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Effect of System Security Mechanism on Value Added Tax Compliance among Quick Service Restaurants in Nairobi Central Business District, Kenya

Mwirigi Stephen[1*], Naomi Koske[2], Paul Kabete[2]
[1]Tax Administration, Moi University, Kenya
[2]School of Business and Economics, Moi University, Kenya
*Corresponding Author Email: mwirigistephen7@gmail.com

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Abstract

Purpose: Taxation is a major revenue source for governments worldwide; therefore, tax authorities must continuously implement measures to ensure maximum revenue collection. Despite KRA's measures, value-added tax compliance has remained low, and KRA consistently fails to meet annual targets. The study aimed to determine the effect of system security mechanisms on value-added tax compliance among Quick Service Restaurants in Nairobi Central Business District, Kenya. The study was anchored by the following theories: Ability-to-Pay Theory and the Unified Theory of Acceptance and Use of technology.

Methodology: The study employed an explanatory research design, and the target population was 482 Quick Service Restaurants in Nairobi Central Business District, Kenya, with a sample size of 218 respondents. Of the 218 questionnaires distributed, 191 were returned and deemed usable for analysis, resulting in a response rate of 87.6%. The study used primary data collected through questionnaires administered via a drop-and-pick-up method. The data were analyzed using descriptive statistics, which included the mean and standard deviation. Inferential statistics, including correlation analysis and hierarchical moderated regression analysis, were used to establish the strength of the relationship between the independent and dependent study variables.

Results: The study found that the system security mechanism had a positive, significant effect on VAT compliance ($\beta = 0.266$, $p = 0.001$).

Recommendation: The study recommends that the Government of Kenya should enact and enforce robust data protection legislation that safeguards taxpayer information from unauthorized access, fraud, and manipulation. This legislation should establish clear standards for data encryption, access controls, transaction authentication, and system integrity safeguards, ensuring that all digital tax platforms meet minimum security requirements. Future research should investigate the effects of institutional factors, such as tax administration efficiency, enforcement intensity, and service quality, in shaping value-added tax compliance behavior to provide a more comprehensive understanding of the compliance ecosystem.

Keywords: *System Security Mechanism, Value Added Tax Compliance, Quick Service Restaurants*

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1. Introduction

The main source of public revenue for most governments worldwide is tax. Taxes are compulsory, unrequited payments to the general government or a supranational authority, without the expectation of a direct, commensurate, or proportional return to the taxpayer (OECD, 2021). The taxes collected finance investment in human capital and infrastructure, the provision of public goods and services, and setting the right price for private sector investment (World Bank, 2024).

Value Added Tax (VAT) is a broad-based consumption tax levied on goods and services at each stage of production and distribution, with the final consumer bearing the cost. Introduced in France, VAT has become a dominant tax system in more than 175 countries and contributes significantly to government revenue (OECD, 2023; Ebrill et al., 2021). Researchers such as Keen and Lockwood (2020) argue that VAT's popularity stems from its efficiency and neutrality, as businesses can offset input VAT against output VAT, reducing cascading tax effects. OECD (2022) highlights VAT as a reliable revenue source, generating about 20% of global tax revenues, particularly in economies with broad tax bases. However, De la Feria and Krever (2021) and Ainsworth (2022) highlight challenges such as regressivity and compliance burdens, especially in developing countries.

Value Added Tax (VAT) is a tax levied on the value added at each stage of production and distribution, with the final seller collecting it (Radhakrishnan, 2008). Introduced in Kenya in 1990 to broaden the tax base and increase government revenue, the Kenya Revenue Authority (KRA) administers VAT under the Value Added Tax Act of 2013. This consumption tax applies to goods and services at every production and distribution level, with VAT-registered taxpayers acting as intermediaries who collect and remit the tax to the government.

When registered taxpayers declare the VAT on their sales, they can claim a credit for the VAT paid on their inputs (VAT Act 2013, Sec 17). Suppliers of exempt goods and services, as outlined in the first schedule of the VAT Act 2013, do not charge VAT on their supplies and cannot claim credits for VAT paid on their purchases. The system also includes zero-rated goods and services, listed in the second schedule, where businesses apply a 0% VAT rate but can deduct the input tax paid on those purchases (VAT Act 2013, Sec 17).

System security mechanisms are the processes, controls, and technologies implemented to protect information systems from unauthorized access, data breaches, and cyber threats. These mechanisms ensure the confidentiality, integrity, and availability (CIA triad) of data and systems by using measures such as authentication, encryption, firewalls, intrusion detection systems (IDS), and access control policies (Stallings, 2021).

Security mechanisms operate across hardware, software, and network infrastructure to defend against internal and external threats (Bhadauria & Sanyal, 2022). Modern approaches also incorporate advanced technologies like multi-factor authentication, end-to-end encryption, and real-time monitoring using artificial intelligence and machine learning for anomaly detection and automated response (Gai et al., 2022). These mechanisms are essential for protecting critical systems, especially in sectors that handle sensitive data, such as finance, healthcare,

and tax administration, where breaches can cause financial loss and reputational damage (Sharma & Gupta, 2021).

Quick Service Restaurants in Nairobi's Central Business District (CBD) in Kenya offer a diverse culinary landscape that caters to a wide range of tastes and budgets. The area features fine-dining establishments that offer international cuisines in elegant settings, attracting both business travelers and leisure diners (Kenya National Bureau of Statistics (KNBS), 2024). In addition, the CBD hosts several mid-range eateries serving a variety of African and continental dishes, offering hearty meals in relaxed environments suitable for casual dining. For those seeking affordable options, numerous small restaurants and fast-food outlets provide popular local and regional dishes at pocket-friendly prices, making dining accessible to all income groups (World Bank, 2023). This mix of upscale, mid-range, and budget-friendly dining venues underscores the CBD's role as a major gastronomic hub in Nairobi, blending local culinary traditions with global flavors (Nairobi Restaurants, 2024).

VAT compliance among Quick Service Restaurants in Nairobi's Central Business District (CBD) is critical to Kenya's tax administration, as the hospitality sector forms a significant part of the service economy. Under the Kenya VAT Act, 2013, restaurants must register for VAT if their annual turnover exceeds KES 5 million, charge VAT on taxable supplies, and remit the tax to the Kenya Revenue Authority (KRA) through the iTax system (KRA, 2023). However, studies indicate that VAT compliance in the restaurant industry faces challenges such as high compliance costs, limited tax knowledge, and frequent system downtime, which affect timely filing and payment (Waweru & Muturi, 2021; Maina, 2022).

1.1 Problem Statement

Despite several reform exercises the Kenya Revenue Authority (KRA) has undertaken to improve revenue compliance in recent years, it has failed to meet the targets set by the Treasury. For instance, for the financial year 2022/2023, it stood at KShs 272.452 billion (KRA 2023) against a target of KShs 314.17 billion KShs (2023). In the 2023/2024 financial year, the VAT collected amounted to KShs. 478.2 billion against a target of KShs. 484.2 billion, missing the target by KShs. 6 billion (KRA, 2024), indicating significantly lower VAT collection than in previous years. These revenue shortfalls have been attributed to tax evasion and other forms of tax non-compliance by taxpayers. This worrying trend in revenue collection statistics, along with the knowledge gap, warrants research.

The Quick Service Restaurant (QSR) sector in Nairobi Central Business District has increasingly attracted the Kenya Revenue Authority's attention due to persistent Value Added Tax (VAT) compliance challenges. The sector is characterized by high daily transaction volumes, rapid business turnover, multiple payment channels, and numerous small and medium-sized operators, which increase the likelihood of under-declaring sales, inaccurate invoicing, delayed tax return filing, and tax evasion. Despite the introduction of digital tax administration systems and system security mechanisms, VAT non-compliance among Quick Service Restaurants remains a major concern (KRA, 2024).

Previous studies have mainly focused on general VAT compliance, tax administration reforms, and taxpayer behavior across broader sectors, with limited attention to how digital tax services affect VAT compliance among Quick Service Restaurants. This gap in the literature therefore justifies examining and establishing the effect of system security mechanisms on value-added tax compliance among Quick Service Restaurants in Nairobi Central Business District, Kenya.

2. Literature Review

2.1 Theoretical Review

2.1.1 The Ability to Pay Theory

Edwin Seligman primarily formulated the Ability to Pay Theory of taxation in 1908, which posits that taxes should be levied based on an individual's capacity to bear the tax burden, not necessarily on the benefits they receive from public services (Seligman, 1908). This theory emphasizes equity and fairness, suggesting that wealthier individuals should contribute more to public revenue because they have greater economic capacity. The theory has been widely used to design progressive tax systems, where tax rates increase with income. Scholars such as Musgrave and Musgrave (1989) and Stiglitz (2015) have applied and expanded on this theory, especially in discussions on income redistribution and social justice in tax policy.

Pigou's ability-to-pay theory argues that every taxpayer should pay according to their ability, so higher-income earners pay more and lower-income earners pay less (Wienzerl, 2018). In other words, taxation is meant to be a progressive exercise with no equilibrium, where entities are taxed according to their ability to pay. This principle calls for closely monitoring and carefully taxing high-earning entities to avoid tax shortfalls, since their high income will most likely play the largest role in supporting government expenditure. However, critics of the principle quickly point to the fact that taxes are there for public goods and that it is not possible to control calamities like floods and defense using only the large earners' incomes since the benefits to the population will not discriminate between who gave more and who gave less (Ross, 2018; Hunt, 2016).

This theory holds that people should pay taxes according to their ability to pay, and that taxable capacity should be assessed based on income. The most popular and accepted principle of equity or justice in taxation is that citizens should pay taxes to the government in accordance with their ability to pay (Limerick, 2013). It can therefore be argued and appears reasonable and just that taxes should be based on the basis of the taxable capacity of a person, and in using this principle, it can be stated that if the taxable capacity of one individual is greater than that of the other person, then a person who earns more should be asked and expected to pay more taxes in comparison with the one who earns less. The theory supports the dependent variable.

2.1.2 Unified theory of acceptance and use of technology

Developed by Venkatesh et al. (2003), this theory clarifies user motivations when interacting with information systems and the resulting behaviors. It identifies four key elements that significantly affect adoption of a new information system: expected performance, anticipated effort, social influences, and conditions that facilitate use. These factors are also influenced by variables such as gender, age, experience, and the voluntary nature of user participation. For instance, younger users with an information technology background often view a new system as beneficial for their tasks, find it user-friendly because of their technical skills, and are likely to encourage peers to adopt the same system.

The theory was crafted by analyzing and synthesizing ideas from eight previous frameworks, including the well-known Technology Acceptance Model. Although this model has been used in numerous studies, it has also faced criticism, particularly when compared with the Technology Acceptance Model (Venkatesh & Zhang, 2010). The Unified Theory of Acceptance and Use of Technology emphasizes the significance of a firm's economic context,

industry structure, and internal organization as critical elements for the company's growth and development. This theory highlights the shift from manual processes to automated systems that streamline tasks and improve efficiency. Management introduces these information systems to address specific operational needs effectively. Consequently, many organizations have shifted from traditional manual methods to modern information systems, showcasing the benefits of automation (Venkatesh, 2016).

System security mechanisms such as encryption, authentication, and fraud detection are critical for building trust in digital tax platforms, reducing perceived risks, and ensuring taxpayer compliance (OECD, 2025). Therefore, UTAUT provides a strong theoretical foundation for analyzing technology adoption in tax compliance frameworks and demonstrates how these variables influence the successful implementation of digital taxation systems. The theory will support System security mechanisms.

2.2 Empirical Review

2.2.1 Value Added Tax Compliance

Value Added Tax (VAT) compliance refers to the extent to which taxpayers adhere to VAT regulations, including accurate filing, timely payments, and appropriate documentation of taxable transactions. High VAT compliance is essential to ensure adequate revenue generation and minimize tax evasion. According to Bird and Zolt (2020), several factors influence VAT compliance, including the tax system's complexity, administrative efficiency, taxpayer education, and the effectiveness of enforcement mechanisms. Poor compliance undermines government revenues and can distort market competition by giving non-compliant businesses an unfair advantage. Therefore, enhancing VAT compliance remains a key priority for tax authorities globally (OECD, 2021).

Value Added Tax (VAT) is a consumption tax levied on the value added at each stage of production and distribution. It is applied globally as a critical tool for raising government revenue and funding public services. Countries worldwide, both developed and developing, rely on VAT as a fundamental component of their fiscal policies. VAT compliance is not just a legal obligation for businesses and individuals; it also ensures efficient tax collection, supports economic stability, and promotes transparency in commercial activities. VAT compliance refers to fulfilling legal obligations imposed by tax authorities under VAT regulations, including registration, filing returns, and making payments. According to the Kenyan VAT Act, compliance is structured through three main components: registration (Section 34(i)), filing or return submission (Section 44(i)), and payment (Section 67(i)(b)).

2.2.2 System Security Mechanism

Caruso and Longobardi (2022) examined the impact of system security mechanisms on VAT compliance in Italy, particularly after introducing the Sistema di Interscambio (SdI) for electronic invoicing and VAT reporting. The results indicated that strong security measures such as digital signatures, end-to-end encryption, and real-time transaction authentication significantly reduced opportunities for VAT fraud and invoice manipulation. The findings highlighted that these security enhancements not only curtailed the shadow economy but also increased taxpayer confidence in the digital VAT system. The study concluded that secure digital infrastructures are essential to sustaining compliance and preventing fraud in automated tax systems.

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Mabula and Ping (2021) examined how system security mechanisms affect VAT compliance in Tanzania, focusing on the Tanzania Revenue Authority's (TRA) implementation of the Electronic Fiscal Device (EFD) system. The results revealed that incorporating encryption protocols, secure device registration, and transaction authentication significantly reduced VAT fraud and enhanced data integrity. The findings indicated that these security measures improved taxpayer confidence and facilitated accurate reporting, leading to improved compliance levels. The study concluded that system security mechanisms are critical for sustaining digital tax systems and preventing revenue leakages through cybercrime or device manipulation.

Mutua and Mwangi (2022) investigated the role of system security mechanisms in promoting tax performance in Kenya, focusing on the implementation of the Electronic Tax Invoice Management System (eTIMS) and the Kenya Revenue Authority's iTax platform**.** The results showed that stronger security measures, including multi-factor authentication, encrypted data transmission, and device validation, significantly reduced invoice fraud and identity theft. The findings indicated that these security controls fostered trust among taxpayers, which in turn increased the adoption of e-filing systems and improved tax performance. The study concluded that a robust security infrastructure is essential to sustain automated VAT processes, prevent data breaches, and reduce revenue leakage.

2.3 Conceptual Framework

According to Creswell (2003), a conceptual framework is the graphic presentation of the relationship between the study variables. The study's dependent variable is value-added tax compliance, measured by returns filed and tax paid. The independent variable was the system security mechanism, measured by Data Security and Confidentiality.

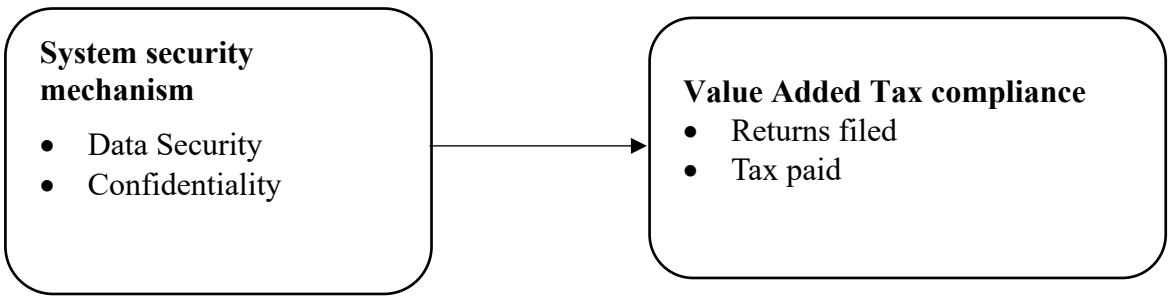


Figure 1 Conceptual Framework

3. Methodology

Research design is a master plan that specifies the methods and procedures for collecting and analyzing data to test the formulated hypotheses (Kothari, 2004). This study used an explanatory research design. It is a scientific method that involves observing and describing a subject's behavior without altering it (Mugenda & Mugenda, 2008). An explanatory research design is appropriate for this study because it enables the researcher to examine and explain the cause-and-effect relationship between System security mechanisms and Value Added Tax compliance among Quick Service Restaurants.

According to Borg and Gall (2007), the target population consists of all members of a real or hypothetical set of people, events, or objects from which a researcher wishes to generalize the

results of their research, while the accessible population consists of all individuals who could realistically be included in the sample. Ngechu (2014) defines the target population as a well-defined set of people, services, elements, events, groups of things, or households being investigated. The target population was 482 Quick Service Restaurants in Nairobi Central Business District, Kenya (KRA,2025).

Data analysis refers to applying reasoning to understand gathered data to identify consistent patterns and summarize relevant details revealed in the investigation (Zikmund, Babin, Carr & Griffin, 2010). Ott and Longnecker (2015) define data analysis as a mechanism for reducing and organizing data to produce findings that require interpretation. The Likert scale questionnaire allows the collection of quantitative data. The statistics to be generated included both descriptive statistics and inferential statistics. The specific descriptive statistics included mean scores and standard deviation. The inferential statistics included regression and correlation analysis.

The linear regression model is denoted by the equation:

$Y = \beta_0 + \beta_1 X_1 + \varepsilon$

Where; **Y**= Value added tax compliance **(**Dependent variable)

X_1= System security mechanism; **(**Independent variable)

$\boldsymbol{\beta_1}$ = beta coefficient;

$\boldsymbol{\varepsilon}$ = Error term

Figure 1 shows that of the 218 questionnaires distributed, 191 were returned and deemed usable for analysis, resulting in a response rate of 87.6%; the non-response rate was 12.4%, with 27 unsubmitted questionnaire responses.

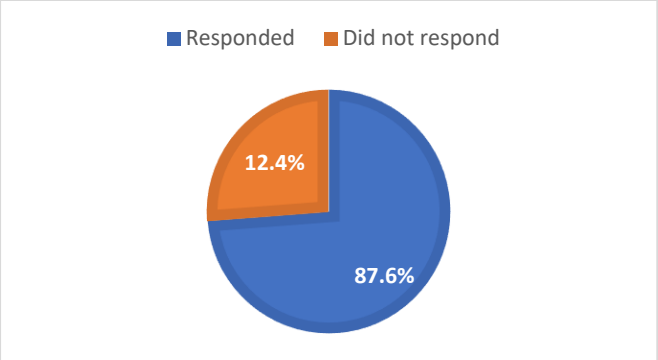


Figure 2: Response Rate

Reliability Analysis

Table 1 shows that all five constructs have internal consistency ranging from acceptable to excellent, as evidenced by Cronbach's alpha values above the standard threshold of 0.70. In particular, value-added tax compliance has a Cronbach's alpha of 0.847, based on four statements, indicating good reliability. The system security mechanism demonstrates an excellent alpha value of 0.937, reflecting high reliability. Overall, the questionnaire responses indicate that the measurement instrument was highly reliable, as all alpha values were >0.7.

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Table 1: Test of Reliability

Factor	Number of Items	Cronbach Alpha score	Conclusion
VAT compliance	0.847	5	Reliable
System security mechanism	0.937	5	Reliable

4. Results and Discussion

4.1 Descriptive Statistics

4.1.1 Descriptive Statistics of System Security Mechanism

Table 2 shows that, on average, respondents agreed with the statements concerning the system security mechanism, as reflected in the overall mean of 4.02, which rounds to 4 ("Agree") on the Likert scale. Specifically, for "Secure tax systems increase my willingness to file taxes the mean was 4.13. Since the mean was closer to 4 on the Likert scale when rounded to the nearest whole number, this indicates respondents were, on average, in agreement. The standard deviation of 0.551 suggests responses were relatively close to the mean. Furthermore, “Our business is more likely to comply when I trust the security of the tax system" resulted in a mean scale score of 3.95, which rounds to 4, confirming respondents were in agreement with the statement. The standard deviation of 0.510 implies that responses were clustered closely around the mean. Moreover, for the statement “Security breaches in tax systems reduce my compliance intention", the mean of 4.04 indicated that, on average, the respondents agreed with the statement, with a standard deviation of 0.593 indicating that responses were generally close to the mean. Conversely, for the statement “Our business tax data is protected from unauthorized access" the recorded mean of 3.91, which rounds to 4, indicated that, on average, the respondents agreed. The standard deviation of 0.671 indicates slightly more variability among responses than for other items. Lastly, for the statement, “We feel confident that my tax records cannot be altered without authorization", which produced a mean of 4.07, rounding to 4, it indicated that, on average, the respondents were in agreement that they are confident that tax records cannot be changed without the required authorization, with a standard deviation of 0.620 implying that responses were generally close to the mean.

Table 2: Descriptive Statistics System Security Mechanism

		N	Mean	Std. Deviation
SEC1	Secure tax systems increase my willingness to file taxes	191	4.13	0.551
SEC2	Our business is more likely to comply when I trust the security of the tax system	191	3.95	0.510
SEC3	Security breaches in tax systems reduce my compliance intention	191	4.04	0.593
SEC4	Our business tax data is protected from unauthorized access	191	3.91	0.671
SEC5	We feel confident that my tax records cannot be altered without authorization	191	4.07	0.620
Overall Mean			4.02	

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4.1.2 Descriptive statistics of Value Added Tax Compliance

Table 3 shows that, on average, respondents agreed with the statements on VAT compliance, as reflected by an overall mean of 4.04, which rounds to 4 ("Agree") on the Likert scale. Specifically, the descriptive summary shows that, on average, respondents agreed with the statement "Our business file files our returns accurately," with a mean of 4.16. The standard deviation of 0.670 implies that the responses were relatively close to the mean. Furthermore, the descriptive summary indicates that, on average, the respondents were in moderate agreement regarding the statement "Our business pays Value Added Tax by the due date because we believe it is morally right," with a mean of 3.79, as this mean was near the threshold between neutral and agree. The standard deviation of 0.614 implies that the responses were moderately close to the mean. Additionally, the descriptive summary shows that, on average, respondents agreed with the statement "Our business always remits our value-added tax to KRA on time," with a mean of 4.18. The standard deviation of 0.673 implies that the responses were relatively close to the mean. Finally, the descriptive summary shows that, on average, respondents agreed with the statement "I compute and pay my value added tax correctly and in good time as stipulated by the law," with a mean of 4.01. The standard deviation of 0.571 implies that the responses were close to the mean.

Table 3: Descriptive Statistics of Value Added Tax Compliance

		N	Mean	Std. Deviation
VCOMP1	Our business files its returns accurately	191	4.16	0.670
VCOMP2	Our business pays Value Added Tax by the due date because we believe it is morally right	191	3.79	0.614
VCOMP3	Our business always remits our value-added tax to KRA on time	191	4.18	0.673
VCOMP4	I compute and pay my value-added tax correctly and in good time as stipulated by the law	191	4.01	0.571
Overall Mean			4.04	

4.2 Correlation Analysis

Correlation analysis investigates the connections between two or more variables to assess the intensity and direction of their relationship. Using statistical tools like Pearson's correlation coefficient, it measures how changes in one variable relate to changes in another. A positive correlation suggests that variables move in tandem, whereas a negative correlation implies they move in opposite directions. This method is essential for uncovering potential associations and guiding future research hypotheses(Ummah, 2019). Table 4 presents the correlation analysis between predictor variables and VAT tax compliance as the dependent variable. The results indicate a positive and significant correlation between system security mechanisms and VAT compliance ($r = 0.723$, $p = 0.039 < 0.05$). This finding suggests that robust security features within the tax system, which protect taxpayer data and ensure the integrity of the tax filing process, are strongly associated with enhanced compliance. The relatively high correlation coefficient implies that when businesses perceive the tax system as secure, their confidence

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and willingness to comply fully with VAT obligations may increase, as the risk of data breaches or manipulation is mitigated.

Table 4: Represents the correlation statistics

	VAT compliance	System security mechanisms
VAT compliance	1	0.723**
System security mechanisms	0.723**	1
Sig.	0.039	

**. Correlation is significant at the 0.05 level (2-tailed).

4.3 Regression Analysis

The model summary showed that system security mechanisms have a positive correlation with VAT compliance of 72.3% (R = 0.723). The results show that system security mechanisms explain 52.2% of the variation in value-added tax compliance (R2 = 0.522; adjusted R2 = 0.518).

Table 5: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.723	0.522	0.518	0.41896

a. Predictors: (Constant), system security mechanisms

ANOVA shows an F statistic of 216.615 and p-value = 0.000 < 0.05, indicating that the model significantly explains the variation in value added tax compliance.

Table 6: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	56.320	1	56.320	216.615	0.000
	Residual	49.153	189	0.260		
	Total	105.473	190			

a. Dependent Variable: Value Added Tax Compliance

The hypothesis **H_{01}** stated that system security mechanisms have no significant effect on value added tax compliance. This study aimed to investigate the effect of system security mechanisms on value-added tax compliance among Quick Service Restaurants in the Central Business District, Nairobi, Kenya. The study found that system security mechanisms significantly affect value-added tax compliance (β = 0.266, p-value = 0.001 < 0.05).

Table 7: Regression Coefficients

Model		Standardized Coefficients		Unstandardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.550	0.194		2.835	.005
	System security mechanisms	0.266	0.070	0.280	3.800	.001

a. Dependent Variable: Value Added Tax Compliance

4.4 Discussion

The study aimed to establish the effect of system security mechanisms on value-added tax compliance among Quick Service Restaurants in Nairobi Central Business District, Kenya. The correlation matrix shows that there was a significant and positive relationship between system security mechanisms and VAT compliance ($r = 0.723$, $p = 0.039 < 0.05$). This finding underscores that Quick Service Restaurant operators who perceive their financial data and transaction records as adequately protected from unauthorized access, fraud, or manipulation are more willing to use digital tax platforms and comply with their VAT obligations. The findings showed that system security mechanisms further had a positive and significant effect on VAT compliance ($\beta = 0.266$, $p = 0.001$). This robust finding confirms that robust security mechanisms, including data encryption, access controls, transaction authentication, and system integrity safeguards, build taxpayer confidence in the security and reliability of electronic tax systems. This finding aligns with research emphasizing that trust in technological infrastructure serves as a prerequisite for successful digital tax administration (James & Alley, 2019). The positive effect suggests that Quick Service Restaurant operators who trust system security are considerably more likely to meet their VAT obligations because they perceive lower risks of data breaches, fraud, or unauthorized access to their financial information.

5. Conclusion

The objective was to determine the effect of system security mechanisms on Value Added Tax compliance among Quick Service Restaurants in the Central Business District, Nairobi, Kenya. The study concludes that system security mechanisms are a foundational enabler of VAT compliance, as Quick Service Restaurant operators who perceive that their financial data and transaction records are adequately protected from unauthorized access, fraud, or manipulation show greater willingness to engage with digital tax platforms and fulfill their tax obligations. This conclusion advances knowledge by empirically showing that trust in technological infrastructure is a prerequisite for successful digital tax administration, contributing to understanding how security perceptions shape taxpayer behavior in technology-mediated compliance environments.

6. Recommendations

The findings indicate that system security mechanisms positively influence value-added tax compliance, underscoring the importance of taxpayer confidence in the security of digital tax platforms. The study recommends that the Government of Kenya enact and enforce robust data protection legislation to safeguard taxpayer information from unauthorized access, fraud, and manipulation. This legislation should establish clear standards for data encryption, access controls, transaction authentication, and system integrity safeguards, ensuring that all digital tax platforms meet minimum security requirements.

Future research should investigate how institutional factors, such as tax administration efficiency, enforcement intensity, and service quality, shape value-added tax compliance behavior to provide a more comprehensive understanding of the compliance ecosystem.

References

Apollo, C. O. (2022). *Effect of digitalization on value added tax compliance among small and medium enterprises in Embakasi Central Subcounty, Nairobi County, Kenya*.

Bhadauria, R., & Sanyal, S. (2012). Survey on security issues in cloud computing and associated mitigation techniques. *International Journal of Computer Applications, 47*(18), 47–66.

Borg, W. R., & Gall, M. D. (2007). *Educational research: An introduction* (8th ed.). Pearson/Allyn & Bacon.

Cnossen, S. (2022). The C-inefficiency of the EU-VAT and what can be done about it. *International Tax and Public Finance, 29*, 215–236

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Sage Publications.

de la Feria, R. (2021). Addressing VAT regressivity. *Revista Técnica Tributaria, 1*(132), 131–151. https://doi.org/10.48297/rtt.v1i132.627

Ebrill, L., Keen, M., Bodin, J.-P., & Summers, V. (2001). *The modern VAT*. International Monetary Fund.

Gai, K., Ding, Y., Wang, A., Zhu, L., Choo, K.-K. R., Zhang, Q., & Wang, Z. (2022). Attacking the Edge-of-Things: A physical attack perspective. *IEEE Internet of Things Journal, 9*(7), 5240–5253.

Keen, M., & Lockwood, B. (2010). The value added tax: Its causes and consequences. *Journal of Development Economics, 92*(2), 138–151. https://doi.org/10.1016/j.jdeveco.2009.01.012

Keen, M., & Lockwood, B. (2010). The value added tax: Its causes and consequences. *Journal of Development Economics, 92*(2), 138–151. https://doi.org/10.1016/j.jdeveco.2009.01.012

Kenya National Bureau of Statistics. (2024). *Quarterly gross domestic product: Third quarter 2024*. KNBS.

Kenya Revenue Authority. (2023). *On boarding of non-VAT taxpayers on eTIMS*. KRA.

Kenya Revenue Authority. (2024). *iTax enhancements and resolution of defects for November 2024*. KRA.

Kenya Revenue Authority. (2024). *Reminder on simplification of the VAT return filing*. KRA.

Kenya Revenue Authority. (2025). *Tax compliance certificate (TCC) enhancements*. KRA.

Kimani, I. W., Nyangu, M., & Yego, J. (2024). Effect of Electronic Tax Invoice Management System on value added tax compliance among tented camps in Narok County, Kenya. *Journal of Finance and Accounting*.

Kothari, C. R. (2014). Research methodology: Methods and techniques (Rev. ed.). New Age International Publishers.

Musgrave, R. A., & Musgrave, P. B. (1989). *Public finance in theory and practice* (5th ed.). McGraw-Hill.

Muya, T. K., N. (2025). Electronic filing and VAT compliance among small and medium-sized enterprises in Eldoret, Kenya: Empirical evidence and policy implications. *Journal of Finance and Accounting*.

Ndanu, F., Cheboi, J., & Githaiga, P. (2025). Effect of digital payments on value added tax compliance among manufacturing firms in Athi River, Machakos County, Kenya. *Journal of Finance and Accounting*.

Njoroge, E. W. (2025). Effect of tax invoice management system on value added tax compliance among restaurants in Thika Town, Kenya. *Journal of Finance and Accounting*.

OECD. (2021). *Tax Administration 2021: Comparative Information on OECD and Other Advanced and Emerging Economies*. OECD Publishing.

OECD. (2022). *Tax Administration 2022: Digitalization and agility for resilient tax systems*. Paris: OECD Publishing.

OECD. (2023). *Consumption Tax Trends 2023: VAT/GST and Excise Rates, Trends and Policy Issues*. Paris:

Organisation for Economic Co-operation and Development. (2021). *Revenue statistics 2021: Tax revenue trends in the OECD*. OECD Publishing. https://doi.org/10.1787/6e87f932-en

Organisation for Economic Co-operation and Development. (2023). *Revenue statistics 2023: Tax levels and tax structures in OECD countries*. OECD Publishing. https://doi.org/10.1787/9d0453d5-en

Organisation for Economic Co-operation and Development. (2024). *Consumption tax trends 2024: VAT/GST and excise, core design features and trends*. OECD Publishing. https://doi.org/10.1787/dcd4dd36-en

Ott, R. L., & Longnecker, M. (2015). *An introduction to statistical methods and data analysis* (7th ed.). Cengage Learning.

Seligman, E. R. A. (1908). *Progressive taxation in theory and practice*. American Economic Association.

Sharma, D., Gupta, S. K., Rashid, A., Gupta, S., Rashid, M., & Srivastava, A. (2021). A novel approach for securing data against intrusion attacks in unmanned aerial vehicles integrated heterogeneous network using functional encryption technique. *Transactions on Emerging Telecommunications Technologies, 32*, e4114. https://doi.org/10.1002/ett.4114

Sharma, K., Zhan, X., Nah, F. F.-H., Siau, K., & Cheng, M. X. (2021). Impact of digital nudging on information security behavior: An experimental study on framing and priming in cybersecurity. *Organizational Cybersecurity Journal: Practice, Process & People, 1*(1). https://doi.org/10.1108/OCJ-03-2021-0009

Stallings, W. (2021). *Effective cybersecurity: A guide to using best practices and standards*. Addison-Wesley Professional.

Stiglitz, J. E., & Rosengard, J. K. (2015). *Economics of the public sector* (4th ed.). W. W. Norton & Company.

Thomas, A. (2022). Reassessing the regressivity of the VAT. *Fiscal Studies, 43*(1), 23–38. https://doi.org/10.1111/1475-5890.12290

Venkatesh, V. (2016). Unified theory of acceptance and use of technology: A synthesis and the road ahead. *Journal of the Association for Information Systems, 17*(5), 328–376. https://doi.org/10.17705/1jais.00428

Waweru, S., & Muturi, W. (2021). Tax knowledge and VAT compliance among hospitality sector businesses in Nairobi. *International Journal of Business and Social Science*, 12(6), 89–99.

World Bank. (2024). *Fiscal policy*. World Bank.

World Bank. (2024). *World Bank annual report 2024: Results by theme*. World Bank.

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2010). *Business research methods* (8th ed.). South-Western Cengage Learning.