

# The effect of Service Quality on the adoption of KRA TIMS/eTIMS among Medium-Sized Enterprises Within Nairobi County.

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## Abstract

The Kenyan government, through the Kenya Revenue Authority (KRA), has introduced the Tax Invoice Management System (TIMS) and its electronic counterpart (eTIMS) as part of its strategy to modernize tax collection and reduce instances of tax evasion. While the systems have been hailed as essential for enhancing tax compliance, the rate of adoption among medium-sized enterprises (SMEs) within Nairobi County remains inconsistent. The purpose of the study was to determine the effect of Service Quality on the Adoption of KRA TIMS/eTIMS Among Medium-Sized Enterprises within Nairobi County. This study employed a descriptive survey research design to gather quantitative data, ensuring a comprehensive understanding of the research problem. The target population consisted of 468 VAT-registered, medium-sized enterprises in Nairobi's wholesale and retail sector, selected for their significant compliance gaps in VAT reporting. From this population, a sample size of 150 enterprises was determined using Yamane's formula and adjusted for time and cost constraints. Purposive sampling method was used to select participants, ensuring representative and reliable data. Data collection utilized questionnaires. For data analysis, descriptive statistics (mean and standard deviation) and inferential statistics were employed. A multiple regression model was used to explore the relationship between variables. Results were presented through tables highlight key findings and trends. The study found a significant effect of service quality on KRA TIMS/eTIMS adoption, with an R-value of 0.848 and R<sup>2</sup> of 0.719. The regression coefficient was 0.551, with a t-value of 1.898 and p-value of 0.000, confirming statistical significance. The study concluded that factors such as the helpfulness and knowledge of KRA employees, along with the convenience of KRA's operating hours, significantly influence businesses' decisions to embrace the system. The study recommended that KRA should continue improving its service quality to enhance the adoption of the TIMS/eTIMS system among medium-sized businesses. Furthermore, the study suggested that KRA should enhance the visual appeal of its offices and ensure it delivers on promises, as these factors contribute to a positive service experience.

Keywords: Service Quality, Adoption of KRA, TIMS/eTIMS, Medium-Sized Enterprises

## Introduction

Service quality significantly influences the adoption of revenue collection technologies, such as the Tax Invoice Management System (TIMS) and electronic TIMS (eTIMS), among medium-sized enterprises. These systems, introduced to enhance tax compliance and streamline revenue collection, require businesses to transition from manual invoicing to electronic platforms. The quality of services provided during this transition is critical to the adoption process (Niyi Anifowose et al. 2022). One major dimension of service quality is reliability, which pertains to the consistent and accurate performance of TIMS/eTIMS. If businesses perceive the systems to be dependable and free from frequent technical issues, their willingness to adopt increases (Bagale et al. 2021). AI-Tit (2020) system downtimes or errors in invoice generation discourage businesses from embracing these tools. Ease of use and accessibility also play a pivotal role. Medium-sized enterprises often lack extensive IT support, and systems perceived as complex may hinder adoption (Nguyen et al. 2020). Ensuring intuitive interfaces and user-friendly training materials significantly enhances user confidence and system uptake. Another key factor is responsiveness. Medium-sized enterprises value timely support during system implementation and troubleshooting. Effective helpdesks, regular updates, and prompt communication foster positive perceptions, making enterprises more likely to integrate these tools into their operations (Vu & Nguyen, N. 2022).

According to Odutola (2021) the perception of security and trustworthiness also determines adoption rates. Concerns about data breaches or unauthorized access to financial records can deter businesses from adopting revenue collection systems. Transparent communication about system security measures builds trust and reassures enterprises of data safety. The customization to business needs enhances adoption. Medium-sized enterprises operate in diverse sectors, and systems tailored to these specific industries are more attractive. For instance, integrating inventory management with TIMS can provide added value beyond tax compliance (Maroufkhani et al. 2023).

In China, the adoption of revenue collection technologies such as the Tax Invoice Management System (TIMS) or its electronic counterpart (eTIMS) is closely intertwined with the government's comprehensive approach to digitalizing tax collection and enhancing compliance (Wang et al. 2020). Service quality plays a crucial role in determining the success of these technologies, particularly among medium-sized

enterprises, which often face challenges in adapting to complex digital platforms. Reliability is one of the most important service quality dimensions for Chinese enterprises, as the tax system is highly regulated and subject to frequent updates (Won & Park, 2020). For instance, the implementation of the Golden Tax System, which integrates TIMS/eTIMS functionalities, requires the technology to reliably process tax invoices in accordance with both national and regional tax regulations. If the system fails to process or report taxes accurately, it could result in penalties or legal repercussions. The government's efforts to ensure that the system performs consistently without errors have been key to fostering trust among medium-sized enterprises (Sun & Mamman, 2022). In this regard, businesses that have used these systems, particularly in provinces such as Guangdong, where manufacturing is prevalent, have reported improvements in tax filing accuracy and operational efficiency (Li & Pang, 2023). The Chinese government provides extensive training programs and technical support for enterprises to understand and use these technologies effectively. For example, the government regularly organizes workshops that target different levels of enterprise owners, from large corporations to small and medium-sized businesses, equipping them with the knowledge needed to navigate TIMS/eTIMS smoothly (Liu et al., 2021).

Ethiopia, with its growing economy and a nascent digital tax infrastructure, faces unique challenges in implementing and adopting revenue collection technologies like TIMS/eTIMS among medium-sized enterprises (Getaneh Kebede et al. 2024). Given the limited digital literacy and technological infrastructure in many parts of the country, service quality becomes a crucial determinant of the adoption process. The ease of use of TIMS/eTIMS systems is paramount in Ethiopia, where many business owners lack advanced technical skills. For instance, the Ethiopian Revenue and Customs Authority (ERCA) has developed a simplified version of the tax reporting platform designed to be intuitive for non-expert users (Meressa, 2020). Through government-run training sessions and the dissemination of instructional materials in local languages, such as Amharic, enterprises are better equipped to use these systems. Businesses in urban centers like Addis Ababa, which have better access to technological resources, are more inclined to adopt TIMS/eTIMS due to these efforts (Tekalign & Getachew, 2020).

In Kenya, the adoption of TIMS/eTIMS systems is a cornerstone of the Kenya Revenue Authority's (KRA) efforts to modernize tax collection and improve compliance. Service quality is a critical enabler of these technologies' success

among medium-sized enterprises, which often face unique challenges related to cost, customization, and technical support (Ngungi, 2021). Customization of TIMS/eTIMS to meet the needs of different industries in Kenya is one of the key reasons for its successful adoption. Medium-sized enterprises, especially in sectors like agriculture, retail, and manufacturing, often use accounting software like QuickBooks or Sage to manage their financial records (Kimathi, 2020). The ability of TIMS to integrate seamlessly with these tools has made the transition to digital tax systems smoother and more attractive. For instance, farmers in the horticulture sector, who often deal with fluctuating income and expenses, find it easier to adopt TIMS because it can automatically update their tax records based on sales data from their integrated accounting software (Maina & Mugambi, 2022). This level of customization ensures that businesses are not forced to radically change their established workflows to comply with tax requirements.

The responsiveness of the KRA's support services is another vital factor influencing adoption. To address any concerns or challenges faced by businesses, the KRA offers robust customer support, including a 24/7 help desk, as well as on-the-ground technical assistance for enterprises during the system's rollout (Kimathi, 2020). Businesses that have faced challenges, such as system downtimes or training difficulties, report that the KRA's timely interventions help resolve issues quickly, allowing for minimal disruption to their operations (Gitonga et al. 2020). For example, medium-sized enterprises in Nairobi's commercial hubs have benefited from the KRA's technical teams, who provide hands-on assistance in navigating the digital tax system (Mwangi & Kamau, 2021). Nairobi County as the Kenya's economic hub, businesses are increasingly required to comply with digital tax systems to improve efficiency and ensure transparency in their financial transactions. However, despite the KRA's efforts to integrate TIMS/eTIMS, the rate of adoption among medium-sized enterprises remains varied. Understanding the role of service quality in the adoption of these systems is essential for addressing the barriers faced by businesses and ensuring a smooth transition to digital tax compliance.

### *Statement of the Problem*

Kenya Revenue Authority has over the years focused on facilitating tax compliance by investing in digital technology systems to ease tax registration, filing of tax returns and payment of tax due. However, tax compliance and tax revenue collections have remained below the targeted levels. Tax revenue yield falls below the desired East Africa Community target of twenty-five (25) percent of GDP despite the heavy investments by the government to transform the tax system

(NTP 2023). The tax revenue shortfall has led to Kenyan Government budgetary shortfall to finance both its capital and recurrent expenditure. This has forced the government to borrow from both the domestic market and externally thereby leading to a huge government debt burden and a strain in meeting public demands. Despite the government's efforts to encourage the uptake of these systems, many SMEs continue to face difficulties in fully embracing digital tax solutions. Ngungi (2021) the major challenges identified is the quality of services provided to businesses during the adoption process. Medium-sized enterprises often encounter obstacles such as inadequate training, unreliable system performance, limited technical support, and concerns over system usability, which hinder their willingness to adopt TIMS/eTIMS. These service quality issues have raised questions about whether the KRA's approach to system implementation adequately addresses the needs of SMEs, particularly in an urban environment like Nairobi, where competition is high, and businesses are under pressure to comply with tax regulations efficiently (Gitonga et al. 2020). Although digital tax systems have the potential to increase tax compliance and simplify the tax reporting process, the reluctance of medium-sized enterprises to fully integrate these systems indicates that the existing service support mechanisms may not be sufficiently meeting their expectations. Therefore, there is a need to investigate the effect of service quality on the adoption of TIMS/eTIMS within Nairobi County.

### *Purpose of the Study*

The purpose of the study was to determine the effect of Service Quality on the Adoption of KRA TIMS/eTIMS Among Medium-Sized Enterprises within Nairobi County. **2.0**

### **Literature Review**

#### *Theoretical Review*

##### *The Theory of Planned Behaviour*

During 1980s, structured research into tax evasion and non-compliance became wide spread following the political concerns in the United States of an increasing tax gap (Devos, 2014). Initially, the literature which had emerged from the United States had a strong focus on economic theory. Utility theory developed by Allingham and Sandmo (1972), assumed taxpayers to be utility maximisers in decision of tax reporting and compliance, where tax evasion was viewed as worthwhile if the financial gains purely outweighed the financial costs. However, other research studies have argued that the human element plays a vital role in individual taxpayer compliance decisions.

The Theory of Planned Behaviour (TPB) was developed by Icek Ajzen as an attempt to predict human behaviour (Ajzen, 1991). The TPB posits that attitude towards the behaviour, subjective norm and perceived behavioural control influence behavioural intention. The first construct of the theory is behavioural intention, which is the motivational factors that influence behaviour (Ajzen, 1991). The second construct is

attitude towards the behaviour which is the extent to which a person has a favourable or unfavourable appraisal of a given behaviour. Subjective norm is the third construct, which is a social pressure to perform or not to perform a given behaviour. Perceived behavioural control refers to people's perception of ease or difficult of performing the behaviour of interest. An extension of the TPB to tax compliance by Efebera et al. (2004) that examined factors influencing tax compliance intentions show that all components (equity perception, normative expectations and legal sanctions) have a positive effect on tax compliance intentions.

#### *Technology Acceptance Model (TAM)*

Technology acceptance refers to how people accept and adopt some technology for use (Samaradiwakara & Gunawardena, 2014). The Technology Acceptance Model (TAM) advanced by Davis (1989) was developed from the Theory of Reasoned Action (TRA) with the aim of describing an individual's information technology behaviour (Amadu et al., 2018). The TRA by Fishbein and Ajzen, 1975 is a theory in the field of socio psychology, which explains a person's behaviour through their intentions. TAM focusses on two theoretical constructs; perceived usefulness and perceived ease of use, which are theorized to be fundamental determinants of system use (Davis, 1989). The model postulates that people tend to use or not use an application to the extent they believe it will help them perform their job better referred to as perceived usefulness. It also advances that if potential users believe that a given application is useful, they may at the same time believe that the system is too hard to use and that the performance benefits of usage are outweighed by the effort of using the application (Davis, 1989).

According to TAM, technology acceptance is a three stage process, where by external factors (system quality, social norms, computer self-efficacy) trigger cognitive responses (perceived ease of use, and perceived usefulness), which in turn form an effective response (attitude towards using technology/intention) influencing use behaviour (Davis, 1989). To validate the model, Davis conducted a survey to pursue better measures of predicting and explaining use. The survey involved two studies comprising 152 users drawn from IBM Canada's Toronto Development Laboratory and evening MBA students at Boston University and 4 application programmes resulting in two 6-item scales to be used to measure user acceptance of information technology (Davis, 1989). Charness (2016) describes TAM as one of the most influential models of technology acceptance, with two primary factors influencing an individual's intention to use new technology: perceived ease of use and perceived usefulness.

#### *The SERVQUAL Model*

The SERVQUAL Model, developed by Parasuraman, Zeithaml, and Berry (1988), provides a useful way to assess service quality. It is based on the idea that service quality is determined by the difference between what customers expect from a service and what they actually experience. When the service does not meet expectations, it leads to dissatisfaction.

This gap, where customers' expectations are not fulfilled, is central to the theory (Raza et al. 2020). In the context of KRA's TIMS/eTIMS system, if businesses in Nairobi expect a user-friendly, efficient service but experience issues like system delays, poor training, or insufficient support, it can discourage them from fully adopting the system. The SERVQUAL Model identifies five key aspects of service quality: tangibles, reliability, responsiveness, assurance, and empathy. These aspects are important in shaping how customers feel about a service, and they can influence how well businesses accept and use new systems like TIMS/eTIMS (Sumi & Kabir, 2021).

Tangibles refer to the physical elements of a service, such as the quality of the technology, the accessibility of support materials, and the overall user interface. In the case of TIMS/eTIMS, the ease of using the platform and the clarity of training resources are critical. If the system is difficult to navigate or the training provided is inadequate, businesses may be less willing to adopt it (Aboubakr & Bayoumy, 2022). Reliability is about how well the service works and whether it can be trusted to meet expectations. For TIMS/eTIMS, this means the system should work accurately and without errors in processing tax data. If the system fails or produces incorrect results, businesses may lose confidence in it, hindering its adoption. Responsiveness focuses on how quickly and effectively staff can help customers with their concerns. For medium-sized businesses, timely support when facing problems with the system is essential. If businesses do not receive prompt assistance, they may become frustrated and may be less likely to continue using the system (Aboubakr & Bayoumy, 2022).

Assurance involves the trustworthiness and competence of the service providers. In the case of KRA's TIMS/eTIMS, if the KRA staff are knowledgeable, polite, and able to provide clear guidance, businesses will feel more confident in using the system. Empathy refers to understanding and addressing the specific needs of customers. For SMEs in Nairobi, this means that KRA should offer training and support that cater to the unique challenges these businesses face, such as limited digital skills or varying levels of familiarity with tax regulations. Aboubakr and Bayoumy (2022) applying the SERVQUAL Model, this study aims to show how these five aspects of service quality can influence the adoption of the TIMS/eTIMS system by medium-sized enterprises. When service quality meets or exceeds expectations in these areas, businesses are more likely to embrace the system, leading to better tax compliance and smoother implementation. On the other hand, if there are gaps in service quality, it can create barriers to adoption, preventing businesses from fully using

the system. Thus, the SERVQUAL Model helps explain why the quality of service can make a significant difference in how businesses adopt and use digital tax platforms like TIMS/eTIMS (Sibai et al. 2021).

### *Conceptual framework*

## **Empirical Literature Review**

### ***Effect of Service quality on adoption of digital technology***

Service quality refer to the kind of help and resources provided to end-users that engage with a product or service. It refers to the consumer's evaluation of the excellence and superiority of the service encountered (Zeithaml and Binter, 2003). Providing superior service quality is crucial in achieving long-term success in the service industry (Shahin and Dabestani, 2010). Customers who experience positive feelings and attitude towards the services during the service consumption processes are more likely to perceive favourably toward the service provider, which subsequently leads to customer loyalty (Ishaq, 2012).

A research by Wu and Li (2015) on a sample of visitors to a museum in Macau revealed that service quality is critical to customer satisfaction. A study conducted by Okoh et al. (2023) on 217 tax officers found out that tax administrators and tax e-services can improve tax administration performance directly and indirectly through the mediating role of taxpayers' support. Susuawu et al., (2020) did a study on Service Quality Influence on tax compliance behaviour of SMEs, A New Perspective from Ghana and found statistically significant positive effects of reliability, responsiveness, assurance, and empathy on the tax compliance behaviour of SMEs. The study employed the survey technique to a sample of SME taxpayers in the Makola, Madina, Tema and Kaneshie business centres. Al-Ttaffi and Abdul-Jabbar (2016) analysed the impact of tax service quality on taxpayer behaviour of SMEs in Yemeni. Adopting a simple regression analysis, the study found that the perceived tax service quality has a significant negative influence on tax non-compliance behaviour.

Kiema, (2017) explored the effects of ICT support services on revenue collection by Kenya revenue authority using a descriptive survey research design. The respondents were KRA staff constituting of 12 employees drawn from the 6 KRA departments. The study findings revealed that ICT support services have greatly influenced the revenue collection at KRA. Oyuko (2022) did an evaluation of effect of service quality on customer satisfaction in supermarkets in

Kisumu Kenya using the SERVQUAL constructs and found that and found that all the constructs had a positive relationship with customer satisfaction. Muluka (2008) in his study on freight customers' perception of service quality by Rift Valley Railways found empathy was the most important and reliability the least. Alabede et al. (2011) analysed the effect that tax service quality has on tax compliance behaviour in Nigeria. The study found that perceived tax service quality is positively and significantly related with tax compliance behaviour. Further, the study concluded that taxpayers' financial condition and risk preference jointly moderate the relationship between perceived tax service quality and compliance behaviour. These studies applied SERVQUAL instrument. A review of the SERVQUAL by Ladhari, (2009) concludes that despite legitimate concerns about the validity on the scale, it remains a useful tool for measuring and managing service quality.

### ***Digital Technology Adoption***

Technology adoption is described as the acceptance, integration and use of new technology. Technology adoption refers to how people or business use technology in their operations. According to Azmi et al. (2016), SMEs adopt technology in tax compliance based on their perceived improvement in business, data precision, stepping up processes and decreasing clerical errors. Azmi et al (2016) further provides that SMEs with a positive attitude towards technological factors are more likely to adopt the technology. A study on selected digital technologies on tax collection and compliance using cross-country data conducted by Nose and Mengistu (2023) indicate that digital technologies could enhance tax collection. Mwangi et al (2018) concluded in their study that staff training and technology adoption had a positive and significant effect on tax fraud mitigation among large taxpayers at KRA. The study targeted 1540 fraud unit investigation officers in LTO section of KRA.

Night & Bananuka (2020) published a study on the mediating role of adoption of an electronic tax system in the relationship between attitude towards electronic tax system and tax compliance using evidence from small business enterprises of an African developing economy. The study was conducted in Uganda and it used a quantitative research approach where questionnaires with close-ended questions were used. The research design was cross-sectional and correlational and 214 questionnaires were received and analysed. The findings showed that adoption of electronic tax system is a partial mediator in the association between attitude towards electronic tax system and tax compliance and adoption of the

electronic tax system was significantly associated with tax compliance.

Mbise and Baseka (2023) conducted a study on the impact of the digital tax administration system on compliance among small and medium enterprises (SMEs) in the Tanzania Revenue Authority, Tanga Regional Office. The study employed descriptive statistics and regression analysis to determine the association between digital tax and compliance. The study was done on a sample 133 small enterprises from a population of 254. The study concentrated on variables including adoption of technology, data analytics, and electronic tax filing. The study concluded that digitisation has a positive association with tax compliance among the SMEs with the increase in tax compliance being brought about by the use of the technology. The study also suggests that availability of tax data on digital platforms and application of tax data analytics improved compliance.

Mwangangi (2022) conducted a study on online tax system and tax compliance by small and medium enterprises, a case of Kitui County in Kenya. The study applied descriptive research design with a population of 206 SMEs drawn from a population of 442 business owners. In this study the independent variable of online tax filing focussed on issues regarding internet familiarity, website ease of use and knowledge of iTax while applying the theories of Technological Acceptance Model and Diffusion of Innovation. The study found out that increase online tax registration and increase in online tax filing led to increase in tax compliance.

### *Summary of the study and research gap*

Whilst numerous studies have been undertaken in relation to adoption of digital technology in facilitating tax compliance, there still exist a conceptual and contextual gap that need to be addressed. Some of the reviewed studies differ in the variables considered. The table below summarizes the research studies reviewed and the gap that this study sought to address. Notable in the summary is that very few studies have addressed the aspect of factors influencing adoption of digital tax technology.

### **Table 1: Summary of Empirical studies and Knowledge Gaps**

#### **Research Methodology**

##### *Research design*

This study employed a descriptive survey research design to gather both qualitative and quantitative data, ensuring a comprehensive understanding of the research problem. Cooper and Schindler (2008) point out that descriptive

research design gives a valid and accurate representation of the variables of the study which becomes helpful when responding to the research question.

##### *Target population*

The focus of the study was on VAT registered medium-sized enterprises operating within Nairobi County. Preliminary data obtained from KRA database indicate a total of 5,283 medium-sized VAT registered enterprises under the Medium Tax Office in KRA (appendix iv). Nairobi County has 1,614 medium-sized enterprises in this category. The target population consisted of 468 VAT-registered, medium-sized enterprises in Nairobi's wholesale and retail sector, selected for their significant compliance gaps in VAT reporting. The 468 medium-sized enterprises in the wholesale and retail sector, repair of motor vehicles and motorcycles formed the population of study. This sector was selected based on the number of the medium-sized enterprises in the sector and the significant compliance gap observed during the VAT gap analysis study conducted in Kenya in 2017.

##### *Sample size and sampling technique*

###### *Sample size*

Yamane (1967) sample size formula was used to select a sample size of 216 medium-sized enterprises. The sample assumed 95% confidence level and a 5% margin of error as shown below;

$$n = \frac{N}{1+N(e)^2} = \frac{468}{1+468(0.05)^2} = 215.67$$

Where:

n = Sample Size

N = Population size

e = Error of sampling

However due to time and cost constraints, the researcher selected randomly 150 respondents who were 32% of 468 which the total population of this study. Blanche, Durrheim and Painter (2008) provided that for small samples of below 1,000 a sample size of 30% is sufficient.

##### *Sampling techniques*

This study adopted purposive sampling method to obtain the sample from the study population using the data obtained from KRA database. Purposive sampling was used to select the medium-sized enterprises in the wholesale and retail, repair of motor vehicles and motorcycles sector whose email address could be obtained. Purposive sampling method was used to select participants, ensuring representative and reliable data.

### *Data collection methods and instrument*

Data collection utilized questionnaires structured into two sections: demographic information and variables related to digital tax technology adoption. Both open- and closed-ended questions were included, with a five-point Likert scale for standardization. Secondary data on tax filing trends was also obtained from the Kenya Revenue Authority (KRA). Secondary data was collected through review of tax bulletins, books, journals, google scholar and published research studies. Data relating to on-boarding status of TIMS/eTIMS was obtained from the KRA TIMS section and was used to determine the adoption of digital tax technologies in this study the KRA TIMS/eTIMS.

### *Data collection procedures*

Data collection procedures commenced upon approval of the proposal after its defense and revision. An introduction letter with approval to collect data was issued to the sampled entities for consent to collect data from the respondents.

Data was collected using questionnaires administered to the respondents. Administration of questionnaires was done by e-mail sent to respondents. Respondents were given 7 days to respond to the questionnaire sent by e-mail after which physical follow up of questionnaires was conducted with the help of research assistants. The research assistants were trained prior to the follow-up.

### *Data analysis and presentations*

The study utilized descriptive and inferential statistical analysis. Descriptive statistics comprising of the mean, the standard deviation and inferential statistics comprising of correlation, multi regression, and ANOVA were computed using the Microsoft Excel data analysis tool. The findings were presented in tables, charts and graphs in the following thematic areas: response rate; demographic characteristics of the respondents, descriptive and inferential statistics.

## **Research Findings and Presentation**

### *Response Rate*

In this study, 150 questionnaires were administered to the target respondents comprising the sampled VAT registered medium-sized enterprises within Nairobi county operating in the wholesale and retail sector. From the issued questionnaires, 117 were filled and returned by the respondents representing a response rate of 78% as shown in Table 1 below.

Table 1: Response Rate

According to Creswell (2017) any response rate of 50% and above is adequate for analysis in research where 60% is rated

as good and 70% is rated as very good. The researcher anticipated that the questionnaire sent through email would have a lower response rate and this prompted the utilization of research assistants for follow up which greatly contributed to the response rate.

### *Descriptive Analysis of the Study Variables*

#### *Effect of Perceived Service Quality on Adoption of KRA TIMS/eTIMS*

The study sought to determine the effect of perceived service quality on adoption of KRA TIMS/eTIMS by medium sized enterprises within Nairobi County. Table 2 shows the summary of the responses.

Table 2: Perceived Service Quality on Adoption of KRA TIMS/eTIMS

According to the findings, as shown in Table 2, most of the respondents found KRA operating hours convenient to all its customers (mean -3.917; SD – 0.759) followed by assurance on KRA employee's knowledge to answer their questions (mean -3.844; SD – 0.873). The aspect of KRA's offices visual appeal scored a mean of 3.789 with a SD of 0.759 while reliability scored a mean of 3.578 with a SD of 1.083. Responsiveness which was measured by the aspect of if the respondents found employees in KRA always willing to help them scored the least with mean of 3.156 and SD of 1.148. The aggregate mean was 3.657 and aggregate standard deviation was 0.924 meaning that the scores were dispersed around the mean.

### *Regression Analysis*

This sub-section presents regression results on combined effect of Service Quality on the Adoption of KRA TIMS/eTIMS adoption among the medium sized enterprises within Nairobi county operating in the wholesale and retail sector.

### *Model Summary*

Table 3: Model Summary for Service Quality on the Adoption of KRA TIMS/eTIMS

As shown in Table 3, the model summary results reveal a strong positive relationship between perceived service quality and the adoption of KRA TIMS/eTIMS among medium-sized enterprises in Nairobi's wholesale and retail sector, with an R-value of 0.848. The R<sup>2</sup> value of 0.719 indicates that 71.9% of the variation in TIMS/eTIMS adoption is attributable to the model, signifying its robustness. This suggests that higher service quality perceptions significantly enhance the

likelihood of adopting these systems, highlighting the critical role of service quality in influencing adoption decisions.

### *ANOVA Analysis for the Overall Model*

The Analysis of Variance (ANOVA) is a statistical formula used to compare variances across the means of different groups. The results are indicated in table 4 below.

Table 3: ANOVA<sup>b</sup> for Service Quality on the Adoption of KRA TIMS/eTIMS

The ANOVA results confirm the model's significance in explaining the adoption of KRA TIMS/eTIMS among medium-sized enterprises in Nairobi's wholesale and retail sector. The F-statistic of 89.504 indicates a strong model fit, and the p-value of less than 0.05 highlights statistical significance. This finding emphasizes that perceived service quality is a key factor influencing the adoption of TIMS/eTIMS. The model effectively demonstrates the positive impact of service quality, underscoring its critical role in encouraging businesses to embrace new technological systems.

### *Regression Coefficient for Service Quality on the Adoption of KRA TIMS/eTIMS.*

Table 5: Regression Analysis Results for Service Quality on the Adoption of KRA TIMS/eTIMS.

The regression results in Table 5 indicate that service quality significantly influences the adoption of KRA TIMS/eTIMS. The unstandardized coefficient ( $B = 0.551$ ) shows a positive relationship, meaning improvements in service quality increase the likelihood of adoption. The t-value of 1.898 and a p-value of 0.000 confirm the significance of this relationship. These findings underscore the importance of high service quality in promoting the successful adoption of the TIMS/eTIMS system among medium-sized enterprises in Nairobi County.

## **Summary of the Findings, Conclusions and Recommendations**

### *Summary of the findings*

The study found that perceived service quality has a significant effect on the adoption of KRA TIMS/eTIMS among medium-sized businesses in Nairobi's wholesale and retail sector. The regression results showed a strong positive relationship, with an R-value of 0.848, indicating a strong connection between service quality and adoption. The R<sup>2</sup> value of 0.719 revealed that 71.9% of the variation in adoption could be explained by service quality. The coefficient of 0.551 showed that better service quality increases the chances of

adoption. The t-value of 1.898 and a p-value of 0.000 confirmed that the relationship is statistically meaningful, highlighting the importance of service quality in influencing the decision to adopt the system.

### *Conclusion of the study*

The study concluded that perceived service quality plays a crucial role in the adoption of KRA TIMS/eTIMS among medium-sized businesses in Nairobi's wholesale and retail sector. It found that when businesses view the service quality of KRA positively, they are more likely to adopt the TIMS/eTIMS system. The study also concluded that factors such as the helpfulness and knowledge of KRA employees, along with the convenience of KRA's operating hours, significantly influence businesses' decisions to embrace the system. The study highlighted that improving service quality can lead to higher adoption rates of the TIMS/eTIMS system among businesses.

### *Recommendations of the study*

The study recommended that KRA should continue improving its service quality to enhance the adoption of the TIMS/eTIMS system among medium-sized businesses. Specifically, KRA should focus on training employees to ensure they are knowledgeable and always willing to assist businesses with their inquiries, which can help build trust and encourage adoption. The study also recommended that KRA should maintain convenient operating hours to accommodate all business types, ensuring accessibility. Furthermore, the study suggested that KRA should enhance the visual appeal of its offices and ensure it delivers on promises, as these factors contribute to a positive service experience. Through focusing on these aspects, KRA can increase the likelihood of businesses adopting the TIMS/eTIMS system, thereby improving the overall efficiency and compliance with tax regulations in Nairobi's wholesale and retail sector.

### *Limitations of the study and suggestion for future research*

The study's focus on the Medium sized enterprises operating in wholesale and retail sector within Nairobi County raises questions about its generalizability to other contexts. While the sector selected is significant in terms of taxpayer population and their contribution to the economy, they might not fully represent the diversity of the entire Kenyan taxpayer demographic. It is acknowledged that this study did not explore every potential variable that could impact the adoption of digital tax technologies.

The integration of diverse theoretical frameworks such as technological, organizational and environmental framework



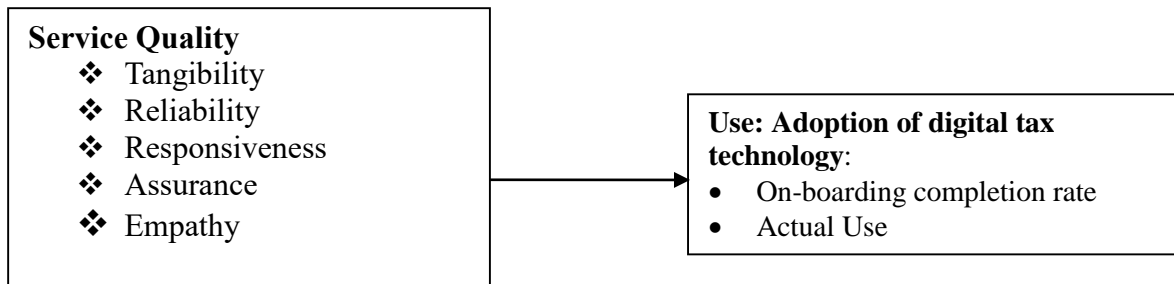
could provide a deeper understanding of the factors influencing adoption of digital tax technologies. Additionally, examining the perspective of varied groups would offer a more comprehensive insight into the dynamics of digital tax technologies. This approach to future research would not only address the limitations identified but also open new avenues for understanding the complex nature of digital tax technologies in various settings.

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## 2.3 Conceptual framework



**Independent Variables**

**Dependent variable**

**Figure 1: Conceptual Framework**

Source: Researcher (2024)

**Table 2: Summary of Empirical studies and Knowledge Gaps**

Study	Methodology	Results of the Study	Knowledge Gaps	Focus of the current study
Perceived Trust and Payment Methods: An Empirical Study of MarkaVIP Company - Lu et al. (2011)	Survey, Structural equation modeling technique	Perceived trust meant no preference to any method of payment by the customers	Focused on factors affecting payment methods The study differs in context as it was done in Taiwan	This study focused on factors affecting adoption of technology
Influence of system quality, information quality and tax service quality to taxpayer compliance and risk as a moderating variable - Wisudawaty et al. (2018)	Quantitative approach	Information quality has an effect on the taxpayer	Differs in context and population of study as it study was conducted in the Tax Service Office, Makassar Municipality India	This study focused on the taxpayers (medium sized enterprises) and not tax officials
The digital era of taxation: Analysing the effectiveness of digital tax adoption on petroleum excise duty revenue - Opiso et al. (2023)	Ordered probit regression in the analysis	Found that perceived usefulness, information infrastructure and digital skills significantly contributed to positive variance in petroleum	Differs in context as it was done in Uganda and focussed on petroleum importing companies who are large taxpayers	This study focused on medium taxpayers in Kenya

		excise duty performance.		
Impact of digital systems on tax compliance among SMEs in the Tanzania Revenue Authority, Tanga Regional Office -Mbise and Baseka (2022)	Quantitative approach	Found that digital tax administration improves tax compliance through use of technology.	Differs in context and concept and population of interest as it focused on small taxpayers in Tanzania	This study focused on factors influencing adoption of technology
Quality of e-tax system and its effect on tax compliance - Masunga et al. (2020)	Applied Partial Least Square Structural Equation modelling (PLS-SEM) employed information system (IS) success model	Behavioural intention to use the e-tax system has the strongest effect on tax compliance unlike system quality which did not show a significant effect.	Differs in context, applied model and analysis method	This study used Regression Analysis method and theories of TAM, TPB, DOI and SERVQUAL
The impact of tax service quality on taxpayer behaviour of SMEs in Yemeni - Al-Taffi and Abdul-Jabbar (2016)	Simple regression analysis	Found that the perceived tax service quality has a significant negative influence on tax non-compliance behaviour	Differs in context as it considered and analysis method	This study applied multiple regression analysis method

**Table 1: Response Rate**

Responses	No. of questionnaires
Questionnaires administered	150
Number of questionnaires received	117
Incomplete questionnaires	8
Number of usable questionnaires	109
<b>Response rate</b>	<b>78%</b>

*Source: (Field data 2024)*

**Table 2: Perceived Service Quality on Adoption of KRA TIMS/eTIMS**

Statement	N	Mean	Std Deviation
KRA offices are visually appealing	109	3.789	0.759

When KRA promises to do something related to TIMS/eTIMS it does so	109	3.578	1.083
Employees in KRA are always willing to help you	109	3.156	1.148
Employees in KRA have the knowledge to answer your questions	109	3.844	0.873
KRA has operating hours convenient to all its customers	109	3.917	0.759
<b>Average</b>		<b>3.657</b>	<b>0.924</b>

Source: Researcher (2024)

**Model Summary**

**Table 3: Model Summary for Service Quality on the Adoption of KRA TIMS/eTIMS**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.848	0.719	0.711	1.209

**Table 3: ANOVA<sup>b</sup> for Service Quality on the Adoption of KRA TIMS/eTIMS**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	392.379	3	130.793	89.504	.000 <sup>a</sup>
	Residual	153.438	105	1.461		
	<b>Total</b>	<b>545.817</b>	<b>108</b>			

a. predictors: Service Quality

Source: Researcher (2024)

**Table 5: Regression Analysis Results for Service Quality on the Adoption of KRA TIMS/eTIMS.**

	Unstandardized Coefficients	Standardized Coefficients		t	Sig.
	B	Std. Error	Beta		
(Constant)	0.699	2.93		2.612	.000
Service Quality	0.551	0.040	.416	1.898	.000

Source: Researcher (2024)