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EFFECT OF PROPERTY IDENTIFICATION AND MAPPING SYSTEMS ON RENTAL INCOME TAX COMPLIANCE IN THE SOUTHERN REGION OF NAIROBI CITY COUNTY, KENYA

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Abstract: **The rental income tax compliance within southern region of Nairobi City County, Kenya has not been to the expected level as indicated by statistical data resulting to loss of revenue losses for the county and hindering efforts to reinforce the rental industry. Therefore, this study sought to investigate the effect of property identification and mapping systems on rental income tax compliance in the southern region of Nairobi City County, Kenya. A descriptive research design was applied. The Southern Region of Nairobi City County was the population and the respondents were 1000 landlords within Lang'ata, South C, Kibra, and parts of Dagoretti. A stratified random sampling methodology was adopted and a sample of 285 respondents identified. The tool for collecting data was semi-structured questionnaire. Piloting test was done within the same region involving 28 respondents in Southern Region of Nairobi City County. Descriptive statistics and inferential statistics were used in analyzing quantitative data. The results were presented using tables. The study revealed the property identification and mapping systems were found to be positively and significantly related with rental income tax compliance. The study concludes that consistent registers, property identification, mapping and accessible ownership documents can assist the County in identifying rental properties and landlords. The study recommends that relevant tax and county authorities should constantly update and match property registers to guarantee that information on rental properties, possessions and property boundaries remains precise and current.**

Keywords: **Property Identification and Mapping Systems, Rental Income Tax Compliance.**

1. INTRODUCTION

Rental income tax compliance is a fundamental administrative role for property holders and managers, guaranteeing that all incomes from rented properties are precisely reported and the right taxes are paid to appropriate authorities (Tiwari, 2021). According to Ondoro (2021), rental income tax compliance is a legal responsibility, a strategic financial approach which safeguards an individual's assets, exploits profit through lawful deductions, and offers the acknowledged financial background essential for the growth of an organization. Gitau and Njeru (2022) observe that a strategic block management system plays the role of being the source of certainty for financial information, bridging the gap between everyday property processes and the legal obligation for tax compliance for guaranteed accurateness, transparency and effectiveness for landlords and organizational management.

Rental income tax compliance is vital for guaranteeing accurate reporting, appropriate payments, and sustaining legal and financial integrity (Zaytsev, Rodionov, Dmitriev & Ilchenko, 2020). According to Brotman (2022), amongst innovative methodologies that has acquired traction in current years is the adoption of block management strategies meant for

enhancement of compliance through streamlining processes, enhancing transparency and promoting communication amongst stakeholders. Eerola, Kosonen, Kotakorpi and Lyytikäinen (2024) observe that block management strategies reduces error, suspensions and deliberate underreporting through central record-keeping, enhanced communication, and the utilization of technology, offering a feasible pathway for landlords and tax collection agencies to attain advanced standards of tax compliance and operational effectiveness.

Rental income tax compliance is a significant revenue basis for all organizations internationally, but tax compliance differs extensively by country owing to different laws and regulations (Witte & Woodbury, 2023). According to Eke, Olatinsu and Uwakwe (2025), The Internal Revenue Service (IRS) of United States necessitates all businesses to account gross rental income minus permissible expenditures like maintenance, depreciation, and property management dues. Schulz and Sureth-Sloane (2025) observe that German businesses earning rental income are supposed to take account of it in their corporate tax base whereby the country's tax law needs thorough record-keeping and appropriate filing of tax earnings with penalties and interest on unpaid taxes imposed to noncompliance. Tiwari (2021) indicate that the Australian Taxation Office (ATO) orders comprehensive reporting of rental income and permits deductions for expenditures such as repairs, loan interest, and depreciation. Additionally, businesses should factor the implications of Goods and Services Tax (GST), as the ATO imposes firm compliance to fight tax avoidance.

The South African Revenue Service (SARS) obliges businesses to report all their rental earnings and permits deductions for associated expenditures such as maintenance, municipal rates, and agent dues to establish taxable income, requiring these business to adhere to Value Added Tax (VAT) regulations if rental turnover surpasses the VAT recording edge (Bornman & Ramutumbu, 2021). Addo (2022) observe that the Ghana Revenue Authority (GRA) orders all the companies to consider the consequences of tax withdrawal on payment of rentals, through implementation of measures like electronic tax filing and taxpayer education to enhance compliance to rental income tax. Mohamed and Gan (2024) indicate that companies in Egypt are supposed to report their income under Income Tax Law, emphasizing compliance using audits and penalties for the companies that under report or fail to disclosure their rental income.

The rental incomes produced by all the companies in Kenya are subjected to income tax which have to be acknowledged as a share of chargeable income based on the Income Tax Act (Gitau & Njeru, 2022). According to Kivuva (2022), all businesses in Kenya are supposed to sustain their detailed recording of rental incomes and related expenditures. Njuguna and Warui (2025) indicate that Kenya Revenue Authority (KRA) applies strict compliance rules, comprising electronic filing and consistent audits to control tax evasion and the rental transactions attracts withholding tax, particularly where payments are done to non-resident properties.

Property identification and mapping systems are theoretical structures that use Geographic Information Systems (GIS) and digital mapping machineries to precisely locate, recognize and examine properties (Adaletey, Alkadash, Achiyaale & Oware, 2022). According to Bahramov (2024), the property identification and mapping systems are important for guaranteeing exact property records, providing a direct influence on tax valuations and compliance. Singh, Singh, Meraj and Sudhanshu (2022) indicate that significance of property identification and mapping systems to rental income tax compliance centers on its capability in verifying property limits, possession details, and occupancy position, thus minimizing errors and fraud.

The Southern Region of Nairobi City County in Kenya is a varied and lively region categorized by a combination of urban and semi-urban groups. The region comprises of neighborhoods like the Nairobi South, South B, South C, and others, commonly recognized for their residential estates, commercial hubs, and nearness to crucial infrastructure. The area features a mixture of current apartments, customary homes, and busy markets, providing a lively environment. The region is properly linked through major roads infrastructure and public transportation, easing accessibility to the central business district and other areas within Nairobi (KRA report, 2025). The region also hosts several social facilities, comprising of educational institutions, healthcare amenities, entertaining parks, and shopping areas, enabling it a good-looking site for residents and investors too. The overall trends specify that rental income tax compliance with Nairobi differs, with higher compliance rates perceived amongst formal property holders and those listed with the Kenya Revenue Authority (KRA). Factors affecting compliance consists of tax obligations awareness, accessibility to tax registration services and enforcement strategies. A report by KRA indicate that that general tax compliance rate within the Nairobi's urban regions ranges from 40% to 60% (KRA report, 2025).

2. STATEMENT OF THE PROBLEM

The rental income tax compliance within southern region of Nairobi City County, Kenya has not been to the expected level as indicated by statistical data resulting to loss of revenue losses for the county and hindering efforts to reinforce the rental industry. According to KRA report of 2025, below average of the number of property owners and developers within the region had complied with the Monthly Rental Income (MRI) tax requirements. The report indicates that whereas the real estate industry within the Nairobi South has significant growth rate of about 6% to 7% yearly, the respective tax revenue growth has generally lagged by 40%, demonstrating higher levels of incomplete reporting or complete non-disclosure. Around 60% of non-compliant landlords quoted absence of technical knowledge concerning how to compute the 7.5% (previously 10%) gross tax or how to utilize the iTax/eRITS platforms. The report also indicates that, before the institution of the Electronic Rental Income Tax System (eRITS) in 2025, more than 70% of small-scale landlords within the region assumed the likelihood of being inspected was low or did not exist (KRA report, 2025).

3. LITERATURE REVIEW

Theoretical Literature Review

Theory of Planned Behavior

The Theory of Planned Behavior (TPB) was established by Ajzen (1985) focusing on understanding and forecasting human behavior through assessment of individuals' attitudes, particular norms, and observed behavioral control on their targets and activities. Shah and Mohamed (2021) observe that TPB is extensively functional in organizations to foresee and influence employee actions, enhance decision-making, and nurture organizational modification. According to Al-Ziadat (2022), TPB assists in gaining the knowledge on how attitudes, individual norms, and supposed behavioral control influencing employees' targets and actions like embracing new technologies, involving in ethical practices, or taking part in training programs.

Ramayah, Yusoff, Jamaludin and Ibrahim (2020) criticizes the TPB by arguing that it overgeneralizes human decision-making through highlighting rationality and personal intention, frequently avoiding how organizational culture, social norms and emotional factors influences the organizational operations. According to Javadi, Kadkhodaee, Yaghoubi, Maroufi and Shams (2023), TPB makes an assumption that individuals have full volitional governance over their behaviour, which might not be the case based on complex organizational surroundings where external limitations and power changing aspects could play a substantial role. Liao, Chen and Yen (2023) critics on TPB are based on its limitations on predictive power within a dynamic surroundings whereby attitudes and intentions quickly vary and therefore, might not sufficiently justify for habitual actions or unintentional consequences that affect organizational behavior.

The theory serves an important role through suggesting that individual's intents are shaped through their perceptions, customs and alleged control, highlighting psychological aspects in behavior which could be affected by the application of structured management systems. These systems might affect the perception and attitude of the tenant in remaining tax compliant, thus influencing their real compliance behavior.

Empirical Literature Review

Khan, Das and Khan (2025) assessed the application of GIS by Shillong municipal board for the evaluation of taxes on properties. The study surveyed 26,611 constructed buildings within 27 wards digitized and characterized in six zones in term of economic worth. A Unit Area Value (UAV) method was adopted using aspects like the type of construction, the age of the building, ownership, utilization and building site for the computation property taxes. The study observed remarkable disparities in revenue generated from tax and central regions producing considerably greater revenue compared to marginal areas. In addition, the GIS-led system had improved precision in the identification of properties, standardized valuation approaches, and enhanced management of data.

Singh, Singh, Meraj, Kanga, Farooq, Kranjcic and Sudhanshu (2022) explores the design of GIS centered tax assessments from properties in India with the aim of developing a spatial database for property tax administration. The produced geospatial database was eventually utilized to assess parameters for property tax computation. The study established that the knowledge of the ground reality based on availability of features, structures, and economic actions were vital for designing any management and planning actions for any region.

Otwani (2020) assessed the geographical information system of KRA North of Nairobi Tax Station Office in enhancing the rental income tax compliance using explanatory design. The population comprised of 148 employees of the company based in that region established through census method. A questionnaire was employed as the data collection tool. Study result was that the efficiency, convenience and transparency of the GIS system contributed to significant improvement on compliance rate to rental income tax.

4. RESEARCH METHODOLOGY

A descriptive research design was applied. The Southern Region of Nairobi City County was the population and the respondents were 1000 landlords within Lang'ata, South C, Kibra, and parts of Dagoretti. A stratified random sampling methodology was adopted and a sample of 285 respondents identified. The tool for collecting data was semi-structured questionnaire. Piloting test was done within the same region involving 28 respondents in Southern Region of Nairobi City County. Descriptive statistics and inferential statistics were used in analyzing quantitative data. The results were presented using tables.

5. FINDINGS

The descriptive analysis results for property identification and mapping systems are as presented in Table 1 below;

Table 1: Property Identification and Mapping Systems

Statements	**M**	**SD**
The block-level property registers are comprehensive and up-to-date	4.58	0.42
The current property registers accurately reflect the actual property boundaries in the region	3.67	1.33
The property identification system in the Southern region of Nairobi accurately locates rental units	4.09	0.91
The mapping system provides precise boundaries for rental units in the area	3.97	1.03
The property identification system in Nairobi City County is accurate and reliable	4.26	0.74
It is easy to obtain the correct property ownership documents in Nairobi City County	4.39	0.61
The property identification system effectively captures all properties owned by landlords	4.08	0.92
Property mapping in the system is detailed enough to identify individual properties accurately	3.84	1.16
Aggregate Score	**4.11**	**0.89**

Source: Survey Data (2026)

The results demonstrate that the aggregate mean score is 4.11, indicating that the respondents had a general agreement on all the statements which also, indicate that property identification and mapping systems in the southern region of Nairobi City County were perceived by the respondents to be effective. The aggregate standard deviation score of 0.89 suggested a moderate variation in responses, signifying that the respondents' perceptions were largely positive but not consistent. In addition, the statement that was highly rated statement was that block-level property registers are comprehensive and up to date (M = 4.58, SD = 0.42), representing stronger agreement and reasonably consistent responses. On the other hand, the statement that the accuracy of property boundaries received the lowest mean (M = 3.67, SD = 1.33) was rated low which pointed to larger uncertainty and a possible weakness within the system.

Inferential Statistics Results

The inferential statistics involved correlation analysis and regression analysis.

Correlation Analysis Results

Table 2: Correlation Analysis Results

		Property Identification and Mapping Systems	Rental income tax compliance
Rental income tax compliance	Pearson Correlation	0.771	1
	Sig (2-tailed)	0.003	
	N	261	261

Source: Field Data (2025)

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The finding indicates that there was a strong, positive, statistically significant correlations between property identification and mapping systems and rental income tax compliance (r = .771, p = .003). Moreover, all the p-value were less than the typical level of significance of 0.05. This confirmed that the relationships were statistically significant. Also, reflected that stronger performance in property identification and mapping systems was directly linked improved compliance.

Regression Analysis Results

Table 3: Model Summary

Model	R	R-Square.	Adjusted R-Square	Sd. Err Est.
1	0.891	0.794	0.791	0.448

Source: Field Data (2025)

The results indicate that the value of adjusted R Square is 0.791, meaning that, after the consideration of the 4 independent variables within the regression model, a 79.1% of the variation in rental income tax compliance could be explained by these variables included. Therefore, the remaining 20.9% could be linked with other variables not included in the model.

Table 4: Analysis of Variance

Model		Sum of Square	df	Mean Squares	F.	Sg
	Regressions	328.456	4	82.114	523.149	0.003
	Residuals	40.182	256	0.157		
	Totals	368.638	260			

Source: Field Data (2025)

The ANOVA table results indicate that F(4, 256) = 523.149, p = 0.003). This confirms that the overall model was statistically significant because the significance value was less than conventional 0.05 threshold. In addition, results indicate that the four independent variables collectively had had a statistically significant relationship with the dependent variable.

Table 5: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.567	0.321		1.766	0.003
	Property identification and mapping systems	0.745	0.285	0.605	2.614	0.003

Source: Field Data (2025)

The result shows that the constant which represents the point of intercept was 0.567, demonstrating the predicted rental income tax compliance value when property identification and mapping systems is at zero. Also, demonstrated the baseline compliance level of the model before considering the effect of property identification and mapping systems. Moreover, the 0.003 significance value was an indicator that this intercept was statistically different from zero within 5% level. Therefore, the resultant model's regression equation could be stated as;

$$\mathbf{Y = 0.567 + 0.605\ X_1 + \varepsilon}$$

Whereby

Y = Rental income tax compliance

X_1 = Property identification and mapping systems

ε = Error term

The study further observed that property identification and mapping systems had a positive significant effect on rental income tax compliance (β=0.605; p=0.003). The finding is in line with Singh, Singh, Meraj, Kanga, Farooq, Kranjcic and Sudhanshu (2022) who explored the design of GIS centered tax assessments from properties in India with the aim of developing a spatial database for property tax administration. The study established that the knowledge of the ground reality based on availability of features, structures, and economic actions were vital for designing any management and planning actions for any region.

6. CONCLUSIONS

The study concludes that consistent registers, property identification, mapping and accessible ownership documents can assist the County in identifying rental properties and landlords, reinforce assessment and collection of rental income tax, and minimize errors or underreporting. In addition, improved identification and mapping of rental properties is linked with higher compliance. Better coverage and precise records can minimize under-reporting, support personalized audits and make effective taxpayer registration and enforcement more efficient.

7. RECOMMENDATIONS

The study recommends that relevant tax and county authorities should constantly update and match property registers to guarantee that information on rental properties, possessions and property boundaries remains precise and current. The property identification and mapping systems should be reinforced by using consistent verification of rental properties and incorporation of property records with existing geographical and managerial information. This would assist in reducing gaps in property identification and improving the capability of tax administrators to establish rental properties and their owners for tax administration objectives.

REFERENCES

[1] Adaletey, J. E., Alkadash, T. M., Achiyaale, R. A., & Oware, K. M. (2022). Property Tax and Tax System for Revenue Mobilization. *Special Education*, *1*(43).

[2] Addo, E. O. (2022). *Rent income tax compliance in Ghana a case study of some selected Mmdas* (Doctoral dissertation, University of Education Winneba)

[3] Ajzen, I. (1985). The theory of planned behavior: Frequently asked questions. *Human behavior and emerging technologies*, *2*(4), 314-324.

[4] Al-Ziadat, M. T. (2022). Applications of planned behavior theory (TPB) in Jordanian tourism. *International Journal of Marketing Studies*, *7*(3), 95

[5] Bahramov, F. (2024). Assessing Housing Affordability: Analysis of Property Tax Systems in European Countries. *The Annals of the University of Oradea. Economic Sciences*, *33*(1st)

[6] Bornman, M., & Ramutumbu, P. (2021). A tax compliance risk profile of guesthouse owners in Soweto, South Africa. *The Southern African Journal of Entrepreneurship and Small Business Management*, *11*(1), 1-14

[7] Brotman, B. A. (2022). Property investor decisions using income and rental ratio signals. *Journal of Property Investment & Finance*, *40*(1), 2-13

[8] Eerola, E., Kosonen, T., Kotakorpi, K., & Lyytikäinen, T. (2024). Tax compliance in the rental housing market: Evidence from a field experiment. *American Economic Journal: Economic Policy*, 18(2), 181-211

[9] Eke, C., Olatinsu, O., & Uwakwe, A. Q. (2025). Withholding tax frameworks in developing countries: A critical review of structure, compliance, and enforcement mechanisms. *International Journal of Research in Finance and Management*, *8*(1), 863-872.

[10] Gitau, M., & Njeru, D. M. (2022). Determinants of Voluntary Rental Income Tax Compliance by Landlords in Kiambu Town, Kenya. *African Development Finance Journal*, *4*(1), 248-268

[11] Gitau, M., & Njeru, D. M. (2022). Determinants of Voluntary Rental Income Tax Compliance by Landlords in Kiambu Town, Kenya. *African Development Finance Journal*, *4*(1), 248-268

[12] Javadi, M., Kadkhodaee, M., Yaghoubi, M., Maroufi, M., & Shams, A. (2023). Applying theory of planned behavior in predicting of patient safety behaviors of nurses. *Materia socio-medica*, *25*(1), 52

[13] Khan, D., Das, S., & Khan, N. (2025). Application of GIS for property tax assessment: a case study of Shillong municipal board. *Journal of Landscape Ecology*, 19(1), 43 – 66

[14] Kivuva, M. (2022). *Factors Affecting Rental Income Tax Compliance in Nairobi County* (Doctoral dissertation, KESRA/JKUAT-Unpublished research project).

[15] Liao, C., Chen, J. L., & Yen, D. C. (2023). Theory of planning behavior (TPB) and customer satisfaction in the continued use of e-service: An integrated model. *Computers in human behavior*, *23*(6), 2804-2822

[16] Mohamed, A. M. G., & Gan, S. (2024). Impact of mandatory audits of small-and medium-sized enterprises on their income tax compliance: Evidence from the egyptian small-and medium-sized enterprise stock market. *Journal of Risk and Financial Management*, *17*(7), 278

[17] Njuguna, T. J., & Warui, F. (2025). Itax System Role in Tax Compliance for Residential Landlords in Kiambu County, Kenya. *Asian Journal of Economics, Finance and Management*, *7*(1), 152-168

[18] Ondoro, O. B. (2021). Factors Affecting Rental Income Taxpayer's Compliance. *African Tax and Customs Review*, *4*(2), 13-13

[19] Otwani, E. E. (2020). *Effect of Geographical Information System on Rental Income Tax Compliance: A Case Study of Kenya Revenue Authority North of Nairobi Tax Station Office* (Master project, JKUAT)

[20] Ramayah, T., Yusoff, Y. M., Jamaludin, N., & Ibrahim, A. (2020). Applying the theory of planned behavior (TPB) to predict internet tax filing intentions. *International Journal of Management*, *26*(2), 272

[21] Schulz, K. A., & Sureth-Sloane, C. (2025). Tax Compliance Management Systems in German Tax Audits-An Analysis of Practical Experiences. *TRR*, *266*

[22] Shah, A, S., & Mohamed, S. N. (2021). Applying the Theory of Planned Behavior (TPB) in halal food purchasing. *International journal of Commerce and Management*, *21*(1), 8-20

[23] Singh, A., Singh, S. K., Meraj, G., & Sudhanshu. (2022). Designing Geographic Information System Based Property Tax Assessment in India. *Smart Cities*, *5*(1), 364-381.

[24] Singh, A., Singh, S. K., Meraj, G., Kanga, S., Farooq, M., Kranjčić, N., ... & Sudhanshu. (2022). Designing Geographic Information System Based Property Tax Assessment in India. *Smart Cities*, 5(1), 364-381

[25] Tiwari, G. (2021). Determinants of tax compliance behaviour among rental income earners in Pokhara. *Journal of Nepalese Business Studies*, 14(1), 69-81

[26] Witte, A. D., & Woodbury, D. F. (2023). The effect of tax laws and tax administration on tax compliance: The case of the US individual income tax. *National Tax Journal*, *38*(1), 1-13

[27] Zaytsev, A., Rodionov, D., Dmitriev, N., & Ilchenko, S. (2020). Assessing Intellectual Capital from the Perspective of its Rental Income Performance. *International Journal of Technology*, *11*(8)