

Effect of Electronic Tax Invoice Management System on Value Added Tax Compliance Among Tented Camps in Narok County, Kenya

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Abstract

Purpose: Value Added Tax (VAT) compliance is a critical aspect of revenue collection for governments worldwide; however, it has encountered various challenges, the most prevalent being verifying input tax claimed by taxpayers when filing VAT returns. The main objective was to examine the effect of electronic Tax Invoice Management System on Value added tax compliance among tented camps in Narok County. The theory that supports the study was Diffusion of Innovations Theory.

Methodology: The study employed explanatory research design, with a target population of 150 tented camps in the Masai Mara National Reserve, out of these, 122 respondents successfully completed and returned the questionnaires, resulting in a response rate of 81.3%. The data was collected through a structured questionnaire.

Results: The study found that ETIMs positively and significantly affect VAT compliance $\beta = 0.236$ p-value $= 0.012 < 0.05$.

Conclusion: The study recommended that The KRA should enhance the Electronic Tax Invoice Management System (ETIMS) to improve VAT compliance among tented camps in Narok County. Future research should be conducted on the effects of taxpayer behavioural factors on VAT compliance.

Keywords: *Tented Camps in Narok County, Tax Invoice Management System Value Added Tax Compliance*

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1.0 Introduction

Tax as defined by the OECD, is a compulsory, unrequited payment to the government since the benefits provided by the government aren't normally proportional to their payments (OECD, 2021). This implies that tax is a compulsory financial charge imposed by governments on individuals or entities to fund public expenditure. Tax revenue plays a crucial role in fostering economic growth within nations globally. It serves as the primary source of income for central governments, contributing to state-building efforts, reducing reliance on foreign aid over the long term, amplifying the fiscal impacts of trade liberalization, and facilitating the provision of essential public goods and services (World Bank, 2023).

Value-Added Tax (VAT) compliance is a critical aspect of revenue collection for governments worldwide. This has led to the emergence and widespread adoption of digital billing and payment systems that have reshaped economic transactions, potentially affecting VAT compliance. In recent years, there has been a global shift towards leveraging technology in tax administration, a trend significantly impacting VAT compliance (Belahouaoui, & Attak, 2024). This is precisely also stated in the report by OECD on the significance of employing risk-based compliance management strategies, along with the processes of collecting and sharing data, alongside highlighting the crucial nature of cooperation among tax authorities both locally and internationally (OECD, 2021) in seeking ways of enhancing VAT compliance.

According to OECD (2019), the role of technology in value-added tax (VAT) revenue collection and compliance globally has become increasingly significant in recent years. Value Added Tax is a consumption-based tax that is levied on the value added at each stage of the supply chain, and it is a crucial source of revenue for governments around the world. Many countries have adopted electronic invoicing and reporting systems, which require businesses to submit digital invoices and transaction data to tax authorities in real time.

Narok County Government was formed by the County Governments Act of 2012 as prescribed in the 2010 Constitution of Kenya. It is one of the 47 devolved units situated in the Great Rift Valley in the Southern part of the Country where it borders the Republic of Tanzania. Narok County has its headquarters in Narok Town, off Narok Nakuru Road. Narok County comprises six (6) sub-counties namely: Narok North, Narok West, Narok East, Narok South, Transmara East, and Transmara West. The County shares an economic block with Kajiado County known as the Narok Kajiado Economic Block (NAKAEB). The aim of the economic block is to improve the various sectors of the economy to increase exports to African countries and abroad.

1.1 Problem Statement

Despite the reforms that the Kenya Revenue Authority has been undertaking to increase revenue collection it has of late failed to meet its revenue targets particularly VAT targets. For instance. In 2019/2020 financial year, the 2019/2020 revenue performance reports show that VAT reduced from Ksh. 464.2 billion in 2018/2019 to Ksh. 380.8 billion in 2019/2020 (KRA 2020). In 2020/2021 financial year, the VAT collected amounted to KShs. 478.2 billion against a target of KShs. 484.2 billion missing targets by KShs. 6 billion. These revenue shortfalls have been blamed on tax evasion and other behaviors of tax non-compliance by tented camps and safari lodges. It is this worrying trend in revenue collection statistics and the knowledge gap that warrants research to be done in this area.

Despite the various changes implemented by the Kenya Revenue Authority on technology to enhance compliance, VAT compliance in Kenya has been hindered by manual processes, leading to errors, delays, and potential instances of tax evasion due to the high compliance costs. The most prevalent problem has been in verifying input tax that is claimed by taxpayers when filing VAT returns. In the year 2020, KRA introduced VAT Auto Assessments which arose from inconsistencies between the declared sales and the claimed purchases. The study sought to determine effect of an electronic Tax Invoice Management System on Value added tax compliance among tented camps in Narok County

1.2 Research Hypothesis

H₀₁: Electronic Tax Invoice Management System has no significant effect on value-added tax compliance among tented camps in Narok county

2.0 Literature Review

2.1 Theoretical Review

The Diffusion of Innovation Theory (DIT), introduced by Rogers (1962), offers insights into how new technologies spread within a social system. In the context of enhancing VAT compliance through the introduction of Tax Invoice Management System, DIT provides a framework to understand the factors influencing their adoption among tented camps. It highlights stages such as awareness, interest, evaluation, trial, and adoption, shedding light on the dynamics of technology uptake. While critics caution against oversimplification and limited consideration of contextual factors, DIT informs strategies to facilitate the adoption of a Tax Invoice Management System within the VAT compliance domain. By analysing adoption patterns and barriers, researchers can guide efforts to promote compliance-enhancing practices among tented camps.

Applying DIT to VAT compliance in Kenya involves understanding the interplay between technology and regulatory adherence. Tax Invoice Management System offer benefits such as accuracy and time efficiency, influencing their adoption among Kenyan businesses. However, compatibility with existing practices and the complexity of the technology affect their uptake. Additionally, broader socio-economic factors, including cultural attitudes, regulatory frameworks, and economic incentives, shape the Tax Invoice Management System. Change agents like the Kenya Revenue Authority play a crucial role in facilitating adoption through training and support (KRA, 2018). Effective communication strategies are essential to address concerns and emphasize the benefits of compliance technologies.

2.2 Empirical Review

2.2.1 Value-Added Tax Compliance

Value Added Tax (VAT) is a consumption tax levied on the value added at each stage of production and distribution. It is a significant revenue source for many countries globally, serving as a key component of their fiscal policies. Ensuring VAT compliance is crucial for governments to collect revenue effectively and for businesses to operate lawfully within the tax framework. VAT compliance refers to the adherence and fulfillment of legal obligations imposed by tax authorities regarding VAT regulations and requirements by businesses and individuals (VAT, 2023). According to the Kenyan VAT Act, VAT compliance involves registration (Section 34(i)), Filing or returns submission (Section 44(i), and payment (section 67(i)(b)).

2.2.2 Electronic Tax Invoice Management System on VAT Compliance

According to KRA (2023), The Tax Invoice Management System (TIMS) represents an advancement from the existing Electronic Tax Register (ETR) system introduced back in 2005. This upgrade aims to streamline the handling of electronic tax invoices by standardizing, validating, and transmitting invoices to the Kenya Revenue Authority (KRA) in either real-time or near real-time, thereby enhancing efficiency in tax invoice management while eTIMS, an updated iteration of TIMS which presents an innovative technological solution enabling taxpayers to fulfill their compliance obligations through the incorporation of new electronic functionalities within a software framework.

Barako (2022) assessed the efficacy of Electronic Tax Invoice Management System on tax administration in Kenya. The study was descriptive. The study found that Electronic Tax Invoice Management System implementation led to an increase in the variability of the revenue return. This was attributed to the simplification, standardization, and harmonization of tax

procedures to reduce inefficiency within tax administration. According to the study, Electronic Tax Invoice Management System led to simpler and more streamlined processes to pay and collect taxes, reduced tax officials' discretionary power, increased predictability, lessened the burden for firms and individuals to comply, and hence reduced the opportunities for corruption. This resulted in improved efficiency in tax administration.

Okech and Mburu (2019) assert that an I-Tax filing system integrates the processes of registration, tax preparation, tax filing, and tax payment on VAT compliance. Taxpayers therefore avoid the hassles of visiting the tax office and making long queues, the returns are filed at their convenience. It is in this regard that several tax authorities have embraced the change and adopted an I-Tax filing approach. The I-Tax filing system, Malaysian taxpayers and tax agents can file their income tax returns electronically via the enabling Internet technologies, rather than through mail or physical visits to the tax office, thus simplifying the process of making returns for the taxpayer.

2.3 Conceptual Framework

A conceptual framework, as outlined by Blumberg et al. (2014), constitutes a collection of interconnected concepts, theories, beliefs, and assumptions that underpin and guide research endeavors, offering a structured framework for comprehending relationships between study components and facilitating hypothesis generation as illustrated in figure 1.

Independent Variable

Dependent Variable

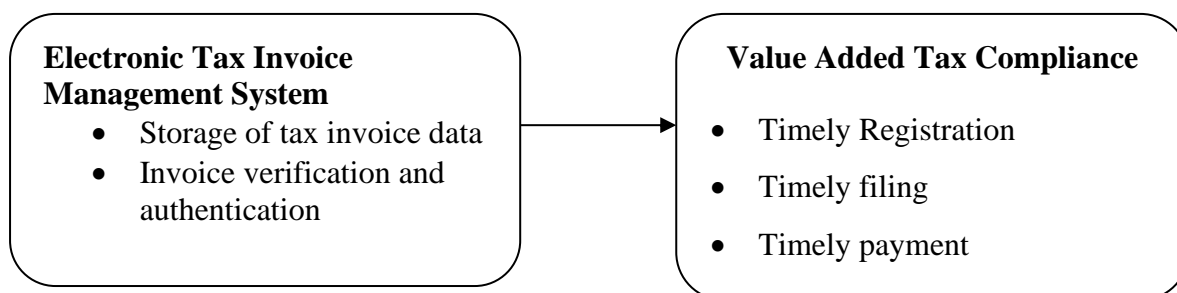


Figure 1: Conceptual Framework

3.0 Methodology

The study used explanatory research design. Explanatory research is a research method that explores why something occurs when limited information is available. The target population was 150 tented camps in the Masai Mara National Reserve. Data was collected using questionnaires which were well structured to suit proper data collection. The study aimed to distribute 150 questionnaires to the target camps. Out of these, 122 respondents successfully completed and returned the questionnaires, resulting in a response rate of 81.3%.

Reliability of the data was tested using Cronbach's alpha test. A higher alpha coefficient indicates greater internal consistency among the items. Typically, a value above 0.7 is considered acceptable. For VAT compliance the $\alpha = 0.981$ and for electronic tax invoice management system $\alpha = 0.974$. The alpha values are high and > 0.7 signifying high levels of reliability in the responses.

Table 1: Test of Reliability of Questionnaire

Factor	Number of Items	Cronbach Alpha score	Conclusion
VAT Compliance	6	0.981	Reliable
Electronic Tax Invoice Management System	6	0.974	Reliable

4.0 Results and Discussion

4.1 Descriptive Statistics

4.1.1 Electronic Tax Invoice Management System

As observed in Table 2, the following results were observed from the questionnaire responses in relation to Electronic Tax Invoice Management System. Our business issues an e-TIMs invoice to all VAT transactions that had a mean score of 4.03 (SD = 0.935). The business enjoys input tax while trading with registered VAT suppliers had a mean score of 3.99 (SD = 0.949). Our organization uses ETIMs (Electronic Tax Invoice Management System) for electronic invoicing got a mean score of 4.00 (SD = 0.945). Electronic Tax Invoice Management System is easy to use and gave a mean score of 3.91 (SD = 0.900). We have seen a reduction in invoicing errors since switching to ETIMs had a mean score of 4.05 (SD = 0.952). Electronic invoicing has improved the speed of processing payments and got a mean score of 3.89 (SD = 0.907).

Table 2. Effect of Electronic Tax Invoice Management System on VAT Compliance

	N	Mean	Std. Deviation	Skewness	Kurtosis
Our business issues an e-TIM invoice to all VAT transactions.	122	4.03	.935	-.497	-.856
The business enjoys input tax while trading with registered VAT suppliers.		3.99	.949	-.396	-1.025
Our organization uses ETIMs (Electronic Tax Invoice Management System) for electronic invoicing.		4.00	.945	-.418	-.983
Electronic Tax Invoice Management System is easy to use		3.91	.900	-.373	-.713
We have seen a reduction in invoicing errors since switching to ETIMs		4.05	.952	-.508	-.935
Electronic invoicing has improved the speed of processing payments.		3.89	.907	-.259	-.918
Aggregate Mean		3.97			

4.1.2 Descriptive statistics for Value added tax compliance.

As shown in Table 3, the findings were as follows for the research questions relating to value-added tax compliance. Our organization consistently complies with VAT regulations " had a mean score of 4.01 (SD = 0.836). The process of VAT compliance is straightforward and clear," had a mean score was 4.04 (SD = 0.857). We are familiar with VAT Compliance Procedures " garnered a mean score of 3.85 (SD = 0.890). Digital tools have made it easier to comply with VAT regulations " and had a mean score of 3.98 (SD = 0.823). We have experienced fewer

VAT compliance issues since adopting digital tools " got a mean score of 3.83 (SD = 0.848). Our VAT compliance processes are regularly reviewed and updated garnered a mean score of 4.03 (SD = 0.852).

Table 3: Descriptive statistics Value added tax compliance

	N	Mean	Std. Deviation	Skewness	Kurtosis
Our organization consistently complies with VAT regulations.	122	4.01	.836	-.109	-1.564
The process of VAT compliance is straightforward and clear.		4.04	.857	-.159	-1.430
We are familiar with VAT Compliance Procedures.		3.85	.890	-.150	-1.281
Digital tools have made it easier to comply with VAT regulations.		3.98	.823	-.060	-1.304
We have experienced fewer VAT compliance issues since adopting digital tools.		3.83	.848	-.130	-1.400
Our VAT compliance processes are regularly reviewed and updated.		4.03	.852	-.145	-1.415
Aggregate Mean		3.95			

4.2 Correlation Analysis

Correlation analysis was employed to determine the combined correlations between each variable in the study, and the significance of the correlation. Correlations with Pearson correlations >0 are positive and those <0 are negative correlations. The correlations were tested at 95% confidence level. Garson, (2012). Table 4 shows that ETIMS has a positive and significant correlation with VAT compliance at 67.8%, p-value = 0.000 < 0.05. This implies that as ETIMS improves, so does compliance with VAT obligations.

Table 4: Correlations Statistics of Independent and Dependent Variable

	VAT Compliance	Electronic Tax Invoice Management System
VAT compliance	1	0.678**
Electronic Tax Invoice Management System	0.678**	1

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

4.3 Regression Analysis

The results in Table 5 revealed that Electronic Tax Invoice Management System had a positive correlation with VAT compliance up to (R= 0.678). The results reveal that Electronic Tax Invoice Management System caused a variation of 45.9% or (R²=0.459 and adjusted R² =0.452) on VAT compliance. This implies that the remaining 54.1 % of the change was caused by other factors not included in this model.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.678 ^a	.459	.452	.48750

a. Predictors: (Constant), Electronic Tax Invoice Management System _mean

Further ANOVA tests were conducted to determine whether the model works in explaining the relationship among variables as postulated in the conceptual model. The findings show an F value of 54.642 with a significance level of 0.000 which is lower than the confidence level of 0.05, hence establishing the model is statistically significant. The implication is that each Electronic Tax Invoice Management System contributes significantly to changes in Value Added Tax compliance.

Table 6: ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	21.529	1	21.529	54.642	.000 ^b
	Residual	47.378	120	.394		
	Total	68.907	121			

a. Dependent Variable: VAT compliance _mean

b. Predictors: (Constant), Electronic Tax Invoice Management System _mean

4.0.4 Regression Results

Regression was conducted to establish the effect of Electronic Tax Invoice Management System on VAT compliance

Table 7: Regression of Coefficients

Standardized Coefficients				Sig.
	B	Std. Error	t	
(Constant)	1.493	0.225	6.64	0.000
Electronic Tax Invoice Management System reforms	0.236	0.093	2.54	0.012

Table 7 found that A unit change in the Electronic Tax Invoice Management System (ETIMS) causes a 0.236-unit increase in VAT compliance, implying the need for improving ETIMS to enhance VAT compliance amongst tented camps in Narok County. H_{01} showed that null hypothesis of Electronic Tax Invoice Management System has no significant effect on value-added tax compliance among tented camps in Narok County. The study found that ETIMS positively and significantly affect VAT compliance $\beta = 0.236$ p-value = 0.012 < 0.05, the null hypothesis was therefore rejected.

4.4 Discussion of Findings

The study was to determine the effect of electronic Tax Invoice Management System on value-added tax compliance among tented camps in Narok County. The study further found that ETIMS positively and significantly affect VAT compliance $\beta = 0.236$ p-value = 0.012 < 0.05,

implying the need for improving ETIMS to enhance VAT compliance amongst tented camps in Narok County. The findings concurred with Barako (2022) who assessed the efficacy of Electronic Tax Invoice Management System on tax administration in Kenya. The study was descriptive. The study found that Electronic Tax Invoice Management System implementation led to an increase in the variability of the revenue return. This was attributed to the simplification, standardization, and harmonization of tax procedures to reduce inefficiency within tax administration.

5.0 Conclusion

The study concludes that the implementation of the Electronic Tax Invoice Management System (ETIMS) has a significant positive impact on Value Added Tax (VAT) compliance among tented camps in Narok County. The positive correlation between ETIMS and VAT compliance suggests that as ETIMS is improved, VAT compliance also increases. This indicates that the adoption of ETIMS is an effective strategy for enhancing VAT compliance. Therefore, it is recommended that policymakers and relevant stakeholders focus on further developing and refining ETIMS to ensure that tented camps are better equipped to meet their VAT obligations.

6.0 Recommendations

The KRA should enhance the Electronic Tax Invoice Management System (ETIMS) to improve VAT compliance among tented camps in Narok County. Future research should be conducted on the effects of taxpayer behavioural factors on VAT compliance.

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