Kabale University Interdisciplinary Research Journal (KURJ)

OPEN ACCESS

The effects of tax administration on revenue collection in Uganda: the role of self-assessment system

***Turyaheebwa Paul**, **Kaaya Siraje**, **Turyahebwa Abanis** and **Sunday Arthur**
Kabale University, Uganda

**Corresponding Author*
emunyambonera@kab.ac.ug

KURJ
ISSN 2790-1394

pp. 14 - 30
Vol 2. Issue 4.
Sept 2024

ABSTRACT
This research examines the impact of tax administration, with a focus on the self-assessment system (SAS), on revenue collection in Uganda. Utilizing data collected from 350 commercial enterprises through questionnaires, the study employs AMOS PLS-SEM for data analysis. The findings reveal that the SAS significantly enhances revenue collection by empowering taxpayers to self-report and calculate their tax liabilities, contingent upon adequate tax knowledge and awareness. The study also identifies government spending and tax collection methods as positive moderators in the relationship between SAS and revenue collection, highlighting the importance of government efficiency and transparency in fostering tax compliance. Despite the positive impact of compliance audits on revenue performance, the effectiveness of tax audits varies across different contexts, necessitating tailored approaches. The research concludes that a comprehensive strategy integrating tax education, transparent government spending, and strategic compliance audits is essential for optimizing revenue collection and supporting sustainable economic development in Uganda. Future research should explore the long-term effects of these interventions and consider the role of digitalization and socio-cultural factors in shaping tax compliance behavior.

Keywords: Tax, Tax Administration, Revenue Collection, Self-Assessment Systems

Introduction

Tax administration plays a crucial role in revenue collection in Uganda. Studies show that effective tax registration, assessment, and collection procedures have a positive impact on revenue performance (Atuhairwe et al., 2020). Research on tax administration in Uganda highlights the importance of effective systems and interventions for improving revenue collection. Studies have shown that tax administrative interventions, such as taxpayer register expansion and electronic filing systems, can positively impact business tax compliance and revenue (Jouste *et al*., 2021). While automation has been found to improve revenue collection effectiveness, its impact on efficiency is mixed (Isaac & Lilian, 2010). The Uganda Revenue Authority (URA) has implemented various reforms, including the adoption of a semi-autonomous structure, to improve tax administration (Therkildsen, 2004). Consequently, targeting high net worth individuals has been suggested to boost revenue collection (Kangave *et al*., 2016). The self-assessment system (SAS) and tax collection have significant effects on tax revenue, particularly for Value Added Tax (VAT) (Ladewi *et al*., 2022).

Tax compliance is a cornerstone of a functional and sustainable tax system, particularly in developing economies like Uganda (Wadesango *et al.*, 2018). Governments depend on taxpayers' voluntary adherence to tax regulations to finance public services and promote economic stability. However, despite the implementation of various tax administration strategies, including self-assessment systems, achieving high levels of tax compliance in Uganda remains a significant challenge (Blaufus *et al.*, 2022). This issue is especially pronounced among corporate entities, which frequently engage in tax evasion or avoidance, thereby undermining revenue collection efforts (Adu & Amponsah, 2020).

This paper examines tax compliance in developing countries, particularly Uganda, focusing on small and medium enterprises (SMEs). Several studies highlight the importance of understanding taxpayers' perceptions and behaviors in improving compliance (Kiconco *et al.*, 2019). Factors influencing tax compliance include tax fairness, social norms, and government effectiveness (Wadesango *et al.*, 2018; Tusubira, 2023. The self-assessment system (SAS) is identified as a key component in tax administration, but its effectiveness is influenced by various economic and psychological factors (Wadesango et al., 2018). Challenges in Uganda's tax system include corruption, poor governance, and structural weaknesses (Bachmann *et al.*, 2022). To improve compliance, researchers suggest implementing anti-corruption measures, streamlining the tax system, and providing tax education to SMEs (Bachmann *et al.*, 2022). Additionally, considering the social-psychological aspects of taxpayers in policy-making is recommended to enhance compliance (Kiconco et al., 2019).

This research examines the role of government spending and tax collection methods in the link between self-assessment systems and revenue collection. The self-assessment system is designed to empower taxpayers by allowing them to report their income and calculate their tax liabilities, thereby fostering a sense of responsibility and compliance. However, the effectiveness of this system is heavily influenced by the methods employed by tax authorities in collecting taxes and the manner in which government spending is perceived by taxpayers.

Literature review and hypothesis development

Economic Deterrence Theory

Recent research on tax compliance and enforcement highlights the limitations of traditional deterrence theory and emphasizes the importance of tax morale - internal motivations and social norms that influence compliance (Kouroub & Oubdi, 2022). Studies have explored various factors affecting tax compliance, including penalties, education, expertise, and tax rates (Mnjeja *et al.*, 2023). Researchers suggest that tax authorities can improve compliance through education, fair procedures, and effective communication (Slemrod, 2019). However, the relationship between enforcement and welfare is complex, with some studies indicating that increased enforcement may only be beneficial when costs are very low (Liu-Evans & Mitra, 2023). These findings underscore the need for a more comprehensive approach to tax compliance and enforcement.

Tax compliance is a complex issue influenced by various factors beyond simple economic deterrence. While traditional models focus on detection and punishment (Raskolnikov, 2020), recent research highlights the importance of tax morale - internal motivations and social norms that drive voluntary compliance (Kornhauser, 2022). Factors such as attitudes, subjective norms, fairness, tax knowledge, trust, and moral intensity significantly impact compliance behavior (Ali *et al.*, 2018). The Theory of Planned Behavior and Fairness Theory are frequently applied in this field (Kuppusamy et al., 2020). Studies suggest that penalties, education level, and expertise positively influence compliance, while inconvenience, costs, and high tax rates negatively affect it (Mnjeja *et al.*, 2023). To improve compliance, tax authorities should consider adopting a tax morale approach, implementing educational programs, and designing fair procedures (Kornhauser, 2022). Additionally, addressing the informal sector's taxation in developing countries presents both challenges and opportunities for revenue mobilization and governance gains (Lagos Rodríguez, 2022).

Tax compliance is influenced by various factors beyond the traditional deterrence model of audits and penalties (Kornhauser, 2022; Chandrashekhar, 2020). Tax morale, including personal values and social norms, plays a significant role in voluntary compliance (Kornhauser, 2022). Factors such as fairness, trust in authorities, and the complexity of the tax system affect compliance decisions (Chandrashekhar, 2020). Prospect theory has been applied to explain tax compliance behavior, considering risk perceptions in decision-making (Muehlbacher, 2021). Recent research has employed randomized controlled trials and empirical studies to assess the impact of enforcement instruments like audits and information reporting (Slemrod, 2018). In low-income countries, tax agents may support compliance by helping navigate complex systems (Occhiali & Kalyango, 2021). Laboratory experiments have also contributed to understanding tax compliance behavior, with factors like non-student subjects, loaded framing, and progressive tax regimes positively impacting compliance (Malézieux, 2018).

Technology Acceptance Model

Tax compliance research has evolved from traditional economic models to incorporate psychological and social factors (Cahyonowati *et al.*, 2022). Recent studies have identified various determinants of tax compliance, including tax knowledge, fairness perceptions, penalties, and social norms (Dung *et al.*, 2023). The Technology Acceptance Model has been applied to understand tax compliance behavior, particularly in the context of self-assessment systems (Wadesango *et al.*, 2018). Researchers have proposed frameworks integrating economic, psychological, and social factors to better predict compliance ((Dung et al., 2023; Vardavas *et al.*, 2019). Some studies suggest adapting compliance models to specific cultural contexts, such as incorporating national ideological values (Darmayasa *et al.*, 2024). The complexity of tax compliance has led to the development of interdisciplinary approaches, including agent-based modeling and systematic literature reviews, to comprehensively understand and address compliance issues (Vardavas *et al.*, 2019).

Tax knowledge plays a crucial role in influencing tax compliance behavior, particularly among small and medium enterprises (SMEs) in developing countries (Dung *et al.*, 2023; Wadesango *et al.*, 2018). While tax knowledge alone may not be sufficient to ensure compliance, it is an essential factor alongside other variables such as fairness perceptions, awareness of penalties, and attitudes towards taxation (Pertiwi *et al.*, 2020; Deyganto, 2018). The impact of tax knowledge on compliance can be enhanced through education initiatives and improved communication from tax authorities (Wadesango *et al.*, 2018). As taxation systems become increasingly digitized, digital knowledge is emerging as a critical component of tax compliance in developing countries (Mohammed *et al.*, 2022). Public acceptance of tax policies, including environmental taxes, is influenced by factors such as policy effectiveness, trust in government, and perceived fairness (Muhammad et al., 2021). These findings highlight the importance of comprehensive tax education and transparent policy implementation to promote voluntary compliance. This reviews from various scholars resulted into the following hypothesis.

Hypothesis

H_{01}: Self-assessment system does not have a statistically significant effect on revenue collection

Self-Assessment System

The self-assessment system (SAS) in tax collection has been widely implemented, but its effectiveness varies across contexts. While some studies found SAS to have a positive impact on tax revenue (Ladewi *et al.*, 2022), others reported negative or insignificant effects (Kurnia & Azzahra, 2024). Factors influencing SAS effectiveness include taxpayer knowledge, compliance, and government support (Salindeho, 2021; Mwesigye & Kijjambu, 2024)). Implementation challenges persist, such as lack of tax knowledge and infrequent tax awareness campaigns (Salindeho, 2021). Some research indicates a strong relationship between SAS and taxpayer compliance (Susena *et al.*, 2018). However, the system's success may depend on various factors, including low tax base and tax collection efforts (Kurnia & Azzahra, 2024). Overall, while SAS aims to improve tax collection efficiency, its impact on tax revenue and compliance remains context-dependent, highlighting the need for continued evaluation and improvement of the system (Mardiana *et al.*, 2024).

Challenges of self-assessment system

The self-assessment system (SAS) in tax collection faces several challenges across various countries. Low tax compliance is a major issue, often stemming from lack of tax knowledge, complex regulations, and insufficient public awareness ((Fitdra & Inayati, 2022); (Liyana, 2019). Implementation difficulties arise from taxpayers' lack of experience, motivation, and honesty (Liyana, 2019).The system can lead to higher compliance costs for taxpayers, although it may reduce collection costs for authorities (Abiyoso & Muamarah, 2020). To address these challenges, governments need to improve tax education, simplify regulations, and enhance transparency (Liyana, 2019). Additionally, tax authorities should focus on organizational improvements, human resource development, and leveraging information technology (Liyana, 2019). Despite these challenges, SAS can potentially increase tax revenue when properly implemented (Ladewi *et al.*, 2022)

Methodology

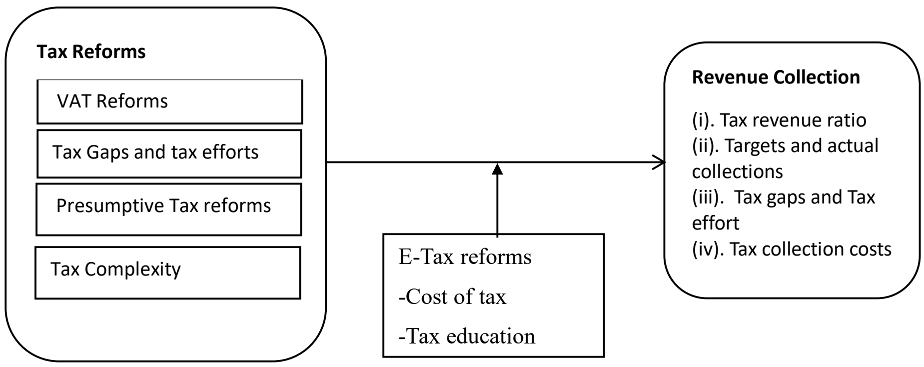
This study employed a quantitative approach to examine the role self-assessment systems in tax administration and revenue collection in Uganda, with specific focus on commercial enterprises in the Greater Mbarara region. A cross-sectional survey design was used to collect data at a single point in time, allowing for an examination of the current state of self-assessment systems and their impact on revenue collection.

The study focused on a target population of 8,560 active taxpayers in the Greater Mbarara region, as recorded in the Uganda Revenue Authority tax register. This population spanned across eight districts and municipalities, including Mbarara City, Rwampara, Isingiro, Ibanda, Kiruhura, and Kazo. The target population was distributed across various industries: wholesale trade (2,396), hotel and hospitality (220), rentals and properties (189), private educational institutions (102), retail trade (330), local manufacturing (471), and fuel stations (141). Using stratified random sampling, a sample of 350 respondents was selected from these industry groups. The selection criterion ensured that each industry group made a significant contribution to tax remittance, amounting to at least 100 million Uganda shillings annually, thus focusing the study on economically impactful taxpayers within the region.

A structured questionnaire was the primary instrument for data collection. The questionnaire items were adopted from previous relevant studies and measured on a five-point Likert scale ranging from 1 (Highly Agree) to 5 (Highly Disagree). The questionnaire was pilot-tested on 32 taxpayers to ensure clarity and construct reliability before the main data collection , as recommended by (Hajjar, 2018). The Cronbach's alpha values of the constructs were all above 0.70, which was indicative of a good level of reliability according to (Kiliç, 2016).

380 questionnaires were distributed to potential respondents between January - March 2024. Hard copy survey questionnaires were supplied to different firms, accompanied by a cover letter explaining the study's purpose. Out of 360 distributed questionnaires, 350 usable responses were obtained, achieving a response rate of 97.2%.

Figure 1: Conceptual Framework.



Source: Adapted from OECD, 2021.

Data Analysis

In the context of the study on the effects of tax administration and the role of self-assessment systems on revenue collection in Uganda, the Partial Least Squares (PLS) analytical method was utilized to test the hypotheses and analyze the research framework. PLS is particularly adept at handling complex models with numerous items, variables, and interconnections, allowing for the simultaneous exploration of multiple relationships (Ringle *et al.*, 2012 ; Lutfi *et al.*, 2023). This approach is well-suited for the intricate dynamics of tax administration, where factors such as self-assessment systems, government expenditure, and tax collection strategies interact.

PLS is also advantageous for smaller sample sizes, as it does not require data to follow a normal distribution, making it useful when other methods might be inadequate (Hair *et al.*, 2019). The PLS-SEM method involves a two-step process, consisting of the measurement model (outer model) and the structural model (inner model). The outer model evaluates the constructs' reliability and validity, ensuring that the measurement tools accurately reflect the intended variables. The inner model, on the other hand, assesses the significance of the proposed hypotheses, offering insights into the relationships between self-assessment systems and revenue collection performance, as well as the mediating roles of government spending and tax collection methods precisely reflect the targeted variables. Concurrently, the inner model assesses the importance of the proposed hypotheses, offering understanding into the connections between self-assessment and revenue collection. Table 1 below provides information on gender, age, employment status, legal status, business type, industry of operation, registered tax kinds, and yearly turnover.

Table 1: Demographic characteristics of respondents.

Variable	Category	Frequency (f) (n=350)	Percent (%)
Gender	Male	229	65
	Female	121	35
Employment	Self employed	285	81
	Employed	65	19
Age of Business (Years)	1-5	15	4
	6-10	109	31
	11-15	96	28
	>15	130	37
Legal status	Sole proprietor	220	63
	Partnership	94	27
	Private Limited Company	36	10
Type of Business	Wholesale Trade	273	78
	Hotel and Hospitality	15	4
	Rental and properties	26	7.4
	Private educational inst.	10	2.9
	Retail Trade	12	3.5
	Local manufacturing	10	2.9
	Fuel Stations	4	1.3
Tax Heads	CIT	265	75.7
	CIT and VAT	66	18.8
	CIT, VAT and LED	19	5.5
	Voluntary registration	277	79
	Forceful registration	73	20
Mode of registration	100-200	50	14.2
	201-300	49	14
	301-400	114	32.6
	401-500	23	6.6
	>501	114	32.6

Source: Field data, 2023

The results indicate that the majority of respondents were male (65%) and predominantly self-employed (81%). The businesses surveyed varied in age, with 37% operating for over 15 years, and 31% between 6-10 years. Most businesses were sole proprietorships (63%), followed by partnerships (27%) and private limited companies (10%). The predominant type of business was wholesale trade, accounting for 78% of respondents, with smaller representations from hotel and hospitality (4%), rentals and properties (7.4%), and other sectors. In terms of tax registration, a significant portion of respondents were registered for Corporation Income Tax (CIT) only (75.7%), while others were registered for both CIT and VAT (18.8%), or CIT, VAT, and Local Excise Duty (LED) (5.5%). The majority of businesses registered voluntarily (79%), with a smaller percentage registering forcefully (20%). The mode of registration varied, with the largest groups having an annual turnover between 200-300 million and over 400 million Uganda shillings, each representing 32.6% of the sample.

Table 2: Descriptive statistics on Self-assessment system

Item	N(%)				
	Highly agree	Agree	Neutral	Disagree	Highly disagree
I am aware of the statutory due dates for filing tax returns.	22(6.3)	29(8.3)	27(7.7)	48(13.7)	221(63.1)
Measures taken by URA for failure to file tax returns and payment of tax on time are harsh.	114(32.6)	148(42.3)	30(8.6)	32(9.1)	22(6.3)
Chances of being detected for non-filing and payment of tax are high.	221(63.1)	58(16.6)	20(5.7)	30(8.6)	17(4.9)
I am aware of the consequences of non-compliance.	25(7.1)	89(25.4)	49(14.0)	98(28.0)	87(24.9)
URA has efficient monitoring mechanisms for tax compliance	14(4.0)	54(15.4)	204(58.3)	37(10.6)	37(10.6)
URA conducts compliance audits regularly.	43(12.3)	220(62.9)	30(8.6)	26(7.4)	25(7.1)
Compliance tax audits help taxpayers to comply with their tax obligations	27(7.7)	223(63.7)	37(10.6)	34(9.7)	27(7.7)
Compliance tax audits help to reduce tax gaps and expand tax base	18(5.1)	231(66.0)	37(10.6)	29(8.3)	33(9.4)
Self-assessment system helps taxpayers to comply with their tax obligations.	61(17.4)	224(64.0)	25(7.1)	23(6.6)	13(3.7)
Self-assessment system improves revenue collection targets at URA	30(8.6)	68(19.4)	28(8.0)	187(53.4)	33(9.4)
URA regularly conducts tax education and awareness programs	26(7.4)	37(10.6)	45(12.9)	48(13.7)	189(54.0)

Source: Field data, 2023

The descriptive statistics from Table 2 above on the self-assessment system reveal several insights into taxpayer perceptions and the effectiveness of the Uganda Revenue Authority's (URA) initiatives. A significant majority of respondents (63.1%) are not aware of the statutory due dates for filing tax returns, indicating a substantial gap in taxpayer education. Conversely, a large portion (74.9%) perceives the measures taken by URA for non-compliance as harsh, which may influence compliance behavior. The perception of high detection chances for non-filing is prevalent among 63.1% of respondents, suggesting that the fear of detection may act as a deterrent to non-compliance.

Awareness of the consequences of non-compliance is mixed, with 32.5% agreeing they are aware, while a notable 52.9% disagree or highly disagree, highlighting the need for better communication. The efficiency of URA's monitoring mechanisms is questioned, with 58.3% remaining neutral, indicating uncertainty or lack of visibility into these processes. Regular compliance audits are acknowledged by 75.2% of respondents as a positive influence on compliance, highlighting their role in reducing tax gaps and expanding the tax base.

The self-assessment system is viewed favorably by 81.4% of respondents for helping taxpayers comply with obligations, yet only 28% believe it improves revenue collection targets, suggesting room for improvement in its perceived effectiveness. Lastly, URA's tax education and awareness programs are seen as insufficient, with 67.7% disagreeing that they are conducted regularly, underscoring the need for enhanced educational efforts to improve compliance and understanding among taxpayers.

Exploratory Factor Analysis (EFA) of the Self-Assessment System (SAS) in tax administration.

The study examined the Self-Assessment System (SAS) in tax administration using ten elements across three key aspects: compliance audits (CAUD), tax enforcement procedures (TENF), and monitoring and evaluation (MOEV). An Exploratory Factor Analysis (EFA) was conducted to determine critical dimensions for measuring each SAS item separately. The analysis revealed two significant factors with eigenvalues over 1, which together explained 47.3% of the variance. This finding was supported by the Cartel's scree plot, which demonstrated a clear break after the third factor as indicated in Figure 2.

Table 3: SAS Eigenvalues of Self-Assessment System.

Component	Eigenvalues	Proportion var	Cumulative
1	4.011	0.327	0.327
2	1.721	0.146	0.473

The extraction method was principal component

To evaluate the factor structure of SAS and its ten components, Principal Component Analysis (PCA) with Varimax rotation was employed. The results indicated that nine out of the ten initial items could be extracted into two distinct factors. One item, "I am aware of the statutory due dates for filing tax returns," was dropped due to low factor loading (< 0.4). The Kaiser-Meyer-Olkin (KMO) value exceeded 0.75, indicating that the data were meritorious and suitable for factor analysis. Furthermore, Bartlett's test of sphericity yielded significant results ($p < 0.001$), confirming that the manifest variables in the survey data were dependent and intercorrelated.

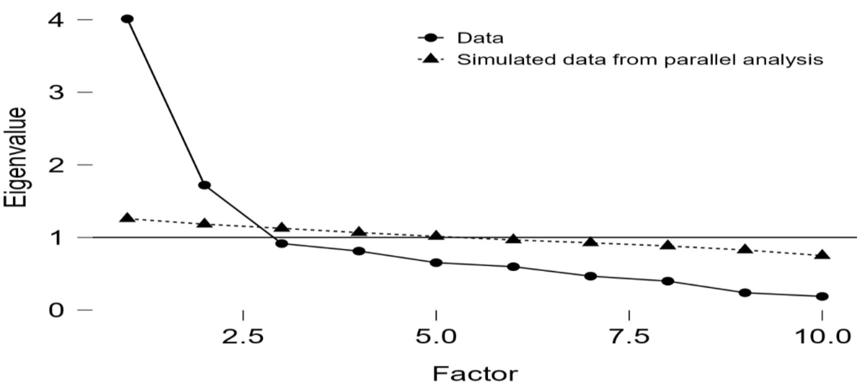


Figure 2: SAS scree plot for the significant eigenvalues

The factor structure that emerged from the analysis comprised two main components. Factor 1 included items related to compliance audits and enforcement (MFFPH, DETEH, EMMTC, UCCAT, CTAUCT, CAUGTB, SASTC), while Factor 2 encompassed items associated with self-assessment outcomes and consequences (SASRCT, ACONC). All retained items demonstrated factor loadings greater than 0.4, supporting the construct validity of the scales (Nikhil *et al.*, 2010).

Table 4: SAS Rotated Component Matrix

Item	Component	
	1	2
MFFPH	0.748	
DETEH	0.689	
EMMTC	0.530	
UCCAT	0.644	
CTAUCT	0.726	
CAUGTB	0.730	
SASTC	0.621	
SASRCT		0.758
ACONC		0.699

Note. Applied rotation method is varimax
MFFPH: Measures taken for non-compliance, CAUGBT=Compliance audits, DETEH=Detection for non-compliance, CTAUCT=Compliance tax audits enhance compliance, SASTC=Self-assessment system, SASRCT=Self-assessment improves revenue, SDUED=Statutory due dates, UCCAT=Regular compliance audits, EMMTC=Monitoring and evaluation, ACONC=Consequences for non-compliance

The Exploratory Factor Analysis (EFA) of the Self-Assessment System (SAS) yielded robust results, supporting the construct validity and reliability of the measurement scales. All retained items demonstrated factor loadings exceeding 0.4, indicating their appropriateness for component analysis. The analysis revealed two distinct factors: Compliance Audits (CAUD) and Monitoring and Evaluation (MOEV). The Kaiser-Meyer-Olkin (KMO) values for both factors (0.791 for CAUD and 0.500 for MOEV) exceeded the threshold of 0.5, confirming sampling adequacy. Bartlett's test of sphericity was significant ($p < 0.001$ for CAUD, $p = 0.012$ for MOEV), indicating sufficient inter-item correlations for factor analysis. Internal consistency, assessed via Cronbach's alpha, surpassed the recommended 0.6 threshold for both factors (α = 0.856 for CAUD, α = 0.625 for MOEV). The Average Variance Extracted (AVE) values (0.476 for CAUD, 0.515 for MOEV) approached or exceeded the 0.5 benchmark, supporting convergent validity. These findings collectively validate the two-factor structure of the SAS, providing a robust framework for assessing tax administration practices.

Structural Equation Modeling

Part two of the study of the research's quantitative components is covered in this section. Multiple variables were shown to have structural correlations through the application of SEM. The SEM implementation procedure is discussed in detail. The study followed Sharif *et al.*'s (2024) advice and conducted SEM analysis using a two-step technique.

Table 5: Regression coefficients for the estimated model.

						95% Confidence Interval		Standardized	
Outcome	Predictor	Estimate	Std. Error	z-value	p	Lower	Upper	All	LV
ECOF	SAS	0.218	0.011	19.539	< .001	0.196	0.240	0.349	0.349
RCP	SAS	0.311	0.034	9.039	< .001	0.243	0.378	0.342	0.342

The analysis reveals that the Self-Assessment System (SAS) has a statistically significant and positive effect on both Economic Factors (ECOF) and Revenue Collection Performance (RCP). Specifically, SAS demonstrates a positive relationship with ECOF ($\beta = 0.218$, $p < .001$), indicating that a one-unit increase in SAS is associated with a 0.218 unit increase in ECOF, holding other variables constant. This relationship is highly significant, as evidenced by the large z-value (19.539) and the narrow confidence interval (0.196 to 0.240).

Similarly, SAS exhibits a positive and significant effect on RCP ($\beta = 0.311$, $p < .001$). This suggests that a one-unit increase in SAS corresponds to a 0.311 unit increase in RCP, ceteris paribus. The relationship is robust, with a z-value of 9.039 and a 95% confidence interval ranging from 0.243 to 0.378.

The standardized coefficients further support the importance of SAS, showing a moderate effect size on both ECOF (0.349) and RCP (0.342). These findings underscore the crucial role of the Self-Assessment System in enhancing economic factors and improving revenue collection performance within the context of tax administration.

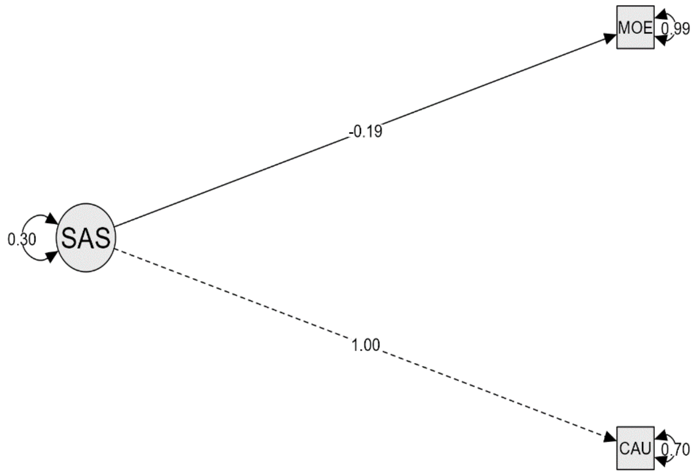


Figure 3: Estimated Congeneric Measurement Model for SAS.

A one-factor congeneric measurement model with goodness of fit statistics (GOF) was used to measure the two constructed observed items in the self-assessment system (SAS). The latent component of the self-assessment system was assessed by CAUD and MOEV in Figure 4c, which presents a model that is satisfactorily fitted. With a Chi-Square value of 6.9–5, the fitted model is less than the recommended value range of (<2.0) or a suitable <3.0. Bollen-Stine P value (0.993) was significantly higher than 0.05 (Table 4). According to Zheng and Bentler (2024), a non-significant result for the Chi-Square test suggests a well-fitting model. Furthermore, the RMSEA value of 0.000 was below the acceptable <0.08 Appendix III or the suggested threshold value of 0.05.

Table 6: Model fit for SAS construct.

				Baseline test		
	AIC	BIC	n	χ^2	df	p
Model 1	1948.848	1964.246	347	6.897×10^{-5}	1	0.993

Self-assessment system and revenue collection performance

Examining how Uganda's revenue collection performance is affected by the self-assessment method as a gauge of tax administration was the third goal of this study. "There exists no statistically significant effect of self-assessment system on revenue collection performance," according to null hypothesis H_{03}. A favorable and statistically significant route from the self-assessment system (SAS) to revenue collection performance (RCP) was shown by the data in Table 4-22 (β =0.311, Z-value = 9.039, p <0.001). As a result, the research chose to reject the null hypothesis and accept the alternative.

Testing of Hypotheses

The test used to validate the path coefficient is one of the most crucial ones; the significance of the route coefficients is ascertained using the critical ratios (CR), T-tests, and z-tests. The findings are consistent with the suggested correlations between the variables, as shown by significant route coefficients (Kline, 2023; West *et al.*, 2023).

Table 7: Direct Structural Model Hypotheses Test Results

Null Hypothesis	Hypothesis relationship	Estimate	Standard Error	Critical Ratio/ t-value	P-value
H01	SAS →RCP	0.311	0.034	9.039	<0.001

The results of the direct structural model hypotheses test, as presented in Table 4-29, provide insights into the relationships between various constructs and revenue collection performance (RCP). The null hypotheses H_{01} was tested to determine the significance of this relationship.

For H_{01}, which posits that the self-assessment system does not have a statistically significant effect on revenue collection, the results indicate a significant positive effect. The estimate is 0.311 with a standard error of 0.034, and the critical ratio is 9.039. The p-value is less than 0.001, leading to the rejection of the null hypothesis and suggesting that the self-assessment system significantly influences revenue collection.

Discussion

The discussion chapter of this research paper on the effects of tax administration on revenue collection in Uganda, particularly focusing on the self-assessment system (SAS), reveals several critical insights that align with existing literature while also highlighting unique findings pertinent to the Ugandan context. The research underscores the significant role of the self-assessment system in enhancing tax compliance and revenue collection. This aligns with previous studies that emphasize the importance of taxpayer education and awareness in fostering compliance (Wadesango *et al.*, 2018; Musimenta, 2020). The findings indicate that while the SAS is designed to empower taxpayers by allowing them to report their income and calculate their tax liabilities, its effectiveness is contingent upon the level of tax knowledge and awareness among taxpayers. This is consistent with the literature suggesting that a lack of tax knowledge can hinder compliance (Fitdra & Inayati, 2022; Liyana, 2019).

Moreover, the study highlights that government spending and tax collection methods positively moderate the relationship between SAS and revenue collection. This finding resonates with Barone and Mocetti (2011), who argue that taxpayers are more likely to comply when they perceive that their contributions are being utilized effectively for public good. The perception of government efficiency and transparency is crucial, as it directly influences tax morale and compliance behavior (Hidayati *et al.*, 2023).

The research also identifies challenges faced by the SAS, such as complex regulations and insufficient public awareness campaigns, which echo the sentiments expressed in the literature regarding the barriers to effective tax compliance in developing countries (Wadesango *et al.*, 2018; Musimenta, 2020). The study's recommendation for enhanced tax education and awareness initiatives is supported by findings from Akims and Akims (2023), who advocate for sustained public tax awareness programs to improve compliance.

Furthermore, the analysis of compliance audits reveals their positive impact on revenue collection, corroborating findings from Ogunwole *et al.* (2020) and Mudakemwa *et al.* (2022), which suggest that effective tax audits can significantly enhance revenue performance. However, the mixed results regarding the effectiveness of tax audits in some contexts highlight the need for tailored approaches that consider local conditions and taxpayer perceptions (Indrawan, 2021).

In conclusion, this research contributes to the existing body of knowledge by providing empirical evidence on the interplay between self-assessment systems, government spending, and tax collection methods in Uganda. It emphasizes the necessity for a comprehensive approach that includes improving taxpayer education, enhancing government transparency, and implementing effective compliance audits to bolster revenue collection. Future research should explore the long-term effects of these interventions on tax compliance and revenue generation, particularly in the context of evolving economic conditions and taxpayer behaviors.

Implication

The implications of this research on the effects of tax administration and the self-assessment system (SAS) in Uganda are multifaceted, offering valuable insights for policymakers and tax authorities. The study highlights the critical role of the SAS in enhancing tax compliance and revenue collection, suggesting that effective implementation of this system can significantly improve the fiscal capacity of developing countries like Uganda. This aligns with the literature that emphasizes the importance of taxpayer education and awareness in fostering compliance (Wadesango *et al.*, 2018; Musimenta, 2020). By empowering taxpayers to self-report and calculate their tax liabilities, the SAS can reduce administrative burdens and increase voluntary compliance, provided that taxpayers are adequately informed and educated about their obligations. This underscores the need for comprehensive tax education programs that can bridge the knowledge gap and enhance compliance, as supported by Akims and Akims (2023). Furthermore, the research underscores the importance of government spending and tax collection methods as moderating factors in the relationship between SAS and revenue collection. This finding suggests that taxpayers' perceptions of government efficiency and transparency can significantly influence their compliance behavior, as noted by Barone and Mocetti (2011). Therefore, improving the transparency and accountability of government spending could enhance tax morale and compliance, leading to increased revenue collection. The study also highlights the positive impact of compliance audits on revenue performance, corroborating findings from Ogunwole et al. (2020) and Mudakemwa et al. (2022). However, the mixed results regarding the effectiveness of tax audits in different contexts suggest that tailored approaches are necessary to address local conditions and taxpayer perceptions (Indrawan, 2021). These insights imply that a holistic approach, integrating effective tax education, transparent government spending, and strategic compliance audits, is essential for optimizing revenue collection and supporting a sustainable economic that strikes a balance between economic growth, resource efficiency, social equity and financial stability in Uganda.

Conclusions

This research provided a comprehensive analysis of the effects of tax administration, particularly the self-assessment system (SAS), on revenue collection in Uganda. The findings underscore the pivotal role of SAS in enhancing tax compliance and revenue generation, aligning with existing literature that highlights the importance of taxpayer education and awareness (Wadesango *et al.*, 2018; Musimenta, 2020). The study reveals that while SAS empowers taxpayers to self-report and calculate their tax liabilities, its success is heavily dependent on the level of tax knowledge and awareness among taxpayers. Additionally, the research identifies government spending and tax collection methods as significant moderators in the relationship between SAS and revenue collection, emphasizing the need for transparent and efficient government operations to boost tax morale and compliance (Barone & Mocetti, 2011).

Limitations

Despite its contributions, the study had several limitations that should be acknowledged. Firstly, the research is geographically limited to the Greater Mbarara region of Uganda, which may not fully represent the diverse economic and tax compliance behaviors across the entire country. This regional focus could limit the generalizability of the findings to other areas with different economic conditions and taxpayer demographics. Secondly, the study relies on self-reported data from commercial enterprises, which may be subject to biases such as social desirability or inaccurate reporting. Additionally, the cross-sectional design of the study captures data at a single point in time, which may not account for changes in tax compliance behavior over time or in response to evolving tax policies and economic conditions.

Further research areas / gaps

Future research should aim to address these limitations by expanding the geographical scope to include a more diverse range of regions within Uganda, thereby enhancing the generalizability of the findings. Longitudinal studies could provide deeper insights into the dynamics of tax compliance behavior over time and the long-term effects of SAS and other tax administration interventions. Furthermore, future studies could explore the impact of digitalization and technological advancements in tax administration, as these factors are increasingly relevant in modernizing tax systems and improving compliance. Investigating the role of socio-cultural factors and taxpayer perceptions in shaping compliance behavior could also provide valuable insights for designing more effective tax policies and education programs tailored to the unique context of Uganda and similar developing economies.

References

Abiyoso, L., & Muamarah, H. S. (2020). Measuring possibilities of full self-assessment system implementation in land and building tax: Evidence from Indonesia. In *Public Sector Accountants and Quantum Leap: How Far We Can Survive in Industrial Revolution 4.0?* (pp. 286–290). Routledge.

Adu, K. O., & Amponsah, S. (2020). Correlates of tax registration compliance among self-employed in Denkyira corridor of Ghana. *International Journal of Law and Management*, 62(4), 365–379.

Atuhairwe, O., Tugume, P., & Ainebyona, S. (2020). Tax Administration and Tax Revenue Performance of Kiboga District Local Government, Uganda. *Internafional Journal of Advanced Research and Publicafions*, 74–92.

Bachmann, R., Topa, G., & van der Klaauw, W. (2022). *Handbook of economic expectations*. Elsevier.

Blaufus, K., Lorenz, D., Milde, M., Peuthert, B., & Schwäbe, A. N. (2022). Negotiating with the tax auditor: Determinants of tax auditors' negotiation strategy choice and the effect on firms' tax adjustments. *Accounting, Organizations and Society*, 97, 101294.

Cahyonowati, N., Ratmono, D., & Juliarto, A. (2022). The Moderating Role of Social Norms on Tax Compliance Model: A Laboratory Experimental Evidence in Indonesia. *Contemporary Economics*, 16(4).

Darmayasa, I. N., Hardika, N. S., Arsana, I. M. M., & Putrayasa, I. M. A. (2024). Accountants' perspective on tax amnesty enhances tax compliance dimensions in extended slippery slope framework. *Cogent Business & Management*, 11(1), 2358161.

Deyganto, K. O. (2018). Factors influencing taxpayers' voluntary compliance attitude with tax system: Evidence from Gedeo zone of Southern Ethiopia. *Universal Journal of Accounting and Finance*, 6(3), 92–107.

Dung, N. N. K., Tuan, D. A., & Thao, B. T. T. (2023). Model for Forecasting Tax Compliance Behaviors for Small and Medium Enterprises Owners Based on Owning Tax Knowledge. *Journal of Law and Sustainable Development*, 11(4), e648–e648.

Fitdra, M. I. I., & Inayati, I. (2022). *Self-Assessment System in Indonesian Taxation: Weakness or Strength*? Publica: Jurnal Pemikiran Administrasi Negara.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24.

Hajjar, S. T. (2018). Statistical analysis: Internal-consistency reliability and construct validity. *International Journal of Quantitative and Qualitative Research Methods*, 6(1), 27–38.

Isaac, N. N., & Lilian, L. (2010). Automation and customs tax administration: Empirical evidence from Uganda. *African Journal of Business Management*, 4(11), 2241.

Jouste, M., Barugahara, T. K., Ayo, J. O., Pirttilä, J., & Rattenhuber, P. (2021). *The effects of personal income tax reform on employees' taxable income in Uganda (No. 2021/11)*. WIDER Working Paper.

Kangave, J., Nakato, S., Waiswa, R., & Zzimbe, P. L. (2016). *Boosting Revenue Collection through Taxing High Net Worth Individuals: The Case of Uganda*. ICTD Working Paper No. 45. https://dx.doi.org/10.2139/ssrn.2776590

Kiconco, R. I., Gwokyalya, W., Sserwanga, A., & Balunywa, W. (2019). Tax compliance behaviour of small business enterprises in Uganda. *Journal of Financial Crime*, 26(4), 1117-1132.

Kiliç, S. (2016). Cronbach's alpha reliability coefficient. *Psychiatry and Behavioral Science*s, 6(1), 47.

Kouroub, S., & Oubdi, L. (2022). Tax planning: theory and modeling. *Journal of Applied Business, Taxation and Economics Research*, 1(6), 594–613.

Kurnia, K., & Azzahra, N. (2024). Analisis Self Assessment System, Jumlah PKP, dan Penagihan Pajak Terhadap Penerimaan PPN. *Owner: Riset Dan Jurnal Akuntansi*, 8(1), 1–11.

Ladewi, Y., Nurhayati, N., Hari, K. K., & Agustian, R. (2022). The Effect of Taxpayer Compliance, Tax Collection and Self Assessment System on Tax Revenue. Kajian Akuntansi.

Liu-Evans, G., & Mitra, S. (2023). Formal sector enforcement and welfare. *International Tax and Public Finance*, 30(3), 706–728.

Liyana, N. F. (2019). Menakar masalah dan tantangan administrasi pajak: Kepatuhan pajak di era self-assessment system. *Jurnal Pajak dan Keuangan Negara* (PKN), 1(1), 6-6.

Lutfi, A., Alshira'h, A. F., Alshirah, M. H., Al-Ababneh, H. A., Alrawad, M., Almaiah, M. A., Dalbouh, F. A., Magablih, A. M., Mohammed, F. M., & Alardi, M. W. (2023). Enhancing VAT compliance in the retail industry: The role of socio-economic determinants and tax knowledge moderation. *Journal of Open Innovation: Technology, Market, and Complexity*, 9(3), 100098.

Mardiana, M., Masrullah, M., & Darwin, K. (2024). The Effect of Corporate Governance and Executive Incentives on Tax Avoidance of Food and Beverage Sector Companies. *International Journal of Economic Research and Financial Accounting* (IJERFA), 2(4).

Mnjeja, L. E., Naho, A., & Mwonge, L. A. (2023). The Factors Influencing Manufacturers' Preference and Use of Electronic Tax Stamps (ETS) in Morogoro Region, Tanzania. *Open Journal of Social Sciences*, 11(10), 36–50.

Mohammed, F., Sanusi, S., & Azizan, S. (2022). Digital Knowledge and Tax Compliance in Developing Countries: A Conceptual Review. *Indian-Pacific Journal of Accounting and Finance*, 6(1).

Muhammad, I., Mohd Hasnu, N. N., & Ekins, P. (2021). Empirical research of public acceptance on environmental tax: A systematic literature review. *Environments*, 8(10), 109.

Mwesigye, B., & Kijjambu, F. N. (2024). Tax Education and Income Tax Filing Compliance among Small Taxpayers in Mbarara City. *American Journal of Accountin*g, 6(2), 1–19.

Occhiali, G., & Kalyango, F. (2023). Can tax agents support tax compliance in low-income countries? Evidence from Uganda. *Public Administration and Development*, 43(4), 269-279.

Pertiwi, A. R., Iqbal, S., & Baridwan, Z. (2020). Effect of fairness and knowledge on tax compliance for Micro, Small, and Medium Enterprises (MSMEs). *International Journal of Research in Business and Social Science*, 9(1), 143–150.

Ringle, C. M., Sarstedt, M., & Straub, D. W. (2012). Editor's comments: a critical look at the use of PLS-SEM in" MIS Quarterly". *MIS Quarterly*, iii–xiv.

Salindeho, V. A. (2021). *The Effect Of Tax Awareness, Tax Socialization, Tax Sanctions And Service Quality On Motor Vehicles Taxpayer Compliance (A Case Study At Kantor Bersama Samsat Karangploso)* (Doctoral dissertation, Universitas Brawijaya).

Slemrod, J. (2019). Tax compliance and enforcement. *Journal of Economic Literature*, 57(4), 904–954.

Susena, K. C., Simanjuntak, D. M., Fadillah, W., & Girsang, A. S. (2018). Business intelligence for evaluating loan collection performance at Bank. *2018 International Conference on Orange Technologies (ICOT)*, 1–6.

Therkildsen, O. (2004). Autonomous tax administration in sub-Saharan Africa: the case of the Uganda Revenue Authority. *Forum for Development Studies*, 31(1), 59–88.

Tusubira, F. N. (2023). The role of social norms in tax compliance behaviour of smes in emerging economies like uganda. *Advanced International Journal of Banking, Accounting and Finance (AIJBAF)*, 5(17).

Vardavas, R., Katkar, P., Parker, A. M., Aliyev, G. R., Graf, M., & Kumar, K. B. (2019). RAND's interdisciplinary behavioral and social science agent-based model of income tax evasion.

Wadesango, N., Mutema, A., Mhaka, C., & Wadesango, V. O. (2018). Tax compliance of small and medium enterprises through the self-assessment system: issues and challenges. *Academy of Accounting and Financial Studies Journal*, 22(3), 1–15.