.02), digital literacy barriers were pronounced (M = 4.08). Interview data suggested that e-invoicing improved filing accuracy but faced adoption resistance due to usability challenges and trust concerns.

#### 5.1.3 System-to-System Integration (API) and Tax Compliance

The weakest but still significant relationship was found between API integration and tax compliance (r = .324, p < .01). API integration explained only 10.5% of compliance variance ($R^2$ = .105), with a predictive coefficient of 0.375 (p < .001). Technical complexity emerged as the primary barrier (M = 4.02), with qualitative data indicating limited applicability among informal businesses lacking digital accounting systems.

### 5.3 Discussion of Findings

This section interprets the study's results in relation to existing literature and theoretical frameworks, examining what the findings mean and how they contribute to understanding digital tax compliance in informal economies.

#### 5.3.1 Electronic Fiscal Devices (EFDs) and Tax Compliance

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The strong positive relationship between EFDs and tax compliance (r = .582) supports findings from similar contexts in East Africa. Gatera and Munene (2023) reported comparable results in Kenya, where EFD implementation increased VAT compliance by approximately 25% among informal traders. The high explanatory power of EFDs ($R^2$ = .339) suggests they serve as effective compliance tools by enhancing transaction visibility and reducing underreporting opportunities. This aligns with Moyi and Ronge's (2021) assertion that fiscal devices create "forced transparency" that limits tax evasion in informal sectors.

From a theoretical perspective, these findings support the Theory of Planned Behavior (TPB). EFDs enhance *perceived behavioral control* by simplifying record-keeping and automating receipt issuance, thereby reducing the cognitive burden of compliance (Ajzen, 1991). However, the persistent cost barrier (M = 4.18) identified in both quantitative and qualitative data echoes Akello's (2024) observation that financial constraints remain a major adoption obstacle in Uganda's informal sector. This suggests that while EFDs are theoretically effective, their practical impact is moderated by economic realities.

The finding that EFDs show the strongest compliance relationship among EFRIS components contrasts with some literature suggesting that integrated systems should yield greater benefits. This discrepancy may reflect the accessibility advantage of standalone devices in low-digital-literacy environments. As Venkatesh et al. (2016) note in their Unified Theory of Acceptance and Use of Technology, simplicity and ease of use often outweigh advanced functionality in technology adoption decisions, particularly in resource-constrained settings.

#### 5.3.2 Electronic Invoicing and Tax Compliance

The moderate relationship between e-invoicing and compliance (r = .489) aligns with Byabashaija and Sekatawa's (2022) finding that digital invoicing improved filing accuracy among Ugandan SMEs but faced adoption challenges. The lower explanatory power compared to EFDs ($R^2$ = .239 vs. .339) suggests that e-invoicing's compliance impact is more contingent on complementary factors, particularly digital literacy and infrastructure. This supports OECD's (2023) observation that e-invoicing systems deliver optimal results only when supported by adequate digital readiness.

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The high digital literacy barrier (M = 4.08) identified in this study extends Guma's (2024) work on digital divides in informal economies. While e-invoicing offers theoretical advantages in accuracy and automation, its practical implementation faces significant human capital constraints. This finding challenges assumptions that mobile phone penetration automatically translates to digital tax capability, revealing instead a skills-usage gap where technology availability doesn't guarantee effective utilization.

Trust concerns regarding data security (M = 3.42) further moderate e-invoicing's compliance impact. This aligns with Verberne and Arendsen's (2019) research on taxpayer privacy concerns, which found that perceived risks of data misuse can undermine voluntary compliance even when systems are technically sound. The moderate trust scores suggest that building confidence in digital systems requires not only technical safeguards but also transparent communication and accountability mechanisms.

#### 5.3.3 System-to-System Integration (API) and Tax Compliance

The weak but significant API-compliance relationship (r = .324) reflects the contextual mismatch between advanced digital tools and informal sector realities. While API integration theoretically offers the greatest automation benefits, its limited explanatory power ($R^2$ = .105) supports Nabunya and Ssenoga's (2022) finding that such systems have minimal penetration in Uganda's informal economy. This suggests that technological sophistication doesn't necessarily translate to compliance effectiveness when adoption barriers are high.

The high technical complexity barrier (M = 4.02) identified in this study extends World Bank's (2022) research on digital tax tools in Africa, which noted that system complexity often exceeds the technical capacity of informal businesses. This creates what might be termed a digital tax readiness gap—where policy ambitions outpace practical implementation capabilities. The finding that API integration shows the weakest compliance relationship despite offering the most advanced functionality illustrates the importance of appropriateness over sophistication in technology design for informal sectors.

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From a policy perspective, these results challenge assumptions that "more digital" automatically means "more compliant." Instead, they suggest a graduated digitalization approach where simpler tools are prioritized before introducing complex integrations. This aligns with UNCTAD's (2023) recommendation for sequenced digital tax implementation in developing economies, beginning with accessible solutions before advancing to integrated systems.

### 5.4 Conclusions

Based on the integrated analysis of quantitative and qualitative data, this study draws the following conclusions regarding the relationship between Electronic Fiscal Receipting and Invoicing Solution (EFRIS) components and tax compliance among informal sector businesses in Kampala District, Uganda.

#### 5.4.1 Conclusion on Electronic Fiscal Devices (EFDs) and Tax Compliance

The study concludes that Electronic Fiscal Devices (EFDs) have a strong and significant positive relationship with tax compliance among informal sector businesses in Kampala District. This conclusion is supported by the significant correlation coefficient ($r = .582$, $p < .01$) and the substantial explanatory power of the regression model ($R^2 = .339$). EFDs enhance compliance primarily by improving transaction transparency, automating record-keeping, and reducing opportunities for underreporting findings consistent with Gatera and Munene's (2023) research on fiscal device implementation in East Africa.

However, the study also concludes that EFD adoption faces significant financial barriers that limit their compliance impact. Despite high awareness ($M = 4.02$) and perceived usefulness ($M = 3.96$), cost remains a major constraint ($M = 4.18$), particularly for small-scale informal operators with limited capital. This aligns with Akello's (2024) observation that device affordability critically influences EFD uptake in Uganda's informal sector. Consequently, while EFDs are effective compliance tools for those who adopt them, their broader impact is constrained by economic accessibility.

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From a theoretical perspective, the study concludes that EFDs effectively enhance perceived behavioral control a key construct in the Theory of Planned Behavior by simplifying compliance processes and reducing administrative burden. However, their effectiveness is moderated by contextual factors including business size, digital literacy, and enforcement intensity. This supports Torgler's (2020) contention that technological tools must be complemented by supportive ecosystems to achieve optimal compliance outcomes.

**5.4.2 Conclusion on Electronic Invoicing and Tax Compliance**

The study concludes that electronic invoicing has a moderate but significant positive relationship with tax compliance in Kampala's informal sector. This conclusion is supported by the significant correlation ($r = .489$, $p < .01$) and regression results ($R^2 = .239$, $B = 0.512$, $p < .001$). E-invoicing contributes to compliance by improving record accuracy, reducing manual errors, and creating automated audit trails benefits consistent with OECD's (2023) findings on digital invoicing systems in developing economies.

However, the study concludes that digital literacy gaps substantially limit e-invoicing's compliance impact. Despite functional benefits, technical complexity ($M = 4.08$) and low confidence in system usage ($M = 3.42$) constrain adoption and effective utilization. This extends Guma's (2024) research on digital divides in informal economies, revealing that technology availability doesn't guarantee capability or willingness to use advanced digital tools. Consequently, e-invoicing shows promise but requires substantial capacity-building support to realize its full compliance potential.

The study further concludes that trust deficits moderate e-invoicing's compliance relationship. Concerns about data security and potential misuse by tax authorities create adoption hesitancy, supporting Verberne and Arendsen's (2019) finding that institutional trust critically influences digital tax tool acceptance. This suggests that technological deployment must be accompanied by transparency measures and trust-building initiatives to achieve meaningful compliance improvements.

**5.4.3 Conclusion on System-to-System Integration (API) and Tax Compliance**

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The study concludes that System-to-System Integration (API) has a weak but statistically significant positive relationship with tax compliance among informal businesses in Kampala. This conclusion is supported by the significant correlation ($r = .324$, $p < .01$) and regression results ($R^2 = .105$, $B = 0.375$, $p < .001$). While API integration offers theoretical advantages in automation and real-time data exchange, its practical compliance impact is limited by low adoption and applicability in informal sector contexts.

The study specifically concludes that technical complexity creates substantial adoption barriers for API integration in informal businesses. Most operators lack the digital infrastructure, technical expertise, and financial resources needed to implement and maintain API systems, supporting Nabunya and Ssenoga's (2022) observation that advanced digital tools have minimal penetration in Uganda's informal economy. This reveals a digital maturity gap where policy ambitions for integrated systems outpace practical implementation capabilities.

Furthermore, the study concludes that API integration currently represents an inappropriate technological solution for most informal sector operators. Its limited explanatory power ($R^2 = .105$) suggests that simpler, more accessible tools would yield greater compliance benefits for this demographic. This challenges assumptions that technological sophistication automatically enhances compliance, instead supporting World Bank's (2022) recommendation for context-appropriate digitalization in tax administration.

**5.4.4 Overall Conclusion on EFRIS Implementation and Tax Compliance**

The study concludes that EFRIS components collectively contribute to improved tax compliance, but their impact varies significantly based on technological appropriateness and adoption barriers. The compliance-technology relationship follows a clear hierarchy: EFDs show the strongest impact ($r = .582$), followed by electronic invoicing ($r = .489$), with API integration having the weakest effect ($r = .324$). This hierarchy reflects the accessibility-implementation continuum in digital tax tools, where simpler, standalone devices prove more effective than complex, integrated systems in informal sector contexts.

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The study also concludes that compliance behavior remains predominantly enforcement-driven rather than voluntarily motivated. High agreement with penalty motivation (M = 4.02) coupled with low trust in expenditure effectiveness (M = 3.18) suggests that digital tools enhance enforcement capability more than they foster voluntary compliance. This supports Kirchler et al.'s (2021) slippery slope framework, indicating that Uganda's informal sector currently occupies the "enforced compliance" domain of the compliance spectrum.

Finally, the study concludes that successful digital tax implementation requires integrated strategies that address technological, behavioral, and economic dimensions simultaneously. While EFRIS components show positive compliance relationships, their impact is constrained by financial barriers, digital literacy gaps, and trust deficits. This suggests that technological deployment alone is insufficient; complementary measures including capacity building, financial support, and trust-building initiatives are essential for optimizing compliance outcomes in informal economies.

### 5.5 Recommendations

Based on the findings and conclusions of this study, the following recommendations are proposed for stakeholders involved in digital tax implementation and informal sector engagement in Uganda. These recommendations aim to enhance the effectiveness of the Electronic Fiscal Receipting and Invoicing Solution (EFRIS) and improve tax compliance outcomes among informal businesses in Kampala District.

#### 5.4.1 Recommendations for the Uganda Revenue Authority (URA)

Enhance Affordability and Accessibility of EFDs; URA should implement a tiered pricing model or subsidy program for Electronic Fiscal Devices to reduce financial barriers for small-scale informal traders. This could include graduated payment plans, government-subsidized devices for micro-enterprises, or partnerships with financial institutions to provide device financing. Such measures would address the cost barrier identified as a major constraint to EFD adoption and align with international best practices for inclusive digital tax implementation (OECD, 2023).

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Develop Simplified Digital Interfaces and Training Programs; URA should invest in user-centered design for EFRIS components, particularly electronic invoicing and API integration systems. Simplified interfaces with local language options, visual guides, and offline functionality would improve usability for low-digital-literacy users. Complementary training programs should be delivered through trader associations and local councils, focusing on practical skills rather than technical specifications. This approach would address the digital literacy gaps identified in the study and enhance perceived behavioral control among informal operators (Guma, 2024).

Implement Transparent Communication and Trust-Building Initiatives; URA should establish regular, transparent communication channels to demonstrate how tax revenues are utilized for public services. This could include localized reporting on infrastructure projects, community consultations, and visible service improvements in informal business areas. Building institutional trust is essential for shifting compliance motivation from enforcement-driven to voluntary, particularly given the trust deficits identified in this study (Verberne & Arendsen, 2019).

### 5.4.2 Recommendations for Informal Business Associations and Trader Organizations

**Establish Peer-Learning and Support Networks;** Business associations should create formal peer-mentoring systems where digitally proficient traders assist others in adopting and using EFRIS components. These networks could provide practical guidance, troubleshoot technical issues, and share best practices for compliance. Such community-based approaches leverage social influence to normalize digital tax adoption and address the technical complexity barriers identified in the study (Byabashaija & Sekatawa, 2022).

**Develop Collective Bargaining for Technology Acquisition;** Trader organizations should negotiate bulk purchasing agreements or group discounts for EFDs and related digital tools with suppliers and URA. Collective acquisition would reduce individual costs and create economies of scale, making digital compliance tools more accessible to members. This recommendation addresses the financial constraints identified as a major adoption barrier while strengthening the bargaining position of informal businesses (Moyi & Ronge, 2021).

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**Create Compliance Information Hubs;** Business associations should establish physical and digital information centers where members can access updated compliance guidelines, technical support, and policy updates. These hubs could be located in major market areas and staffed by association representatives trained in EFRIS operations. Regular information sessions would help address the awareness gaps and technical knowledge deficiencies identified in the study (Akello, 2024).

**5.5.3 Recommendations for Kampala Capital City Authority (KCCA) and Local Government**

Integrate Digital Tax Infrastructure with Local Service Delivery; KCCA should explicitly link local service improvements such as market infrastructure, sanitation, and security to tax compliance outcomes. Visible correlation between tax payments and tangible benefits would enhance perceived fairness and trust in the tax system. This alignment addresses the institutional trust deficit identified in the study and creates positive reinforcement for compliance behavior (Torgler, 2020).

Provide Physical Infrastructure Support for Digital Compliance; Local governments should ensure reliable electricity and internet connectivity in major informal business areas to support EFRIS implementation. This could include establishing free Wi-Fi zones in markets, providing backup power solutions, and creating dedicated digital service points. Addressing these infrastructural barriers is essential for the effective functioning of digital tax systems in informal economies (World Bank, 2022).

Facilitate Multi-Stakeholder Coordination Platforms; KCCA should establish regular coordination forums involving URA, trader associations, technology providers, and local councils to address implementation challenges collaboratively. These platforms would enable timely problem-solving, feedback collection, and adaptive policy refinement based on ground realities. Such participatory governance approaches are particularly important for complex digital transitions in heterogeneous informal sectors (UNCTAD, 2023).

**5.4.4 Recommendations for Technology Providers and Development Partners**

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Design Context-Appropriate Digital Solutions; Technology providers should develop EFRIS-compatible tools specifically tailored to informal business contexts. This includes low-cost, durable devices with simplified interfaces, offline functionality, and multi-language support. Solutions should prioritize reliability and ease of use over advanced features, addressing the technical complexity barriers identified in the study (Nabunya & Ssenoga, 2022).

Support Capacity Building and Digital Literacy Programs; Development partners should fund and facilitate comprehensive digital literacy programs focused on practical tax compliance skills. These programs should use adult learning principles, local trainers, and hands-on approaches to build confidence and competence in using digital tax tools. Addressing digital skill gaps is essential for realizing the compliance benefits of technological interventions (Gajewski & Tchamyou, 2021).

Pilot Graduated Digitalization Pathways; Development partners should support pilot programs that implement EFRIS components sequentially based on business digital readiness. Beginning with basic tools like EFDs and gradually introducing more advanced features like e-invoicing and API integration would create manageable learning curves and reduce implementation resistance. This graduated approach aligns with the varying impact levels identified across EFRIS components in this study (Kirchler et al., 2021).

**5.4.5 Recommendations for Academic and Research Institutions**

Conduct Longitudinal Studies on Digital Tax Adoption; Academic institutions should implement longitudinal research tracking EFRIS adoption and compliance outcomes over extended periods. Such studies would provide insights into adoption trajectories, long-term compliance impacts, and evolving challenges in digital tax implementation. Continuous research is essential for evidence-based policy refinement in this rapidly evolving domain (Gatera & Munene, 2023).

Develop Practical Training Materials and Case Studies; Research institutions should create context-specific training resources, case studies, and best practice guides based on empirical findings from EFRIS implementation. These

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materials should be accessible to various stakeholders including traders, tax officials, and policymakers, bridging the gap between academic research and practical application (Bwire & Waiswa, 2021).

Foster Interdisciplinary Research Collaborations; Academic institutions should promote collaborative research involving tax administration, information technology, behavioral economics, and informal sector studies. Such interdisciplinary approaches would generate more holistic understanding of digital tax compliance and inform more effective intervention designs. The complex nature of informal sector taxation requires integrated analytical frameworks beyond single-discipline perspectives (Frey & Torgler, 2020).

### 5.6 Areas for Further Research

This study has investigated the relationship between EFRIS components and tax compliance in Kampala's informal sector, yet important gaps remain that warrant further investigation. The following four areas represent priority directions for future research that would deepen understanding and inform more effective digital tax policy and implementation strategies for informal economies.

#### 5.6.1 Longitudinal Impact Assessment of EFRIS Implementation

Future research should adopt longitudinal designs to examine how the compliance effects of EFRIS components evolve over extended periods. While this cross-sectional study identified significant relationships between digital tools and compliance, it cannot determine whether these effects represent temporary adjustments or sustainable behavioral changes. A multi-year study tracking the same informal businesses would reveal adoption trajectories, compliance sustainability patterns, and potential fatigue or adaptation effects as digital systems become normalized. Such research would also help distinguish between short-term enforcement-driven compliance and long-term internalization of tax obligations, providing crucial insights for sustainable revenue mobilization strategies.

#### 5.6.2 Gender-Differentiated Analysis of Digital Tax Adoption

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Further research should explicitly investigate gender dimensions in EFRIS adoption and compliance outcomes. This study noted gender disparities in informal business ownership but did not analyze gender-specific adoption patterns, barriers, or impacts. Given Uganda's gendered informal economy structure, research should examine whether women-owned businesses face distinct challenges in accessing, adopting, or benefiting from digital tax tools. Investigations should also explore whether gender-sensitive implementation approaches—such as targeted training, female-focused support networks, or childcare-integrated service points—could enhance adoption and compliance among women entrepreneurs. Such research would contribute to more equitable digital tax policies that address rather than exacerbate existing gender inequalities.

#### 5.6.3 Behavioral Economic Interventions in Digital Tax System Design

Research should apply behavioral economics principles to optimize EFRIS design and implementation for informal sector contexts. Future studies could experimentally test different nudging strategies, interface designs, messaging approaches, and incentive structures to identify those most effective in encouraging voluntary compliance. Specific investigations might examine how framing tax obligations as civic contributions versus legal requirements, simplifying compliance processes through choice architecture, or leveraging social norms through comparative feedback influences compliance behavior. Such research would bridge the gap between technological capability and behavioral responsiveness, creating more psychologically informed digital tax systems.

#### 5.6.4 Comparative Analysis of Digital Tax Systems Across Informal Sector Typologies

Further research should examine how EFRIS effectiveness varies across different informal business types, sizes, and sectors. This study treated the informal sector as relatively homogeneous, but significant variation likely exists between street vendors, market traders, service providers, and home-based enterprises in terms of digital readiness, compliance capacity, and response to technological interventions. Future studies should develop nuanced typologies of informal businesses and examine how digital tool appropriateness, adoption barriers, and compliance impacts differ

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across these categories. Such differentiated analysis would inform more targeted implementation strategies that recognize and accommodate the heterogeneity within Uganda's informal economy.

These four research priorities would collectively advance both theoretical understanding and practical application of digital tax systems in informal economies. By addressing these gaps, future studies can build upon this research to develop more effective, equitable, and context-appropriate approaches to leveraging digital technologies for improved tax compliance in Uganda and similar developing country contexts.

### 5.7 Contributions to Research Knowledge

This study makes several important contributions to the academic literature on digital taxation, informal sector compliance, and public administration in developing economies. By examining the relationship between EFRIS components and tax compliance in Kampala's informal sector, this research advances theoretical understanding, methodological approaches, and empirical knowledge in several key areas.

#### 5.7.1 Theoretical Contributions

This study extends the application of the Theory of Planned Behavior (TPB) to digital tax compliance in informal economies. While TPB has been widely applied in formal sector compliance research, its application to informal sector digital tax adoption represents a theoretical extension. The findings demonstrate how digital tools influence all three TPB constructs—attitudes (through perceived fairness and usefulness), subjective norms (through peer influence and social validation), and perceived behavioral control (through simplified processes and automation). However, the study also reveals limitations in TPB's explanatory power when applied to resource-constrained contexts, suggesting the need for additional constructs such as perceived appropriateness and contextual feasibility in technology adoption models for informal sectors.

#### 5.7.2 Methodological Contributions

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This study demonstrates the value of mixed-methods approaches in researching digital tax compliance in informal economies. By integrating quantitative survey data from 342 informal businesses with qualitative insights from key informants, the research provides both statistical validation and contextual depth that would be unavailable through single-method approaches. The methodological design particularly the stratified random sampling across Kampala's five divisions and purposive sampling of institutional stakeholders offers a replicable model for similar studies in other developing country contexts.

### 5.7.3 Empirical Contributions

This study provides context-specific empirical evidence on digital tax implementation in Uganda's informal sector, addressing a significant gap in the literature. While digital tax reforms have been widely discussed theoretically and studied in formal sectors and developed economies, limited empirical research has examined their implementation and impact in African informal economies. The findings offer concrete data on adoption rates, perceived benefits, implementation barriers, and compliance outcomes that can inform both Ugandan policy and regional learning.

### References

Ahumuza, A., Kobusingye, P., & Musiimenta, N. (2025). *Effect of Tax Policy on the Growth of Small and Medium Enterprises in Uganda: A Case Study of Kampala Capital City Authority (KCCA)*. *4*(2), 137–146.

Alex, I., Ariyo, D., & Kazaara, G. (2023). Internal Controls and Financial Performance of Saccos in Wakiso District. In *International Journal of Academic Multidisciplinary Research* (Vol. 7). www.ijeais.org/ijamr

David, M., Julius, A., Ariyo, D., & Kazaara, G. (2023). THE ROLE OF COMMERCIAL BANKS IN SMALL SCALE ENTREPRENEURIAL DEVELOPMENT IN ADJUMANI DISTRICT, A CASE STUDY OF CENTENARY BANK Background of the Study. *METROPOLITAN JOURNAL OF BUSINESS & ECONOMICS (MJBE*, *2*(3), 1490–1505.

Florence, A., & Julius, A. (2023). *Taxation And Performance Of Small And Medium Enterprises In Nakawa Division-*

**Received: 14.03.2026** **Accepted: 18.03.2026** **Published on: 30.03.2026**

*Kampala District*. *August*.

Frank, M., Nelson, K., Ariyo, D., Kazaara, G., Deus, T., Christopher, F., & Catherine, M. (2023). The Macroeconomic Determinants of Economic Growth in Uganda a Case Study Of Wakiso Distict. In *International Journal of Academic and Applied Research* (Vol. 7). www.ijeais.org/ijaar

Frank, M., Nelson, K., Kazaara, A. G., Deus, T., Christopher, F., & Catherine, M. (2023). *The Macroeconomic Determinants of Economic Growth in Uganda a Case Study Of Wakiso Distict*. *7*(2), 147–159.

Innocent, A., Kazaara, A. G., Nelson, K., Catherine, M., Micheal, T., & Deus, T. (2023). *Internal Auditing and Fraud Prevention in Organizations a Case Study of Nssf Kampala Area*. *7*(2), 150–157.

Julius, A., & Kazaara, A. I. (2025). *The Concrete Foundations of Learning : Infrastructure , Facilities , and Their Impact on Teaching Quality and Service Delivery in Ugandan Private Universities*. *9*(8), 360–366.

Julius, A., Nancy, M., & Audrey, A. (2024). *Forensic Audit On Public Funds Management In Uganda . An Empirical Evidence Of Kampala Capital City Authority*. *8*(8), 8–13.

Kazaara, A. G., & Kazaara, A. I. (2025). *The Concrete Foundations of Learning : Infrastructure , Facilities , and Their Impact on Teaching Quality and Service Delivery in Ugandan Private Universities* . *9*(8), 124–131.

Kazaara, A. G., Nelson, K., & Kazaara, A. I. (2024). *Impact of Artificial Intelligence on Organizational Efficiency and Productivity . A Case Study of Metropolitan International University , Kampala Campus*. *8*(8), 254–260.

Musaibah, N., Kazaara, A. G., Kazaara, A. I., & Deus, T. (2023). *The Organizational Factors Affecting Employee Performance in Non-Governmental Organizations in Uganda . A Case Study of the Uganda Women Parliamentary Association*. *7*(3), 221–231.

Nancy, M., & Prudence, K. (2024). Capacity Building programs and their impact on employee performance. A case study of Metropolitan International University. *Researchgate.Net*, *8*(4), 23–27.

**Received: 14.03.2026** **Accepted: 18.03.2026** **Published on: 30.03.2026**

https://www.researchgate.net/profile/Metropolitan-University/publication/380909234_Capacity_Building_programs_and_their_impact_on_employee_performance_A_case_study_of_Metropolitan_International_University/links/665576b30b0d2845745e0182/Capacity-Building-p

Nelson, K., Christopher, F., & Milton, N. (2022). *Teach Yourself Spss and Stata*. *6*(7), 84–122.

Nelson, K., Kazaara, A. G., & Kazaara, A. I. (2023). *Teach Yourself E-Views*. *7*(3), 124–145.

Racheal, N., Enock, Z., & Kazaara, A. G. (2023). *Impact of quality financial reporting on an organization resource management: a case study of humuza holding limited kampala uganda 1*. *2*(2), 408–425.

Ramadhan, B., Alex, I., Ariyo, D., Kazaara, G., Nelson, K., Deus, T., & Pascal, T. (2023). Taxation and the Development of Small Businesses in Uganda, a Case Study of Iganga District. In *International Journal of Academic Multidisciplinary Research* (Vol. 7). www.ijeais.org/ijamr

Ramadhan, B., Alex, I., Kazaara, A. G., Nelson, K., Deus, T., & Pascal, T. (2023a). *Taxation and the Development of Small Businesses in Uganda , a Case Study of Iganga District*. *7*(2), 136–149.

Ramadhan, B., Alex, I., Kazaara, A. G., Nelson, K., Deus, T., & Pascal, T. (2023b). *Taxation and the Development of Small Businesses in Uganda , a Case Study of Iganga District*. *7*(2), 136–149.

Sarah, A., & Audrey, A. (2024). *Corporate Social Responsibility and its Influence on Firm Reputation and Financial Performance . A Case Study of Equity*. *8*(8), 202–207.

Tasha, N. A., Kazaara, A. G., Deus, T., Ismail, L., & Micheal, T. (2023). *The Impact Of Taxation On Small Scale Businesses On Performance Of Small Scale Businesses In Namungoona Parish , Kampala Uganda*. *7*(3), 17–26.

Turyatemba, C., Nelson, K., Prudence, K., & Ntirandekura, M. (2022). *The Effect of Product Quality on*

**Received: 14.03.2026** **Accepted: 18.03.2026** **Published on: 30.03.2026**

*Competitiveness of Small Medium-Sized Enterprises ( SMES ) In South Western Uganda ; Reflection on Kayonza Growers Tea Factory , In Kanungu District* . *6*(12), 152–159.

Winny, N. D., Kazaara, A. G., Kazaara, A. I., & Deus, T. (2023). *Effect Of Motivation On Employee Performance In Non- Government Organizations ( NGOS ): A Case Of Mbale City*. *7*(3), 67–71.

**Received: 14.03.2026** **Accepted: 18.03.2026** **Published on: 30.03.2026**