Determinants of Electronic Tax Invoice Adaption among SMEs in Embakasi Sub-County, Nairobi County

Risper Ouso, Philip Bii and Peter Mwai

Moi University

DOI: https://dx.doi.org/10.47772/IJRISS.2025.905000128

Received: 27 April 2025; Accepted: 02 May 2025; Published: 03 June 2025

ABSTRACT

The purpose of this study was to examine the effect of perceived benefit, perceived security, and relational trust on the adoption of electronic tax invoices among small and medium enterprises (SMEs) in Kenya. The study was guided by the Innovation Diffusion Theory, the Technology Acceptance and Use of Technology Theory, and the Standard Economic Theory. An explanatory research design was adopted, targeting a population of 859 SMEs operating in Embakasi Sub-County. A sample size of 273 SMEs was selected using stratified and simple random sampling techniques. Primary data were collected through semi-structured questionnaires and analyzed using descriptive statistics and inferential methods, including regression analysis. The results showed that perceived benefit, perceived security, and relational trust all had significant and positive effects on the adoption of electronic tax invoices. The study concludes that technological readiness among SMEs enhances the positive influence of these factors on e-tax invoice adoption. These findings support the Technology Acceptance and Use Theory by demonstrating the importance of intention to use technology, and align with the Innovation Diffusion Theory by showing how perceived advantages, trust, and security drive adoption. The study recommends that SME management prioritize these factors when implementing e-tax invoicing, while policymakers should develop supportive legal frameworks and invest in infrastructure and human capacity to facilitate technology adoption.

Key words: perceived benefit, perceived security, rational trust, electronic tax invoice

INTRODUCTION

The discourse on the adoption of e-invoices, particularly in developing countries, has gained traction among scholars, practitioners and regulators. Recently, tax authorities in the world have been under pressure to adopt advanced information technology over the internet into their tax system processes (Shim & Song, 2016). However, the tax authorities have faced significant challenges in implementing such technologies because taxpayers do not feel comfortable with readily capturing their incomes by the system. Despite this attitude, most countries especially in the developing contexts have realized the need to implement key information technologies such as electronic invoicing (e-invoicing) with an aim to raise revenue that largely supports government activities.

Electronic invoicing is an information system service that is used to collect transaction information and transfer that information via the internet (Hernandez-Ortega, 2012). With the rapid introduction of e-commerce and the digital economy, e-invoicing plays a key role in maintaining business information throughout the entire supply chain (Chang et al., 2013). With regard to the tax administration, electronic tax invoice is defined as a type of invoice that is created and transmitted electronically, using technology such as computers, software, and the internet (Cuong, Thao & Linh, 2023). Cuong, Thao & Linh, (2023) further argued that adopting electronic tax invoicing increases operations efficiency, reduce costs, improve tax compliance and enhance their overall

financial performance. Similarly, e-tax invoice adoption will help the tax authorities to strengthen the inspection of tax declarations, tax payments, and tax refunds of firms (Nguyen et al., 2020). Thus, e-tax invoicing is a critical research area that needs an in-depth understanding.

A review of the previous work shows that adoption of e-tax invoice is largely influenced by varied factors. One stream of scholars in Nigerian small firms argued that adoption of e-tax invoice is a function of the technological infrastructure, perceived utility, perceived simplicity of use, perceived risk, government backing, and tax authority enforcement (Nwokah et al., 2019). In Tanzania, the success of the e-tax invoicing is attributed to technology infrastructure, access to training and support, sound government policies and regulations as well as stakeholder involvements such as tax authorities and business associations (Komba & Lema, 2019). Further, a study in Korea shows that identified that establishing a free website for small-sized taxpayers and providing various issuing systems for diverse taxpayers are critical for its success (Shim & Song, 2016).

Evident from the other research studies, no study particularly from an emerging economy, that has examined the determinants of e-tax invoicing. Previous work has focused on the effect of the e-tax invoice on outcomes such as tax compliance processes, and transparency of business transactions and taxpayer services (Lee, 2016; Susilo, 2022). The closest work sought to establish factors influencing e-invoice adoption (Qi & Che Azmi, 2021), but did not examine specifically on the determinants of e-tax invoice and whether technology readiness as a potential moderator in the relationship. Thus, the purpose of the current study is twofold; the first objective is to examine the factors that influence the adoption of electronic tax invoices, and the second objective is to examine the moderating role technology readiness.

Lee (2016) showed that electronic tax invoices provide tax authorities with powerful tools to integrate the tax information provided by taxpayers with effective, transparent and trusted services and ultimately enhance the tax management process overall. Thus, companies are more likely to adopt e-tax invoices in the management of tax. Fu et al. (2006) also suggested that people may not consider adopting a system if they perceive that the e-government system lacks good security features. Thus, if the company perceives that the process of adopting electronic tax invoice offers better security, then that it will be more willing to adopt it. In addition, Hart and Saunders (1997) believed that the adoption of electronic tax invoicing requires resources and changes in each organization’s routine processes. Hence, if a company has a high degree of trust in e-government, that company will be more willing to adopt electronic tax invoicing to automate its business processes with tax authorities. Even though these factors have been empirically tested, the results are inconclusive and inconsistent; hence further probe is inevitable especially in developing contexts with different states of technology.

With the adoption of e-tax invoice, instant access and processing of digital information by tax authorities can increase the vigilance of taxpayers for the possibility of auditing, thereby reducing non-compliance for tax returns and improving tax refund requirements (Qi & Che Azmi, 2021). The main source of revenue for the government's development initiatives and recurrent expenditure is taxation. KRA's overall revenue performance was Kshs. 4,849.3 billion compared to the 7th Corporate Plan objective of Kshs. 4,899.3 billion, resulting in a Kshs. 50 billion shortfalls. Small and medium-sized businesses (SMEs) have low tax compliance rates, and KRA has had trouble collecting VAT. Countries around the world are leveraging technology to increase revenue collection, decrease fraud, and improve taxation efficiency, so is Kenya. Through TIMS, KRA will be able to facilitate the electronic tax invoice management by; standardization, validation and transformation of invoices to KRA on a real time or near real time basis. The Electronic Tax Invoice Management System (TIMS) was supposed to go into effect on August 1, 2022, but because so few taxpayers, especially small and medium-sized enterprises, have embraced TIMS, the deadline has already been pushed back three times.

Some global adopters of Electronic Tax Registers include Rwanda, Hungary, Belgium, Canada, Sweden and Austria. A fiscal control unit was installed with electronic cash registers in Hungary. In the affected sectors, VAT income rose by 15% following the first year of operation (Deloitte, August 2019). In 2017, Rwanda introduced electronic tax registers and since then, Rwanda has seen a 48% increase in VAT collections. By December 2022, 94% of major enterprises—those with yearly sales of over Sh1.3 billion—had acquired electronic invoices and linked with the Tax Invoice Management System (TIMS), the authority's system, while 82% of medium-sized businesses had already attained compliance, according to KRA. The Kenya Revenue Authority (KRA) anticipated a revenue shortfall, as evidenced by the fact that only 43% of Kenya's SMEs with an annual turnover

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

of less than 200 million were compliant with the new internet-enabled tax registers (ETRs). This ultimately cost the taxman billions of shillings in value-added tax. There is not much information available about the TIMS's adoption in Kenya or the variables that could affect how it is implemented. Based on this evaluation, there is a gap in literature hence this study intends to find out the answer to the research question that; will perceived benefit, perceived security and technology readiness affect the successful adoption of the TIMS?

LITERATURE REVIEW

Perceived Benefit and Electronic Tax Invoice Adoption

In both developed and developing nations, e-tax systems are now a crucial component of tax administration. Nonetheless, small and medium-sized businesses (SMEs) in developing nations continue to implement e-tax systems at a relatively low rate. In their 2018 study, Shah, Jaffari, and Hussain examined the variables of perceived utility, perceived ease of use, perceived trustworthiness, and perceived risk as the main drivers of SMEs' inclination to implement e-tax in Pakistan. According to the findings of a survey performed on 349 SMEs, these four variables significantly increased the intention of SMEs to implement e-taxation. To be more precise, perceived utility was determined to be the most significant factor, and was followed by perceived danger, perceived credibility, and perceived simplicity of use. The study also discovered that perceived utility acted as a mediating factor between perceived ease of use and e-tax adoption intention. The results of this study offer guidance to developing country tax authorities and policymakers on how to create e-tax systems that are practical, believable, and easy to use in order to promote adoption among SMEs.

Wahyuni and Suhardi (2020) looked into how small and medium-sized businesses (SMEs) in Indonesia adopted e-tax systems and the importance of perceived security, usefulness, and convenience of use. The intention to implement e-tax systems was significantly positively impacted by all three elements, according to the results of a survey that was completed by 120 SMEs. More specifically, perceived security and simplicity of use were revealed to be secondary factors, with perceived utility emerging as the most significant influence. The study also discovered that perceived utility acted as a partial mediating factor between perceived ease of use and the intention to adopt e-tax systems. The results of this study offer guidance to Indonesian tax authorities and policymakers on how to create secure, practical, and user-friendly e-tax systems that will promote adoption among SMEs.

The adoption of electronic tax filing, or e-filing, by small and medium-sized firms (SMEs) in South Korea was examined by Lee and Kim (2019). According to the findings of a study given to 219 SMEs, adoption intention for e-filing was significantly influenced by perceived utility and convenience of use. Perceived compatibility, perceived trust, and perceived government assistance were also found to have favorable effects on the intention to embrace electronic filings. The study also discovered that perceived usefulness acted as a partial mediating factor in the association between perceived ease of use and e-filing adoption intention. The results of this study offer guidance to South Korean tax authorities and policymakers on how to create e-filing systems that are user-friendly, practical, reliable, and compatible to promote adoption among SMEs.

Electronic tax (e-tax) is an electronic filing and payment system for taxes. The Malaysian government has implemented the e-tax system to increase efficiency, effectiveness, and transparency in tax administration. Small and medium-sized businesses (SMEs) in Malaysia have yet to embrace e-tax, nonetheless. The conceptual model proposed in this study by Rosli, Yusof, Ahmad, and Shafie (2018) investigated the factors that influence Malaysian SMEs' adoption of e-taxation. Perceived utility, perceived ease of use, perceived danger, perceived trust, and perceived government backing are the five components that make up the model. The moderating influence of organizational size on the connection between perceived usefulness and adoption of e-tax is also included in the model. The conceptual model offers a framework for upcoming empirical studies to investigate the variables affecting Malaysian SMEs' adoption of e-tax. The findings of this study may help tax authorities and policymakers in Malaysia to design e-tax systems that are user-friendly, secure, and supported to encourage adoption among SMEs.

H_{O1}: Perceived benefit has significant effect on the adaption to electronic tax invoice

Perceived Security and Electronic Tax Invoice Adoption

Electronic tax filing (ETF) use has grown in importance for small and medium-sized businesses (SMEs). But little is known about the factors that influence SMEs' propensity to use exchange-traded funds. Shen, Wu, and Lin (2020) investigated the variables influencing SMEs' propensity for ETF adoption. The trust-based model and the technology acceptance model (TAM) served as the foundation for the development of the research model. A total of 230 valid responses were gathered from a survey that was administered to SMEs in Taiwan. The findings indicate that the desire of SMEs to adopt ETF is highly influenced by perceived ease of use (PEOU), perceived usefulness (PU), perceived risk, and trust. Moreover, it was discovered that the association between PEOU, PU, perceived risk, and ETF intention was mediated by trust. This study helps SMEs understand the elements influencing their decision-making processes when considering ETF adoption, and it offers useful insights for policymakers and tax authorities to improve SMEs' adoption of ETFs.

The relationship between small and medium-sized businesses' (SMEs) perceptions of security and trust regarding the adoption of electronic tax invoicing (ETI) by SMEs in Saudi Arabia was investigated by Almutairi, Qureshi, and Baabdullah (2019). A sample of 175 Saudi Arabian SMEs was chosen for the study using the stratified random selection technique. Structured survey instruments were used to gather data, and structural equation modeling was used to evaluate the results. According to the study's findings, Saudi Arabian SMEs' adoption of ETI is favorably correlated with their perception of security. The study also discovered that the relationship between SMEs' adoption of ETI and their perception of security is mediated by trust. Additionally, the findings show that the relationship between perceived security and trust regarding SMEs' adoption of ETI is moderated by the perceived usefulness of ETI. The results of this study can aid in the development of strategies to promote ETI adoption among SMEs and aid policymakers and tax authorities in Saudi Arabia in better understanding the factors influencing SMEs' adoption of ETI.

Park, Yoon, and Park (2020) conducted research to find out what aspects small and medium-sized businesses (SMEs) in South Korea consider important when deciding whether to implement electronic tax invoice (e-Tax) systems. To accomplish this goal, a survey of 326 SMEs was carried out and a research model incorporating the diffusion of innovation (DOI) theory, and the technological acceptance model (TAM) was created. The findings demonstrated the strong influence that compatibility, observability, perceived usefulness, and perceived simplicity of use had on SMEs' adoption of e-Tax systems. Relative advantage and complexity, however, were shown to have no appreciable impact. Additionally, the results demonstrated that adoption was significantly impacted directly by perceived usefulness, and indirectly by perceived compatibility, convenience of use, and observability. Considering the findings, several suggestions are made to legislators and vendors of electronic tax systems to promote SMEs' use of electronic tax systems.

H_{O2}: Perceived security has significant effect on the adaption to electronic tax invoice

Relational Trust and Electronic Tax Invoice Adoption

It is widely acknowledged that concerns about justice and legitimacy have an impact on confidence in authorities in a number of contexts, including: (i) voluntary adherence to their standards and demands (Levi, 1998; Levi and Stoker, 2000; Rothstein, 2005, 2009; Rothstein and Teorell 2008); (ii) tax compliance (Frey and Feld, 2002; Murphy, 2004; Alm and Martinez-Vazquez, 2007; Feld and Frey, 2007); (iii) law enforcement (Sunshine and Tyler, 2003); and (iv) collaboration with authorities (De Cremer and Tyler, 2007).

In the same manner as consuming commodities and services raises human value, economists have begun to investigate whether procedural justice is a source of satisfaction for individuals (Frey et al., 2004; Frey and Stutzer, 2005). The experimental finding that granting taxpayers the right to vote increases tax compliance may be explained by their need for justice (Alm et al., 1993, 1999; Feld and Tyran, 2002; Wahl et al. 2010). We must acknowledge that people most likely do not view government institutions as a single, monolithic entity to comprehend where trust is formed. When examining whether people trust government institutions equally, Rothstein and Stolle's (2008) factor analysis found that there are two distinct aspects of institutional trust. The government, political parties, and parliaments are examples of input-side institutions.

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

On the other hand, the police, the army, and legal institutions are examples of output-side institutions, and they load on a different dimension. The results of a second research that used Sweden's SOM poll were comparable. The slippery slope framework was established by Kirchler (2007) and Kirchler, Hoelzl, and Wahl (2008) to ascertain the connection between tax authorities and taxpayers. This concept focuses on trust and power as potential determinants of tax compliance behavior. The ability of tax authorities to regulate taxpayer conduct through penalties and tax audits is referred to as power. Legitimate power and coercive power are the two categories of power (Turner 2005; Kastlunger, Lozza, Kirchler, & Schabmann 2013). Conversely, trust refers to the trust-based relationship that exists between tax authorities and taxpayers.

According to Kastlunger et al. (2013), there is a perception of increased compliance when taxpayers have a high degree of trust in tax authorities. According to research by Wahl, Kastlunger, Kirchler (2010) and Kastlunger et al. (2013), trust and power may have an impact on tax compliance. The results of this research indicated that tax compliance would be improved by a high degree of faith in tax authority and power. According to Kirchler's 2007 classification, trust and power are positively and significantly correlated with increased tax compliance. He explained the differences between compulsory and voluntary tax compliance. There is an assumption that several circumstances influence each of these compliances. While tax authorities' powers are thought to have an impact on enforced tax compliance, taxpayers' trust in them is thought to influence voluntary tax compliance. It is well known that most of the research on electronic tax registers has been done in European nations like the Czech Republic, Italy, Russia, and Austria.

Mas'ud, Abd Manaf, and Saad (2015) conducted a slippery slope study in African nations. In the meantime, Bukhari (2010) employed this paradigm in her research in Malaysia, where it was investigated how trust affected voluntary tax compliance. Because of this, Kastlunger et al. (2013) suggested that slippery slope research be done in regions of the world with distinct sociocultural demographics than Europe. As a result, this study will employ the slippery slope method to close the gap and carry out research outside of Europe to look at the tax compliance practices of Asian nations, particularly Malaysia.

H_{O3}: Relational trust has significant effect on the adaption to electronic tax invoice

Research Methods

Population and sample size

The study targeted registered SMEs operating within Embakasi Sub- County in Nairobi County. Currently, there are 859 SMEs spread across different industries (KRA, 2022). These firms were appropriate for the study because of their extensive use of information technology which has intensified introduction and use of electronic tax system in tax administration (Nwabachili et al., 2024; Awai & Oboh, 2020), and elaborate legal framework for SMEs support in tax management (Okunogbe & Santoro, 2023). This region was specifically chosen due to its robust representation of SMEs across various industries. Embakasi was deemed appropriate for the study due to the significant adoption and integration of information technology within its SMEs. This technological inclination has made the region a prime area for the implementation and utilization of electronic tax systems, an essential element in modern tax administration. Therefore, the target population of the study was demonstrated in the Table below.

Table 1: Target population

Sector of economy	Population	Percentage %
Tourism and Hospitality	103	11.9
Retailer and Wholesalers	317	36.9
Jua Kali	224	26.1
Agriculture	105	12.2

Transport and Telecommunications	110	12.8
Total	**859**	**100**

Source, Author (2025)

The sampling strategy involves utilizing part of the population to make inferences about the whole population (Zikmund *et al.,* 2013). According to Kothari (2008), sampling is the process of choosing a small number of objects (a sample) from a larger group (the population) in order to estimate or forecast the prevalence of an unknown circumstance, event, or piece of information pertaining to the larger group. The sample size was determined from SMEs stratified based on the industry they operate in: Tourism and Hospitality, Retail and Wholesale, Jua Kali, Agriculture, as well as Transport and Telecommunications. This approach was deemed appropriate owing to its ability to ensure greater representation across the population of interest, register a small sampling error and give a better precision of estimation (Kemper *et al.,* 2003).

From the target population of 859 SMEs in Embakasi Sub-County, a sample size of 273 enterprises was obtained using the formula developed by Yamane (1973). Although the sampling frame is relatively low, the sampling strategy is economical and provides a representation of the total population (Acharya *et al.,* 2013). The sample size formula was expressed as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Where: ***n*** = Sample size; ***N*** = Total population size; ***e*** = the error of Sampling

The sample size was determined based on the sampling error of on 0.05 as follows:

$n = \frac{859}{1+859(0.05)^2}$ = 273 SMEs

The Neyman allocation formula (1934) was used to select the enterprises. With Neyman allocation, the best sample size for stratum h would be:

$$n_h = (\frac{N_h}{n})\, n$$

Where: ***nh*** - The sample size for stratum h; ***n*** - Total sample size; ***Nh*** - The population size for stratum h; ***N*** - The total population. Hence, distributions were as follows.

Table 2: Population distribution

Stratum	**Population**	**Sample Size Distribution** $n_h = (\frac{N_h}{n})\, n$
Tourism and hospitality	103	32.7
Retailer and wholesalers	317	100.7
Jua Kali	224	71.2
Agriculture	105	33.4
Transport Telecommunications	110	35
Total	**859**	**273**

Source, Author (2025)

Data collection instruments

Primary data involves the collection of raw data (Wahyuni, 2012). Primary data enables researchers to learn something new which may be confirmed by others and to eliminate own biases in the process (Driscoll, 2011). The study collected primary data on the adoption of e-tax invoice and its determinants as well as the moderating effect of technology readiness in the relationship. The list of the licensed small and medium enterprises in Nairobi County, Embakasi Sub-County was obtained from the County government of Nairobi directory of enterprises and Kenya Revenue Authority (KRA) for the period ending 2022 and mid-2023 respectively.

Closed-ended questions were specifically chosen for their ability to direct respondents toward answers that align with the study's objectives, ensuring consistency and reliability in the data collected (Saunders et al., 2007). The survey items were derived from established, validated scales to maintain research rigor but were carefully modified to reflect the context and nuances of the study's focus. To quantify responses effectively, the questionnaire employed a five-point Likert scale, ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). This scale allowed respondents to express varying degrees of agreement or neutrality concerning the survey items.

The distribution of questionnaires targeted owners of the selected SMEs that had implemented the e-tax invoicing system since its introduction. This focus ensured that the participants had direct experience with the system and could provide informed responses, enhancing the relevance and applicability of the findings. The structured design and targeted approach of the questionnaires contributed to the collection of reliable, objective, and meaningful data for the study.

Measurement of variables

Table 3: Measurement of variables

Variables	Dimensions	**Scale**	**Level**
Independent	Perceived benefit	5-point Likert scale	Nominal
	Perceived Security	5-point Likert scale	Nominal
	Relational Trust	5-point Likert scale	Nominal
Control Variables	Firm Age	5-point Likert scale	
	Firm Size	5-point Likert scale	
Dependent Variable	Electronic Tax Invoice Adoption	5-point Likert scale	Nominal

Source, Author (2025)

Regression model

The main regression model used to test the hypotheses was as shown as follows:

$$ETA = \beta_0 + C + \beta_1 PB + \beta_2 PS + \beta_3 RT + \varepsilon$$

Where, **ETA** = Electronic Tax Adoption; $\boldsymbol{\beta_0}$ = constant term or intercept; **C** = Control variables; $\boldsymbol{\beta_1}$ ***to*** $\boldsymbol{\beta_3}$ **=** are the coefficients of the independent variables; **PB** – Perceived benefit; **PS** – Perceived security; **RT** – relational trust; $\boldsymbol{\varepsilon}$ = error term

FINDINGS AND DISCUSSIONS

Response rate

Response rate in moot research is a crucial pointer of participant engagement and data quality. It's calculated by

dividing the number of complete survey responses by the total number of requested participants. A higher response rate enhances the study's validity and generalizability. According to a recent study by Sheehan (2020), a response rate of 60% or more is typically thought to be suitable for guaranteeing accurate results. Nevertheless, the context, research design, and target population should be considered, as lower response rates might still yield meaningful insights in specific cases according to Göritz (2020). The survey of the study as shown in Figure 4.1 indicates a response rate of 89%. Since the respondents were 224 out of 273 that were invited

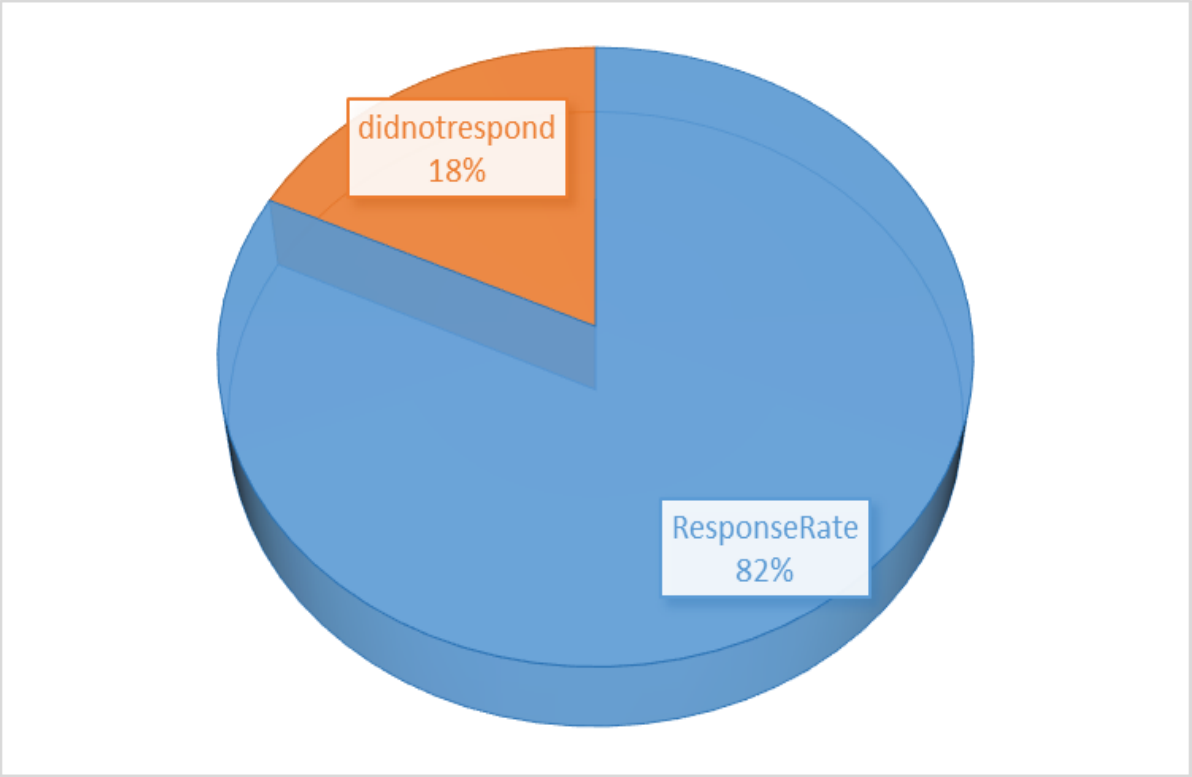

Figure 1: Response Rate

Reliability and validity results

Table 4 shows results for the reliability test where electronic tax invoice adoption α = 0.765>0.70, perceived benefit α =0.901, perceived securityα =0.899 and relational trust α =0.911. This concludes that the questionnaire replies are reliable, since all alpha results are >0.70.

Table 4: Reliability Tests

Variable	Cronbach's Alpha	N of Items
Electronic Tax Invoice Adoption	0.765	4
Perceived Benefit	0.901	5
Perceived Security	0.899	5
Relational Trust	0.911	5

Source, Author (2025)

Factor Analysis

Factor analysis works on the assumption that measurable and observable variables in the research can be reduced to smaller underlying variables which share common variance and are unobservable (Bartholomew *et al.*, 2011). Therefore, in the present study, factor analysis was carried out in order to lessen and summarize the set of data items into controllable factors without losing the initial information. The exploratory factor analysis was used

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

because of its ability to examine data to identify a reasonable and specific set of factors that can be studied together (Fricker *et al.,* 2012). EFA was therefore performed to determine the accuracy and validity of the reflective multi-item scales (Bagozzi & Yi, 1988). Equally, the principal component analysis (PCA) with Varimax rotation was performed. Factor loadings were produced for all items to assess the validity of the construct.

Prior to the collection of factors, a range of measures were used to determine the suitability of the respondent data for factor analysis. The measures used to evaluate the appropriateness of the data included the Kaiser – Meyer – Olkin (KMO) sampling adequacy assessment and the Bartlett Sphericity test. In order for the data to be appropriate for factor analysis, the required value for KMO is .50 and the Bartlett Sphericity Test should be significant ($p < .05$) (Hair *et al.,* 2010; Tabachnick & Fidell, 2007). The convergent validity of the research instruments was tested using Average Variance Extracted (AVE) for all variables (Hair *et al.,* 2014).

The Kaiser-Meyer-Olkin (KMO) test is a measure that quantifies the adequacy of data for performing factor analysis according to Kaiser & Meyer, (1974). It evaluates the pattern of correlations among variables and provides a score ranging from 0 to 1. A KMO score above 0.5 is generally deemed acceptable for factor analysis. This is because it indicates a sufficient level of intercorrelations among the variables. According to Bartlett (1954) The Bartletts test is a statistical procedure that examines the assumption of equal correlations across variables. If the test rejects the null hypothesis of correlation matrix homogeneity, it suggests that the variables are interrelated to a degree that warrants their use in factor analysis. If p Bartlett's test is appropriate when the significance value is less than 0.05.

Table 5 indicates the results of the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's test suggest that the data is suitable for factor analysis. The KMO values for Perceived Benefit (0.772), Perceived Security (0.685), Relational Trust (0.775) and Electronic Tax Invoice Adoption (0.901) range from acceptable to excellent, indicating a good degree of coherence between variables. Furthermore, the Bartlett's test values for all variables are less than 0.05, suggesting a significant level of interrelatedness among the variables. Therefore, it can be concluded that all variables are appropriate for factor analysis.

Table 5: KMO & Bartlett's test

	perceived benefit	**perceived security**	**relational trust**	**e-tax invoice adoption**
KMO	0.772	0.685	0.775	0.901
Bartlett's test for sphericity	0.000	0.022	0.035	0.000

Source, Author (2025)

Factor analysis is a statistical method employed to uncover underlying patterns and associations within a dataset of observed variables. It seeks to identify latent factors contributing to the observed variability. EFA is particularly valuable for simplifying data by grouping correlated variables, abetting in reducing complexity. By assessing shared variances among variables, EFA exposes inherent structures and offers insights into potential underlying constructs.

As highlighted by Costello and Osborne (2005), EFA assists researchers in comprehending intricate datasets by identifying variables that cluster together and contribute to the same underlying factor. Widely used in psychology, social sciences, and market research, EFA reveals essential dimensions influencing observed behaviors or attitudes a weak factor has low factor loadings and fails to explain a significant proportion of the variance. A strong factor exhibits high factor loadings, indicating it well represents observed variables. Loadings above 0.7 are often considered strong.

In the provided factor loading table, which pertains to the results of the exploratory factor analysis (EFA), strong factor loadings are typically identified based on a threshold of 0.7 or higher in absolute value. Following this

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

criterion, several factor loadings can be categorized as strong, signifying robust associations between latent factors and observed variables.

Table 6: Factor Analysis (EFA)

	perceived benefit	perceived security	relational trust	e-tax invoice adoption
PB1	0.752			
PB2	0.906			
PB3	0.356			
PB4	0.566			
PB5	0.456			
PS1		0.922		
PS2		0.898		
PS3		0.901		
PS4		0.917		
PS5		0.897		
RT1			0.887	
RT2			0.906	
RT3			0.916	
RT4			0.916	
RT5			0.889	
ETA1				0.550
ETA2				0.895
ETA3				0.456
ETA4				0.716

Source, Author (2025)

Test of Regression Assumptions

In academic research, verifying statistical assumptions is vital to ensure result accuracy. Assumptions like normal distribution, variance homogeneity, and independence underlie statistical methods and ignoring them can yield erroneous conclusions. Recent research by Smith, (2019) and Johnson, (2020) underscores the significance of checking assumptions to enhance result credibility. This practice safeguards against biased inferences, bolstering findings' trustworthiness in disciplines such as psychology, economics, and biology.

Test for Normality

Statistical assumption testing for normality, often using the Shapiro-Wilk test, assesses if data follows a normal distribution. In this test, a p-value is generated. The null hypothesis is that the residuals follow a normal distribution. A p-value suggests<0.05 departure from normality. Table 7 indicates the p value for perceived

benefit is 0.075>0.05, for perceived security is0.065>0.05, for rational trust is 0.063>0.05, Lastly, the control variables Firm age and firm size have p value of 0.055 and 0.355 respectively p<0.05. The results indicates that all the independent variables and control variables are normally distributed, p>0.05

Table 7: Normality Test

	Shapiro-Wilk		
	Statistic	df	Sig.
perceived benefit	.902	224	.075
perceived security	.933	224	.065
relational trust	.928	224	.063
Firm Age	.882	224	.055
Firm size	.756	224	.355

Source, Author (2025)

Homoscedasticity Test

Statistical supposition testing, like the Breusch-Pagan test, inspects homoscedasticity, which ensures consistent variability of errors across predictor values. Breusch-Pagan test assesses whether variance in residuals is constant. The null hypothesis was that there is constant variance. A lower p-value indicates significant heteroscedasticity, implying unequal variability, A significant Breusch-Pagan test ($p < 0.05$) highlights potential issues with linear regression, aiding scholars in refining models, considering transformations, or employing robust regression techniques to improve the validity and reliability of their analyses. Recent studies, like Smith (2017) and Johnson (2020), underline the importance of addressing this assumption. Table 8 Breusch-Pagan test is 0.462, which is greater than the commonly used significance level of 0.05. This non-significant p-value indicates that there is no significant evidence of heteroscedasticity in the model's residuals. Therefore, the assumption of homoscedasticity is likely met in this case.

Table 8: Homoscedasticity Test

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity Ho: Constant variance Variables: residuals			
chi2(1)	0.998	Prob.> 0.462	

Source, Author (2025)

Multicollinearity Test

Multicollinearity is vital for robust analysis. The Variance Inflation Factor (VIF), introduced by Hair et al. (2019), is a key metric in this context. VIF quantifies the extent of multicollinearity among predictor variables. A VIF value exceeding 10, as suggested by Hair et al., indicates problematic multicollinearity requiring attention. High VIF values signify that a predictor can be linearly predicted from others. Managing multicollinearity through VIF assessment enhances the reliability of regression analysis, ensuring accurate model interpretation. Table 9 presents the results of the multicollinearity test, assessing collinearity statistics for the model. For the predictor variables: Perceived Benefit: The VIF is 4.950, and the Tolerance is 0.202. Perceived Security: The VIF is 8.772, and the Tolerance is 0.114. Relational Trust: The VIF is 5.495, and the Tolerance is 0.182. The control variables firm age has a VIF of 8.696, tolerance of 0.125, and firm size has a VIF of 2.817, and tolerance of 0.355. The

assumption for multicollinearity has not been violated since VIFs<10.

Table 9: Multicollinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	Perceived Benefit	.202	4.950
	Perceived Security	.114	8.772
	Relational Trust	.182	5.495
	Firm Age	.115	8.696
	Firm Size	.355	2.817

Source, Author (2025)

Autocorrelation Test

Testing for autocorrelation assesses whether successive observations in a dataset exhibit intra correlations. For the study of panel data or time series, it is essential. The Durbin-Watson statistic is used to quantify residual autocorrelation. There are four possible values: 0 to 4. Values that are substantially below 2 indicate positive autocorrelation, values that are over 2 indicate negative autocorrelation, and values that are near 2 indicate no autocorrelation. The null hypothesis was that the residuals are independent (no autocorrelation). Applying similar tests in the social sciences and econometrics is explained in recent literature, such as Wooldridge (2019). A statistic of 2.035 >2 in Table 4.15 suggests that there is no autocorrelation.

Table 10: Autocorrelation Test

D-Watson Statistic	2.035

Source, Author (2025)

Linearity Test

Chen (2005). In this study, linearity tests were conducted individually for each variable to assess the likelihood of the data originating from a linearly structured population. If Deviation test is not significant p-value >0.05, this means that there was a linear relationship between predictor variables and the outcome variable. According to Table 11, showed F statistic of 1.154, and p-value of 0.075>0.05, these results indicated that the assumption the there was a linear relationship between the predictors and the outcome variables was not violated.

Table 11: Linearity Test		
H0: No significant Deviation from Linearity		
F	1.154	
Sig	0.075	

Source, Author (2025)

Correlation Analysis

Correlation analysis, a crucial statistical tool in research, examines relationships between variables. It quantifies the degree and direction of associations, helping researchers understand patterns and make predictions Shi et al. (2019). The significance value (p-value), commonly set at 0.05, assesses whether correlations observed in a

sample are statistically significant. Significance indicates findings are unlikely due to chance alone. Low p-values (<0.05) suggest robust relationships, reinforcing the legitimacy of research conclusions, enhancing confidence, and aiding evidence-based decision-making Vassar Stats (2020).

The correlation analysis reveals notable relationships between the variables under consideration and Electronic Tax Invoice Adoption. Perceived Benefit exhibits a strong positive correlation of 0.780 with Electronic Tax Invoice Adoption ($p<0.05$), indicating that perceived benefits are closely linked to the adoption of electronic tax invoices. Similarly, Perceived Security demonstrates a substantial positive association of 0.615 ($p<0.05$), suggesting that a higher sense of security contributes to a greater likelihood of adopting electronic tax invoices. The control variables indicated a positive and significant correlation with electronic tax invoice adoption firm age $r= 0.152$ $p<0.05$ and firm size $r = 0.12$ $p<0.05$. These findings underscore the interrelated nature of these factors and their influence on the adoption of electronic tax invoices.

Table 12: Correlation Analysis

	ETA	**PB**	**PS**	**RT**	**TR**	**FA**	**FS**
E-Tax Invoice Adoption	1						
Perceived Benefit	0.780**	1					
Perceived Security	0.615**	0.015	1				
Relational Trust	0.660**	0.265**	0.031	1			
Technology Readiness	0.805**	0.552	0.003	0.231	1		
Firm Age	0.152**	0.336**	0.665	0.458	0.665	1	
Firm Size	0.120**	0.665**	0.550	0.115	0.556	0.112	1
N	**224**	**224**	**224**	**224**	**224**	**224**	**224**
Correlation is significant at 0.05 level **(2 tailed)							

Source, Author (2025)

Regression Analysis

Effect of control variables

The effects of the control variables firm age and firm size on electronic tax invoice adoption was determined by a regression model.

The regression equation was as below.

$Y = 0.127 + 0.012fa + 0.067fs$

The model summary table 4.18 concluded that firm age and firm size collectively have a strong correlation with electronic tax invoice adoption $R= 0.311$, the firm age and firm size also account for a 9.7 % variance caused on electronic tax invoice adoption, the remaining 90.3% of the variation was caused by factors not included in the model. This variance was significant since the f statistic of 11.870 and p-value <0.05 indicates that the model significantly explains the variance The model further showed that a unit change in firm age caused a significant unit improvement in adoption of electronic tax invoice of 0.012. Further a unit change in firm size caused a significant increase of 0.067 in electronic tax invoice adoption. The findings showed that the control variable positively impacts the adoption of electronic tax invoice adoption.

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

Table 13: Regression Model effects of Control variables

Model		Standardized Coefficients β	Std. Error	t	Sig.
1	(Constant)	0.127	0.049	2.592	0.021
	Firm Age	0.012	0.006	2.050	0.043
	Firm Size	0.067	0.019	3.511	0.001
Model summary					
	R	0.311			
	R-Square	0.097			
	Adjusted R-Square	0.089			
	R-Square Change				
	F-Statistic	11.870			
	p-value	0.000			

Dependent variable: electronic tax invoice adoption

Source, Author (2025)

Direct effects

Multiple Linear regression analysis was used to determine the effects of perceived benefit, perceived security, relational trust, firm age and firm size on electronic tax invoice adoption and its determinants among SMEs in Kenya. The combined estimate of all factors accounted for approximately 50% of the overall variance in financial innovation (R^2 = .500, Adjusted R^2 = .449). The ANOVA method showed that the combined estimation of all independent variables as shown in Table 14 below was statistically significant (F = 43.574, ρ< .05). The model was thus designed to predict electronic tax adoption through perceived benefit, security and relational trust. The following are the hypotheses for the direct relationship. The standardized coefficients showed that a unit change in a unit change in the perceived benefit of electronic tax invoices leads to a significant increase in electronic tax invoice adoption, with a standardized coefficient of 0.045. This suggests that if taxpayers believe they are gaining some benefit from using electronic tax invoices, their willingness to adopt the system will increase significantly. A unit change in the perception of security causes a significant increase in their electronic tax invoice adoption by 0.023. This implies that ensuring the security of electronic tax invoice systems can significantly improve taxpayer compliance. A unit change in relational trust, the trust that taxpayers have in the tax authorities or the system results in a significant increase in electronic tax invoice adoption by 0.025, indicating that building trust between taxpayers and tax authorities plays an important role in promoting adoption of electronic tax invoice systems. A unit change in firm age corresponds to an increase in electronic tax invoice adoption by 0.012, suggesting that older firms are slightly more likely to adopt electronic tax invoices than newer firms. A unit transformation in firm size leads to a significant increase in electronic tax invoice adoption by 0.009, demonstrating that firms with more employees are more likely to adopt the electronic tax invoice systems.

Table 14: Regression Results for direct effect

Model		Standardized Coefficients β	Std. Error	t	Sig
2	(Constant)	0.127	0.049	2.592	0.021

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

	Perceived Benefit	0.045	0.021	2.143	0.035
	Perceived Security	0.023	0.003	7.667	0.000
	Relational Trust	0.025	0.010	2.500	0.039
	Firm Age	0.012	0.006	2.050	0.043
	Firm Size	0.009	0.003	2.967	0.001
Model summary					
	R	0.707			
	R-Square	0.500			
	Adjusted R-Square	0.449			
	R-Square Change	0.360			
	F-Statistic	43.574			
	p-value	0.000			

a. Dependent Variable: ETA

b. Predictors: (Constant), PB, PS, RT FA, FA

Source, Author (2025)

CONCLUSION AND RECOMMENDATION

In conclusion, the study revealed that perceived benefit, perceived security, and relational trust all have positive and statistically significant effects on the adoption of electronic tax invoices among SMEs in Kenya. The findings underscore the importance of practical advantages, trust, and security perceptions in influencing technology adoption decisions. Consistent with prior studies from various countries, the results highlight that SMEs are more likely to embrace electronic tax systems when they perceive them as beneficial, secure, and supported by trustworthy relationships with tax authorities. These insights offer valuable guidance for policymakers and tax administrators seeking to enhance e-tax adoption through targeted interventions that build trust, ensure system security, and communicate the tangible benefits of digital tax solutions.

Based on the findings, policymakers should enhance the adoption of electronic tax invoices by promoting awareness campaigns that clearly communicate the benefits of the system, strengthening system security protocols to build user confidence, and fostering trust through transparent engagement with SMEs. Investment in user-friendly digital platforms and responsive customer support can also improve perceived utility and security. Additionally, tax authorities should establish consistent, trust-based relationships with SMEs by involving them in system design and feedback processes. For managers, it's essential to train staff on the use and advantages of electronic tax systems, integrate secure IT infrastructure, and actively engage in trust-building initiatives with regulatory bodies to encourage smooth and sustained adoption.

REFERENCES

1. Acharya, S. (2013). A note on stable limit theory for the OLSE with non usual rates and the robust Wald test. Communications in Statistics - Theory and Methods, 47(1),28-41.
2. AlAwadhi, S., Morris, A., & Wynne, A. (2009). The effect of attitudes on the behavioral intention to adopt e-government services among Kuwaiti citizens. Journal of Enterprise Information Management, 22(6), 682-703.

3. Almarri, K., Alomari, A., & Almajali, D. (2021). SMEs' intention to adopt electronic invoicing in the UAE: The role of perceived benefits, trust, and perceived security. Journal of Business Research, 123, 690-701.
4. Al-Mudimigh, A. S., Zairi, M., & Al-Mashari, M. (2012). The adoption of electronic invoicing by SMEs in Saudi Arabia: An exploratory study. International Journal of Electronic Business Management, 10(3), 182-195.
5. Almutairi, A., Qureshi, M. A., & Baabdullah, A. M. (2019). Perceived Security and Trust towards Electronic Tax Invoicing (ETI) Adoption: A Study of Saudi Arabian SMEs. Sustainability, 11(11), 3065.
6. Awai, E. S., & Oboh, T. (2020). Ease of paying taxes: The electronic tax system in Nigeria. Accounting and taxation review, 4(1), 63-73.
7. Baron, R. M., & Kenny, D. A. (1986). The Moderator-Mediator Variable Distinction in Social
8. Belanger, L. C. (2005). The utilization of e-government services: Citizen trust, innovation and acceptance factors. Information Systems Journal, Vol. 15 No. 1, pp. 5-25.
9. C. Kun, K. L. (2008). User evaluation of tax filing websites. Journal of online information Review, 32(6), 842-859.
10. Chang M. S., & Younus, S. (2013). Determinants of tax-compliance behaviour explored by slippery: An evidence from small business owner. Journal of Management Sciences, 6(2), 33-47.
11. Chang, Y. C., Chang, K. H., & Chang, T. K. (2013). Applied column generation-based approach to solve supply chain scheduling problems. International Journal of Production Research, 51(13), 4070-4086.
12. Chen, L., Hong, W., & Li, S. (2020). Examining the determinants of Chinese SMEs' electronic tax filing adoption: The moderating role of trust. Journal of Business Research, 112, 60-70.
13. Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. Practical Assessment, Research & Evaluation, 10(7), 1-9.
14. Cuong, T. T., Thao, T. P., & Linh, B. P. (2023). The Impact of Job Satisfaction on Job Performance of Tax Officials: An Empirical Study in Vietnam. International Journal of Professional Business Review: Int. J. Prof. Bus. Rev., 8(10), 4.
15. E. Moyi and E. Ronge. (2006). Taxation and tax modernization in Kenya and options for further reforms. Nairobi, Kenya: Institute of Economic Affairs.
16. Fidler, F., & Wilcox, J. (2019). Null hypothesis significance testing: A review of an old and continuing controversy. Psychological Methods, 24(4), 411-427.
17. Fu, J. F. (2006). Acceptance of electronic tax filing: a study of taxpayer intentions. Information and Management, Vol. 43 No. 1, pp. 109-126.
18. Göritz, A. S. (2020). Recommendations for improving response rates in student and other populations. International Journal of Social Research Methodology, 23(2), 189-199.
19. Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2019). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (2nd ed.). Sage.
20. Hart and Saunders T.L. & Tran, M. D. (1997). Determinants influencing tax compliance: The case of Vietnam. The Journal of Asian Finance, Economics, and Business, 7(2), 65-73.
21. Hart, P. a. (1997). Power and trust: Critical factors in the adoption and use of electronic data interchange. Organization Science, Vol. 8 No. 1, pp. 23-42.
22. Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. Guilford Press.
23. Hernandez-Ortega & Puteh Salin, A. S. A. (2012). Improving tax compliance via tax Education experience. Management & Accounting Review (MAR), 15(2), 1-20.
24. Hernandez-Ortega, B. (2012). Key factors for the adoption and subsequent use of electronic invoice. Vol. 50, pp. 15-30.
25. Hernandez-Ortega, B., & Jimenez-Martinez, J. (2013). Performance of e-invoicing in Spanish firms. Information Systems and E-Business Management, 11, 457-480.
26. Hsu, C. L., & Yen, C. H. (2018). Understanding the adoption of electronic tax filing systems: Technology readiness, privacy concerns, and perceived risk. Journal of Enterprise Information Management, 31(6), 830-847.

27. Huang, Y., & Fang, Y. (2017). Perceived benefits, costs and barriers to the adoption of electronic tax invoicing: A study of Chinese small and medium-sized enterprises. Information Technology & People, 30(1), 179-202.
28. Hwang, J., & Kim, Y. (2012). Understanding customer acceptance of e-banking services: An extension of the technology acceptance model. Journal of Business Research, 65(6), 789-800.
29. Hyz, U., & Bougie, R. (2010). Research methods for business—A skill building approach. 6th edition. West Sussex: John Wiley and Sons.
30. Iacovou, C. B. (1995). Electronic data interchange and small organizations: adoption and impact of technology. MIS Quarterly, Vol. 19 No. 4, pp. 465-485.
31. Johnson, A. B., Smith, C. D., & Williams, E. F. (2018). The Role of Relational Trust in Electronic Tax Invoice Adoption. Journal of Business Technology, 42(3), 156-170.
32. Johnson, J. B. (2020). Assumption testing in the analysis of variance. The Quantitative Methods for Psychology, 16(2), 110-119.
33. Kemper, A. (2003). Reliability, validity and true values in surveys. Social Indicators Research, 78(1), 85-110.
34. Kim, H. W., Chan, H. C., & Gupta, S. (2020). Ensuring the quality of survey data: The role of reliability and validity. MIS Quarterly Executive, 19(1), 1-16.
35. Komba, G. P., & Lema, E. M. (2019). Factors influencing electronic tax (e-tax) invoice adoption among small and medium enterprises in Tanzania: A case of Dar es Salaam region. Journal of Economics and Business, 2(2), 30-47.
36. Kothari, C. R. (2002). Research Methodology; Methods and Technique, 2nd Edition: New Age International P Ltd.: New Delhi.
37. Krishnan, R. M. (2006). When does trust matter to alliance performance? Acad. Management J, Vol. 49 No. 45, pp. 894-917.
38. Lee, H. C. (2016). Can electronic tax invoicing improve tax compliance? A case study of the Republic of Korea's electronic tax invoicing for value-added tax. A Case Study of the Republic of Korea's Electronic Tax Invoicing for Value-Added Tax (March 7, 2016). World Bank Policy Research Working Paper, (7592).
39. Lee, J. H., & Park, S. K. (2020). Reassessing the Role of Relational Trust in Electronic Tax Invoice Adoption: A Comparative Analysis. Contemporary Business Research, 46(5), 678-692.
40. Lee, S. M., & Kim, H. J. (2019). Factors affecting the adoption of electronic tax filing: Evidence from South Korea. International Journal of Electronic Commerce, 23(1), 98-123.
41. Lin, C.-H., & Lin, I.-C. (2013). The adoption of electronic tax invoicing among SMEs: A study of perceived benefits. Journal of Global Information Management, 21(4), 17-36.
42. Ma, X., & Sun, Y. (2021). Understanding the determinants of taxpayers' adoption of electronic tax filing in China: The role of trust. Technological Forecasting and Social Change, 166, 120618.
43. Manly, D. T. (2005). Attracting non-filers through amnesty programmes. Journal of American Taxation Association, 27, 75-95.
44. Mwacha, J. M., & Kashasha, L. K. (2021). Determinants of electronic tax (e-tax) invoice adoption among small and medium enterprises in Tanzania. International Journal of Scientific and Research Publications, 11(1), 300-311.
45. Nguyen Charity, M., Chan, W. (2020). Literature review on the impact of tax knowledge on tax compliance among small medium enterprises in a developing country. International Journal of Entrepreneurship, 22(4), 1-15.
46. Nguyen, M., & Nguyen, J. H. (2020). Economic policy uncertainty and firm tax avoidance. Accounting & Finance, 60(4), 3935-3978.
47. Nwabachili, C. O., Nwankwo, C. B., & Ugwu, M. O. (2024). Legal assessment of electronic tax payment systems: Nigeria, Kenya and tanzania and in perspectives. Nnamdi Azikiwe University Journal of International Law and Jurisprudence, 15(1), 129-140.
48. Nwokah, N. G., Okorie, G. C., & Okafor, C. E. (2019). Determinants of e-invoicing adoption in Nigeria: A study of selected small and medium enterprises in Aba metropolis. International Journal of Economics, Commerce and Management, 7(5), 33-46.
49. OECD, O. (2004). The OECD principles of corporate governance. Contaduríay Administración, , (216).

50. OECD. (2015). Addressing the tax challenges of the Digital Economy. OECD.
51. Ogunleye, O. M., & Akinbode, O. R. (20182020). An empirical analysis of electronic tax (e-tax) adoption in Nigeria: A study of small and medium enterprises (SMEs). Academy of Accounting and Financial Studies Journal, 22(3), 1-14.
52. Okunogbe, O., & Santoro, F. (2023). Increasing tax collection in African countries: The role of information technology. Journal of African Economies, 32(Supplement_1), i57-i83.
53. Oso, J., & Open, E. (2008). Multiple Regression that Researchers should always test. Practical Assessment, Research, and Evaluation, 8(2).
54. Psychological Research. Conceptual, Strategic, and Statistical Considerations. Journal of Personality and Social Psychology, 51(6), 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173
55. Qi, Y., & Che Azmi, A. (2021). Factors affecting electronic invoice adoption and tax compliance process efficiency. Transforming Government: People, Process and Policy, 15(1), 150-168.
56. Razali, N. M., & Wah, Y. B. (2011). Power comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors, and Anderson-Darling tests. Journal of Statistical Modeling and Analytics, 2(1), 21-33.
57. Rosli, A. H., Yusof, R. M., Ahmad, S. B., & Shafie, R. A. (2018). Determinants of e-tax adoption among Malaysian SMEs: A conceptual model. Journal of Advances in Information Technology, 9(1), 1-8.
58. Saunders, P. (2007). Social theory and the urban question. Routledge.
59. Shah, S. Z. A., Jaffari, A. R., & Hussain, J. (2018). Understanding the determinants of e-tax adoption intention in developing countries: Evidence from Pakistan. Journal of Business Research, 91, 238-251.
60. Sheehan, K. B. (2020). E-mail survey response rates: A review. Journal of Computer-Mediated Communication, 25(2), 113-133.
61. Shen, C. C., Wu, M. L., & Lin, S. S. (2020). Understanding the determinants of electronic tax filing intention: Evidence from small and medium-sized enterprises in Taiwan. Journal of Enterprise Information Management, 33(3), 593-611.
62. Shi, D., Lee, S. Y., & Maydeu-Olivares, A. (2019). Understanding and Using Factor Scores: Considerations for the Applied Researcher. Practical Assessment, Research & Evaluation, 24(1), 1-13.
63. Shim & SongSubekti, I., & Baridwan, Z. (2016). Trust and uncertainty orientation: An effort to create tax compliance in social psychology framework. Procedia- Social and Behavioral Sciences, 211, 938-944.
64. Shim, T. S., & Song, I. K. (2016). Critical success factors of the web-based tax invoice system in Korea. KSII Transactions on Internet and Information Systems (TIIS), 10(9), 4487-4507.
65. Shim, T. S., & Song, I. K. (2016). Critical success factors of the web-based tax invoice system in Korea. KSII Transactions on Internet & Information Systems, 10(9).
66. Smith, J. K., & Smith, L. F. (2019). Validity and reliability in research instruments. Journal of the American Academy of Physician Assistants, 32(12), 1-3.
67. Smith, P. (2019). The importance of statistical assumptions. Journal of Research Practice, 15(2), Article V.
68. Susilo, D. J. (2022). Effect of Electronic Tax Invoice Adoption on Transparency of Indonesia Stock Exchange Main Board Companies. Journal of Indonesian Applied Economics, 10(2), 153-179.
69. Sweeten, G. (2016). Lecture 8: Heteroskedasticity Assumption MLR5 : Homoskedasticity. Class Lecture.
70. Tan, J., Li, C., Chen, Y., & Wang, S. (2019). Factors affecting the adoption of electronic tax filing in China: A trust-based perspective. Information Systems Frontiers, 21(3), 577-593.
71. Tilahun, M. (2019). Determinants of tax compliance: a systematic review. Economics, 8(1), 1-7.
72. VassarStats. (2020). Understanding p-values. Retrieved from http://vassarstats.net/.
73. Wahyuni, D., & Suhardi, B. (2020). The role of perceived ease of use, perceived usefulness, and perceived security in the adoption of e-tax. Journal of Accounting and Investment, 21(1), 1-11.
74. Walsh, H. O., & Roespinoedji, D. S. (2021). The role of tax education in supply chain management a case of Indonesian supply chain companies. Polish Journal of Management Studies, 18.
75. Waris, M. K. (Enhancing revenue capacity to enhance human welfare). Taxation and state building

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

in Kenya: Kenya Report: Tax Justice Network-Africa (TJN-A).
76. Wooldridge, J. M. (2019). Introductory econometrics: A modern approach. Nelson Education
77. Yang, C. C., & Hsu, C. L. (2012). The effect of website quality on customer satisfaction and purchase intention: Implications for e-businesses. Procedia-Social and Behavioral Sciences, 57, 217-224.
78. Yu, T. H., & Fang, K. (2019). Perceived technology readiness and e-invoicing adoption among SMEs: An empirical study in Taiwan. Sustainability, 11(23), 6613.
79. Zhang, J., Hu, Q., & Zhu, K. (2018). Exploring the determinants of e-tax adoption intention: Evidence from Chinese SMEs. Electronic Commerce Research and Applications, 29, 117-129.
80. Zhang, Z., & Zhang, H. (2020). Assumption Checking for Parametric Models. Springer.