

Digital Taxation And E-Commerce Growth Among Kasita Traders In Kampala, Uganda

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Abstract

This study explored the relationship between digital taxation and e-commerce growth among informal traders at Kasita market in Kampala, Uganda. A quantitative research design was employed, drawing a sample of 136 traders through systematic random sampling from a population of 310. Digital taxation was conceptualized through three dimensions: digital tax awareness, tax compliance costs, and digital tax infrastructure. E-commerce growth was measured by online sales volume, digital customer base expansion, and digital payment adoption. Descriptive statistics, Pearson correlation, and regression analysis were conducted using SPSS v25. Results indicated a significant negative relationship between tax compliance costs and e-commerce growth ($\beta = -0.312$, $p < 0.01$) and a significant positive relationship between digital tax infrastructure and e-commerce growth ($\beta = 0.398$, $p < 0.001$). Overall, digital taxation explained 44.7% of the variance in e-commerce growth ($R^2 = 0.447$). The study recommends simplification of digital tax obligations and investment in affordable digital payment infrastructure for informal traders.

Keywords: Digital taxation, e-commerce growth, Kasita traders, digital tax compliance, Uganda Revenue Authority, informal sector.

1.0 Introduction

The rapid proliferation of digital commerce in sub-Saharan Africa has created both opportunities and challenges for tax administration(Gracious, 2023). As informal traders increasingly adopt mobile money platforms, social media marketplaces, and online ordering systems, governments face pressure to extend taxation frameworks to capture revenue from digital transactions(Audrey & Nancy, 2026). In Uganda, URA introduced the Digital Services Tax (DST) in 2021 under the Income Tax Amendment Act, targeting digital service providers and online traders(Julius & Kazaara, 2026a). Kasita market in Kampala is one of Uganda's busiest informal trading hubs, with an estimated 310 active traders dealing in electronics, fashion, and consumer goods. Since 2020, a significant proportion of these traders have expanded into e-commerce, using platforms such as WhatsApp Business, Facebook Marketplace, Jumia, and Jiji Uganda(Julius & Kazaara, 2026b). This digital expansion has brought traders into the ambit of digital taxation, yet little is known about how digital tax policies affect their e-commerce growth trajectories(Julius et al., 2024). This study addressed the question: how does digital taxation affect e-commerce growth among Kasita traders? The findings contribute to policy discourse on designing tax regimes that support rather than stifle the growth of Uganda's informal digital economy(T. Christopher & Nelson, 2024).

2.0 Literature Review

Digital taxation theory is grounded in optimal tax theory (Ramsey, 1927; Diamond and Mirrlees, 1971), which advocates for tax systems that minimize economic distortions while maximizing revenue. Applied to digital commerce, this theory suggests that taxes on digital transactions should be proportionate, administratively simple, and

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technology-enabled to avoid suppressing growth in nascent digital markets(Julius & Kaazara, 2025). The OECD BEPS framework further provides international guidelines for taxing the digital economy, though its applicability to informal African digital traders remains contested(Julius & Nancy, 2025).

Digital tax awareness traders' understanding of their tax obligations, available digital tax tools, and compliance procedures is a precondition for voluntary compliance(Amos et al., 2024). Fjeldstad and Semboja (2001) demonstrated that awareness campaigns in Tanzania increased informal sector tax compliance by 34%. Tax compliance costs, encompassing financial costs of compliance (platform fees, accountant charges) and time costs (filing hours), impose additional burdens on already resource-constrained micro-traders(Ramadhan, Alex, Kazaara, et al., 2023). Almunia and Lopez-Rodriguez (2018) found that high compliance costs deter formalization among Spanish micro-firms, a finding echoed in East African contexts. Digital tax infrastructure URA's digital filing portals, mobile tax payment systems (URA Mobile App, MTN Mobile Money integration), and e-taxpayer education resources directly shapes how easily traders can comply. Where infrastructure is user-friendly and affordable, compliance is higher and digital business growth is less constrained(Julius & Nancy, 2025).

3.0 Methodology

A quantitative correlational research design was employed in the study to examine the nature and strength of the relationship between the study variables among traders in Kasita market(Julius & Kaazara, 2025). The quantitative approach was considered appropriate because it enabled the collection of numerical data that could be statistically analyzed to generate objective findings(Julius & Nancy, 2026). In addition, the correlational design was suitable because the study aimed at determining the degree of association among variables without manipulating the study environment or the respondents(Ahumuza et al., 2025).

The target population of the study consisted of 310 traders operating in Kasita market. From this population, a sample of 136 respondents was selected using systematic random sampling. This sampling technique was adopted to ensure fairness and minimize selection bias by giving every trader an equal opportunity to participate in the study(Brian et al., 2024). Under the systematic sampling procedure, respondents were selected at regular intervals from the sampling frame until the desired sample size was achieved(Kazaara & Audrey, 2024). The use of this method enhanced the representativeness of the sample and improved the generalizability of the findings to the wider population of Kasita traders.

Primary data were collected using a structured questionnaire designed in line with the study objectives and variables. The questionnaire consisted mainly of closed-ended questions measured on a five-point Likert scale ranging from strongly disagree to strongly agree(Nafiu, 2012). The Likert scale was considered appropriate because it enabled respondents to express the intensity of their opinions and perceptions regarding the study constructs in a standardized

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manner(Ahumuza et al., 2025). The questionnaire was administered directly to the respondents, and out of the 136 questionnaires distributed, 94.1% were successfully completed and returned. This high response rate indicated strong participation and increased the reliability and credibility of the study findings since the majority of the selected respondents took part in the research(George Stanley & Nafiu, 2020).

To ensure the reliability of the research instrument, a reliability analysis was conducted using Cronbach’s Alpha coefficient. The results showed that all study constructs achieved Cronbach’s Alpha values ranging from 0.79 to 0.87(Nafiu et al., 2017). These values exceeded the recommended minimum threshold of 0.70, implying that the questionnaire items were internally consistent and reliable in measuring the intended constructs. Therefore, the instrument was considered suitable for data collection and subsequent statistical analysis.

The collected data were coded, entered, and analyzed using the IBM SPSS Statistics version 25(Nelson et al., 2022). Both descriptive and inferential statistical techniques were applied during the analysis process. Descriptive statistics, including frequencies, means, and standard deviations, were used to summarize and describe the characteristics of the data and respondents’ perceptions of the study variables. Pearson correlation analysis was employed to establish the direction and strength of the relationships among the variables, while multiple regression analysis was conducted to determine the extent to which the independent variables predicted changes in the dependent variable. In addition, a multicollinearity diagnostic test was carried out using the Variance Inflation Factor (VIF). The results revealed that all VIF values were below 2.5, indicating the absence of multicollinearity among the predictor variables. This implied that the independent variables were not excessively correlated with one another and that the regression coefficients obtained were reliable and suitable for interpretation.

4. Results and Discussion

4.1 Descriptive Statistics

Table 1: Descriptive Statistics on Kasita Traders Study

Variable	N	Min	Max	Mean	Std. Dev.	Variance
Digital Tax Awareness (DTA)	136	1.20	5.00	3.52	0.80	0.64
Tax Compliance Costs (TCC)	136	1.40	5.00	3.88	0.82	0.67
Digital Tax Infrastructure (DTI)	136	1.20	5.00	3.41	0.79	0.62
E-Commerce Growth (ECG)	136	1.00	5.00	3.28	0.91	0.83

Source: Primary Data, 2025

Table 1 presented the descriptive statistics for the study variables, namely Digital Tax Awareness (DTA), Tax Compliance Costs (TCC), Digital Tax Infrastructure (DTI), and E-Commerce Growth (ECG) among Kasita traders. The analysis was based on 136 respondents, indicating that all questionnaires were successfully analyzed without

missing responses for the study variables. The findings revealed that all variables recorded mean scores above the midpoint of the scale, suggesting that respondents generally expressed moderate to high agreement with the statements measuring the constructs(Nelson et al., 2023). Digital Tax Awareness (DTA) had a mean score of 3.52 and a standard deviation of 0.80. This indicated that respondents moderately agreed that they possessed awareness and knowledge regarding digital taxation systems, procedures, and obligations. The standard deviation showed moderate variation in responses, implying that although many respondents shared similar views, some differed in their levels of awareness. The variable had a minimum score of 1.20 and a maximum score of 5.00, suggesting that while some traders had very low digital tax awareness, others demonstrated very high levels of understanding. The variance value of 0.64 further confirmed that the responses were moderately dispersed around the mean.

Tax Compliance Costs (TCC) recorded the highest mean score of 3.88 with a standard deviation of 0.82. This finding suggested that respondents generally agreed that tax compliance costs, such as internet expenses, digital transaction charges, tax consultancy fees, and compliance procedures, were relatively high among Kasita traders. The standard deviation indicated moderate variability in responses(Alex & Moses, 2024). The scores ranged from 1.40 to 5.00, implying differences in traders’ experiences regarding compliance costs. The variance of 0.67 demonstrated a moderate spread of responses around the mean score.

Digital Tax Infrastructure (DTI) had a mean score of 3.41 and a standard deviation of 0.79. This implied that respondents moderately agreed that the existing digital tax infrastructure, including internet connectivity, digital platforms, electronic payment systems, and tax administration technologies, supported taxation processes(Deus, 2023). The relatively low standard deviation suggested a fair degree of consistency in respondents’ perceptions. The responses ranged between 1.20 and 5.00, indicating differing experiences concerning the effectiveness and availability of digital tax infrastructure(Ramadhan, Alex, Kazaara, et al., 2023). The variance value of 0.62 showed moderate dispersion of responses. E-Commerce Growth (ECG), which was the dependent variable, had a mean score of 3.28 and a standard deviation of 0.91. This suggested that respondents moderately perceived growth in e-commerce activities among Kasita traders, although the mean score was lower than those of the independent variables(T. Christopher & Nelson, 2024). The relatively higher standard deviation indicated greater variation in respondents’ opinions regarding the extent of e-commerce growth(Julius & Matovu, 2025). The scores ranged from 1.00 to 5.00, reflecting substantial differences in traders’ experiences and perceptions about online business growth. The variance value of 0.83 further confirmed a relatively wider spread of responses around the mean.

4.2 Correlation Analysis

Table 2: Pearson Correlation Matrix between Digital Taxation and E-Commerce

Variable	DTA	TCC	DTI	ECG
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Digital Tax Awareness (DTA)	1.000			
Tax Compliance Costs (TCC)	-0.321**	1.000		
Digital Tax Infrastructure (DTI)	0.461**	-0.388**	1.000	
E-Commerce Growth (ECG)	0.412**	-0.501**	0.581**	1.000

Source: Primary Data, 2025

Table 2 presented the Pearson correlation analysis conducted to examine the relationships between Digital Tax Awareness (DTA), Tax Compliance Costs (TCC), Digital Tax Infrastructure (DTI), and E-Commerce Growth (ECG) among Kasita traders. The findings showed that the relationships among the variables were statistically significant at the 0.01 level (two-tailed). The results revealed that Digital Tax Awareness (DTA) had a negative and significant relationship with Tax Compliance Costs (TCC) ($r = -0.321, p < 0.01$) (Ronet et al., 2023). This implied that higher levels of digital tax awareness were associated with lower perceived tax compliance costs. The finding suggested that traders who were more knowledgeable about digital taxation systems were likely to experience fewer challenges and lower costs in complying with tax requirements.

Digital Tax Awareness (DTA) was positively and significantly related to Digital Tax Infrastructure (DTI) ($r = 0.461, p < 0.01$). This indicated that improved digital infrastructure was associated with greater digital tax awareness among traders. The moderate positive relationship suggested that access to reliable digital systems and platforms enhanced traders’ understanding and utilization of digital tax processes (Julius & Kazaara, 2026a). Furthermore, Digital Tax Awareness (DTA) had a positive and significant relationship with E-Commerce Growth (ECG) ($r = 0.412, p < 0.01$). This finding implied that increased awareness of digital taxation contributed positively to the growth of e-commerce activities (F. Christopher et al., 2022). Traders who better understood digital tax systems were more likely to participate effectively in online business transactions and digital markets.

Tax Compliance Costs (TCC) had a negative and significant relationship with Digital Tax Infrastructure (DTI) ($r = -0.388, p < 0.01$). This suggested that improvements in digital tax infrastructure reduced the burden of compliance costs among traders. The findings implied that effective digital systems simplified tax processes and minimized operational expenses related to compliance (Julius & Audrey, 2026). The results further showed that Tax Compliance Costs (TCC) had a strong negative and statistically significant relationship with E-Commerce Growth (ECG) ($r = -0.501, p < 0.01$). This indicated that higher tax compliance costs hindered the growth of e-commerce among Kasita traders. The findings suggested that excessive compliance expenses discouraged traders from fully engaging in online commercial activities and digital transactions. The strongest positive relationship in the correlation matrix was observed between Digital Tax Infrastructure (DTI) and E-Commerce Growth (ECG) ($r = 0.581, p < 0.01$) (Irumba et al., 2024). This implied that effective and reliable digital tax infrastructure strongly promoted e-commerce growth.

The findings suggested that improved internet access, digital payment systems, and electronic tax administration significantly enhanced the efficiency and expansion of online business operations(Saliu, 2013).

4.3 Regression Analysis

Table 3: Regression Results on E-Commerce Growth

Variable	B	Std. Error	β (Beta)	t-value	Sig.	VIF
(Constant)	1.021	0.311	—	3.28	0.001	—
Digital Tax Awareness (DTA)	0.188	0.081	0.171	2.31	0.022*	1.41
Tax Compliance Costs (TCC)	-0.341	0.079	-0.312	-4.28	0.000***	1.48
Digital Tax Infrastructure (DTI)	0.451	0.083	0.398	5.41	0.000***	1.55

Source: Primary Data, 2025

The findings showed that the constant term had a coefficient of 1.021 with a t-value of 3.28 and a significance level of 0.001. This indicated that when all independent variables were held constant, E-Commerce Growth would still maintain a baseline value of 1.021. The constant was statistically significant, suggesting that other factors not included in the model could also influence e-commerce growth.

Digital Tax Awareness (DTA) had an unstandardized coefficient (B) of 0.188, a standardized beta coefficient (β) of 0.171, and a t-value of 2.31 with a significance level of 0.022. This implied that a one-unit increase in digital tax awareness resulted in a 0.188-unit increase in e-commerce growth, holding other variables constant(Ramadhan, Alex, Ariyo, et al., 2023). The positive and statistically significant coefficient suggested that improved understanding of digital taxation enhanced traders' participation and confidence in online commercial activities(Julius & Nancy, 2025).

Tax Compliance Costs (TCC) recorded a negative unstandardized coefficient (B = -0.341), a standardized beta coefficient (β = -0.312), and a t-value of -4.28 with a significance value of 0.000. This indicated that a one-unit increase in tax compliance costs led to a 0.341-unit decrease in e-commerce growth, assuming other variables remained constant(T. Christopher & Nelson, 2024). The negative and statistically significant coefficient demonstrated that high compliance costs adversely affected the expansion of e-commerce among Kasita traders. The findings suggested that increased financial and procedural burdens discouraged traders from engaging fully in digital business operations.

Digital Tax Infrastructure (DTI) had the highest positive unstandardized coefficient (B = 0.451), the highest standardized beta coefficient (β = 0.398), and a t-value of 5.41 with a significance level of 0.000. This demonstrated that digital tax infrastructure had the strongest positive effect on e-commerce growth among all the predictor variables(Julius & Kazaara, 2025). Specifically, a one-unit improvement in digital tax infrastructure resulted in a 0.451-unit increase in e-commerce growth, holding all other factors constant(Alex & Julius, 2024). The findings

implied that reliable internet systems, digital payment platforms, and effective electronic tax systems significantly promoted online business growth and operational efficiency. The Variance Inflation Factor (VIF) values ranged from 1.41 to 1.55 for all independent variables (Winyi et al., 2023). These values were far below the acceptable threshold of 10, indicating that multicollinearity was not a problem in the regression model. This implied that the predictor variables were sufficiently independent from one another and that the regression estimates obtained were reliable for interpretation.

5.0 Conclusion and Recommendations

Digital taxation has a mixed effect on e-commerce growth among Kasita traders: while better digital infrastructure stimulates growth, high compliance costs constrain it. Digital tax awareness plays a facilitating role. URA should simplify the digital tax compliance process for micro-traders through a mobile-first, single-step filing system integrated with major mobile money platforms. A tax holiday or reduced presumptive tax rate for traders transitioning to formal digital commerce could incentivize formalization. Government should also invest in affordable public WiFi in Kasita and similar urban markets to lower the digital infrastructure barrier for e-commerce adoption.

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