ELECTRONIC TAX SYSTEM AND BUSINESS TAXATION PERFORMANCE: A CASE STUDY OF ENGINEERING FIRMS IN UGANDA

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UGANDA CHRISTIAN UNIVERSITY

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DECLARATION

I ESTER EWALD KESSY declare that this research proposal is my original work and to the best of my knowledge, has not been submitted for any award at any academic institution.

Signature…….. Date……11/03/2026……..

ESTER E KESSY

APPROVAL

This is to confirm that this research proposal was done by EWALD ESTER and is now ready for submission to the School of Business of Uganda Christian University, with my approval as the authorized and nominated supervisor.

Signature: ..... **Date:** 11th March 2026

supervisor: .....

Mr. KASOZI GEOFFREY

DEDICATION

This research is sincerely dedicated to my supportive family who encouraged me to conduct this study. moreover, I dedicate this research paper to my friends who constantly guiding and teaching me to make this study even better and to all engineering firms who have helped me to in finishing this research. Also, I dedicate this work to future scholars and researchers, with the aim to contribute and encourage further investigation into electronic tax system and business income performance and lastly, I dedicate this research to Almighty God who gives me strength, wisdom, power of thinking and for giving me good health

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I express my sincere appreciation to my university lecturers for their invaluable guidance throughout the writing process of this research.

Am grateful to my friends for their encouragement and support. Without their helpful advice and kind gestures, I wouldn't have been able to finish.

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“May the Almighty God bless you all abundantly…”

ABSTRACT

This research paper analysed how the effect of the introduction of electronic tax systems on the performance of business taxation on the engineering businesses in Uganda. This research aimed at fulfilling the following three objectives; first, in gauging the effects of e-tax (e-tax) system on the business taxation performance; second, to examine the relationship between e-tax compliance and taxation efficiency and thirdly, to determine the challenges facing engineering firms in enforcing the tax system. The theoretical framework relied on the Technology Acceptance Model (TAM) in which technology acceptance can be regarded as the perception of usefulness and effortlessness. It takes into consideration the Theory of Compliance, which studies the effects of enforcement and support structures on the behavior of taxpayers. It used a cross-sectional survey which was done through qualitative and quantitative methods with an objective of 100 registered firms in Uganda. The sample was selected among a group of 80 participants who was a representation of managers, accountants, and engineers through purposive and stratified sampling techniques. The structured questionnaire and document review were used as a source of data collection. Data were analysed through SPSS, both to give a descriptive and inferential statistics analysis and qualitative data analysed thematically. electronic taxation systems are effective in business taxation performance in terms of improved accuracy in tax calculation, minimization of filing errors, and submission in a timely manner. Correlation analysis proved that there were strong positive relationships in e-tax utilization and taxation performance and regression analysis showed that the e-tax utilization justified a significant proportion (61%) of the variance of the taxation performance. issues that have affected this include bad ICT infrastructure and the inability to depend on the internet to carry out business at remote project sites, low levels of digital literacy and lack of proper training among staff members in firms. This research concludes that even though the electronic tax systems have a positive relationship with the performance of the business in terms of tax remittance through compliance and accuracy,and the system design in order to realize the benefits fully. To rectify such a knot the study has suggested to the engineering companies to invest in constant employee training and taxation boards who invest in digital infrastructure, especially in project engineering company customizing the system to suit financial realities of the engineering industry. These results give sector a results that usable in wider policy development to enhance digital taxation in the engineering sector in Uganda and can act as a case study during other policy developments in project-based industries.

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LIST OF ABBREVIATIONS ACRONYMS

URA: Uganda Revenue Authority

URSB: Uganda Registration Services Bureau

SPSS: Statistical Package for Social Sciences

ICT: Information and Communication Technology

TAM: Technology Acceptance Model

UNRA: Uganda National Roads Authority

USMID: Uganda Support to Municipal Infrastructure Development

UGX: Uganda Shilling (currency code)

ETS: Electronic Tax System

E-Tax: Electronic Tax (platform/system)

SMEs: Small and Medium Enterprises

IV: Independent Variable

DV: Dependent Variable

EFRIS: Electronic Fiscal receipting and invoicing system

CHAPTER ONE

INTRODUCTION

1.1. introduction

This research considered the effects of electronic tax system in business taxation performance, and used engineering companies in Uganda as a case study. The electronic tax system was put as the independent variable (IV), and the performance of business taxation was assumed as dependent variable (DV). In the electronic tax system, there are online platforms, e-filing, e-payment, EFRIS, and other online tax administration mechanisms that have been initiated to enhance efficiency, accuracy and compliance of the tax processes. The performance of business taxation can be defined as how the firms perform their taxation responsibilities in terms of submission of their tax payments on time, proper reports, fulfilling the rules and regulations, and the avoidance of the penalty.

In this chapter, the author leaves a background of this study, statement of the problem, objectives, research questions, significance, justification, scope and limitations and delimitations. The introduction forms the basis of comprehending the correlation between the electronic tax system and the performance of business taxation among the engineering firms in Uganda.

1.2 Background of the Study

Electronic tax systems have received both academic and policy interest around the world due to their ability to enhance compliance levels of tax and to increase the performance of revenues. Research has demonstrated that the implementation of digital platforms to collect tax also allows the taxation authorities to administer tax more effectively as they are less prone to manualization, enhance accessibility, and taxpayer compliance (Masunga, Mapesa & Nyalle, 2023). Imparting of tax-related knowledge, skills and attitudes, which is commonly termed as such, is highly accepted as one of the motivators of voluntary tax compliance.

A study carried out in Kenya has shown that education on electronic taxpayers is very influential in enhancing voluntary compliance among small and medium enterprises because they find information on taxes accessible and easy to understand through the digital platforms

(Gichohi and Muchira, 2023). In Uganda, the Uganda Revenue Authority (URA) has violated a number of electronic taxing projects including E-Tax online portal and electronic tools in order to tax-filing and tax-payment.

Other researchers have identified that elements of electronic tax systems, including those of internet payment systems and electronic billing machines, have a positive effect on performance regarding revenue collection and tax compliance (Ejiku, 2019; Molo, 2020). On the same note, a study that assessed the effectiveness of the e-tax systems of URA established that online platforms have enhanced service delivery, enhanced convenience and levels of taxpayer compliance (Mujabi, 2013).

The growth in the use of electronic tax systems has revolutionized responses of businesses to the tax authorities. An online tax portal is also necessary in the management of taxes, and URA has an online tax portal called E-Tax portal through which 24-hour online services are offered. There are also indications that digital tax projects like EFRIS (electronic fiscal receipting and invoicing) have helped to make significant increases in VAT collections and even enhanced that precision with tax reporting in Uganda (Kasirye, 2025).

These digital systems are opportunities as well as challenges to engineering firms whose financial activities are highly complex, and whose income is generally based on projects. Although they assure efficiency in operations and compliance costs, there is still limited empirical research on the specific effect of electronic tax systems on performance of the firms specifically in the Ugandan engineering industry. In a bid to fill this gap, the current paper will examine how electronic tax systems influence the performance of engineering firms in Uganda within the period of 2021 to 2025.

1.2.1 Historical Background

Over the past years, there has been significant change in the administration of the taxation in Uganda that has been spearheaded by the Uganda Revenue Authority (URA) that has been struggling to change its efficiency and compliance into digitization. In 2021, URA expanded its digital transformation plan to make the adoption of electronic tax systems faster, such as expanding platforms like the Electronic Fiscal Receipting and Invoicing System (EFRIS) to expand its tax base, make processes simpler, and increase transparency in tax reporting.

A study of the adoption of EFRIS in Uganda demonstrates that electronic systems have already increased tax reporting accuracy and enabled real-time monitoring of their transactions, but the

problems associated with integration with the accounting systems of taxpayers and familiarity with the system remain (Arenji, 2023; Niwagaba, 2023). Although digital tax administration has contributed towards these benefits, there are still issues that do not allow revenue performance and compliance results to be maximized. Research on electronic tax systems notes that there are persistent challenges such as lack of awareness amongst taxpayers, poor training in specific fields of activity, and technicality which do not favor the entry of small and medium-sized enterprises (SMEs). In case, a study of the Ugandan SME market revealed that electronic tax systems like EFRIS, and mobile payment systems were useful in reducing tax evasion and enhancing the accuracy of compliance, its implementation costs and technical skill aspects remain a challenge to most SMEs (Guma Musiimenta Daniella, 2024). Also, reports on the revenue performance of URA in 2024/2025 on the internet are characterized as stating that the digital tools adopted by URA like digital tax stamps and EFRIS have led to effectively closing tax leakages and enhancing collections, although sensitisation and adoption among smaller businesses are areas of concern and they tend to negate voluntary compliance with taxation and performance of businesses (AllAfrica, 2025).

Such issues continue to highlight the necessity of additional studies on the impact of electronic taxation systems on the sustainability and competitiveness of engineering firms, which is an SME sub-sector with complicated fiscal set-ups and unique compliance requirements that are not always the same as other forms of businesses.

1.2.2 Conceptual Background

Taxpayer education means voluntary efforts to help businesses and individuals understand what they should do and pay in terms of taxes and the role of taxes in general development of a country. The Organization Economic Co-operation and Development (OECD) points out that one of the strategies of changing tax culture and improving voluntary compliance worldwide is through taxpayer education. (OECD, 2021). In East Africa, empirical research indicates that electronic training on taxpayers greatly enhances that of small and medium enterprises in terms of tax compliance because taxes and tax paying businesses are more aware and can more easily access tax information. (Gichohi & Muchira, 2023).

Between 2021 and 2025, the Uganda Revenue Authority (URA) will increase its outreach by offering seminars, tax clinics, digital campaigns, and the URA DRIFT Studio to increase the

number of individuals who voluntarily comply with the tax system, build trust, and assist taxpayers. One of the core pillars of contemporary tax management is the introduction of online tax systems through electronic means that are utilized to conduct tax registration, filing and payment that has been revealed to have a positive impact on the actual effects of tax compliance in Sub-Saharan setting. In Ghana, studies reveal that there is a positive impact on digitization and taxpayer education programs on the behavior of digital tax compliance. (Zubairu, Atia, and Iddrisu, 2025). In Uganda and other environments, there is a correlation in that adoption of electronic tax systems leads to the accuracy of compliance and low levels of tax evasion propensity among firms. (Musiimenta, 2024).

In the case of engineering companies, such systems may affect business performance, including decreasing administrative expenses, minimizing errors, enhancing compliance efficiency, and aiding a more efficient financial planning (which is in line with bigger results of the positive impact of digitalization on compliance behaviours). (Zubairu et al., 2025). Nonetheless, despite the relevant literature supporting the improvement of compliance through the application of electronic systems, the role of taxpayer education as well as electronic tax platforms in the determination of firm-level performance in Uganda between 2021 and 2025 is underresearched. This loophole justifies the current research to conduct empirical research on such relationships within the engineering field.

1.2.3 Contextual Background

The Uganda Revenue Authority (URA), which is the core organs of revenue collection, has been altering towards digitalization as a means of contemporary mode of tax administration in enhancing and fortifying the mobilization of revenue within the country. Kamoga (2024) indicates that E-Tax system was initiated in Uganda as a means of streamlining registration of taxpayers, their filing, and payment of taxes as well as administrative costs and services accessibility. In the same light, Anaso (2025) notes that electronic platforms like E- Tax and Electronic Fiscal Receipting and Invoicing Solution (EFRIS) have increased the level of transparency and real-time tracking of tax dealings, thus improving the results of compliance. These programs are in line with national policy frameworks, including the Uganda Vision 2040, that has focused on the importance of digital systems in enhancing domestic revenue mobilization.

Irrespective of these developments, engineering businesses in Uganda still have to experience sector-related compliance and performance issues. Barigye and Nuwabine (2025) state that project-based financial reporting structure compels businesses to have a hard time matching tax reporting disclosures with unpredictable cash flows and agoraphilic project lifespans, including engineering firms. Also, Musiimenta (2024) reveals that the access to specific taxpayer education as well as insufficient sector-specific guidance reduces the potential of firms to utilize the electronic tax systems to the fullest possible extent. Although digital tax system is usually linked to better compliance, Basson Gui and Houngbédji (2023) warn that their performance relies on the ability of taxpayers, the ease of using the system, and business-specific factors.

Though various studies such as Skandalis (2025) indicate that an improved tax compliance would result in increased performance of firms due to decreased penalties, improved planning of financial status, and increased credibility among engineering firms in Uganda, limited empirical studies have directly tested the relationship between the electronic tax systems and the business performance among the engineering firms in Uganda. Such a deficiency of evidence on the firm level, especially in the years 2021–2025, is a definite gap in the research. The study will attempt to produce empirical findings through this relationship that can be used in designing tax policy, and in enhancing the sustainability and performance of engineering firms in Uganda by the present research.

1.3. Statement of the Problem

The Uganda Revenue Authority (URA) has in recent years invested massively in electronic tax systems in order to increase taxpayer compliance, and increase the overall effectiveness of taxes. The literature, such as Ssekabembe (2023), suggests that Electronic Tax Services (ETS) and the Electronic Fiscal Receiving and Invoicing System (EFRIS) have a positive correlation with compliance among the small and medium-sized enterprises (SMEs). This is to mean that digital platforms have the ability of influencing compliance behavior. According to Musiimenta (2024), EFRIS, the electronic billing machines (EBMs), and the mobile payment systems can enhance the correctness of the transactions to reduce the tax evasion, yet the problems with the technical aspect still limit their exploitation. To address these challenges, the Uganda Revenue Authority (URA) has introduced several structured activities. These include tax clinics, seminars, digital training sessions, URA DRIFT Studio, and awareness campaigns conducted across different sectors (Uganda Revenue Authority, 2023).

Despite these efforts, available statistics show that business tax performance across different sectors—including engineering firms—has remained below expectations. A study on EFRIS adoption in Kampala found that many businesses view the system as inconvenient, particularly because it is difficult to incorporate into their existing accounting processes. According to Niwagaba (2023), 83% of the businesses surveyed did not consider EFRIS to be convenient, even though those who found it easier to use were more likely to comply with tax requirements.

While EFRIS has improved the accuracy of tax filings and made it easier to track refunds, its limited integration with commonly used accounting software has slowed adoption. As a result, many businesses continue to face compliance challenges (Arenji, 2023). The proposed study aims to bridge this gap by examining how electronic tax systems influence business tax performance within engineering firms in Uganda. Its findings are expected to generate sector-specific insights that can guide the Uganda Revenue Authority (URA) and policymakers in strengthening digital tax administration. Ultimately, the study will contribute to improving compliance practices and enhancing revenue collection, particularly in industries that operate with irregular or less formal financial systems.

1.4. Purpose of the Study

This study is aimed at determine how the electronic tax system affects the business tax performance of engineering firms in the Uganda.

1.5. Objective of the Study

This study was set achieve the following objective

I. To evaluate how the utilization of the e-tax system influences business taxation performance among engineering firms in Uganda.
II. To examine the relationship between e-tax compliance and taxation efficiency in engineering firms.
III. To identify challenges faced by businesses in adopting the tax system

1.6. Research Questions

To meet the above objective, this research will address the following question:

I. How does the utilization of the e-tax system affect business taxation performance among engineering firms in Uganda?

II. What is the relationship between e-tax compliance and taxation efficiency in engineering firms?

III. To what extent does the e-tax system contribute to financial sustainability and contract eligibility through improved tax performance line with the stated problem, the following research questions are raised:

1.12. Conceptual / Theoretical Framework

1.12.1. Conceptual Framework

The study conducted a relationship between the application of electronic tax systems (ETS) and the efficacy of business taxation among the engineering firms in Uganda. The independent variable as the use of Electronic Tax Systems (ETS) consists of diverse measures: the degree of ETS adoption, compliance with the electronic taxes, the usage of such platforms as EFRIS, e-filing and windows provided by the Uganda Revenue Authority (URA). The goal of these online platforms is to make the work of tax management simpler, reduce errors and increase efficiency. Studies by Musiimenta (2024) have revealed that electronic fiscal registration system (EFRIS), electronic billing system, and mobile payment system enhance accuracy of transactions and reduce tax evasion. Their use is restricted however because they are expensive and they require technical expertise. Another study by Niwagaba (2023) revealed that the Electronic Fiscal Receipting and Invoicing Solution (EFRIS) resulted in high levels of tax compliance but most taxpayers cited the challenges and concerns to proper utilization of the electronic taxation system.

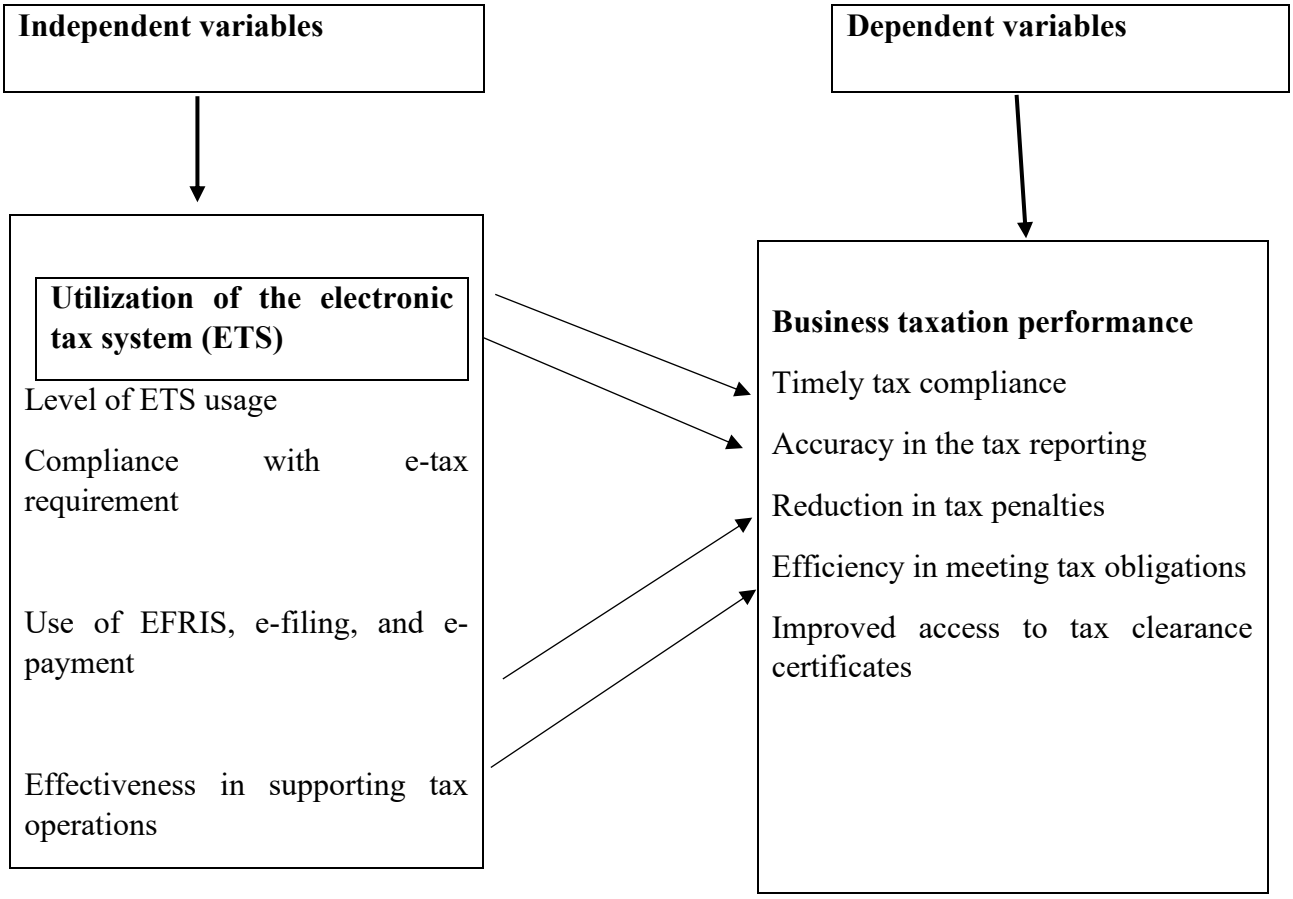
The conceptual framework of using ETS is based on the 1989 Technology Acceptance Model (TAM) that dwells on the perceived usefulness and ease of use. It also integrates the Theory of Planned Behavior, which was developed in 1991, and which focuses on the importance of attitudes and intentions in shaping compliance behavior. According to these models, the companies are more likely to consider and implement ETS with success when there are clear benefits and when they do not face as many challenges in operations.

Business taxation performance is the dependent variable which is measured by the presence of timely payment of taxes, correct reporting, reduced penalties, ease in paying taxes and efficient payment of tax and availability of tax clearance certificates. The use of digital tax systems has been shown to not always result in better performance outcomes. Uganda Business climate Index (2024) stated that EFRIS application affected 51% of companies and the cost of

compliance and operations was increased. This is an implication that the impacts of digital tax policies are mixed. The survey conducted by the URA Client Satisfaction Survey (2024) has found out that satisfaction with EFRIS is low relative to other digital platforms such as the E-Tax portal. This implies that users might be experiencing issues that might affect the performance outcomes.

The relationship between the application of electronic tax system (ETS) and tax performance is influenced by factors including information and communication technology (ICT) infrastructure, digital literacy, compliance costs, company size and government support in form of reforms and training. Organizations that have superior digital resources and abilities have a higher chance of benefiting off of ETS, but high compliance expenses and technical incompetence will diminish the effectiveness of the system. It is a theorellated framework (and empirical-knowledge based), which relates how application of ETS would or would not result in improved business taxation results of engineering firms in Uganda.

Conceptual Framework Figure



Source: Developed by the researcher based on the Theory of Compliance Becker (1968)

1.12.1. Theoretical Framework

Two theories were used as the main guiding theory in this study:

Technology Acceptance Model (TAM) -Davis (1989)

Technology Adoption Technology is also adopted using the Technology Acceptance Model formulated by Davis in 1989, which explains the adoption in two aspects; Perceived usefulness and Perceived ease of use. According to Davis (1989), users have higher propensity to use a system in case they believe that the system would enhance their performance and is user friendly. Other researchers, especially Venkatesh and Davis (2000) who experimented with the model have added other researchers whose data has expanded upon this in many ways, but whose work is most notable, TAM2, with the addition of social influence and cognitive instrumental processes as additional factors to affect technology acceptance.

There are several research works, which employed Technology Acceptance Model (TAM) in the context of e-government and e-tax system. A study carried out by Dorasmay, Marimuthu, Raman, and Kaliannan (2010) indicates that perceived usefulness and perceived ease of use is a major determinant of the uptake of e-tax filing systems by the taxpayers. Similarly, Rafique and others... A study conducted by Fearnley and Amora (2020) has indicated that ease of navigation within a system, its reliability, and perceived ease of use by the user are the key factors that promote continued use of electronic public service platforms. According to recent studies conducted by Ekow Kelly and Palaniappan (2022), the perceived usefulness of digital financial and taxation technologies correlates with the continued intent to use the tool positively and is a powerful predictor of continued use.

In this research, the researcher applies the Technology Acceptance Model (TAM) to examine the adoption process of Electronic Tax System (ETS) of the Uganda Revenue Authority among the engineering firms operating in the country. Developing on the works of Davis (1989) and subsequent authors (Venkatesh and Davis, 2000) it can be argued that the engineering firms are more likely to be interest in utilizing Electronic Tax Systems (ETS) when perceiving that these systems can help them improve mail administration costs, enhance their efficiency in efficiency of tax compliance and enhance access to electronic documents and information related to the tax in question. The model is also useful to determine the effect of the adoption and use of Electronic Tax Systems (ETS), namely, EFRIS, e-filing, and e-payment, on the outcomes of business taxation. The outcomes of these results are the timely submissions, proper

tax reporting, the reduction in penalties, the availability of clearance certificates of the taxation, and the effectiveness of the working system.

Theory of Compliance – Becker (1968)

Theory of Compliance, which was initially proposed by Becker in 1968, explains regulatory compliance as a rational decision-making process in which individuals and businesses weigh the pros and cons of complying with regulations against the pros and cons of complying, and the cons and pros of not complying with regulations, respectively. According to Becker (1968), the likelihood of being caught, penalties, and audit are some of the key factors of compliance. The higher the cost of non-conformity is to the perceived benefits of non-conformity, the more likely a firm will comply with regulatory requirements.

Subsequently, scholars have expanded on this concept and have emphasised the role of facilitation and administrative efficiency in ensuring compliance. Allingham and Sandmo (1972) show that the tax compliance is higher when the enforcement is backed by the systems that decrease the compliance costs. According to Kirchler, Hoelzl, and Wahl (2008) and Kirchler (2007), the compliance depends on deterrence and the amount of trust towards the tax authorities, along with the ease of conducting tax matters. According to Alm and McClellan (2012), the modern electronic tax systems enhance compliance by enhancing transparency, accessibility, and efficiency in the tax processes.

The Theory of Compliance is evidenced through the presentation of many empirical studies in electronic systems of taxes. Fu, Farn, and Chao (2006) and Azmi and Bee (2010) found that the voluntary compliance rates were highly improved through the adoption of electronic tax filing systems as the processes of reporting became simpler with fewer mistakes. According to Loo, McKerchar, and Hansford (2020), digital tax systems encourage timely filing and accurate reporting particularly among businesses through enforcements requirements that are integrated into user-friendly tools.

Along the same lines, this paper aims to show the positive impact of the enforcement actions by the Uganda Revenue Authority along with support features brought by the Electronic Tax System (ETS) on the tax compliance behavior of engineering firms. The necessity to maintain accurate tax records, the convenience of this process, and the accessibility of such elements as EFRIS, e-filing, and e-payment will enhance the ability of companies to become more effective in meeting their legal tax obligations.

The Theory of Compliance along with the Technology Acceptance Model (Davis, 1989; Venkatesh and Davis, 2000) provides a whole system of investigating the impact of Electronic Taxation Systems (ETS) use on the business tax results in the engineering firms. Technology Acceptance Model (TAM) is used to explain the adoption process of a system since it takes into account ease of use and perceived usefulness. The Theory of Compliance, in its turn, is concentrated on such issues as enforcement, facilitation, and regulatory influences. These theories allow the study to explore problems that are likely to affect the relationship between application of Electronic Tax Systems (ETS) and performance in taxation system such as limited ICT skills, poor internet connectivity, and internet outages.

1.7. Hypotheses

In line with the research questions guiding the study, the subsequent hypotheses were tested at the 0.05 level of statistical significance:

I. H_1: Utilization of the electronic tax system has a significant positive effect on the business taxation performance of engineering firms in Uganda.
II. H_0: Utilization of the electronic tax system has no significant effect on the business taxation performance of engineering firms in Uganda

1.8. Significance of the study

The results of this study will be important for different groups in Uganda, such as government agencies, policymakers, managers, professionals in engineering firms, and academics and researchers. The importance is explained as follows:

1.8.1. To Government and Policymakers

The study would provide findings on the effect of the electronic tax system (ETS) on the income performance of engineering firms. This would be helpful to the government in designing the electronic tax system to promote the growth of businesses. The Uganda Revenue Authority (URA) would be able to identify the challenges faced by engineering companies in the process of implementing the ETS, such as the lack of ICT skills, inadequate internet facilities, and breakdowns. It helps to identify ways of simplifying the process, designing policies to promote efficiency in compliance and to ensure the sustainability and

competitiveness of engineering companies. Also, helps policymakers, such as the Ministry of Finance, Planning, and Economic Development, to assess the policies on the digital tax system.

1.8.2. To Practitioners

The findings will be valuable to professionals; especially managers, accountants, and tax advisors working with engineering firms in Uganda, by clearly showing how electronic tax systems (ETS) affect compliance, eligibility for contracts, operational costs, and income performance, and therefore supporting more informed strategic and financial decision-making while helping companies to strengthen compliance, improve their chances of securing government and donor funded contracts, enhance cost efficiency, and ultimately achieve sustainable growth..

1.8.3. To Academicians and Researchers

The study contributes on the relationship between digital systems of taxation and the performance of businesses, with emphasis on the engineering industry in Uganda. it created a platform for further research on digital systems of taxation and the performance of businesses in developing countries and can be used as a reference by researchers, students, and scholars in the fields of business, taxation, and economics.

Therefore it contributes to the body of knowledge on the effect of Electronic Tax Systems (ETS) on compliance and income performance for students. Additionally, the research highlights the challenges faced by engineering businesses when using digital systems of taxation and the potential solutions to the challenges.

1.9. Rationale / Justification of the Research

This study of electronic tax system (ETS) used by the Uganda Revenue Authority is instrumental in ensuring compliance with tax regulations and generating revenue, especially for engineering companies whose projects are funded by the government and donors. The Effective use of the ETS is essential in helping companies to comply with regulations and increase their chances of winning contracts, saving on costs, and earning more income. Sometime challenges such as poor internet connectivity, ICT literacy, and system downtime affect the efficiency of the system.

1.10. Scope of the study

This covers the subject, geographical, and time scopes as outlined below.

The research sought to examine the impact of the Electronic Tax System (ETS) introduced by the Uganda Revenue Authority on the tax performance of engineering companies. In this case, the Electronic Tax System (ETS), which includes timely filing of tax returns, payment of taxes, the Electronic Fiscal Receipting and Invoicing System (EFRIS), and access to digital tax compliance certificates, was regarded as the independent variable (IV).

In this case, the business taxation performance was regarded as the dependent variable (DV), and the components include the precision and accuracy of tax reporting, timely compliance with tax requirements, reduction in tax-related penalties, access to tax clearance certificates, and overall efficiency in the execution of tax responsibilities. The redefinition of the variables ensures that the IV, the government-operated Electronic Tax System, works well with the DV, the tax performance.

1.10.2. Geographical Scope

The study was limited to engineering companies operating in Uganda, with the focus being on companies operating in the field of infrastructure projects funded by the government or donors. These projects included the construction of roads, the building of bridges, the provision of water installations, as well as the provision of housing facilities. These companies were chosen because they would be required to frequently use the electronic systems of the Uganda Revenue Authority, such as e-filing, e-payment, as well as EFRIS, in order to qualify to execute the government-funded projects or to obtain the necessary tax clearance certificates. This is relevant to the study because companies operating in the aforementioned regions would be required to comply with the requirements set by the URA, thus gaining a deeper insight into how the electronic tax system would affect their business tax performance..

1.10.3. Time Scope

The research took place over a three-month period, from September to December 2025. It uses data from the past 10 years (2015–2025) to show how the implementation and ongoing

enhancement of URA's ETS have affected engineering companies' compliance and financial performance. This period is important because it indicates the time when URA improved the digitalization of tax administration in Uganda.

1.11. limitation of the study

This study aims to examine the impact of Uganda's electronic tax system on the performance of engineering companies. Some limitations of the study were noted. The study used a few questions in the questionnaire, which may limit the understanding of the respondents' knowledge of the electronic tax system. In addition, the study used secondary data, which is limited because of the lack of detailed evaluation of the effectiveness of the electronic tax system in Uganda. Furthermore, the study used a few engineering companies because of financial limitations, which may limit the general applicability of the study. In addition, the study may be affected by the absenteeism of the respondents, which may limit the study's objectives. Also, the study may be affected by the level of the respondents' knowledge of the electronic tax system. Nevertheless, the study provided important insights regarding the impact of the electronic tax system on business performance in Uganda.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

Electronic tax systems have significantly transformed the way governments collect revenue and how businesses fulfill their tax obligations. The adoption of digital platforms by tax authorities has modernized tax administration by improving efficiency, accuracy, and transparency in tax processes. These enable taxpayers to register, file returns, and make payments electronically, reducing the reliance on manual procedures.

Globally, electronic tax systems have been recognized as a key tool in enhancing tax compliance and minimizing tax evasion, reduce human error, and improve record-keeping, thereby making it easier for businesses to comply with tax regulations. These systems promote accountability and transparency, which are essential for effective public financial management.

In the context of engineering firms, electronic tax systems influencing how taxes are calculated, filed, and paid. Engineering companies, which often deal with large-scale projects, multiple transactions, and complex financial structures, require efficient tax systems to ensure compliance and smooth operations. When effectively implemented, electronic tax systems can reduce administrative burdens, lower compliance costs, and improve overall business performance. engineering firms face several challenges in utilizing electronic tax systems these include difficulties in system usage, limited technical skills, complex tax procedures, unreliable internet connectivity, and frequent changes in tax policies.

Therefore, this study examines the impact of electronic tax systems on the business performance of engineering firms in Uganda. Also, it assesses how these systems influence efficiency, cost of compliance, profitability, and overall organizational performance and provide valuable insights for policymakers, tax authorities, and business managers, and contribute in improving tax compliance and enhancing the performance of engineering firms, to supporting economic growth.

2.2 Theoretical Review

This study is based on the Technology Acceptance Model (TAM) developed by Davis. The new technologies rely on how useful and easy to use as they are perceived to be. For engineering companies, ETS makes compliance easier, accelerates the process of obtaining tax clearance certificates, and helps minimize penalties. Most of engineering companies view an ETS as complicated, time-intensive, or expensive, they may be reluctant to fully implement it. In Uganda, major engineering firms that work on projects for the Uganda National Roads Authority (UNRA) or the Ministry of Works and Transport generally sees ETS as advantageous, as meeting compliance requirements allows them to qualify for profitable contracts and smaller companies often face difficulties in adopting ETS due to limited information and communication technology skills and inadequate internet infrastructure. Therefore TAM believes both the usefulness and ease of use influence how technology is accepted.

2.3 Empirical Review

2.3.1 ETS Utilization and Tax Compliance

Tax regulations are crucial for engineering companies in Uganda to keep it operating. The Electronic Tax System (ETS) has made it easier for companies to follow tax rules by providing a platform that lets companies submit their tax returns and make payments and get clearance certificates. As companies do not have to interact much with officers from Uganda Revenue Authority (URA) this reduces the risk of corruption and speeds up the compliance process. A mid-sized civil engineering company in Kampala shared its experience with ETS that it can now file its taxes on time. This has helped the company avoid penalties that had previously affected its finances and is now able to plan and manage its finances better. Another benefit of ETS for compliance has increased transparency in tax records.

Engineering firms based on subcontractors, particularly in road and housing construction, often face scrutiny regarding their tax contributions. ETS creates transparent digital records that Uganda Revenue Authority can easily audit, so businesses must comply to avoid legal penalties and reputational damage most of smaller engineering companies in Uganda have a tough time meeting compliance requirement because they do not have a lot of skills in information and communication technology also owners and managers of these companies do not have training in accounting which makes the Electronic Tax System platform seem very hard to use.

According to a report from 2020 by Nabwire and colleagues many companies in the Mukono and Wakiso districts have to hire consultants to handle their Electronic Tax System submissions, which makes their compliance expenses go up. This shows that the Electronic Tax System has not made it easy for all companies to comply.

Some people do not trust The Electronic Tax System because of some issues Sometimes the Uganda Revenue Authoritys online platform is not available when it is busy which can delay submissions. This problem is needed to get clearance certificates quickly so engineering firms can compete for contracts, even small delays can make these companies lose opportunities. On the other way even though the Electronic Tax System has made compliance better, the problems with the infrastructure are still stopping it from working in Uganda. However the Electronic Tax System is not perfect because most engineering companies, in Uganda are still having a hard time with it.

2.3.2 ETS and Revenue Generation

ETS affects the financial performance of engineering firms through revenue generation. Companies that adhere to the ETS can obtain tax clearance certificates, which are required for participating in most government-funded projects. Several engineering firms that adhered to the Environmental and Technical Standards (ETS) received contracts through the Uganda Support to Municipal Infrastructure Development (USMID) program, for those who did not comply were disqualified, even though they possessed technical skills this shows how compliance with ETS can lead to new revenue opportunities.

ETS generate revenue by increasing its credibility with financial institutions, In Uganda, banks are progressively asking for proof of tax compliance before providing loans to businesses. Engineering companies that maintain all ETS records automatically obtain loans more rapidly, which allows them to fund large projects and increase their income sources. In 2022, an engineering company in Jinja obtained funding from Centenary Bank by providing audited ETS records, enabling it to grow its operations into regional infrastructure projects.

ETS minimizes operational leakages that could negatively impact revenue. "By automating tax filing, ETS reduces the risk of errors and fraud that can occur with manual systems." Companies that once under-reported or misreported their income are now subject to stricter oversight, although this may initially decrease "untaxed revenue," it ultimately promotes sustainable revenue streams in the long run.

Engineering firms that prioritize transparency often cultivate stronger trust with clients and partners, which in turn enhances their potential for generating revenue, but not all companies see an increase in revenue from adopting ETS. Smaller engineering firms frequently contend that compliance requirements divert financial resources away from investment. In certain situations, the expenses associated with hiring tax consultants or maintaining internet access can surpass the immediate financial gains, this is particularly for firms that depend on small private projects instead of government contracts. This indicates that the revenue advantages of adopting an ETS are particularly significant for medium to large engineering firms in Uganda.

2.3.3 ETS and Profitability

Profitability indicates a company's capacity to generate earnings after accounting for its expenses. "ETS can enhance profitability by lowering compliance costs associated with transportation, paperwork, and dependence on intermediaries." For example, an engineering company located Kampala, reported annual savings of UGX 15 million after transitioning from manual tax filing to the Electronic Tax System (ETS), instead of relying on third party tax agents, these increased profit margins due to lower tax agent fees. Also ETS protects profitability by reducing penalties and fines.

Engineering firms typically function with low profit margins, because of the substantial expenses associated with raw materials and labour this is to avoid penalties for late filing or underpayment. Several companies that embraced ETS early on reported increased profitability, as they no longer faced frequent URA fines this allows them to reallocate resources for reinvestment in their projects.

The initial costs associated with adopting an ETS may lower profitability most of smaller engineering firms frequently face challenges due to the financial demands of training their staff, upgrading ICT infrastructure, and covering internet subscription costs. A start-up engineering firm in Gulu has reported that while ETS enhanced its compliance status, the extra monthly expenses for internet access have diminished its short-term profitability, while ETS create financial pressure for smaller firms, it also provides long-term advantages.

Additionally, engineering firms that depend significantly on government contracts may face profitability challenges due to delayed payments, even when they are in compliance with ETS regulations. Even when taxes are filed on time, companies may still face cash flow shortages if government payments are delayed. ETS assists companies in staying compliant, but it does

not completely protect them from the profitability challenges posed by the wider business environment in Uganda.

2.3.4 ETS and Operational Efficiency

In the field of engineering, the efficiency of operations is important as delays may cost a significant amount of money. ETS enhances efficiency by automating the compliance processes on taxes which saves time and resources that firms use in doing paper work. As an example, engineering firms involved in the Kampala Flyover Project also reported that it became simpler to get tax clearance certificates issued faster with the help of ETS, which made it easier to get subcontractor payments processed and project delays minimized.

ETS also increases efficiency, eliminating the human error. Paper-based tax filing was subject to errors that would have to be corrected at the URA offices, which was a waste of time and resources. In comparison, ETS validates entries automatically and lowers the expensive errors. In the case of engineering companies, it would imply a reduction in project schedule delays related to compliance reasons.

But system challenges can compromise operational efficiency. Regular power blackouts and unstable internet connection in Uganda cause limitations to firms using ETS. Mbala based firm complained of project delays as a result of failure to obtain clearance certificates within the end of the project due to frequent system failures during the 2021 filing season. Such inefficiencies emphasize the reliance of ETS efficiency on fixed infrastructure.

Moreover, not every employee among engineering companies knows ETS, resulting in inefficiency within the company. Companies tend to have, and use, a limited number of qualified accountants, which results in bottlenecks in the absence of such people. Functional ETS productivity gains are not distributed uniformly within the engineering industry in the absence of general ICT training.

2.3.5 ETS and Competitive Eligibility for Contracts

Adherence to ETS is essential in the selection of which engineering firms can be allowed to bid on government projects in Uganda. Both prequalification and tendering need tax clearance certificates acquired by ETS. As an example, in the prequalification of the 2021 UNRA road project, a number of companies were disqualified because they failed to provide current ETS

certificates, and those that passed the requirements proceeded to the final stages of bidding. This shows the direct determination of eligibility by ETS.

Compliance also generates financial credibility to clients. Donor-funded projects, such as those funded by the World Bank and the African Development Bank require strict documentation of compliance. Engineering companies in the Ugandan region with the potential to generate ETS-related tax records are usually prioritized and as such, they demonstrate transparency and accountability thus increasing their possibilities of winning contracts. ETS compliance enhances competitiveness through the establishment of a more equal playing field.

Previously, tax evaders were able to low-bid their rivals and capture the market segment. Through ETS, URA has reduced the chances of evasion, all companies will pay the same tax. This has helped make the bidding fairer, with the honest engineering companies not disadvantaged by the ruthless others. Nevertheless, bigger companies are more likely to enjoy a competitive edge related to ETS compliance. Smaller engineering companies focusing on I local or privately funded projects tend to learn that compliance is not a quick way to get a new contract. In these cases, ETS can become more of a liability than a competitive advantage. This implies that ETS improves the level of competitiveness in general, but not across the entire engineering industry in Uganda.

CHAPTER THREE

METHODOLOGY

3.1. Introduction

This chapter explain the research methodology applied in carrying out the study on Electronic Tax systems and its effects on Business performance in Uganda. It also explains the methods of the systematic and logical course of actions involved in the collection, processing and analysis of the field data so that the objectives of the study were addressed rigorously, reliably and in a valid way.

This chapter in particular describes the research philosophy and design, study population, the method of determination of the sample size and the modes of sampling. It discusses data sources, data collection methods , tools, procedures, processing and analysis methods.

The ethical considerations that guided the research process, in order to protect the rights and integrity of respondents are also addressed in the chapter. The methodological decisions taken in the present study were carefully aimed and placed with a special focus on the realities of operations of small and medium-sized enterprises (SMEs) and engineering companies operating in the Ugandan environment.

The study employed both the qualitative and quantitative methods to appropriately capture both quantifiable and contextual experiences of electronic tax adoption. The method is a combination of quantitative and qualitative data, the first one presents numerical facts about the use of electronic tax, compliance, and business performance, the latter gives a better understanding of the perceptions of firms, issues, and realistic experiences. These techniques enhance credibility, transparency, and replicability of the results of the study. This chapter provides a clear methodological framework that underlies the study so that the conclusions are based on the data that was recoded in an appropriate manner.

3.2. Research design

This research based on a mixed-method cross-sectional survey so that to collect data on respondents at one time, in order to examine the effect of electronic tax system on business performance. This method is best suited to assessing levels of electronic tax system use, compliance behavior, and business performance outcomes at present, without changing the

study environment. This is considered appropriate as the study because it did not seek to monitor changes over time, but to record the present situation of firms.

The survey technique enabled to obtain a standardized data by a significant number of participants through the use of structured questionnaires, and that responses were consistent, that comparability between the firms has been enhanced and that that key research variables, of electronic tax systems, tax compliance, and business performance, to be measured quantitatively.

3.3. Mixed-Methods Approach

The research design combined quantitative and qualitative data to give a more detailed picture of the research issue. Tashakkori and Teddlie (2010) ,therefore mixed-methods research increases the strength of results because it combines findings of both quantitative and qualitative methods through the process of triangulation.

3.3.1. Quantitative Component (SPSS-Based)

The quantitative element was the major part of the study it gathering all numerical data through the closed-ended structured and measured by a five-point Likert scale. The quantitative information was aimed at measuring the levels of electronic tax system utilization, tax compliance and business performance indicators.

The data obtained were coded, keyed and analysed in the Statistical Package of Social Sciences (SPSS) included the Descriptive statistics, Inferential statistics, Regression analysis**.** The reason behind choosing SPSS is the fact that it can handle a large amount of data and that it is appropriate when conducting social science research. Statistical analyses were carried out in SPSS and they included the following:

3.3.2 Qualitative Research Design

The qualitative component complemented the quantitative findings by providing deeper insights into respondents' experiences and perceptions of the electronic tax system and Qualitative data were collected through open-ended questionnaire items, allowing respondents to freely express challenges, benefits, and practical issues associated with using the electronic tax system, The qualitative data were analysed using thematic analysis, in which responses were organized into system usability, technical challenges, compliance costs, and institutional

support. This approach helped to interpret and explain the statistical results generated in SPSS, thereby enhancing the depth and clarity of the study findings.

3.4 Justification of the Research Design

The choice of a mixed-methods cross-sectional survey design was justified by the study's objectives. The design enabled efficient data collection within limited time and financial resources while providing both quantitative evidence and qualitative explanations. The use of SPSS enhanced the accuracy and reliability of quantitative analysis, while qualitative data enriched the interpretation of results. This design strengthened the study's credibility by enabling methodological triangulation, and producing comprehensive and reliable findings on the impact of electronic tax systems on business performance.

3.3 Study Population

The population of study included 100 registered engineering firms in Uganda, especially firms involved in infrastructure development, construction, mechanical work, electrical installations and other engineering services. These companies are officially registered and directly influenced by electronic taxation as they are required to adhere to the guidelines on electronic tax filing, payment and reporting set by the Uganda Revenue Authority (URA).

3.4 Sample Size and Selection

This composition provided sufficient representation of important professional groups that are directly engaged in tax compliance, financial reporting, and the use of electronic tax systems in engineering firms. A sample is a part of the larger population that participates in the survey (Stuart, 2016). A sample can be a representative subgroup of the target population, allowing for findings to be applied to that population. The sample size for this study was determined using Taro Yamane's method from 1967.

That is: $n = \frac{N}{1+N\,(e)^2}$

Where n = sample size, N = total population, n = 100 and e = error (0.05) or the level of confidence

$$\frac{100}{1+100(0.05)\ ^{\wedge}2}$$

$$\underline{n = \ 80}$$

Therefore, the study sample comprised 80 respondents selected from engineering firms operating in Uganda. The sample comprised 25electrical engineers, 23 mechanical engineers, 28 civil engineers, 10 accountants/auditors, 2 firm managers, and 2 firm owners. This sample size is sufficient to ensure statistical validity and representativeness while remaining practical for data collection.

The respondents included firm managers, accountants, finance officers, and tax compliance officers who were directly involved in the use of the electronic tax system (ETS) in engineering firms.

3.5 Sampling Techniques / Methods

On the case study the combination of probability and non-probability sampling techniques was used to ensure the sample is representative and relevant.

3.5.1 Probability Sampling

Simple random sampling was employed to choose engineering firms from the official registry, guaranteeing that every firm had an equal opportunity for selection. Due to the differences in size, specialization, and location among engineering firms, the population was divided into groups such as small, medium, and large, and Random samples were then selected from each group.

3.5.2 Non-Probability Sampling

From the selected firms, respondents were chosen based on their roles and expertise in tax compliance and financial management. This is to ensures that the data collected comes from individuals with direct knowledge and experience of electronic tax systems.

3.6 Data Sources

The following source data were obtained for research study;

3.6.1 Primary Data

Primary data was collected directly from respondents at engineering firms through structured questionnaires and key informant interviews; included closed-ended questions to collect quantitative data and open-ended questions to collect qualitative insights.

3.6.2 Secondary Data

Secondary data was obtained from URA reports, government publications, academic journals, industry reports, and other credible sources all the data provided background, context, and comparative benchmarks for interpreting the primary data.

3.7 Data Collection Procedure

data collection began with an introductory letter from Uganda Christian University After approval by the supervisor, which was presented to relevant engineering associations to obtain permission for the study and Appointment was scheduled , all the questionnaires were administered electronically, which method was preferred by employees/respondents. Respondents were informed of the study's purpose, assured of confidentiality, and given sufficient time to complete the questionnaires. Completed questionnaires were collected, checked for completeness, and prepared for analysis.

3.8 Data Collection Methods / Instruments

Data was collected using a standardized questionnaire. The questionnaire was organized into sections that included demographic details, usage of the electronic tax system, tax compliance, and business performance. Closed-ended questions were assessed using a five-point Likert scale, and open-ended questions gathered qualitative information. The questionnaire was selected because it allowed for the effective gathering of uniform data from many respondents and provided consistent answers.

3.8.1 Questionnaire Survey

A structured questionnaire is used to collect quantitative data on compliance efficiency, operational costs, productivity, and financial performance indicators. This method is cost-effective, enables data collection from a large number of respondents, and supports statistical analysis.

3.8.2 Documentary Review

All the documents were well reviewed, including URA reports, tax compliance statistics, and industry performance reports, to supplement primary data and provide context for the findings

3.10 Data Analysis and Processing

Collected Quantitative data were coded and entered into the Statistical Package for Social Sciences (SPSS) analysis and all Qualitative data from open-ended questions were analysed using thematic analysis, with responses categorized into key themes that complement and explain the quantitative findings.

3.11. Validity and Reliability of Research Instruments

The research supervisor reviewed the questionnaire to evaluate its content relevance and clarity, ensuring its validity. A preliminary study was carried out with the main sample to identify unclear aspects and enhance the tool. And the Reliability was evaluated with Cronbach's alpha in SPSS, where values of 0.7 or higher are deemed acceptable for measuring internal consistency.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS, AND INTERPRETATION OF FINDINGS

4.0. Introduction

This chapter explains the data collected from Engineering company in relation to research objectives. It discuss the results of Likert questionnaire responded by 80 respondents .this chapter also contains response rate and the respondents' demographic characteristics with respect to role, gender, and years of experience. The chapter further presents the study's findings, analysis, and interpretation, in accordance with its objectives.

4.1. Response rate

Table 1: Response rate

Research instrument	Targeted number	Actually conducted	Percentage (%)
Questionnaire	80	80	100%
Total	80	80	100%

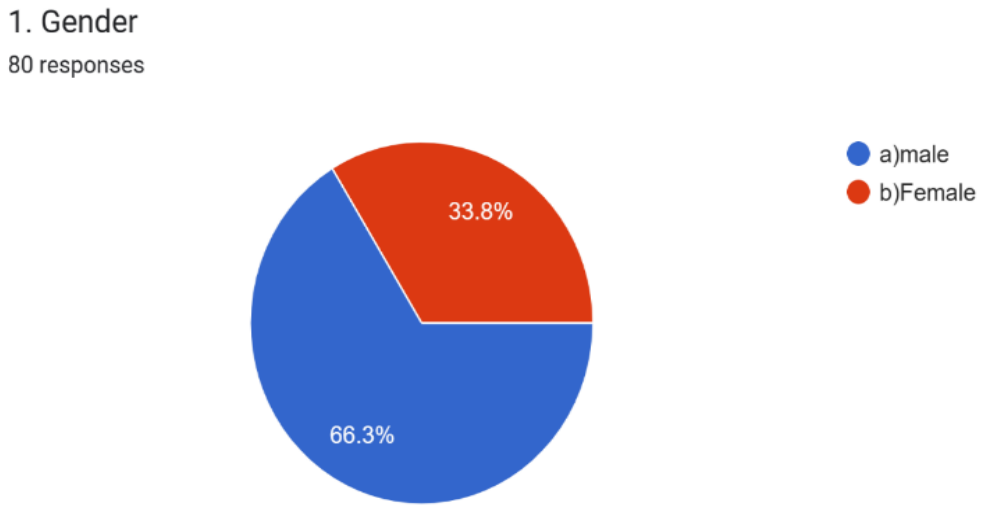
Source: Primary data

Table 1 shows that the target number of respondents was 80, and all 80 questionnaires were successfully distributed and completed. This indicated a complete response rate of 100%. The overall response rate indicated that the data collection methods were successful and that participants were highly cooperative. The collected data were sufficient and trustworthy for analysis, with no bias from unanswered questionnaires.

4.2 Demographic characteristics of Respondents

4.2.1. Gender of respondents' rate

Graph 1: Sex of respondents



Source: primary data

The above illustration shows the number of both female and male respondent of study which is 80 participants, 53 participants were male, accounting for 66.3%, and 27 were female, making up 33.8%, the data indicates that there are more male respondents than female respondents. This difference indicates that the results of the study might primarily represent male viewpoints.

4.2.2: Age of respondents

Table 2: age of respondents

Age	**frequency**	**Percent (%)**
18-29 years	35	43.75%
30-45 years	21	26.25%
46-55 years	20	25%
Above 55 years	4	5%

Source: primary data

Table 2 shows the age distribution of the respondents indicates that the largest group, comprising 43.75% of the total population is under the age group of 18- 29. This suggests that younger individuals play a considerable role in shaping the results. Middle-aged participants

are well represented, with 26.25% of the total population is under age group of 30- 45 and 25% of total population is age group of 46 - 55. Individuals aged 55 and older make up only 5% of the total population, indicating that they are significantly underrepresented. This demographic profile indicates that although younger and middle-aged participants are significantly engaged in the study, the limited involvement of older participants may limit the applicability of the results to all age groups.

4.2.4. Level of education

Table 3: Level of Education

Level of Education	Frequency	Percentage (%)
Secondary	0	0%
Diploma	8	10%
Bachelor's degree	45	56.25%
Post graduate	21	26.25%
Master degree	6	7.5%

Source: primary data

The table 3 shows the educational backgrounds of the participants and none of the respondents had completed only high school (0%). 10% of the respondents had a diploma. representing 56.25%, hold a bachelor's degree. accounting for 26.25%, hold postgraduate degrees and 7.5%, of respondent hold a master's degree.

4.2.5. Position in the firm

Table 4: Position in the firm

Position in the firm	Frequency	Percent (%)
Owner	2	2.5%
Manager	2	2.5%
Accountants/auditors	15	18.75%
Engineering	61	76.25%

Source: primary data

Table 4 shows most of the participants, 76.25% (n = 61), hold engineering positions based on the distribution of respondents by their job titles. This shows that most respondents were employed in engineering firms in technical or operational roles. Owners and managers represent 2.5% of the sample with 2 individuals, while accountants and auditors constituted to18.75% of the respondents with total of 15 individuals.

4.2.6. Type of engineering firm

Table 5: Type of engineering firm

Type of engineering firms	Frequency	Percent (%)
Civil engineering	38	47.5%
Electrical engineering	30	37.5%
Mechanical engineering	12	15%

Source: primary data

Table 5 shows the breakdown of type of engineers in the firm as shows that civil engineering represented the largest group, comprising 47.5% (n = 38, Electrical engineering accounted for 37.5% (n = 30), and mechanical engineering had the lowest proportion at 15% (n = 12). This shows that the results of the study were mainly influenced by civil engineering activities, which were involve in large projects and regular financial dealings.

4.2.7. Years in operation

Table 6: Years in operation

Years in operation	Frequency	Percent (%)
Less than 1 year	6	7.5%
1-3 Years	15	18.75%
4-6 Years	40	50%
7-10 Years	14	17.5%

Over 10 years	5	6.25%

Source: primary data

Table 6 examines the company's years of operation of each respondent. The majority of respondents with 50% have been in operation for 4 to 6 years, at this level the department focussing on stabilization of operation, the respondents with 1 to 3 years represent 18.75% and 7 to 10 years shows there is more experienced employees not as some respondents which have less than 1 year in the operation which represents 7.5%

4.2.8. Awareness and Usage of the Electronic Tax System

Table 7: Awareness of E-Tax System

question	responses	frequency	percentage
Awareness of the e-tax system	Yes	78	97.5%
	no	2	2.5%

Source: primary data

Table 7 shows that there is very high awareness of electronic tax. 97.5% of employees knowing about it, therefore the company shares effectively information's and promoting. Only a small percentage (2.5%) they were unaware, which could be attributed to limited exposure or recently joining the system and This shows that the company is generally knowledgeable and ready to use electronic tax processes, with only a few specific instances of lack of familiarity.

4.2.9. Type of Electronic They Have Applied

Table 8: Electronic tax system used

Type Of Electronic Tax	Frequency	Percentage
E-filing of tax returns	32	40%
Electronic tax reporting	11	13.8%
Online payment of taxes	11	12.5%
Online tax registration, E-filing of tax returns	10	12.5%

Online tax registration, E-filing of tax returns, and online payment of taxes	3	3.8%
Online tax registration, E-filing of tax returns, Online payment of taxes, electronic tax reporting	2	2.5%
Online tax registration, E-filing of tax returns, Online payment of taxes, electronic tax reporting	11	13.8%

Source: primary data

Table 8 explain more on what type of electronic tax system is more applied with the firm, 40% of the 32 participants they used E-filing of tax returns, 13.8% of 11 employees, they have applied, online tax report, 13.8% of 11 employees have apply online tax payment, 12.5% of 10 employees applies Online tax registration, E-filing of tax returns. 3.8% of 3 employees utilized online registration, E-filing, and online payment together, 2.5% of 2 employees reported using all four services. And lastly 13.8% of the 11 they apply Online tax registration, E-filing of tax returns, Online payment of taxes, electronic tax reporting.

4.2.10. How easy is it for your firm to use the electronic tax system

Table 9: How easy is it for your firm to use the electronic tax system

	Frequency	Percent	Valid Percent	Cumulative Percent
Difficult	13	16.3	16.3	16.3
Easy	38	47.5	47.5	63.7
Neutral	17	21.3	21.3	85.0
Very difficult	1	1.3	1.3	86.3
Very easy	11	13.8	13.8	100.0
Total	80	100.0	100.0	

Source: primary data

The findings shows how easy for the firm to use the electronic tax system in process of tax payment and filling of returns, 47.5% of respondent they said the system is easy, 13.8% of respondent reported the system is very easy , 16.3% of respondents have reported the system is difficult, while 1.3% suggest the system is very difficult and 21.3% of respondent respond that respond as the system is neutral.

4.3. Validity and Reliability of Research Instruments

Reliability and validity were conducted so as to determine there is accurate and meaningfully of results and show that the research tolls are stable and dependable also the internal consistency of the questionnaire items used for measuring variables

4.3.1. Reliability Analysis (Cronbach's Alpha)

Table 10: Reliability Analysis (Cronbach's Alpha)

scale	Number of items	Cronbach's Alpha	interpretations
Benefits of the E-Tax System	10	0.904	Excellent reliability
Business taxation performance	10	0.904	Excellent reliability

Source: primary data

Table 10 shows that a Cronbach's alpha is 0.904 which means there is high or excellent reliability for the research instrument and since its is above 0.70 the questionnaire items are highly consistently

4.4 Descriptive Statistics

4.4.1. Frequency Distribution of Likert Scale Response.

This shows the general opinion of the electronic tax system and tax performance in engineering firms of whether the Responses are quantified using a Likert scale of 1 to 5, i.e., strongly disagree=1, disagree =2, neutral=3, agree =4, strongly agree=5.

Table 11: Frequency distribution -Likert scale responses

statement	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
1.accuracy	30(37.5%)	28(35%)	10(12.5%)	8(10%)	4(5%)
2.Reduced filling errors	26(32.5%)	29(36.3)	12(15%)	9(11.2)	4(5%)

3.Timely tax submission	24(30%)	31(38.8%)	13(16.2%)	8(10%)	4(5%)
4.Cost reduction	22(27.5%)	33(41.3%)	11(13.8)	9(11.2%)	5(6.2%)

Source: Primary data

Table 11 shows that most of respondent had a positive perception of electronic tax on accuracy timely tax submission, lower administration cost and reducing filling errors therefore 72.5% agree on improves accuracy of tax calculation while 68.8% of respondent agree that it reduces filling errors and improves timely submission

4.5. Empirical results based on the objectives of the study

4.5.1. Utilization of the E-Tax System and Taxation Performance in Engineering Firms

Table 12: Descriptive Statistics – Perception Of E-Tax System Benefits

variables	n	min	max	mean	Std. Deviation	interpretation
11. Accuracy of tax calculations.	80	1	4	1.78	0.98	High agreement
12. Reduction in filing errors related to project-based invoices.	80	1	4	2.15	1.08	agreement
13. Timely tax submission despite the complex nature of engineering projects.	80	1	5	2.18	1.145	agreement
14. improved tax management	80	1	5	2.40	1.132	Moderate agreement
15. Reduced the administrative costs	80	1	5	2.44	1.112	Moderate agreement

Source: Primary data

Table 12 represents descriptive statistics of the respondents which shows the benefits of electronic tax in engineering firms for 80 respondents. most of respondent with the mean of 2.15 agreed that it helps to reduce filing errors and the mean of 2.18 also agreed on timely submission of tax, there was strongly agree of 1.78 mean of respondent on improves of accuracy of tax calculation. And lastly there was moderate agreement that it improves tax management with the mean of 2.18

4.5.2. Perception on E-Tax Compliance and Taxation Efficiency in Engineering Firms (ETC)

Table 13: Descriptive Statistics -Perception on E-Tax Compliance and Taxation Efficiency in Engineering Firms (ETC)

variables	n	min	max	mean	Std. deviation	interpretation
16. Easier for tax compliance	80	1	4	2.11	1.019	agreement
17. Reduced the time spent handling taxes for project-based activities.	80	1	5	2.40	1.132	Moderate agreement
18. improves transparency in tax reporting for engineering project revenues and expenses.	80	1	5	2.40	1.143	Moderate agreement
19. Improved efficiency in tax-related communication with the tax authority.	80	1	5	2.41	1.187	Moderate agreement
20. Reduced processing delays for engineering, procurement, and subcontracting activities	80	1	5	2.40	1.132	Moderate agreement

Source: Primary data

Table 13 show different perceptions of respondent within engineering firms concerning E-Tax Compliance and Taxation Efficiency in Engineering Firms, some of respondent shows high agreement of Easier for tax compliance with the mean average of 2.11. and the remaining respondent were moderate agree with the perception concerning Reduced the time spent handling taxes for project-based activities improves transparency in tax reporting for engineering project revenues and expenses Improved efficiency in tax-related communication with the tax authority, Reduced processing delays for engineering, procurement, and subcontracting activities with the mean of 2.40 2.40 2.41 2.40 respectively.

4.5.3. Challenges in Adopting the E-Tax System in Engineering Firms (CAE)

Table 14: Descriptive Statistics - Challenges in Adopting the E-Tax System in Engineering Firms (CAE)

Variables	N	Min	Max	Mean	Std. Deviation	Interpretation
21. Limited staff training on the e-tax system affects effective tax management for engineering projects	80	1	5	2.05	1.078	agreement
22. Technical challenges of the e-tax system disrupt tax reporting for ongoing engineering projects.	80	1	5	2.33	1.188	Moderate agreement
23. Unreliable internet connectivity affects timely tax filing at project sites.	80	1	5	2.37	1.205	Moderate agreement
24. The e-tax system is not well aligned with the complex financial structures of engineering firms.	80	1	5	2.55	1.262	Moderate agreement
25. Resistance to adopting digital tax systems among technical and	80	1	5	2.58	1.230	Moderate agreement

accounting staff affects the effective use						

Source: Primary data

Table 14 show different perceptions of respondent within engineering firms concerning Challenges in Adopting the E-Tax System in Engineering Firms, some of respondent shows high agreement on Limited staff training on the e-tax system affects effective tax management for engineering projects with the mean average of 2.05. and the remaining respondent were moderate agree with the perception concerning technical challenges of the e-tax system disrupt tax reporting for ongoing engineering projects, Unreliable internet connectivity affects timely tax filing at project sites, The e-tax system is not well aligned with the complex financial structures of engineering firms. Resistance to adopting digital tax systems among technical and accounting staff affects the effective use with, the mean of 2.33, 2.37, 2.55, 2.58 respectively.

4.6. Statistical Relationship Analysis

4.6.1. Correlation Analysis

Pearson correlation this shows the strength and direction of a linear relationships between electronic tax utilization variables and business taxation performance.

Table15: Pearson Correlation Matrix.

Variables	**ETS utilization**	**Taxation performance**
ETS utilization	1.000	0.729
Taxation performance	0.729	1.000
Sig (2-tailed)	-	0.000
N	80	80

Source: Primary data

Table 15 shows the Pearson Correlation Matrix were significant associations between taxation performance and electronic utilization therefore in electronic tax system variable r is 0.729 and the tax performance is 1 which means there is strong relationship between the two variables

4.6.2. Correlation matrix of key variables

The correlation matrix of key variables which are Accuracy Improvement (ACC), Error Reduction (ERR), Timely Tax Submission (TIME), Cost Reduction (COST), Business Taxation Performance (PERF) shows the two variables on how this components of the electronic tax system utilization relate to overall business taxation performance

Table 16: correlation matrix of key variables

VARIABLES	ACC	ERR	TIME	COST	PERF
11. Accuracy of tax calculations (ACC).	1				
12. Reduction in filing errors (ERR).	0.6442	1			
13. Timely tax submission (TIME)	0.6615	0.598	1		
14. costs reduction (COST)	0.601	0.633	0.587	1	
15. taxation performance (PERF)	0.712	0.684	0.659	0.701	1

Source: Primary data

Table 16 of the findings shows a significant positive connection between variables of the electronic tax system and the performance of business taxation. There is a significant positive correlation between accuracy improvement and taxation performance, with a correlation coefficient of 0.712, a correlation coefficient of 0.684 is a strong relationship between error reduction and performance, a correlation of 0.659 is positively associated with performance, a correlation coefficient of 0.701 There is a significant correlation between cost reduction and performance, therefore All relationships are significant at the 1% level ($p < 0.01$).

4.6.3. Regression Analysis

Multiple Regression Analysis

The regression model is specified as: Overall Quality = β_0 + β_1(Transparency) + β_2(Comparability) + β_3(Reliability) + β_4 (Value Relevance) + β_5 (IFRS Familiarity) + β_6 (Stakeholder Type) + ε

Table 17: Multiple Regression Results Predicting business taxation performance among engineering firms.

Predictor Variable	B	Std. Error	Beta	t	Sig
constant	0.742	0.181	-	4.10	0.000
Accuracy of tax calculations	0.241	0.082	0.262	2.94	0.004
Reduction in filing errors	0.198	0.079	0.221	2.51	0.014
Timely tax submission	0.173	0.074	0.204	2.34	0.022
costs reduction	0.214	0.081	0.239	2.64	0.010

Source: Primary data

Table 17 of multiple regression shows statistical significance to predict the value of variables to understand the impact of multiple factors on an outcome, ($F = 18.10$, $p < 0.05$) is 61% of the variance in taxation performance ($R^2 = 0.610$). this shows that all predictors positively and significantly influenced improvements in accuracy, reductions in errors, timely submissions, and cost savings

Regression Equation

Business Taxation Performance=0.512+0.241(Accuracy)+0.198(Error Reduction)
+0.173(Timely Submission) +0.214(Cost Reduction)

4.6.4. Regression Coefficients

Table 18: Regression Coefficients

Variables	B	t	Sig
constant	0.856	5.27	0.000
ETS Utilization	0.594	9.40	0.000

Source: Primary data

The table 18 shows the results that there is a positive coefficient of electronic tax system utilization and performance with the significant value of ($p < 0.05$) which determines statistically significant

4.6.5. Model Summary

Table 19; Model Summary

Statistics	R	R-Square	Adjusted R-Sq.	Std. Error	Sig
Value	0.781	0.610	0.589	0.503	0.000

Source: Primary data

Table 19 measures the strength electronic tax system variables which is 61% of the variation in business taxation performance. The model value is statistically significant ($p < 0.05$).

4.7. Inferential Statistical Analysis

4.7.1. Comparison by Gender (independent samples T-Test)

The test examined whether gender differences exist in perceptions of tax performance.

Table 20: Independent sample T-test

test	t-value	df	Sig.(2-tailed)
Equal variances assumed	-0.48	78	0.632

Source: primary data

Table 20 of independent samples T-test results show that the P-value = 0.632 and the Significance level = 0.05. Since 0.632 > 0.05, there is no statistically significant difference between male and female respondents in terms of taxation performance. meaning both male and female have similar perceptions about the effectiveness of the electronic tax system.

4.7.2. Comparison by firm type (one-way ANOVA)

A one-way ANOVA was conducted to compare taxation performance across different engineering firm types as a group.

Table 21: comparison by firm type (one-way ANOVA)

Source	Sum Of Squares	df	Mean Square	F	Sig
Between groups	0.058	2	0.029	0.073	0.930
Withing group	29.954	77	0.389		
Total	30.012	79			

Data sources: Primary data

Table 21show results revealed no statistically significant differences among civil, electrical, and mechanical engineering firms, or group difference F (2,77) = 0.073, p = 0.930 this is to show variation between groups means

4.7.3. Comparison by age group (one-way ANOVA)

A One-Way Analysis of Variance (ANOVA) is used for comparing more than three age groups to see if the age influences the benefit of electronic tax

Table 22: comparison by age group (one-way ANOVA)

source	Sum of squares	df	Mean square	f	sig
Between Groups	0.112	3	0.037	0.095	0.962
Within Groups	29.900	76	0.393		
Total	30.012	79			

Data sources: Primary data

Table22 shows that there were no statistically significant differences between the age groups, F (3,76) = 0.095, p = 0.962.and this influences perceptions of performance

4.8. Distribution of Open-Ended Responses by Theme (N = 80)

Every respondent provided a comment or opinion in the open-ended section.

Table 23: Frequency distribution of Open-Ended Responses

Theme Identified	Frequency	Percentage (%)
Faster tax filing and submission	22	27.5%
Improved accuracy and reduced errors	18	22.5%
Reduced compliance/administrative costs	14	17.5%
System network challenges	10	12.5%
Need for more training	9	11.3%
Improved transparency/accountability	7	8.7%
Total	80	100%

Data sources: Primary data

Table 23; All 80 participants responded to the open-ended question, resulting in a complete response rate of 100%. 27.5% of 22 respondent Faster tax filing and submission, followed 22.5% of 18 respondent identify Improved accuracy and reduced errors and lower compliance costs at 17.5 and (12.5%) of 10 respondents identify System network challenges and the requirement for more training (11.3%) of 9 respondent identify Need for more training, 8.9% of 7 respondent identify Improved transparency/accountability. Some respondents expressed concerns regarding the reliability of the system.

CHAPTER FIVE

SUMMARY DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

5.0 Introduction

This chapter contains a summary of the findings of the research study, conclusions from the research study, and recommendations for the research study. Furthermore, the chapter also indicates the areas that require further research. The research study performed was focused upon the impact of electronic tax systems upon the taxation performance of engineering firms in Uganda. Such impacts included electronic tax registration, electronic filing, electronic tax payment systems, and the Electronic Fiscal Receipting and Invoicing System (EFRIS)

5.1. Summary of Findings

The research concluded that electronic tax (E-Tax) system has positively and partially affected the performance of taxation in the engineering companies. The greatest advantages were experienced in the enhancement of the accuracy of calculating taxes and the reduction of filing mistakes, which increased compliance reliability. Another agreement reached by firms was that the system assists in submitting taxes in good time but there was a moderate enhancement in tax management and administrative cost reduction. Respondents also agree that the system saved time and made the whole process of tax filing easier on compliance, but benefits associated with efficiency, including transparency, communication with tax authorities, and reduced processing times, were felt moderately. Other challenges that were moderate included technical problems, poor internet connectivity, inability to operate an intricate financial system, and staff unwillingness. These results were supported statistically, and it showed significant positive relation between the use of E-Tax and the performance of taxation. Also, regression analysis revealed that the use of E-Taxes explains 61 percent of the fluctuation in taxation performance. Among the benefits that were brought out by the responses include faster tax filing, increased accuracy, and reduced compliance expenses, and there were also issues that were raised such as network issues and additional training requirements. Overall the E-Tax

system has improved compliance and accuracy, but human factors and infrastructure issues limit the system.

5.2 Summary of Key Findings

5.2.1 Utilization of the E-Tax System and Taxation Performance

From the table 12 it explains how engineering firms have a strong agreement about the electronic tax this is due to accuracy and reduction of mistakes. most of respondents strongly agreed that tax calculations are more accurate (mean = 1.78), which suggests the system is reliable and helps minimize errors. They also mean = 2.15 of respondents agreed on the importance of reducing filing errors. (mean = 2.18), meaning businesses are better able to meet deadlines without complications. All in all, these findings suggest that the E-Tax system has made tax compliance more dependable by improving accuracy and reducing common errors. However, when it comes to broader benefits like better tax management (mean = 2.40) and lowering administrative costs (mean = 2.44), the level of agreement was only moderate. This implies that while the system clearly helps with technical aspects of tax compliance, its impact on improving overall efficiency within organizations is still somewhat limited.

5.2.2 E-Tax Compliance and Taxation Efficiency

With a mean score of 2.11 and a standard deviation of 1.019, Table 13's results demonstrated that participants thought the system made compliance easier. There was only moderate agreement with the efficiency-related benefits, such as reduced time spent on tax handling (mean = 2.40, SD = 1.132), enhanced transparency (mean = 2.40, SD = 1.143), better communication with tax authorities (mean = 2.41, SD = 1.187), and fewer processing delays (mean = 2.40, SD = 1.132). This implies that while compliance has increased, efficiency gains are uneven across businesses, supporting the notion that the system's efficacy varies according to each firm's capabilities and the complexity of their project.

5.2.3 Challenges in Adopting the E-Tax System.

The challanges in Table 14 showed that not enough staff training was a big problem (mean = 2.05, SD = 1.078, agreement). There was a moderate level of agreement on technical problems (mean = 2.33, SD = 1.188), unreliable internet connections (mean = 2.37, SD = 1.205), misalignment with complicated financial structures (mean = 2.55, SD = 1.262), and staff

resistance (mean = 2.58, SD = 1.230). The findings suggest that barriers to adoption are multifaceted, with issues pertaining to human resources and infrastructure being the most critical.

5.2.4 Statistical Relationship Analysis

The correlation analysis revealed a robust positive association between the utilisation of E-Tax and tax performance. There were strong links between taxation performance and a number of things, including: accuracy improvement ($r = 0.712$), cost reduction ($r = 0.701$), error reduction ($r = 0.684$), and timely submission ($r = 0.659$). All of these had a p-value of less than 0.01. A regression analysis showed that utilisation was responsible for 61% of the differences in tax performance ($R^2 = 0.610$). Accuracy ($\beta = 0.241$, $p = 0.004$), error reduction ($\beta = 0.198$, $p = 0.014$), timely submission ($\beta = 0.173$, $p = 0.022$), and cost reduction ($\beta = 0.214$, $p = 0.010$) were all important positive predictors.

5.2.5 Open-Ended Responses

The results from the review of qualitative answers indicated that the three major advantages respondents reported were faster tax filings (27.5%), better tax filing accuracy (22.5%), and reduced compliance expenses (17.5%). Respondents also reported some issues with the system (e.g., system down due to a network problem) (12.5%) and need for additional training (11.3%); these are consistent with findings in the quantifiable data.

5.3. Integration with Theoretical Framework

The outcomes of this study can be effectively correlated with the theoretical framework that guided the research. The adoption of the E-Tax system by engineering firms aligns with the Technology Acceptance Model (TAM), which emphasises that perceived usefulness and perceived ease of use are critical determinants in the acceptance of new technology. The results showed that people agreed a lot about accuracy (mean = 1.78) and that filing errors went down (mean = 2.15). This shows that people thought the system worked well to improve compliance reliability. The finding that 61.3% of participants believed the system was easy or very easy to use corroborates the Technology Acceptance Model's assertion that ease of use influences acceptance and utilisation.

The current research supports the theory of diffusion of innovations. As a result, the research is able to explain why and when firms choose to adopt new technological innovations. In this case, the majority of respondents were in agreement that there are significant improvements related to efficiency that come from implementing an e-tax system. For example, the average ratings of transparency (mean = 2.40) and communication with tax authorities (mean = 2.41) showed that while many of the respondent companies had already taken advantage of the innovation; they did not yet perceive the full potential of the innovation. Thus, the major barriers to taking full advantage of these e-tax systems, as perceived by the respondents include a lack of adequate staff training (mean = 2.05) and also a large amount of staff resistance (mean = 2.58). These barriers exist both at the level of the organization and at the level of the individual and therefore represent two of the three stages in the process of adopting an innovation; the stages being knowledge, persuasion and decision making. The multiple regression equation indicated that 61 percent of the variance in tax performance was accounted for by the usage of e-tax systems. Therefore, it can be inferred that using new technology will influence organizational performance, thus providing evidence of a relationship between using technology to improve performance.

5.4. Addressing the Research Gap

Title of Study: Impact of Electronic Tax System on Taxation Performance in Engineering Firms in Uganda The Ugandan government introduced an electronic tax system known as Uganda Revenue Authority Online (URA Online). While assessing its impact has been a topic of discussion among policy and tax economists, a couple of things have been left out especially in the context of Uganda. There are a host of empirical works both nationally and globally about the electronic tax system that have been conducted mostly on the General Business Sector specifically Public Institutions, less research has been done on the Engineering Sector in particular engineering firms within Uganda and also majority of studies carry out their analysis based on a general framework which may not capture in depth information on issues within a firm or sector which may not be fully captured. Most studies carried out in this context pay little or no attention to some of the critical issues that engineering companies which carry our projects at their instance go through which for instance are issues to do with stage payments for particular projects , subcontracting for a component or item of the projects, procurement of materials and issues to do with the long term income structure, amongst others, which if looked

into critically would reveal a huge deviation from a general business to that of engineering which are unique and complex in nature.

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This study employs descriptive statistics, correlation and regression analysis to empirically examine how E-Tax affect the compliance reliability as measured by tax accuracy and errors, and the extent of gains in productivity. The results show that there was a noticeable compliance reliability as measured by higher tax accuracy, lower errors, but moderate gains in terms of productivity. This study also identifies the challenges faced by respondents in using the E-Tax system in their organisations. Staff training, computer problems and mismatches in between the system and accounting procedures and intricate accounting practices were cited as some of the challenges faced. Thus, this study not only contributes to knowledge in the academic sector but also can be a valuable reference in terms of policy-making on improving tax compliance in the private sectors, especially in the complex sector such as the engineering firms.

5.5. Implication of the study

5.5.1. Theoretical Implications

The study validated the Technology Acceptance Model (TAM) with respect to determinants of E-Tax adoption. The study revealed that the accuracy of tax computation and reduction in error tax payers make mistakes while computing their taxes and that 61.3% of the respondents termed the system as easy or very easy to use. The Diffusion of Innovation Theory is also validated since the study revealed that the adoption of the E-Tax system has taken place but the full diffusion of its benefits has been hampered by lack of adequate training and staff resistance. The positive and highly significant correlation ($R^2 = 0.610$) between the use of the E-Tax system and taxation performance supports the technology use leads to better organizational performance.

5.5.2. Practical Implications

The results suggest that the full implementation of the E-Tax system by engineering companies could lead to a higher level of compliance reliability and with less cost. Steps should be taken

to deal with the lack of training on the new system, and the technical problems encountered, as well as to sort out problems related to Internet access. Capacity-building, infrastructure development and customization of the system to the complex accounting structures of engineering companies should be the main policy and administrative measures of the tax authority. Finally, dealing with employee resistance to the use of E-Tax and its embedding in companies' administrative practices is crucial in achieving higher levels of tax compliance, as well as cost and transparency reductions..

5.6. Conclusions of the Study

The findings indicate that the implementation of the electronic tax system led to varying degrees of improvement in the tax performance of the engineering companies in Uganda. Generally, the accuracy of computation of taxes improved with an average score of 1.78 and the errors in tax filing decreased with an average score of 2.15, which are the benefits that enhanced the compliance reliability. Additionally, the management of taxes was enhanced with an average score of 2.40 and the costs reduced with an average score of 2.44.

The results show that although employees think that the system generally makes their job easier to perform and more efficient, there is not yet being fully utilised. There were also moderate benefits with regard to compliance such as easier tax reporting (score 2.11) and greater insight into work and process activities (score 2.40). The degree of agreement on better communication and less admin work/bureaucracy was not particularly high.

Several obstacles still hinder the success of the E-Tax system. The average score is 2.05 for staff training and 2.33, 2.37 and 2.55 for system disruptions, lack of internet services and complexity of financial transactions, respectively. Additionally, staff resistance has averaged 2.58. Correlation analysis confirms that the use of E-Tax has a strong positive correlation with the improvement of taxation performance indicators of accuracy ($r = 0.712$), reduction in costs ($r = 0.701$), decrease in errors ($r = 0.684$) and faster collection ($r = 0.659$) of taxes. Moreover, regression analysis shows that the use of the E-Tax system can explain 61% of taxation performance ($R^2 = 0.610$).

In summary, the use of the E-Tax system has generally contributed to better compliance and tax collection for engineering companies. A number of constraints were, however, identified such as lack of skills, inadequate infrastructure and the incompatibility of the E-tax system with the complexities of accounting for engineering services. Thus, training, investment in

infrastructure and tailoring the system to the specific context and needs of engineering firms will be critical in addressing these constraints and deriving full benefits from the use of E-tax in order to achieve better taxation of engineering services.

5.7. Recommendations of the Study

Based on the study findings and conclusions, the following recommendations are made:

5.7.1. Recommendations for Tax Authorities

Tax authorities should improve the e-tax system in better adjustment with the financial structures used in engineering companies, including step billing, amendments to contracts, retention clauses and long-term recognition of income. We also believe that there should be more reporting modules for engineering projects. A continued development of the systems of the tax administration should also be carried out in order to minimise technical faults in the systems and to secure a stable functionality.

5.7.2. Recommendations for Engineering Firms

It is crucial that Engineering companies undertake training for their employees on the efficient use of the e-tax system in order to minimize room for error during the compliance process. It is also important for companies to link their in-house accounts systems to the e-tax system provided it does not pose any technical challenges. Companies based in rural areas are also advised to invest in a stable internet connection in order to curb challenges associated with connectivity that usually occurs during the filing process

5.7.3. Policy and Infrastructure Recommendations

Governments and policymakers can help this progress by making building broadband networks a top priority, especially in places with a lot of projects and remote areas. And working with private sector partners to bring internet access to areas that don't have it, as well as offering incentives or subsidies to encourage people to use technology. There should also be policies that take into account the practical needs of engineering firms by allowing for gradual compliance requirements and flexible filing deadlines for long-term projects.

5.7.4. Suggestions for Further Research.

Future research may use Inferential Statistical Methods to investigate link between e-tax system adoption and tax performance across sectors Research on engineering firms relative to similar project-based industries (e.g. construction or oil and gas) could provide more useful insights here. Additionally, qualitative research with interviews of tax officers and project accountants may be able to suggest more helpful context.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE

I student of Uganda Christian University, conducting final research for the Bachelor's degree. This questionnaire seeks information from you on "The Impact of Electronic Tax Systems on the Business Performance of Engineering Firms in Uganda." It is part of the partial fulfillment for the award of Bachelor of Science in Accounting and Finance. Your contribution, opinions, and experience are highly appreciated.

Your responses will be kept confidential and used solely for academic research purposes.

Questionnaire on Electronic Tax Systems and Business Performance of Engineering Firms

Section A: Demographic Characteristics

1.Gender:

1) Male

2) Female

2.Age Group:

a) 18-29years

b)30 -45 years

c) 46-55 years

e) Above 55 years

3.Level of Education:

a) Primary

b) Secondary

c) Diploma

d) Bachelor's Degree

e) Postgraduate

f) masters

4.Position in the Firm:

a) Owner

b) Manager

c) Accountant

d) Engineers

5. type of engineering firm

a) civil engineering

b) electrical engineering

c)mechanical engineering

6. Years in Operation:

a) Less than 1 year

b) 1-3 years

c) 4-6 years

d) 7-10 years

e) Over 10 years

Section C: Awareness And Usage of Electronic Tax

7. Are you aware of electronic tax system

a) yes

b) no

8. if yes which of the following electronic tax system have you used

a) Online tax registration

b) E-filing of tax returns

c)Online payment of taxes

d)Electronic tax reporting

10. How easy is it for your firm to use the electronic tax system?

a) Very easy

b) Easy

c)Neutral

d)Difficult

e) Very difficulty

Section C: Utilization of the E-Tax System and Taxation Performance in Engineering Firms (ETS)

Please put a tick at the most appropriate options

1.Strongly Agree

2.Agree

3.Neutral

4.Disagree

5.Strongly Disagree

STATEMENTS	**1**	**2**	**3**	**4**	**5**
11.The e-tax system has improved the accuracy of tax calculations for engineering contracts and project revenues.					
12.Use of the e-tax system has reduced tax filing errors related to project-based invoices.					
13.The e-tax system enables timely tax submission despite the complex nature of engineering projects.					
14.Adoption of the e-tax system has improved tax management for multiple engineering projects handled by the firm.					
15.The e-tax system has reduced the administrative costs of tax compliance for engineering firms.					

Section D: E-Tax Compliance and Taxation Efficiency in Engineering Firms (ETC)

STATEMENTS	**1**	**2**	**3**	**4**	**5**
16. The e-tax system makes it easier for our firm to comply with					
17. E-tax compliance has reduced the time spent handling taxes for project-based activities.					
18. The e-tax system improves transparency in tax reporting for engineering project revenues and expenses.					
19. Using the e-tax system has improved efficiency in tax-related communication with the tax authority.					
20. E-tax compliance has reduced delays in tax processing for engineering procurement and subcontracting activities.					

Section E: Challenges in Adopting the E-Tax System in Engineering Firms (CAE)

STATEMENT	**1**	**2**	**3**	**4**	**5**
21.Limited staff training on the e-tax system affects effective tax management for engineering projects.					
22.Technical challenges of the e-tax system disrupt tax reporting for ongoing engineering projects.					
23.Unreliable internet connectivity affects timely tax filing at project sites.					
24.The e-tax system is not well aligned with the complex financial structures of engineering firms.					

25.Resistance to adopting digital tax systems among technical and accounting staff affects effective use.					

26. What recommendations would you make to improve the electronic tax system to enhance business performance of engineering firms?

Ewald Ester Kessy

Electronic Tax System and Business Taxation Performance

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