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The Influence of Digital Audit Capability on Tax Compliance in Tanzania

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Abstract
The research evaluates the effects of digital audit capacity on tax compliance in Tanzania, focusing on challenges such as tax avoidance and administrative inefficiency. It applies the Task-Technology Fit Theory and Deterrence Theory in tax audit to examine the relationship between digital audit capability and tax compliance. The findings show that digital audit capability has significantly enhanced tax compliance through data integrity, security, and analytical capability. These features minimize misreporting, secure financial information, and build trust while uncovering predictive insights. The current study also has implications for tax policy by highlighting the promise of digital audit capability in enhancing both compliance and operational efficiency. Future research should focus on policy interventions and capacity-building strategies to optimise digital audit capability integration in tax administration.
Keywords: Digital Audit Capability, Data Integrity, Data security, Data analysis capability, Tax Audit, and Tax Compliance

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Background
Tax compliance has garnered attention from practitioners and researchers due to its significance in revenue collection and the improvement of tax administration efficiency. Most of this attention has been on tax compliance traits. Numerous studies have investigated traditional factors, yet limited research has focused on the impact of emerging technology on tax compliance (Mouha, 2021; Amran et al., 2023). According to Jacobs (2018), tax administration must respond adequately to new types of economic activities generated in this increasingly digital world. Understanding the effect of these modern technologies in tax administration is crucial to improving tax compliance efficiency, transparency, and adaptability (Sun et al., 2024).

Tax administration requires tax compliance to ensure tax law compliance, increase revenue, and promote economic stability (Feliciano & Quick, 2022). Tax pay and audit processes have operated manually in the past as a consequence of obsolete data acquisition approaches (Jacobs, 2018). Tax officials require digital technology in order to assure their tax audits are more accurate, efficient and reliable as transactions become increasingly complex (Tyaliti, 2023). An application of digital technology, such as big data analytics, has reduced tax evasion, increased transparency, and strengthened enforcement (Dai & Vasarheily,2023). Digital data offers enhanced control, interactivity, and ease of storage, display, transfer, and manipulation compared to analogue data (Brennen & Kreiss, 2016). An application of digital technology in tax auditing has increases digital audit capability, tax supervision, and tax compliance concurrently (Sharma & Giallanza, 2021; Guerreiro & Tussyadiah, 2021). Internet of Things innovations include automated data gathering and processing, saving human labour and improving audit efficiency (Salim & Handoko, 2024). Therefore, tax auditors can now consider how digital audit capability can support tax auditing in near real time, rather than capturing, examining, and analysing past transactions.

The use of digital audit capability, such as data integrity, data security, and data analysis capability in tax audits, has revolutionised tax compliance (Aslam et al., 2022). Digital audit capability leverages real-time digital data to minimize manual tax auditing and enhance accuracy in auditing processes (Meitasari & Manurung, 2023). Digital audit capability enhances data quality, data security, and analytic capacity of the tax auditing function contributes to improving tax compliance (Thottoli, 2024). The collection of real time data from diverse digital sources enhances the monitoring of tax compliance and offers advanced security measures to safeguard financial information (Garanina et al., 2022). Digitall data is more structured and organised, thus facilitating seamless integration with data analytics platforms and other tax audit systems (Sestino et al., 2020). Data analysis capabilities enhance predictive analytics, thereby reducing tax evasion through proactive tax enforcement (Han et al., 2023). Data analytics capability has transformed tax auditors' roles from examining business

transactions to a more strategic (Wahyuni, 2020). To integrate tax administration systemssmoothly with digital audit capability, legislators and regulators must address digital infrastructure, digital integrity, and data security issues (Tiberius & Hirth, 2019).

An Overview of Digital Audit Capability on Tax Compliance

Tax compliance represents the willing and ability of taxpayers to truthfully disclose income, calculate liabilities and pay within appropriate time (Ilori et al., 2024). Tax compliance make sure that taxes are paid correctly and in time, which in its turn leads to a predictable revenue base, a low budget deficit, and economic growth. Tax compliance encompasses the filing rate, timeliness, accuracy in tax payments, voluntary compliance, and the effectiveness of taxpayer education (Nurebo & Lekaw, 2019). Rates of tax filing indicate the share of taxpayers who file on time, while the timeliness of payment measures how long it takes businesses and individuals to pay (Wu, 2020). The veracity of tax returns is an indication of how consistently taxpayers report their incomes and transactions (Ilori et al., 2024).

In contrast, the voluntary compliance gauges the percentage of taxpayers who abide by a law without fear of enforcement (Sutisman et al., 2021). The effectiveness of taxpayer education reflects how well taxpayers understand their tax obligations (Mpofu, 2023). In emerging economies like Tanzania, where tax evasion and informal economic activity restrict revenue collection, competent tax audits can improve tax compliance (Mpofu, 2023).

Tanzanian tax audits have been ineffectual due to elevated operational costs and diminished audit coverage stemming from insufficient implementation of digital tax management (Mbise & Baseka, 2023). However, several steps to enhance tax enforcement through the application of tax auditing have shown promising results. The use of electronic fiscal devices (EFDs), mobile tax payments (M-Pesa), and other digital record-keeping, along with electronic online filing, has started to produce favorable results (Valerian, 2023). The continuous digitalization has rendered tax audits more efficient and transparent, facilitated real time data processing, and enhanced decision making (Mlowe, 2023). Furthermore, it is essential for preserving public confidence and ensuring audit compliance, particularly in emerging economies such as Tanzania, where data security is a significant worry.

Digital audit capability (DAC) offers significant potential to enhance the security, reliability, and analytical capability of tax audit, which allows an accurate, efficient, and data oriented auditing (Goncalves et al., 2022). DAC is a multi-dimensional phenomenon that consists of data integrity, data security and analytical capability . Integrating DAC into tax audit functions enhances tax authorities' capabilities in detecting irregularities, identifying fraudulent patterns, and improving tax compliance monitoring (Shapovalova et al., 2023).

Alshrouf (2019) claimed that DAC could help to enhance the enforcement capacity of tax administration and optimising tax collection. Tax auditing, which applies DAC to check compliance, has enhanced productivity and increased financial reporting transparency (Shapovalova et al., 2023). For the digital auditing capabilities of tax auditing systems, DAC has made it easier to obtain real-time data from financial transactions and operational activities (Abdullah & Almaqtari, 2024). Also, the use of cloud computing to store and retrieve large amounts of tax digital data has enabled the applicability of DAC in tax auditing (Aitkazinov, 2023).

Atayah and Alshater (2021) observe that while digital technologies improve tax audit efficiency and fraud detection, their usage is hindered by data privacy and security concerns. Data privacy, system integration and regulatory flexibility are some of the main challenges in the adoption of DAC, particularly in developing countries Herath & Yoo, 2024). Dealing with the above challenges is necessary in order to optimize the potential of DAC as a part of today's tax compliance process. DAC integration requires robust data security, legislative modifications, and substantial financial investment (Ilori et al., 2024). The applicability of DAC will boost tax audit efficiency, accountability, and cost savings for tax administrations worldwide.

Research Objectives

To examine the influence of Digital Audit Capability (comprising data integrity, data security, and data analytical capability) on tax compliance.

Literature Review

Theoretical Perspectives of the Study

Task-Technology Fit Theory, Digital Audit Capability, and Tax Compliance

The study of digital technology focuses on how it affects job performance, with the utilization and task-technology fit (TTF) models being key links (Fu et al., 2020). The utilization model suggests that increasing usage improves performance based on user attitudes, beliefs, and behaviors (Fit et al., 2022). Also, Keil et al. (1995) argued that task-technology fit is more significant than information system user interface. The TTF theory helps tax auditors to understand how digital audit capability can enhance tax compliance. Goodhue (1995) theory suggests that information systems tailored to specific tasks enhance performance, influenced by user interaction and technology effectiveness. The use of technology and job fit is right for an information system to enhance individual performance. The TTF theory was employed to examine the effect of integrated systems on tax audit effectiveness. Networked systems are technology applications and databases that permit various internal components of a company to talk to each other and exchange information (Soori et al., 2023). Tax agencies derive benefits from this capability provided by digital audit, resulting in improvements to tax compliance assessment (Lutfi & Alqudah, 2023; Thottoli, 2024). A strong compatibility among the data integrity, data security and analytical power is necessary for auditors to make tax audits more effective (Arshad et al., 2024). The TTF theory suggests that digital audit ability enhances tax compliance quality through more reliable and efficient audits, ultimately leading to better compliance outcomes (Abbas & Michael, 2022). However, the theory overlooks context and organization specific drivers such as resources, policy culture and political will (Fit et al., 2022). In Tanzania's public sector, audit performance may be hindered by inadequate infrastructure, bureaucratic inertia, and supervisors' digital literacy, which are crucial factors influencing technology task alignment (Komba, 2020). TTF provides a strong theoretical foundation for evaluating the alignment of technology features with task needs; however, future analyses should consider a broader range of organizational and environmental factors.

Deterrence Theory, Digital Audit Capability and Tax Compliance

According to Deterrence Theory as proposed by Allingham and Sandmo (1972), the rate of rule abidance among people is influenced by their perception of the severity of punishment and the probability attached to apprehension (Ayalew & Dar, 2014). The theory posits that increased perceived seriousness and probability of punishment for non-compliance correlate with a higher likelihood of adherence to regulations (Umar et al., 2019a). Deterrence Theory posits that the implementation of DAC-based auditing in tax audits can improve detection certainty, thereby promoting compliance (Almarri & Aljughaiman, 2024).

The implementation of real-time monitoring and automated compliance checks through digital audit capability enhances the difficulty for individuals to evade taxes, as their activities are consistently tracked and documented

Deterrence Theory faces criticisms for its limited emphasis on punishment and its presumption that taxpayers act rationally, evaluating compliance costs and benefits with penalties (Teka, 2023). It neglects additional factors, including ethical considerations and the influence of social norms on tax compliance. Despite those limitations, the crucial role of Deterrence Theory in this study is found to match well with the digital audit capability that can improve the monitoring process of tax compliance. Digital audit capability allows for the production of real-time data delivered on a continuous basis and provides a greater possibility to discover tax cheats more efficiently (Garanina et al., 2022). This progress is crucial for strengthening the deterrent effect, thereby affecting compliance with tax obligations on Tanzania's tax system (Komba, 2020).

Both theories in total provide strong evidence that digital audit capabilities matter for tax compliance. Both theories provide varying insights into the determinants involving digital audit capability relevance, tax auditing process effectiveness and tax compliance supervision, which are important in this study.

Empirical Review

Empirical Review and Formation of Hypotheses

The incorporation of digital technologies and data, such as digital audit technology, is impacting contemporary tax compliance & audit efficiency (Dung, 2024). These developments offer substantial benefits for data integrity, security, and analytic capacity (Aslam et al., 2022; Bhatti et al., 2022). The empirical investigations reviewed provide evidence about the effect of such technologies on tax compliance, revealing positive influence as well as negative effects. The tax compliance can only be achieved when the data integrity is

successfully acquired, even by such revenue bodies that deployed computer-assisted techniques to supervise and audit the financial statements (Bhatti et al., 2022).

Data integrity refers to the accuracy, consistency and completeness of financial and tax data maintained in digital audit systems (Salim & Handoko, 2024). The data is self-authenticating, and we have multiple visual audit trail records to ensure regulatory compliance, accountability (Valerian, 2023). Kotsogiannis et al. (2024) demonstrated that e-invoicing improves tax compliance through an increase in firms' net VAT payments. They also note that companies may engage in strategic over-reporting to influence margins and lower tax obligations. They suggest that improved data integrity strengthens compliance and facilitates tax avoidance strategies that require strong audit mechanisms.

Also, Lianu (2023) argued that the integration of AI and data integrity in auditing systems highlights that data-driven decision-making improves compliance and operational efficiency. The research revealed disparities in adoption and that businesses without digital capability could find it hard to report accurately, meaning less compliance. Rizvi et al. (2023) argue that business operations becoming digital integrated are growing; however, they point out that the traditional IT audit frameworks are not able to ensure enough regulatory compliance. Lack of dedicated auditing systems creates trust-related issues around the tax information presented by digital mediums that can affect compliance (Herath & Yoo, 2024). The result shows data integrity promotes transparency and tax compliance, but the absence of adequate regulatory frameworks may engender non-compliance.

Assurance in the quality of data provides reliability and tracking back in audit evidence, thus reducing errors made at checking and improving contact much accuracy of the contact (Nurebo & Lekaw, 2019). Data integrity can also reduce information asymmetry between tax auditors and taxpayers by achieving accurate economic effects (Han et al., 2023). It also helps locate mistakes and potential fraud. Data integrity enables tax authorities to detect tax fraud and tax evasion, process large datasets quickly, and make accurate determinations on tax compliance. Thus,

H1: Data integrity positively influences tax compliance.

The security of tax-related data is a significant issue as digital technologies are increasingly integrated into tax systems. Data security refers to the efficacy of digital audit systems in safeguarding sensitive tax information from unauthorized access, dissemination, or damage (Nembe et al., 2024**)**. Rizvi et al. (2023) have stated that an enterprise network handling tax-sensitive information needs to follow strict security regulations. They emphasize the lack of specialized requirements for data security, which makes tax data vulnerable to security breaches and unauthorized alterations (Ilori et al., 2024). Strong data security makes taxpayers trust the system more and lets tax auditors use digital platforms with confidence, which lowers the risk of losing or compromising data during audits ((Faúndez-Ugalde et al., 2020).

On the other hand, in the absence of strong security measures, digital tax compliance systems are vulnerable to compromise, which may result in data manipulation and fraud (Mandari & Koloseni, 2022). Farrasati (2020) investigated the integration of tax data via e-invoicing and revealed that the initiative enhanced compliance through improved supervision and transparency, yet it also generated concerns regarding taxpayer trust. Data security ensures encryption and regulatory adherence, thus increasing audit reliability and trust alterations (Ilori et al., 2024). Data security refers to the efficacy of digital audit systems in safeguarding sensitive tax information from unauthorized access, dissemination, or damage ((Faúndez-Ugalde et al., 2020). Excessive enforcement of tax compliance, disregarding data security threats, may lead enterprises to be reluctant to completely adopt digital tax systems. The study by Best et al. (2021) asserts that regulatory technology solutions utilise a digital audit system to enhance regulatory compliance. They warn that the efficacy of these technologies depends on their ability to safely gather and handle tax-related data without creating new risks. Digital technologies improve tax compliance through secure, automated processes, although cybersecurity deficiencies and trust issues can hinder compliance efforts due to weak cybersecurity frameworks (Herath & Yoo, 2024). Hence,

H2: Data security positively influences tax compliance.

Tax auditors could process large datasets, track any discrepancies, and enhance risk profiling with the ability of data analytics (Meitasari & Manurung, 2023). Data analytics capacity has opened wide opportunities for the tax administrators, such as to identify tax evasion, increase the efficiency and effectiveness in auditing of tax and improve the compliance level for taxes (Birt et al., 2017; Lutfi et al., 2022). Cloud-based machine learning algorithms and

Data analytics enable auditors to detect patterns linked with tax evasion and non-compliance (Ilori et al., 2024). The process of performing data analytics allows tax authorities can use data to predict through a model based on past behaviour and detect anomalies (Nembe et al., 2024). Advanced analytics is an important tool for tax compliance as it has been extolled for its capacity to detect tax fraud and make regulation more efficient (Elmaasrawy & Tawfik, 2024). The potential of being able to observe the financial performance enables tax auditors to shift towards permanent over periodic monitoring of disclosure with both higher deterrence and more direct control on submission behaviour (Samiolo et al., 2024). The real-time data acquisition and strong analysis capacity of a compliance watch are enhanced with these features to avoid other opportunities for tax evasion (Rizvi et al., 2023). Wahab and Bakar (2021) also provided their research, which showed that predictive analytics was found to be an influential factor for tax compliance in Malaysia's digital economy by using an ensemble classification method that accomplished 87.94% accuracy. Hidayat and Defitri (2024) advanced this perspective by identifying significant themes in digital tax transformation, such as technological complexity and emerging regulatory challenges. Etim, Jeremiah, and Dan (2020) study Nigeria's digital tax compliance, finding that digitalization leads to reduced compliance due to insufficient awareness and inadequate regulatory adjustments. It indicates that data analytical capabilities can enhance tax compliance via data-driven insights, but their effectiveness relies on appropriate implementation, taxpayer education, and regulatory adaptation. The usability of digital tools, taxpayer adaptation, and regulatory alignment with technological advancements influence the impact. Also, the application of data analytical capability facilitates the identification of tax irregularities, fraud patterns, and tax evasion (Elmaasrawy & Tawfik, 2024). Also, data analytical skills have helped tax officials set up electronic business activity tracking, which has cut down on tax fraud and indirect tax revenue loss even more (Jacobs, 2018). Thus,

H3: Data analytical capability positively influences tax compliance.

The empirical research suggests that digital audit capability may affect tax compliance, but it also shows its limitations. Tax compliance is enhanced by data integrity, data security and also the availability of data analytics, but these can be affected by regulatory frameworks, cybersecurity and taxpayer discretion. Digital audit capability promotes openness and audit efficiency, but it also introduces data manipulation, security vulnerabilities, and technical complexity related to compliance gaps. The studies indicated that benefits gained from digital audit capability could be realized through the integration of technology development with a strong regulatory framework, an efficient mechanism for cybersecurity and taxpayers' education.

Methodology

Research design and procedures

The study examines the influence of digital audit capability on tax compliance using a quantitative method (Saunders et al., 2019). It examines the relationship between data integrity, data security, and data analytics capability, considering strategic, operational, and regulatory elements and tax compliance (Bazanye, 2022).The study also uses an explanatory method to describe how digital audit capability promotes tax compliance, ensuring findings are trustworthy and beneficial for tax authorities (Creswell & Clark, 2017). The findings are based on quantitative validation, making the study a valuable resource for tax compliance professionals.

Sampling Techniques and Data Collection

The study uses simple random sampling to eliminate selection bias and ensure a representative sample (Kothari, 2017). Simple random sampling is a strategy that eliminates selection bias and generates a representative sample, improving generalizability and target population insights (Hair & Alamer, 2022). A semi-structured questionnaire and an online Kobo Toolbox questionnaire were used, with an email for distribution. Questions were made mandatory and precise, and respondents were encouraged to use respondent-friendly phrasing (Veerankutty et al., 2018). The study found that the 330 survey respondents were statistically sufficient to predict outcomes (Hair et al., 2019).

Data Analysis

This study utilises SEM along with PLS-SEM to examine the association between digital audit capabilities and tax compliance. PLS-SEM is able to predict indirect relationships, and it is less sensitive to small sample sizes as well as non-normal data distributions (Hair et al., 2014).

The outer model evaluation tests for construct reliability and validity, using factor loadings, Cronbach's alpha, composite reliability and average variance extracted (Hair et al., 2017). The inner model evaluation examines the relationships between independent and dependent variables using path coefficients, R^2 values, and effect sizes (f^2) (Hair & Alamer, 2022). SmartPLS 4 bootstraps hypothesis testing was also conducted to accept or reject hypotheses through binding from the t-values, P-values and confidence intervals of link significance (Hair & Alamer, 2022)

Findings

Profile of respondents

The analysis is based on a sample of expert tax professionals with 70% holding a university/college degree and 48% having more than 15 years of tax work experience, 60 a tax consultancy background, a quarter are auditors and 18% IT/analytics respectively. They are 47% expert level in data analytics, indicating they will be able to work with all of our advanced tools and help reduce tax evasion, enhance audit productivity, and strengthen tax compliance.

Table 1: Demographic profile of the respondents

Characteristics	Profile	Frequency	Percentage
Education	Diploma	48	15%
	Degree	231	70%
	Master	47	14%
	PhD	4	1%
Experience	Less than 5 years	12	4%
	6 to 10 years	61	18%
	11 to 15 years	98	30%
	above 15 years	159	48%
Respondent's Position/Role in Tax Administration	Tax Auditor	82	25%
	Tax Authority Manager	36	11%
	IT/Analytics Specialist in Tax Authority	59	18%
	Tax Consultant/Advisor	133	40%
	Other (specify)	20	6%
Level of Experience with Data Analytics	No knowledge	0	0%
	Basic knowledge	28	8%
	Moderate knowledge	71	22%
	Advanced knowledge	75	23%
	Expert level	156	47%

Descriptive Statistics

The study indicates a positive relationship of digital audit capability (data integrity, data security, and data analytical capability), on tax compliance. It underscores the significance of data integrity, data security, and data analytic capability, on tax compliance enhancement. Digital audit capability can also spot outliers in digital tax data, helping improve decision-making and find evasion. It creates more efficient and accurate tax reporting, which leads to better compliance

Questionnaire's Validity and Reliability

The validity and reliability of the questionnaires indicate that it is a feasible tool with correlation coefficients greater than 0.30 for all items, and values above 0.70 for all variables of Cronbach's alpha. These findings imply that indicators and measures are candidates for follow-up testing.

Measurement Model in PLS-SEM

The assessment of PLS-SEM path model results has to have a systematic strategy to validate reliability and construct validity, and theoretical significance (Hair & Alamer, 2022). The assessment often involves evaluating the direct correlation between measurement and structural models, as illustrated in Figure 1.

Table 2: Descriptive statistics

Indicator	Statement	Mean	Std dev	Excess kurtosis	Skewness
DIA-3	DAC-based audits ensure that tax-related data is consistently accurate and reliable.	3.797	0.999	0.572	-0.884
DIA-4	The use of DAC technology enhances the accuracy of data during tax audits.	3.903	0.98	1.053	-1.027
DIA-5	DAC helps prevent data manipulation or errors during tax reporting.	3.994	0.911	1.326	-1.074
DIA-6	DAC provides real-time data validation that ensures data integrity throughout the tax audit process.	3.782	0.944	0.273	-0.679
DIA-7	The reliability of data generated through DAC technology reduces inconsistencies in tax records.	3.912	0.928	1.139	-1.034
DIA-8	Data integrity is crucial for enhancing trust in the tax audit process.	3.906	0.891	1.235	-0.976
IAC-1	DAC enables the use of advanced analytics to identify tax compliance issues.	3.894	0.956	1.257	-1.084
IAC-2	The analytical capabilities help auditors detect patterns and anomalies in tax data.	3.709	0.938	0.432	-0.786
IAC-3	DAC offers powerful tools for analysing large volumes of tax-related data for better audit decisions.	3.579	0.925	0.386	-0.705
IAC-4	The integration of DAC in tax audits improves the ability to analyse historical and real-time tax data more efficiently.	3.703	0.882	0.677	-0.738
IAC-5	DAC analytics tools allow for precise predictions and estimations of tax liabilities.	3.518	0.964	0.028	-0.562
IAC-6	The use of advanced analytical models enhances the effectiveness of detecting tax evasion.	4.07	0.93	2.017	-1.297
IAC-7	DAC systems increase the accuracy of tax compliance predictions by incorporating real-time data analytics.	4.203	0.907	2.694	-1.49
IAS-4	DAC-based tax audit systems provide secure channels for transmitting sensitive tax information.	3.621	1.012	0.054	-0.581
IAS-5	DAC technology ensures that taxpayer data is protected from unauthorised access.	3.806	0.883	1.368	-0.961
IAS-6	Data encryption in DAC-based systems safeguards tax-related information from external threats.	3.724	0.867	0.827	-0.725
IAS-8	DAC-based audit tools have built-in security measures that protect the integrity of tax records.	3.655	0.857	0.699	-0.632
TA-1	The use of DAC-based audits promotes higher levels of tax compliance among taxpayers.	3.5	0.979	-0.039	-0.593
TA-2	DAC technology improves the overall efficiency of tax audits, leading to better compliance with tax regulations.	3.567	0.893	0.081	-0.471
TA-3	The use of real-time data through DAC-based audits ensures that tax obligations are met more accurately and promptly.	3.797	0.793	1.02	-0.794
TA-4	DAC systems increase the transparency of tax audits, fostering greater taxpayer compliance.	3.773	0.881	0.716	-0.769
TA-5	Tax compliance is improved through the integration of DAC systems that ensure accurate tax reporting.	3.6	0.855	0.422	-0.533
TA-6	DAC-based audits provide actionable insights that help improve tax compliance strategies.	3.821	0.909	1.189	-0.978
TA-7	The enhanced efficiency and security of DAC audits contribute to improved compliance with tax rules and regulations.	3.6	0.936	0.681	-0.793

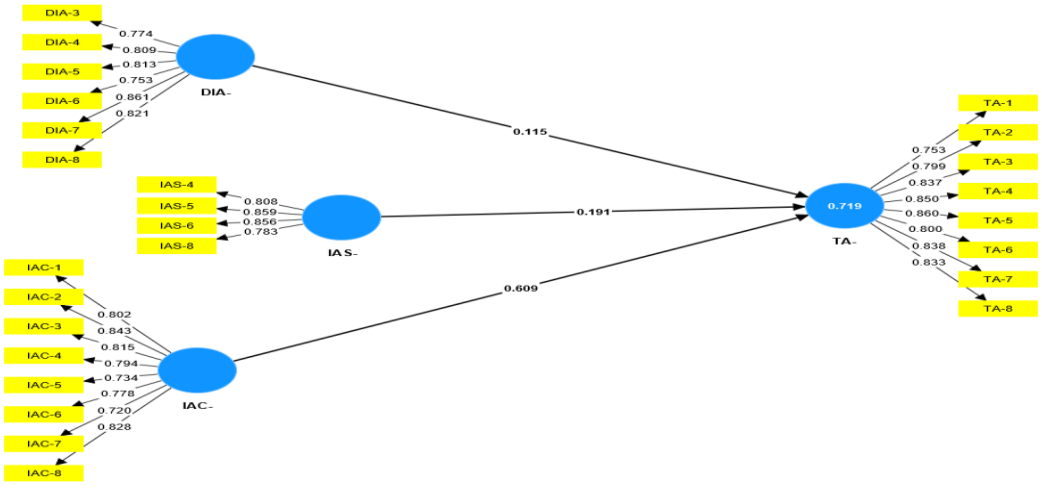


Figure 1: Measurement Model

Factor Loading

Reflective measuring techniques evaluate the links between latent variables and observable indicators using outer loadings. The construct must exclude indications with outer loadings less than 0.40 (Hair and Sarstedt, 2013). The study indicates that factor loadings demonstrate that items effectively measure their constructs and significantly enhance the measurement model, hence establishing its convergent validity. Item-construct association, the factor loadings are between 0.72 to 0.861. Hair and Sarstedt, (2013) argument regarding item factor loading greater than 0.50 validates the high level of convergent validity.

Table 3: Factor Loading and Composite Reliability

Indicator	DIA	IAC	IAS	TA	VIF
DIA-3	0.774				2.011
DIA-4	0.809				2.254
DIA-5	0.813				2.154
DIA-6	0.753				1.847
DIA-7	0.861				2.692
DIA-8	0.821				2.182
IAC-1		0.802			2.31
IAC-2		0.843			3.113
IAC-3		0.815			2.85
IAC-4		0.794			2.367
IAC-5		0.734			1.959
IAC-6		0.778			3.082
IAC-7		0.72			2.872
IAC-8		0.828			2.456
IAS-4			0.808		1.855
IAS-5			0.859		2.181
IAS-6			0.856		2.171
IAS-8			0.783		1.652
TA-1				0.753	1.912
TA-2				0.799	2.201
TA-3				0.837	2.867
TA-4				0.85	3.123
TA-5				0.86	3.137
TA-6				0.8	2.45
TA-7				0.838	2.684
TA-8				0.833	2.709

Validity and Reliability

The study's validity and reliability assessments demonstrate robust internal consistency and dependability across all dimensions. The Cronbach's alpha scores range from 0.846 to 0.931, indicating a high degree of relationship among items for each construct. Rho_a ranges from 0.850 to 0.931, therefore indicating internal consistency. Composite reliabilities in a range of 0.896 to 0.943 also show strong reliability. AVE values range from 0.625 to 0.684, demonstrating that the constructs capture satisfactory shared variance. The study demonstrates good internal consistency, reliability, and convergent validity; all measures appear to operate in the acceptable range, thus supporting the constructs' reliability and validity.

Table 4: Validity and Reliability for Constructs

Variable	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
DIA-	0.892	0.894	0.917	0.649
IAC-	0.914	0.917	0.930	0.625
IAS-	0.846	0.850	0.896	0.684
TA-	0.931	0.931	0.943	0.676

Discriminant Validity-HTMT

Discriminant Validity (HTMT) is a crucial component of statistical analysis that examines the differences between various model latent variables or constructs (Henseler et al., 2015). HTMT values below 0.85 or 0.90 indicate discriminant validity, while high values suggest poor discriminant validity (Hair et al., 2017). The criteria for HTMT differ based on the situation and the rigour of the requirements within the area. In behavioral sciences, 0.85 is normal, while marketing research and other fields may accept 0.90 (Henseler et al., 2015). From Table 5, the highest HTMT value for TA and IAC is 0.895, indicating a strong connection between the two concepts, but still within the acceptable range for related constructs (Hair et al., 2017).

Table 5: Discriminant Validity

Variable	DIA-	IAC-	IAS-	TA-
DIA-				
IAC-	0.733			
IAS-	0.747	0.862		
TA-	0.704	0.895	0.822	

Structural Model in PLS-SEM

Following the validation of the construct measures for reliability and validity, the subsequent stage is to assess the outcomes of the structural model (inner model).

Presentation of Results

Table 6 displays the results obtained from the PLS-SEM. The results indicate a possible favorable relationship between data integrity and tax compliance. There is a small positive coefficient (β + = 0.115), which has enough statistical significance (p = 0.026) to hypothesize some effect on tax compliance due to data integrity issues. It means the path coefficient derived from the model is stable and reliable across all data files when the standard deviation is 0.052. The T-statistic is 2.225, which is indeed much larger than the critical threshold of, say, 1.96 we would use for a confidence level of 95%. With an effect size (f^2) of 0.113, IAS has a moderate impact on the general model, which means that although it is relevant, DIA affects more than IAS. Therefore, the first hypothesis confirms that data integrity influences tax compliance.

The second hypothesis suggests that there is are relationship between the security of data and compliance with the tax laws. A positive (β + = 0.191) and very significant (p = 0.001) coefficient indicates that digital audit capability and greater data security are helpful to tax compliance. The 0.056 standard deviation could conversely be interpreted as indicating that the estimated path coefficient is stable and reliable across all datasets. The high T statistic of 11.721 indicates a very statistical significant relationship and makes the possibility that this relationship could have occurred by chance remote. The effect size, which was (f^2 = 0.039), is small, implying that there is some contribution to the variance of the total model but not dominance, as finally, IAS is an additional predictive factor having the least influence among other reasons.

Furthermore, the data analysis results also indicated a positive association between analytical skill and tax compliance. A positive coefficient (β + = 0.609) and a significant, strong correlation (p = 0.000) suggest that improved ability to analyze significantly supports tax compliance. The reliability of the path coefficient has been proved as the standard deviation of 0.052, which is low, considering it over the entire sample. This T-stat result of 11.721 is far above the critical value, which is typically 1.96 at a 95% confidence level. A high T-statistic indicates that the relationship is strongly significant, i.e., the probability of correlation happening randomly is very small. Again, we have an effect size (f^2 = 0.052), which suggests some prominence around and after reaching significance, indicating that analytical ability might very well be helpful for the model to become a lot more explanatory. These study results are consistence with other studies, such as those which demonstrate that the digital audit capability substantially affects tax compliance. The second hypothesis suggests that there is relationship between the security of data and compliance with the tax laws. A positive (β + = 0.191) and very significant (p = 0.001) coefficient indicates that digital audit capability and greater data security are helpful to tax compliance.

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Furthermore, the data analysis results also indicated a positive association between analytical skill and tax compliance. A positive coefficient (β + = 0.609) and a significant, strong correlation ($p<0.001$) suggest that improved ability to analyze significantly supports tax compliance. The reliability of the path coefficient has been proved as the standard deviation of 0.052, which is low, considering it over the entire sample. This T-stat result of 11.721 is far above the critical value, which is typically 1.96 at a 95% confidence level. A high T-statistic indicates that the relationship is strongly significant, ie, the probability of correlation happening randomly is very small. Again, we have an effect size (f^2 = 0.052), which suggests some prominence around and after reaching significance, indicating that analytical ability might very well be helpful for the model to become a lot more explanatory. These study results are consistence with other studies, such as those which demonstrate that the digital audit capability substantially affects tax compliance.

Table 6: SEM Estimation – Direct Effect Model

Path	Original sample (M)	Standard deviation	T statistics	P values	f2	R^2
DIA -> TA-	0.115	0.052	2.225	0.026	0.113	
IAC -> TA-	0.609	0.052	11.721	0.000	0.115	0.719
IAS -> TA-	0.191	0.056	3.412	0.001	0.039	

Coefficient of Determination

The coefficient of determination functions as a measure of the model's predictive capability and the correlation between constructs (Hair et al., 2017). The R-squared value for the construct of digital audit capability, as shown in Table 6 above, is 0.719, indicating how well both constructs can predict the outcome (Hair & Alamer, 2022). The data integrity, enhanced data security, and analytical capabilities of digital audit capability contributeabout 71.9% to the variance in tax compliance, while factors outside the study's scope influence the remaining 28.9%.

Predictive Relevance Results

The blindfolding process assesses the prediction validity of the path model, yielding Stone-Geisser's Q2 value (Hair et al., 2017). The predictive relevance of the endogenous construct is validated when Q2 surpasses 0; conversely, values of 0 or below indicate a deficiency in predictive importance (Hair & Alamer, 2022). This research uses the cross-validated redundancy approach to evaluate the Q2 of the endogenous construct. Table 7 reveals that the Q2 value of the DAC-based audit in tax compliance is 0.493, which exceeds 0, indicating that the model has predictive significance for the endogenous latent variable of digital audit capability in tax compliance.

Table 7: Q-Square to Assess the Quality of the Structural Model

Variable	Q^2
TA	0.493
DIA	0
IAS	0
IAC	0

Discussion of Findings

The hypothesis testing results underline a significant incremental effect of data integrity (DIA) on tax compliance. It underscores the importance of protecting accurate and reliable data on tax audits, since it ensures that firms meet obligations in terms of taxation. "Maintaining data integrity improves the accuracy of our tax audit reporting, reduces errors and helps to ensure compliance with tax laws. This result highlights the importance of strong data management and validation when using digital auditing in an effort to reduce widespread tax cheating. It is in line with Nofel (2024), who highlights the revolution of digital auditing systems, especially

on real-time data capture, automation and improvement to data integrity despite challenges such as system complexity and user adoption.

Increased data security via IAS can be a powerful facilitator of better tax compliance. Secureness in the digital audit system is important to secure the sensitive financial data, prevent unauthorized access and decrease data tampering. The electronic audit analysis system further provides a means for ensuring the integrity and confidentiality of data, which in turn increases the accuracy of tax reporting and compliance. Sufficient data protection in a digital auditing system facilitates trust in the auditing process, reduces fraud risk and uses the tax of organizations more effectively. This result is in line with the study of Das et.,(2023), which indicates the significance of data security for protecting financial details and satisfying tax laws.

Furthermore, the analytical capability (IAC) was identified as a statistically significant factor affecting tax compliance. The study provides evidence that digital audit capability facilitates more complex data analysis and computer-assisted processing, as a result increasing efficiency and accuracy in tax audit. A computerized audit system allows for real-time analysis of data, and predictive analytics allow auditors to more precisely identify potential compliance issues and drive better compliance with tax laws. Analytical capability promotes informed decision-making, thereby improving the assurance level in tax compliance. This result is consistent with Kweh (2022), which demonstrates that innovative capabilities, such as digital driven analytics, increase operational efficiency and improve firm performance.

Conclusion

The study reports a direct effect of digital audit capability on tax compliance through the following important roles: data integrity, data security and the analytical capability. For one, data integrity is key to accurate reporting, minimizing mistakes and maintaining tax law compliance. Strong data management and verification are key to successful implementation, building trust and responsibility. Yet the study suggests that increasing complexity may ultimately inhibit compliance if taxpayers have difficulty adapting to new technologies.

Second, the ability to conduct digital audits improved security procedures significantly, and unauthorized access was much less common and financial data was protected. It enhances the audit process's reliability by protecting data security and true processing. Strong security ensures a more efficient tax compliance, minimizes fraud, as well as builds system trust.

Third, digital audit capability offers advanced analytical capabilities that significantly improve tax compliance. It offers real-time analytics and predictive intelligence, helping auditors to identify possible exceptions accurately. It improves the efficiency and effectiveness of tax audits, informed decision-making, as well as certainty in the tax compliance process. However, the study does indicate that people with high levels of analytical thinking may not necessarily comply, reiterating the importance of training and easily manageable analytical methods for successful use.

Implication and Contribution

The findings have implications for the role of survey measures intended to assess the beneficial value of a digital audit capability in enhancing data integrity, security and analytic capability. It recommends that the Tanzania Revenue Authority have holistic plans for implementing a computerized audit system that accommodate investment in technology, staff capacity building and strong data managing arrangements. Consequently, this paper contributes to the Task-Technology Fit and Deterrence Theory in tax audits by suggesting that utilising digital auditing systems reduces information asymmetry, increases user acceptance and accommodates risk-based auditing and deterrence in tax compliance. Further research could consider incorporating these theories with other advances in auditing technology. Longitudinal analyses could enhance the potential of exploring long-term consequences of digital audit capability on tax compliance, for a complete picture of how they progress through time.

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