International Journal of Innovative Research and Scientific Studies, 8(2) 2025, pages: 3046-3055

IJIRSS
International Journal of Innovative Research & Scientific Studies

ISSN: 2617-6548

URL: www.ijirss.com

The influence of electronic payment methods on tax compliance

Randa Abd Elhamied Mohammed Hamza[1], Nasareldeen Hamed Ahmed Alnor[1,2*], Mohamed Ishag Abdelrahman Eisa[3], Adeeb Alhebri[4], Ibrahim Ahmed Elamin Eltahir[5,6]

[1]*Accounting Department, College of Business, Jouf University - Saudi Arabia.*
[2]*Accounting Department, College of Business Studies, Sudan University of Science and Technology, Sudan.*
[3]*Department of Accounting, College of Business, King Khalid University, Abha, Saudi Arabia.*
[4]*Accounting Program, Applied College at Muhyle, King Khalid University, Saudi Arabia.*
[5]*Department of Business Administration, Jouf University, Saudi Arabia.*
[6]*Department of Business Administration, Omdurman Islamic University, Sudan.*

Corresponding author: Nasareldeen Hamed Ahmed Alnor (*Email: nhelnuor@ju.edu.sa*)

Abstract

Financial transactions have undergone a revolution with the introduction of electronic payment technologies, which offer businesses and individuals more convenience, efficacy, and efficiency. However, this change has more ramifications than just efficiency and ease, particularly in terms of tax compliance. The purpose of this paper is to comprehend how electronic payment methods affect taxpayer compliance behavior. This article examines the several ways that electronic payment systems affect tax compliance, based on a thorough examination of the body of research in this area. It looks at elements that may lead to higher rates of tax compliance, such as accountability, openness, and the convenience of record-keeping made possible by electronic payment systems. The review also explores the psychological dimensions of tax compliance, looking at how taxpayers' attitudes and behaviors in the technological age are impacted by the convenience and fairness of electronic payment systems. In the context of tax compliance, this article highlights the dangers and obstacles that come with electronic payment systems, including data security concerns, privacy issues, and the digital divide. This paper offers insights into the relationship between electronic payment methods and tax compliance behavior in the digital era by critically analyzing existing studies. Our research indicates that, when it comes to creating efficient tax laws and enforcement tactics for the digital era, electronic payment systems and tax compliance are positively correlated. The research presented in this paper advances our knowledge of the factors influencing taxpayer behavior in the context of digital finance.

Keywords: Accountability, Compliance, Efficiency, Electronic payment methods, Financial transactions, Record-keeping, Tax, Transparency.

DOI: 10.53894/ijirss.v8i2.5948
Funding: The authors extend their appreciation to the Deanship of Scientific Research at King Khalid University for funding this work through a large-group Research Project under grant number (RGP.2/99/45)
History: Received: 18 February 2025 / **Revised:** 19 March 2025 / **Accepted:** 25 March 2025 / **Published:** 4 April 2025

Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.
Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.
Publisher: Innovative Research Publishing

1. Introduction

Electronic payment techniques have completely changed the way financial transactions are carried out globally in today's rapidly changing digital ecosystem [1]. Electronic payment systems are becoming a crucial component of contemporary business, from the convenience of online banking to the extensive use of mobile payment apps and point-of-sale systems [2]. Beyond their obvious advantages, these electronic payment options have significant ramifications for taxpayers' ability to comply with tax laws and access transparent financial information [3].

Fundamentally, tax compliance is the extent to which people and organizations pay their taxes and abide by the tax regulations [4]. Since tax evasion, underreporting of income, and informal economic activity have all contributed to government revenue losses from taxes, tax compliance has historically been a complicated and difficult subject for governments to confront and combat [5].

Tax compliance may be greatly impacted by electronic payment systems in a number of ways [6]. Firstly, a large-scale shift to electronic transactions can improve traceability, transparency, and disclosure of taxpayer transaction volume, making it harder for people and businesses to conceal income and avoid paying taxes [7]. Digital payment systems create a digital trail of financial transactions that are recorded in banks' accounting records, giving tax authorities more insight into the economic activity of their taxpayers and generating more income [8]. Governments can use the new tools and technologies that electronic payment methods give them to enforce tax compliance and fight money laundering crimes like tax evasion [9, 10]. Artificial intelligence, sophisticated data analytics, and machine learning algorithms can be used to better target anti-tax evasion activities, evaluate large volumes of transaction data, and spot non-compliance tendencies [11-13]. In order to enhance tax collections and enable tax authorities to monitor transactions in real time and identify potential tax evasion, electronic payment systems can also make it easier to develop real-time reporting methods [14]. Electronic payment systems have a mixed effect on tax compliance [6]. These technologies offer dangers and issues that need to be addressed, even though they can increase openness and transparency [15]. For instance, the emergence of decentralized financial technologies and digital currencies has opened up new avenues for tax evasion and other illicit financial activity [16]. These developments present regulatory challenges for tax authorities, which must be addressed by investing in the skills and training of tax personnel [17, 18]. Tax laws and regulations may not be able to keep up with the swift advancement of technology and the worldwide reach of the electronic payment methods that taxpayers utilize [19]. Because of this, legislators constantly have to make sure that tax rules are up to date and functional in the digital era in order to stay up with emerging technology utilized in banking and investing [20, 21].

The study's relevance stems from the growing interest in the connection between tax compliance and electronic payment methods in academic and political policy discourse. It is now crucial for governments to comprehend how electronic payment methods affect tax compliance as they work to update their tax systems and adjust to the digital economy.

The purpose of this study is to investigate how electronic payment systems affect tax compliance. Through investigating the ways in which electronic payments impact tax behavior, evaluating the efficacy of policy measures, and enhancing tax collections, this study also seeks to offer significant perspectives to financial system stakeholders, tax authorities, and policymakers. Governments can combat tax evasion and promote greater tax compliance in the digital economy by developing strategies to harness the potential of electronic payment systems while mitigating associated risks and challenges. This can be achieved by having a thorough understanding of these dynamics.

This research contributes to the body of knowledge already available in this sector. By carrying out a pilot study to investigate the connection between tax compliance rates and the usage of electronic payment systems, such as digital wallets, online banking, and mobile payments. Data was gathered from organizations that adopted electronic payment systems, and the degrees of tax compliance prior to and following the adoption of these systems were contrasted [6]. This article advances the discussion of how technology, namely electronic payment systems, might enhance tax administration and enforcement. In order to reduce prospects for tax evasion and fraud, this is accomplished by researching the potential of blockchain technology or other secure payment systems to improve transparency, traceability, and accountability in tax transactions [22]. Lastly, this study contributes to the investigation of the moral ramifications of tax compliance through electronic payment systems, particularly in relation to data security, privacy, and financial inclusion. This is accomplished by looking into matters like making sure that all societal groups have equitable access to electronic payment services and the potential for discrimination or monitoring in tax enforcement procedures made possible by these systems [23].

2. Literature Review

Prior research has indicated a positive correlation between transaction digitalization and electronic payment, including card transactions and tax compliance, such as [24, 25]. A few earlier research findings suggest that the digitization of the economy has a negative effect on tax compliance, such as [26].

In the fields of information systems and technology management, one popular theoretical framework is the Theory of Technological Acceptance Model, or TAM [27]. TAM, which was created by Fred Davis in the late 1980s, aims to clarify how people embrace and utilize new information technology [28]. The concept is predicated on the idea that an individual's intention to utilize technology in any field—whether it is tax, tax compliance, or something else entirely—is largely determined by how valuable and easy they believe it to be [29]. Also, Everett Rogers developed the theory of diffusion of innovation in 1962 [30]. It provides a framework for understanding how novel concepts, goods, or technological advancements gradually gain traction and become ingrained in a community [31]. According to the notion, people fall into several groups within the population according to how eager they are to embrace new technologies, such as handling electronic payment methods and filing taxes online [32].

2.1. Mobile Payment and Tax Compliance

Mobile payment platforms facilitate the tracking of income and expenses for organizations and people by offering comprehensive records of their activities [33]. This enhanced openness lowers the likelihood of underreporting income or making excessive deductions from the tax base, which enhances tax compliance [34]. It is easier to keep digital records of transactions with many mobile payment apps than it is to keep paper records [35]. This results in improved tax compliance by streamlining the tax return preparation process and lowering errors brought on by human data entry [36]. Mobile payment systems offer digital sales records that are easily incorporated into accounting software or tax preparation tools, making tax filing easier for sole proprietors and small firms [37]. This can lessen the administrative load related to tax compliance and save time [38]. Mobile payment platforms facilitate the process of tracking business spending by offering capabilities such as cost categorization and thorough descriptions of financial transactions [39]. This assists businesses and individuals in making sure they are correctly deducting expenses and complying with national tax regulations [40]. Transparency is increased by mobile payment, Falk et al. [41], but there's a chance that some people or businesses will try to avoid paying taxes by hiding cash sales in off-book transactions [42]. These dangers may be somewhat reduced by the regulatory regulations that many mobile payment platforms must comply with. These requirements include reporting transactions that over specific criteria [43].

The purpose of a few earlier research was to assess how mobile money services affected Zambian taxpayer compliance such as [44]. According to earlier research, using mobile money increases tax compliance such as [44]. Through the above discussion, we build the following hypothesis:

$H_{1:}$ There is a positive relationship between mobile payment and tax compliance

2.2. Online Banking and Tax Compliance

Maintaining records of financial transactions, such as income, expenses, and transfers, is made simple with online banking [45]. This lessens the chance of errors or omissions on tax returns by assisting taxpayers in accurately reporting their income and deductions [46]. With real-time financial activity monitoring available through online banking, taxpayers can spot irregularities or strange transactions that could compromise their tax compliance more easily [47]. By doing this, taxpayers can identify possible tax problems early on and take appropriate action [48]. Taxpayers can electronically pay their taxes due, including income taxes and estimated taxes, by using online banking [49]. In addition to lowering the possibility of late payments or penalties for non-compliance, this can expedite the tax payment procedure [50].

Prior research on this subject was conducted when some countries' revenue authority replaced integrated tax management systems with the iTax system, which provided online filing services [51]. Prior research has indicated that computer literacy and online banking usage are two independent variables that significantly influence tax compliance levels in both people and businesses, such as [51]. The authors developed the following hypothesis in light of the discourse mentioned above:

$H_{1:}$ There is a positive relationship between online banking and tax compliance

2.3. Digital Wallets and Tax Compliance

Users can more easily keep track of their income and expenses with the help of digital wallets, which offer comprehensive records of all financial transactions, including sales and purchases [52]. For tax purposes, this can make it easier to accurately declare income and deductions [53]. Certain digital wallets are equipped with functions that compute taxes owed, classify transactions automatically, and provide reports [54]. Users can keep organized and guarantee compliance with different tax rules with the aid of this automation [55]. Because different countries have distinct tax laws and reporting requirements in different jurisdictions, digital wallets make it easier to transact across international boundaries and geographical regions [56]. However, they also help to prevent double taxation [57]. Due to the complicated tax laws governing cryptocurrencies in many jurisdictions, certain digital wallets support cryptocurrency, which could make tax reporting more difficult [58]. Tax authorities may demand that taxpayers disclose bitcoin transactions separately since they are becoming more and more of a focus [59]. Digital wallets might be secure and convenient, but they can also cause privacy issues [60]. Digital wallet transactions may be less visible to tax authorities, which could result in underreporting of income, deductions, and tax filing [61].

According to earlier research, writers contend that a genuinely anonymous bitcoin wallet for minor consumer transactions would improve tax compliance in addition to facilitating efficient corporate and individual monitoring such as [62, 63]. Digital payments and tax compliance have a favorable and statistically significant association, according to empirical findings from earlier research such as [64]. Based on the above dialogue, the authors built the following hypothesis:

$H_{3:}$ There is a positive relationship between digital wallets and tax compliance

3. Research Design

The purpose of the correlational design of the article is to ascertain the strength and direction of the association between tax compliance and electronic payment methods. In order to quantify the association between electronic payment methods (such as mobile payments, online banking, and digital wallets) and tax compliance, this study uses a quantitative research methodology.

3.1. Sample Selection and Data Collection

By utilizing electronic payment systems, taxpayers' compliance behavior is influenced by behavioral mechanisms that this article helps to explore. To achieve this, a survey is conducted to learn how taxpayers' desire to comply with tax duties when using electronic payment channels is influenced by elements like convenience, transparency, and trust.

3.2. Measure

This study's design makes use of quantitative research techniques. In this study, tax compliance is the dependent variable, and electronic payment methods are the independent variable. In this study, questionnaire approaches were employed as data gathering methods.

4. Data Analysis

The population of the study is represented by those charged with paying taxes and working in the Tax Authority. The sample was calculated using statistical methods. The researchers chose a sample size of 187 individuals. The data was collected through a questionnaire that was in Arabic because the population is Arabic speakers. Then it was translated into English, and the data was analyzed using the SPSS program.

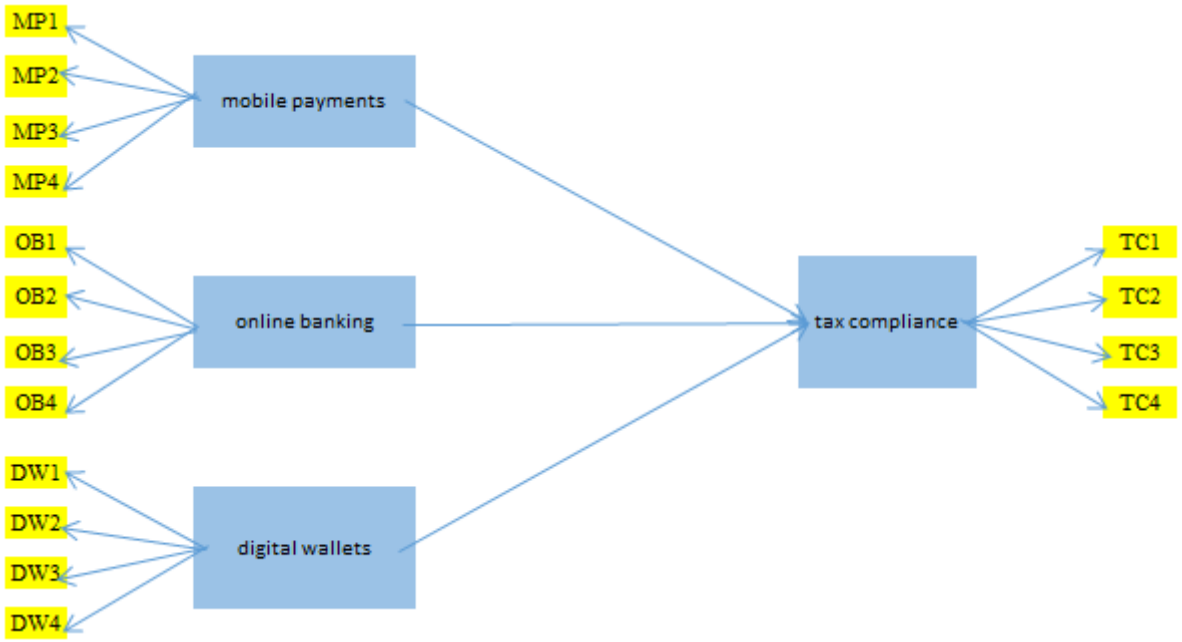

Figure 1.
Framework of study.

Framework of study is a figure that shows the relationships between study variables.

4.1. Profile of Respondents

Table 1 shows the demographic data of the study sample members in terms of gender, with 69% being male and the rest being female. In terms of age, 39% of the study sample are in their thirties, followed by 29% who are in their forties. As for academic qualifications, it is noted that 49% of the study sample are qualified with a bachelor's degree, followed by 22% with a diploma. As for professional qualifications, the majority do not have professional fellowships. It is also noted that the specialty of those who deal with taxes is accounting, where the percentage reached 62%. Finally, their experience ranges from 11 to 15 years for 33%, followed by 30% for those whose experience ranges from 5 to 10 years.

Table 1.
Frequencies and percentage.

			Frequency	Percentage
Panel: A	Gender	Male	129	69.0
		Female	58	31.0
		Total	187	100.0
Panel: B	Age	Less than 30 years old	6	3.0
		From 30 – 40 years old	73	39.0
		From 41 – 50 years old	54	29.0
		From 51 – 60 years old	41	22.0
		Above 60 years old	13	7.0
		Total	187	100.0
Panel: C	Qualification	Diploma	41	22.0
		Bachelor	92	49.0
		Postgraduate Diploma	34	18.0
		Master	4	2.0

			Frequency	Percentage
		PhD	17	9.0
		Total	187	100.0
Panel: D	Professional Qualification	Arab Fellowship	15	8.0
		British Fellowship	4	2.0
		American Fellowship	19	10.0
		Nothing	103	55.0
		Other	47	25.0
		Total	187	100.0
Panel: E	Specialization	Accounting	116	62.0
		Banking Sciences	24	13.0
		Information Technology	32	17.0
		Business Administration	13	7.0
		Other	2	1.0
		Total	187	100.0
Panel: G	Experience	Above 20 years	9	5.0
		From 16-20 years	41	22.0
		From 11-15 years	62	33.0
		From 5-10 years	56	30.0
		Less than 5 years	19	10.0
		Total	187	100.0

Table 2.
Descriptive statistics of the variable's indicators.

Mobile payments			
Indicators		**Mean**	**Std. Deviation**
MP1	Increased Transparency	3.85	0.195
MP2	Automated Recordkeeping	4.00	1.030
MP3	Digital Payments	3.95	0.859
MP4	Cross-Border Transactions	4.01	0.912
Weighted Mean			3.95
Weighted Std. Deviation			0.749
Online banking			
Indicators		Mean	Std. Deviation
OB1	Improved Record-keeping	3.87	1.001
OB2	Real-time Monitoring	4.00	0.992
OB3	Electronic Payments	4.00	0.862
OB4	Cybersecurity Risks	3.99	1.259
Weighted Mean			3.97
Weighted Std. Deviation			1.029
Digital wallets			
Indicators	Transaction Tracking	Mean	Std. Deviation
DW1	Automation	4.40	0.965
DW2	Cross-Border Transactions	4.22	1.111
DW3	Cryptocurrency Transactions	3.69	0.965
DW4	Privacy Concerns	3.85	0.258
Weighted Mean			4.04
Weighted Std. Deviation			0.825
Tax compliance			
Indicators		Mean	Std. Deviation
TC1	Adherence to rules, regulations and laws	4.50	1.089
TC2	Reporting and paying taxes	4.12	1.101
TC3	Submit tax returns accurately and in a timely manner	4.25	0.895
TC4	Pay the required amount of taxes due	5.00	0.933
Weighted Mean			4.47
Weighted Std. Deviation			1.005

Table 2 shows the mean and standard deviation of the sample members' answers, as the average of the answers for the first axis, mobile payments, is 3.95, with a standard deviation of 0.749, the second axis, online banking, is 3.97, with a standard deviation of 1.029, and the third axis, electronic wallet, is 4.04, with a standard deviation of 0.825. The dependent variable, tax liability, is 4.47, with a standard deviation of 1.005. This indicates that the study population uses electronic payment methods in its business and daily life, and this helps in the smooth process of paying taxes.

4.2. Reliability Indicator and Internal Consistency Reliability

Table 3 contains the first column for the statement, which shows the study variables. The second column indicates the number of statements for each variable. An indicator of internal consistency dependability that gauges how closely connected a group of items is to one another is Cronbach's alpha. Higher values on the scale of 0 to 1 denote increased reliability. Since all of the alphas in this instance are somewhat high, the items within each category have good internal consistency. Mobile payments: There are four items in this category. With an internal consistency score of 0.77, Cronbach's Alpha indicates moderate to good reliability. Hotelling's T-Squared statistic indicates that there are statistically significant variations in mean scores between groups for mobile payments, with an associated F-statistic of 32.152 and a significant p-value of 0.000. Online banking: This category has four elements as well, much like mobile payments. When compared to mobile payments, the internal consistency is marginally better, as indicated by the slightly higher Cronbach's Alpha of 0.79. Hotelling's T-Squared statistic indicates statistically significant variations in mean scores across groups for internet banking (79.123), with an associated F-statistic of 41.258 and a significant p-value of 0.000. Digital wallets: There are four products in this category as well. There is strong internal consistency, as indicated by the Cronbach's Alpha of 0.81. Hotelling's T-Squared statistic is 75.001, corresponding to a statistically significant difference in mean scores across groups for digital wallets (F-statistic of 40.951, significant p-value of 0.000). Tax compliance: There are four items in this category. With a comparatively high Cronbach's Alpha of 0.89, very good internal consistency is indicated. Hotelling's T-Squared statistic indicates statistically significant variations in mean scores between groups for tax compliance, with an associated F-statistic of 52.654 and a significant p-value of 0.000.

Table 3.
Reliability indicator and Internal consistency reliability.

	N of Items	Cronbach's Alpha	Hotelling's T-Squared	F	Sig
Mobile payments	4	0.77	60.120	32.152	0.000
Online banking	4	0.79	79.123	41.258	0.000
Digital wallets	4	0.81	75.001	40.951	0.000
Tax compliance	4	0.89	82.985	52.654	0.000

4.3. Correlation Coefficient

A statistical tool for determining the direction and intensity of a relationship between two variables is the correlation coefficient. It was utilized in this study to determine the association between the independent and dependent variables and to arrive at study conclusions. Its range is -1 to +1 [11]. The relationships between online banking and mobile payments are shown by these correlation coefficients, with a Pearson correlation of 0.528 and a significance level of 0.000 (significant at the 0.01 level). Empirical evidence indicates a somewhat positive correlation between mobile payments and internet banking. Online banking generally rises in tandem with the rise in mobile payments. The Pearson correlation coefficient between digital wallets and mobile payments was 0.608, with a significance level of 0.000 (very significant at the 0.01 level). This suggests a strong positive association between digital wallets and mobile payments. The use of digital wallets typically rises in tandem with an increase in mobile payments. The Pearson correlation coefficient between digital wallets and online banking services was 0.569, with a significance level of 0.000 (very significant at the 0.01 level). This suggests a strong positive association between the two. The use of digital wallets tends to rise along with the amount of online banking activity. The Pearson correlation between tax compliance and mobile phone payments was 0.785, with a significance level of 0.000 (very significant at the 0.01 level). These results suggest a substantial positive association between tax compliance and mobile phone payments. Higher levels of tax compliance are typically linked to increased usage of mobile payments. Moreover, there is a substantial positive link between online banking services and tax compliance, as indicated by the Pearson correlation between the two variables of 0.698 and significance of 0.000 (very significant at the 0.01 level). Higher levels of tax compliance are typically correlated with increased usage of online banking. The Pearson correlation coefficient between digital wallets and tax compliance was 0.853, with a significance level of 0.000 (very significant at the 0.01 level). This suggests a strong positive association between digital wallets and tax compliance. Higher levels of tax compliance are typically closely correlated with the use of digital wallets.

These connections imply that tax compliance and a number of digital financial services (including digital wallets, online banking, and mobile payments) are strongly correlated. We also observe that the correlations between the variables result in varying degrees of correlation. For instance, digital wallets, tax compliance, online banking, and mobile payments all have moderate to high positive correlations, indicating that as one variable rises, the others also tend to rise. Strong relationships between the variables are indicated by all of the extremely significant correlations.

Table 4.
Correlations and Coefficient.

		BE	GO	CT	GO
Mobile Payments	Pearson Correlation	1	0.528	.608*	0.785
	Sig.		0.000	0.000	0.000
Online Banking	Pearson Correlation		1	.569**	0.698
	Sig.			0.000	0.000
Digital Wallets	Pearson Correlation			1	0.853
	Sig.				0.000
Tax Compliance	Pearson Correlation				1
	Sig.				

Note: **. Correlation is significant at the 0.01 level

4.4. Hypothesis Testing Result

Concerning the relationship between different financial transactions and tax compliance, beta coefficients, standard deviations, and T-statistics are relevant. in particular, the connection between tax compliance and all forms of financial transactions, including digital wallets, internet banking, and mobile payments. β (Beta): The direction and strength of the association between tax compliance and each kind of financial transaction are shown by beta coefficients. An inverse relationship is indicated by a negative beta, whereas a positive beta denotes a positive link. STDEV: The beta coefficient's standard deviation is shown in this column. relates to estimations of the beta coefficient's variation or dispersion. T: Each independent variable's significance is gauged by the T statistic. By dividing the beta coefficient by its standard error, it may be computed. To determine whether the estimated coefficient deviates significantly from zero, the T statistic is employed.

First hypothesis: The association between mobile payments and tax compliance is negative, as indicated by the beta coefficient of -0.139, which is the hypothesis under test. The coefficient is significant at the 0.05 level, according to the T statistic of -2.005.

The second hypothesis is that tax compliance and online banking are positively correlated, however, not statistically significant at conventional levels (beta coefficient = 0.183). The coefficient is not statistically significant at conventional levels, according to the T statistic of 1.099.

The third hypothesis is that there is a negative correlation between tax compliance and digital wallets, as indicated by the beta coefficient of -0.231. The coefficient is extremely significant, as indicated by the T statistic of 14.815.

These findings suggest that while internet banking does not appear to have a statistically significant association with tax compliance in this model, mobile payments and digital wallets appear to have statistically significant relationships with tax compliance.

Table 5.
Hypothesis Testing.

Hypothesis	β	STDEV	T	R	R2	F	Sig.
mobile payments -> tax compliance	-0.139	0.319	-2.005	1.0125	0.958	12.854	0.000
online banking -> tax compliance	0.183	0.098	1.099				
digital wallets -> tax compliance	-0.231	0.194	14.815				

5. Discussion

We discovered that electronic payment methods—such as mobile payments, online banking, and digital wallets—offer efficiency and convenience in financial transactions, based on the data gathered from both theoretical and practical analyses. The convenience of electronic payment incentivizes both individuals and businesses to file their taxes correctly and make timely payments to the state. Digital transaction tracking is one of the primary benefits of using electronic payment methods. In this study, we investigated the relationship between tax compliance and increased traceability and transparency. Digital payment records, for instance, create an electronic trail that tax authorities may readily access and verify, potentially lowering the likelihood of tax evasion and underreporting of taxable income.

Through this study, we explored how taxpayer behavior is impacted by the design of electronic payment systems from the standpoint of behavioral economics. For instance, people may choose to voluntarily comply with tax duties if alerts or reminders are used within digital platforms. We investigated the ways in which psychological elements including reciprocity, social norms, and perceived justice influence taxpayers' decisions about paying taxes on time and avoiding fines. Electronic payment methods provide significant advantages, but there are drawbacks as well, particularly with regard to tax compliance. To assure compliance in the digital economy, creative solutions are needed to address potential problems like the growth of informal electronic transactions, the anonymity of digital payments, and cybersecurity concerns, which impede tax administration activities. It was thought about how electronic payment systems will affect tax compliance politically. To improve tax enforcement and deterrence tactics, governments and tax authorities can make use of technology and data analytics. Furthermore, cutting-edge developments include the application of blockchain technology to provide transparent and unchangeable tax data.

6. Conclusion

The findings of the regression analysis that was supplied allow us to make the following deductions about how electronic payment methods affect tax compliance. Tax compliance and mobile payment have a statistically significant negative association, according to the report. This implies that tax liabilities tend to reduce with an increase in the use of mobile payments. Additional research is required to comprehend the causes of this unfavorable correlation. Online banking and tax compliance have a favorable association; however, the coefficient is not statistically significant. This suggests that, in the investigated setting, online banking might not have a major effect on tax compliance. Further investigation will examine plausible elements that lead to this dearth of significance. The findings demonstrate a statistically significant inverse association between tax compliance and digital wallet use. This indicates that lower levels of tax compliance are linked to increased use of digital wallets. Future investigations are required to examine the possible reasons underlying this relationship's negative correlation.

7. Implication of Study

According to the findings, there is a negative correlation between tax compliance and mobile payments (a negative beta coefficient is indicative of this). This indicates that the tax compliance levels of people or businesses that use mobile payments are lower. Potential outcomes consist of:

- To incentivize customers to correctly file and pay taxes, mobile payment providers must add or enhance tax compliance tools.
- Tax authorities should create specialized enforcement or surveillance plans aimed at people or companies that use mobile payments extensively.

The association between online banking and tax compliance is positively correlated; however, the beta coefficient is not statistically significant. This suggests that there may be little to no effect of internet banking on tax compliance. Potential outcomes could include:

- More investigation into the precise connection between tax compliance and online banking.
- Governments and financial institutions may consider incorporating tax reporting features or offering tax education materials as strategies to improve tax compliance by utilizing online banking platforms.

Digital wallets and tax compliance are strongly negatively correlated, as indicated by a negative beta coefficient with a high degree of significance. The following are some of the effects:

- To guarantee compliance, tax authorities should keep a careful eye on transactions done using digital wallet systems.
- To increase user compliance, digital wallet providers should either work with tax authorities or put in place strong tax reporting procedures.
- Regulatory actions or financial incentives are being considered by policymakers in an effort to promote more tax compliance among users of digital wallet systems.

8. Limitation of Study and Future Suggestion and Recommendations

Contextual elements that can affect the relationship between electronic payment methods and tax compliance, such as regulatory contexts, technological infrastructure, or socioeconomic conditions, are sufficiently taken into account in this study. Future studies can consider these characteristics as they may vary across different countries, setting the stage for a more in-depth examination of these variations.

To improve tax compliance, we advise tax authorities and policymakers to make use of electronic payment options. Incentives and payments are used to either compel or encourage taxpayers to use electronic payment channels. User-friendly interfaces are also created to simplify the process for taxpayers to file their taxes online and prevent tax evasion.

References

[1] J. Liu, R. J. Kauffman, and D. Ma, "Competition, cooperation, and regulation: Understanding the evolution of the mobile payments technology ecosystem," *Electronic Commerce Research and Applications*, vol. 14, no. 5, pp. 372-391, 2015.

[2] B. U. I. Khan, R. F. Olanrewaju, A. M. Baba, A. A. Langoo, and S. Assad, "A compendious study of online payment systems: Past developments, present impact, and future considerations," *International Journal of Advanced Computer Science and Applications*, vol. 8, no. 5, 2017. https://doi.org/10.14569/ijacsa.2017.080532

[3] P. Casey and P. Castro, *Electronic fiscal devices (EFDs) an empirical study of their impact on taxpayer compliance and administrative efficiency*. International Monetary Fund, 2015.

[4] D. Musimenta, S. K. Nkundabanyanga, M. Muhwezi, B. Akankunda, and I. Nalukenge, "Tax compliance of small and medium enterprises: A developing country perspective," *Journal of Financial Regulation and Compliance*, vol. 25, no. 2, pp. 149-175, 2017.

[5] B. Boakye and P. Anaman, *TAX administration and tax evasion in ghana: The challenges, causes, and cures*. Africa Centre for Energy Policy, 2018.

[6] S. Night and J. Bananuka, "The mediating role of adoption of an electronic tax system in the relationship between attitude towards electronic tax system and tax compliance," *Journal of Economics, Finance and Administrative Science*, vol. 25, no. 49, pp. 73-88, 2020.

[7] M. Arewa and S. Davenport, "The tax and technology challenge," *Innovations in Tax Compliance: Building Trust, Navigating Politics, and Tailoring Reform*, 2022.

[8] S. Gupta, M. Keen, A. Shah, and G. Verdier, "Reshaping public finance," *Digital Revolutions in Public Finance*, vol. 1, 2017.

[9] G. Lisanawati and J. Eniola Kehinde, "When technology meets money laundering, what should law do? New products and payment systems and cross border courier," 2017.

[10] Z. S. Benzerrouk, N. H. A. Alnor, E. M. Al-Matari, A. Alhebri, and M. A. Al-bukhrani, "The effect of the banking supervision on anti-money laundering," *Humanities and Social Sciences Letters,* vol. 11, no. 4, pp. 399-415, 2023.
[11] R. A. E. M. Hamza, N. H. Ahmed, A. M. E. Mohamed, M. Y. Bennaceur, A. H. M. Elhefni, and M. M. Elshaabany, "The impact of artificial intelligence (AI) on the accounting system of Saudi companies," *WSEAS Transactions on Business and Economics,* vol. 21, pp. 499-511, 2024.
[12] A. Bostel, "Intelligence-led analytics for anti-financial crime compliance," *Journal of Financial Compliance,* vol. 7, no. 3, pp. 202-221, 2023.
[13] I. M. L. M. Jaya, "Harmonizing accounting and artificial intelligence for the sustainability of the accounting profession," *Artificial Intelligence Approaches to Sustainable Accounting,* pp. 214-228, 2024.
[14] O. Okunogbe and F. Santoro, "The promise and limitations of information technology for tax mobilization," *The World Bank Research Observer,* vol. 38, no. 2, pp. 295-324, 2023.
[15] B. Lepri, N. Oliver, E. Letouzé, A. Pentland, and P. Vinck, "Fair, transparent, and accountable algorithmic decision-making processes: The premise, the proposed solutions, and the open challenges," *Philosophy & Technology,* vol. 31, no. 4, pp. 611-627, 2018.
[16] S. Kethineni and Y. Cao, "The rise in popularity of cryptocurrency and associated criminal activity," *International Criminal Justice Review,* vol. 30, no. 3, pp. 325-344, 2020.
[17] V. P. Vishnevsky and V. D. Chekina, "Robot vs. tax inspector or how the fourth industrial revolution will change the tax system: a review of problems and solutions," *Journal of Tax Reform. 2018. T. 4.№ 1,* vol. 4, no. 1, pp. 6-26, 2018.
[18] N. H. A. Alnor, E. M. Al-Matari, T. E. B. Mohmed, H. M. Berradia, A. M. E. Mohamed, and Z. S. Benzerrouk, "The effect of developing human capabilities on the company's performance through developing the company's capabilities," *Wseas Transactions on Business and Economics,* vol. 21, pp. 95-108, 2024.
[19] R. Awasthi *et al.*, "The benefits of electronic tax administration in developing economies: A Korean case study and discussion of key challenges," *World Bank,* 2019.
[20] N. R. Mosteanu and A. Faccia, "Digital systems and new challenges of financial management–FinTech, XBRL, blockchain and cryptocurrencies," *Quality–Access to Success,* vol. 21, no. 174, pp. 159-166, 2020.
[21] B. Houcine, M. Kerroumia, A. Abdelkader, T. K. T. Ibrahim, N. H. A. Alnor, and H. Berradia, "Analysis of the Relationship between Domestic Savings and Domestic Investment in Saudi Arabia," *WSEAS Transactions on Business and Economics,* vol. 20, pp. 2077-2088, 2023.
[22] P. Xu, J. Lee, J. R. Barth, and R. G. Richey, "Blockchain as supply chain technology: Considering transparency and security," *International Journal of Physical Distribution & Logistics Management,* vol. 51, no. 3, pp. 305-324, 2021. https://doi.org/10.1108/ijpdlm-08-2019-0234
[23] W. Al-Saqaf and N. Seidler, "Blockchain technology for social impact: Opportunities and challenges ahead," *Journal of Cyber Policy,* vol. 2, no. 3, pp. 338-354, 2017. https://doi.org/10.1080/23738871.2017.1400084
[24] A. Brockmeyer and M. Sáenz Somarriba, "Electronic Payment Technology and Tax Compliance: Evidence from Uruguay's Financial Inclusion Reform," 2022.
[25] S. S. A. Kessy, "Electronic payment and revenue collection in local government authorities in Tanzania: Evidence from Kinondoni municipality," *Tanzanian Economic Review,* vol. 9, no. 2, 2020.
[26] R. S. Etim, M. S. Jeremiah, and P. B. Dan, "Tax compliance and digitalization of Nigerian economy: The empirical review," *American International Journal of Social Science,* vol. 9, no. 2, pp. 42-50, 2020. https://doi.org/10.30845/aijss.v9n2p5
[27] G. Lala, "The emergence and development of the technology acceptance model (TAM)," *Marketing from Information to Decision,* no. 7, pp. 149-160, 2014.
[28] F. D. Davis, "A technology acceptance model for empirically testing new end-user information systems: Theory and results," 1985.
[29] J. J. Sondakh, "Behavioral intention to use e-tax service system: An application of technology acceptance model," 2017.
[30] E. M. Rogers, A. Singhal, and M. M. Quinlan, "Diffusion of innovations," in An integrated approach to communication theory and research: Routledge, 2014, pp. 432-448.
[31] D. C. Mai'A K, "Rethinking epistemic communities twenty years later," *Review of International Studies,* vol. 39, no. 1, pp. 137-160, 2013.
[32] V. Mosco, *Becoming digital: Toward a post-internet society*. Emerald Publishing Limited, 2017.
[33] C. Pazarbasioglu, A. G. Mora, M. Uttamchandani, H. Natarajan, E. Feyen, and M. Saal, "Digital financial services," *World Bank,* vol. 54, 2020.
[34] C. Dare, "Tax revenue mobilisation: improving personal income tax compliance in South Africa," 2018.
[35] R. O'Dwyer, "Cache society: Transactional records, electronic money, and cultural resistance," *Journal of Cultural Economy,* vol. 12, no. 2, pp. 133-153, 2019.
[36] P. Paroli, "Optimizing tax apparatus performance management in implementing a modern tax administration system," *Atestasi: Jurnal Ilmiah Akuntansi,* vol. 6, no. 2, pp. 785-796, 2023.
[37] S. Hosseini, "Digital accounting systems for sole entrepreneurs," 2022.
[38] S. Eichfelder and F. Hechtner, "Tax compliance costs: Cost burden and cost reliability," *Public Finance Review,* vol. 46, no. 5, pp. 764-792, 2018. https://doi.org/10.1177/1091142117691603
[39] N. Iman, "Is mobile payment still relevant in the fintech era?," *Electronic Commerce Research and Applications,* vol. 30, pp. 72-82, 2018. https://doi.org/10.1016/j.elerap.2018.05.009
[40] A. R. Kira, "An evaluation of governments' initiatives in enhancing small taxpayers' voluntary tax compliance in developing countries," *International Journal of Academic Research in Accounting, Finance and Management Sciences,* vol. 7, no. 1, pp. 253-267, 2017.
[41] T. Falk, W. H. Kunz, J. J. L. Schepers, and A. J. Mrozek, "How mobile payment influences the overall store price image," *Journal of Business Research,* vol. 69, no. 7, pp. 2417-2423, 2016. https://doi.org/10.1016/j.jbusres.2016.01.011
[42] M. Higgins, V. Morino, and N. Iyer, "Imperialism, dirty money centres and the financial elite," in The Continuing Imperialism of Free Trade: Routledge, 2018, pp. 139-151.
[43] S.-H. Chun, "E-commerce liability and security breaches in mobile payment for e-business sustainability," *Sustainability,* vol. 11, no. 3, p. 715, 2019.

[44] E. Nsangu and L. Haabazoka, "A study of the effect of mobile money services on tax compliance in Zambia: A case of MFEZ and CBD lusaka," *African Journal of Commercial Studies*, vol. 4, no. 2, pp. 80-92, 2024.
[45] O. Hrytsyna *et al.*, "Development of electronic banking: A case study of Ukraine," 2019.
[46] M. M. Doxey, J. G. Lawson, and S. R. Stinson, "The effects of prefilled tax returns on taxpayer compliance," *The Journal of the American Taxation Association*, vol. 43, no. 2, pp. 63-85, 2021.
[47] M. Mwanza, "Fraud detection on big tax data using business intelligence, data mining tool: A case of Zambia revenue authority," 2017.
[48] D. A. Artemenko, L. A. Aguzarova, F. S. Aguzarova, and E. V. Porollo, "Causes of tax risks and ways to reduce them," 2017.
[49] N. Lailiyah and L. K. B. Sebayang, "Effectiveness of e-billing system in tax payments for taxpayers," *Economics Development Analysis Journal*, vol. 8, no. 4, pp. 267-280, 2019.
[50] A. M. Remali, A. G. Z. Khan, N. Arif, N. Yusri, and N. Zulkifly, "The tendency towards tax non-compliance," *Global Business and Management Research: An International Journal*, vol. 10, no. 2, 2018.
[51] O. T. Gwaro, K. Maina, and J. Kwasira, "Influence of online tax filing on tax compliance among small and medium enterprises in Nakuru town, Kenya," *IOSR Journal of Business and Management*, vol. 18, no. 10, pp. 82-92, 2016. https://doi.org/10.9790/487x-1810028292
[52] M. M. Alam, A. E. Awawdeh, and A. I. B. Muhamad, "Using e-wallet for business process development: challenges and prospects in Malaysia," *Business Process Management Journal*, vol. 27, no. 4, pp. 1142-1162, 2021.
[53] J. D. Blank and L. Osofsky, "Simplexity: Plain language and the tax law," *Emory LJ*, vol. 66, p. 189, 2016.
[54] A. J. Levitin, "Pandora's digital box: The promise and perils of digital wallets," *U. Pa. L. Rev.*, vol. 166, p. 305, 2017.
[55] F. Pasquale, "A rule of persons, not machines: the limits of legal automation," *Geo. Wash. L. Rev.*, vol. 87, p. 1, 2019.
[56] R. Chen, "Policy and regulatory issues with digital businesses," *World Bank Policy Research Working Paper*, no. 8948, 2019.
[57] M. Lang, *Introduction to the law of double taxation conventions*. Linde Verlag GmbH, 2021.
[58] K. Solodan, "Legal regulation of cryptocurrency taxation in European countries," *European Journal of Law and Public Administration*, vol. 6, no. 1, pp. 64-74, 2019.
[59] A. Sabu, "Reframing Bitcoin and Tax Compliance,". *Louis ULJ*, vol. 64, p. 181, 2019.
[60] B. Rajendran, A. K. Pandey, and B. S. Bindhumadhava, "Secure and privacy preserving digital payment," 2017 2017: IEEE, pp. 1-5.
[61] N. Pushkareva, "Taxing times for development: Tax and digital financial services in Sub-Saharan Africa," *Financing for Development*, vol. 1, no. 3, pp. 33-64, 2021.
[62] Š. Jozipovic, M. Perkušić, and S. Gadžo, "Tax compliance in the era of cryptocurrencies and cbdcs: The end of the right to privacy or no reason for concern?," *EC Tax Review*, vol. 31, no. 1, 2022.
[63] S. O. Olabanji, "Technological tools in facilitating cryptocurrency tax compliance: An exploration of software and platforms supporting individual and business adherence to tax norms," *Current Journal of Applied Science and Technology*, vol. 42, no. 36, pp. 27-39, 2023.
[64] J. Joseph and N. Ramalingam, "Do digital payments enhance tax revenue? Evidence from India," *Gulati Institute of Finance and Taxation, Thiruvananthapuram, India, Discussion paper-2023*, vol. 1, pp. 1-41, 2023.