

Tax Digitalization and Justice with Taxpayer Compliance and the Mediating Role of Tax Awareness

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ABSTRACT

This study investigates the impact of tax information digitalization and tax fairness on taxpayer compliance, with tax awareness as a mediating variable. **Taxpayer compliance** is critical for government financial performance, yet tax revenues in Indonesia remain below target. Despite government efforts to improve tax compliance through reforms, internal and external taxpayer factors still significantly influence compliance behavior. The study focuses on the need for policy improvements to address these issues. While prior studies have analyzed tax compliance, few have examined the interplay between tax digitalization, fairness, and awareness in Indonesia. This research makes a unique contribution by investigating these variables in Surabaya, an industrial hub, offering a localized yet impactful perspective on tax compliance in a dynamic economic region. **Using a survey of 200 taxpayers** in Surabaya and discussions through a Focus Group Discussion with **15 participants**, this research aims to provide insights into the effectiveness of government tax reform policies. **The results** indicate that digitalization of tax information, fairness, and awareness positively impact taxpayer compliance. Tax awareness strengthens the relationship between digitalization and compliance, but it does not mediate the effect of tax fairness on compliance. **The findings** suggest that continued efforts to enhance tax information systems and address fairness perceptions are essential for improving compliance.

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1. INTRODUCTION

Tax revenue is one of the most significant sources of state funding, contributing significantly to national development. However, despite the Indonesian government ongoing efforts to improve tax compliance, challenges persist. These include delays in tax payments, significant tax sanctions, and deliberate failures to comply, largely attributed to both internal and external factors affecting taxpayer behavior. Internal factors such as education, income level, and culture influence taxpayers attitudes towards compliance. At the same time, external factors such as government policies and macroeconomic conditions also play a crucial role. The complexity of these factors necessitates a closer examination of the underlying elements driving tax compliance, especially in the digital era [1, 2].

While prior studies have extensively examined tax compliance, few have focused on the intersections of tax digitalization, fairness, and awareness. Research in Indonesia, particularly in industrial cities like

Surabaya, is sparse, and a localized study exploring these factors interplay remains underexplored [3]. This gap is significant, as understanding the role of digitalization in shaping taxpayer behavior can help improve government strategies to enhance tax compliance and foster a more equitable taxation system [4, 5].

The government has implemented tax reforms, including digitalizing tax information, to make tax-related processes more transparent, accessible, and efficient. However, tax justice remains a contentious issue. Despite reforms, taxpayers still report feeling that tax burdens are disproportionate. This study aims to explore how digital tax systems can address perceptions of fairness and, in turn, influence compliance behavior [6–8]. By focusing on the mediating role of tax awareness, the research seeks to uncover how information accessibility and fairness perceptions contribute to a more compliant taxpayer base [9–12].

However, this study is not without limitations. The geographic focus on Surabaya limits the ability to generalize the findings to other regions of Indonesia, particularly rural areas where tax compliance challenges may differ. Additionally, the cross-sectional nature of the study restricts the ability to track changes in taxpayer behavior over time, an area that future research could address with a longitudinal approach [13, 14]. Furthermore, this study relies on self-reported data, which may introduce biases in the findings [15, 16].

The research aligns with several Sustainable Development Goals (SDGs), particularly SDG 16 (Peace, Justice, and Strong Institutions) and SDG 8 (Decent Work and Economic Growth) [17]. By improving tax compliance and ensuring a fair tax system, the findings aim to contribute to the goal of building effective, accountable, and transparent institutions at all levels. Moreover, fostering a tax-compliant society supports economic growth by ensuring governments have the resources to invest in public services and infrastructure, ultimately benefiting all citizens [18].

2. LITERATURE REVIEW

2.1. Dual Process Theory and Attribution Theory

Dual process theory illustrates how individual attitudes develop towards processes of concern. These attitudes are shaped by perceptions based on experiences, observations, and taxation phenomena within their environment [19]. Individual attitudes can manifest as either positive or negative behaviors toward taxation. A positive attitude emerges when taxpayers perceive that taxes collected by the government provide significant contributions and tangible benefits to citizens, such as improving public services and boosting the community economy. Conversely, a negative attitude arises when taxpayers believe that tax revenues are misused by tax officials, leading to corruption and negative perceptions of the taxation system [20, 21].

Attribution theory further explains how individuals interpret events, focusing on the underlying causes of their behaviors. For taxpayers, behaviors stem from a combination of internal and external forces [22]. Internal forces may include personal ethics, awareness, or education, while external forces encompass governmental actions, public trust, and visible practices of tax enforcement. For instance, taxpayers who observe fair and efficient use of tax funds are likely to adopt compliant behaviors. However, perceptions of misuse can lead to skepticism and non-compliance [23]. If taxpayers observe the behavior of others, they are influenced to determine the causes of those behaviors and use these observations as a basis for their own actions [24].

Furthermore, digitalization tools, such as e-filing systems and online payment platforms, play a crucial role in shaping these attitudes. By streamlining tax reporting and payment processes, these tools enhance accessibility and efficiency, reducing errors and delays. As taxpayers gain positive experiences with these systems, they develop greater trust and compliance behaviors, further reinforcing the principles of attribution theory [25, 26].

2.2. Digitalization of Tax Information and Taxpayer Compliance

Taxpayer compliance in fulfilling tax obligations is formed due to the easy of access to information [27]. High technological demands encourage the government to develop tax applications that facilitate tax reporting. For the government itself, digitalization increases the efficiency and transparency of the process, providing media and systems that assist in fulfilling tax obligations [28, 29]. The digitization of tax information causes taxpayers to have the same perception of tax regulations; taxpayers will increasingly understand and be aware of their obligations, reduce the possibility of delays or sanctions, reduce errors and potential fraud, and help taxpayers resolve technical problems faced during the payment and reporting process. The positive impact taxpayers feel increases their compliant attitude to fulfilling tax obligations [30–32].

H1: Digitalization of tax information encourages increased taxpayer compliance

2.3. Tax Fairness and Taxpayer Compliance

Tax justice can be seen in who pays more and who pays less. If taxpayers are unfairly treated in terms of tax burden, this will cause non-compliance because taxpayers feel unfairly burdened [33, 34]. Taxpayer fairness can also be seen from their perception of the tax administration process, referring to sanctions that are considered disproportionate, reinforced by the sense of moral obligation of taxpayers to comply with tax regulations, as well as perceptions related to trust in the government. Taxpayers will be disobedient when the lousy perception is understood, and the treatment is unequal. However, if taxpayers believe the government is fair and applies tax funds wisely and fairly, they will be more obedient in fulfilling tax obligations [35].

2.4. Tax Awareness and Taxpayer Compliance

Taxpayer compliance grows with understanding and positive attitudes toward the goals and benefits of government taxation. Social and moral norms, transparency, and trust in the government often influence tax awareness [36]. Effective tax education, both through formal education systems and the socialization of tax officers, can increase taxpayer awareness. The higher taxpayer awareness, the more likely they are to comply with tax regulations. Low tax awareness is a significant obstacle to taxpayer compliance in developing countries like Indonesia. Trust in the government must be increased, corruption levels must be reduced, and transparent tax management must encourage taxpayer awareness and compliant behaviour.

2.5. Digitalization of Tax Information and Tax Fairness Towards Taxpayer Compliance with Tax Awareness as a Mediating Variable

Digital technology is used to manage, store, and distribute tax data. Tax information systems, e-filing platforms, and other digital tools greatly assist taxpayers in fulfilling their tax obligations [37–39]. The benefits of digitizing tax information include increasing accessibility and convenience, transparency and accuracy, supervision and law enforcement. The great benefits encourage taxpayers to increasingly understand their tax obligations and rights. Digitalization allows taxpayers to access relevant tax information that can improve taxpayer understanding. Good tax awareness, supported by easy access to information through digital platforms, increases taxpayer motivation to comply with tax obligations.

2.6. Tax Justice and Tax Fairness Towards Taxpayer Compliance with Tax Awareness as a Mediating Variable

Tax fairness is vital in shaping taxpayers perceptions and motivating them to comply with tax obligations [40]. Fairness in tax administration and the use of tax proceeds can increase taxpayer satisfaction and support taxpayer compliance. Taxpayers who feel that taxes are collected relatively and transparently tend to be more motivated to comply with their tax obligations. Conversely, unfairness can lead to dissatisfaction and tax avoidance. By increasing understanding and information about the tax system, tax awareness serves as a mediator that influences how taxpayers accept and support the principle of tax justice [41, 42]. Increasing tax awareness can strengthen the relationship between tax fairness and compliance, resulting in a more effective and fair tax system.

3. RESEARCH METHODS

3.1. Design

The hypothesis test of this study uses a mediation regression test and is also an explanatory study to try to explain the existing phenomenon. Data testing uses direct regression testing and indirect testing through path analysis. Path analysis is an extension of multiple regression that makes the model more complex [43]. Path analysis is preferred to determine the consistency of data with the model. Usually used on more complex data and to determine which model is most appropriate among different models. This study also includes survey research that collects information from taxpayer respondents who have fulfilled their tax obligations.

The research design begins with direct regression testing independent variables (digitization of tax information, tax fairness) against the dependent variable (taxpayer compliance). The second test is carried out indirectly by entering the mediating variable (tax awareness) and testing the tax awareness variable against taxpayer compliance. The mediating variable is not just a correlation between the independent and dependent variables [44]. The mediating variable is expected to be able to explain the extent to which the mediating variable explains the relationship between the independent and dependent variables so that this study is expected

to enrich the explanation of the phenomenon of taxpayer behavior while developing a complex theory and making a solid contribution to changes in tax policy in Indonesia [45].

The third test was conducted directly by adding control variables, namely gender, education, type of taxpayer, accuracy of tax payment, tax payment reporting, tax sanctions, and tax bills. This was done to eliminate the influence of other variables that might affect the taxpayer compliance variable. Researchers deliberately created the control variables to deepen the analysis results. The control variables were determined from internal taxpayer factors in the form of individual characteristics suspected of influencing taxpayer compliance [46, 47]. The control variables were derived from internal taxpayer factors, specifically individual characteristics believed to influence taxpayer compliance. Variables such as gender and education were included to account for potential demographic impacts on compliance. For example, education level is associated with taxpayers ability to navigate digital platforms, while gender differences may reflect diverse perceptions of tax fairness. The control variables in the study were used only to deepen the analysis of the results of the regression test of the independent variables [48].

3.2. Vignettes

This study uses a regression test tool with several variables, namely digitalization of tax information, tax fairness, tax awareness, and taxpayer compliance. The variables use a Likert measurement scale with a range of values 1 to 4 for the perception level of strongly disagree (STS), disagree (TS), agree (S), and strongly agree (SS). Digitalization of tax information is a variable that measures taxpayer perceptions of the use of technological reforms implemented by the government today [49, 50]. Taxpayers have fulfilled their tax obligations, starting from registration of main numbers, issuance of tax bills, tax payments, tax reporting, filing objections and appeals, and submitting tax facilities or incentives electronically on the tax website. Has digitalized tax information met taxpayer expectations and provided ease of use? Tax fairness is a variable that measures taxpayer perceptions of applying tax rates [51].

Table 1. Variable Definition Table

Variable Name	Description	Variable Type	Operationalization
Digitalization of Tax Information	Independent variable	Interval	Likert scale 1-4: 1 = strongly disagree to 7 = strongly agree
Tax Justice	Independent variable	Interval	Likert scale 1-4: 1 = strongly disagree to 7 = strongly agree
Tax Awareness	Mediating variable	Interval	Likert scale 1-4: 1 = strongly disagree to 7 = strongly agree
Taxpayer Compliance	Dependent variable	Interval	Likert scale 1-4: 1 = strongly disagree to 7 = strongly agree
Gender	Control variable	Dummy	0 = female; 1 = male
Education Level	Control variable	Categorical	1 = junior high school; 2 = senior high school; 3 = undergraduate; 4 = master/doctoral
Taxpayer Type	Control variable	Categorical	1 = employee taxpayer; 2 = business owner taxpayer; 3 = taxpayer with independent business
Timely Tax Payment	Control variable	Dummy	1 = yes; 0 = no
Tax Reporting	Control variable	Dummy	1 = yes; 0 = no
Tax Payment	Control variable	Dummy	1 = yes; 0 = no
Tax Penalty	Control variable	Dummy	1 = yes; 0 = no

The government has implemented the applicable tax rates and made several changes since the pandemic to provide a sense of justice in taxation. Taxpayers with higher incomes should be subject to higher tax rates and vice versa so taxpayers do not feel burdened to fulfill their tax obligations. Tax awareness is a variable that measures taxpayer perceptions of their intentions to pay and report taxes on time. A positive view of taxes forms tax awareness. Taxpayer compliance is a variable that measures taxpayers perceptions of the implementation of tax obligations where taxpayers pay and report taxes correctly, never receive tax sanctions, and never receive warnings or late tax bills. This study also adds control variables, namely gender, education, type of taxpayer, accuracy of tax payments, tax payment reporting, tax sanctions, and tax incentives. Control variables are directed at the characteristics of taxpayers that are suspected of having an impact on taxpayer perceptions and behavior. Taxpayer characteristics are sometimes not formed by human instincts. Still, they are also formed due to natural phenomena or external conditions such as the country economy, politics, social society, culture, religious beliefs, etc. The questionnaire description is summarized in Table 1.

3.3. Respondents and Data

This research is a survey research. The sampling method used is nonprobability sampling, and the sampling technique used is judgment sampling. The sampling criteria are taxpayers who already have a taxpayer identification number or who have registered. The respondents selected are those domiciled in the city of Surabaya because the city of Surabaya is the largest in Indonesia, has a large population, has the most significant number of taxpayers, and is a growing industrial city. Questionnaires were distributed directly and accompanied by interviews to obtain representative respondents and to dig up additional information. The results of the distribution of questionnaires obtained as many as 202, and those that could be tested were 200. Two questionnaires were not filled out. The results of the respondent description test are shown in Table 2.

Table 2. Respondent Description

Description	Detail	Count	Percentage
Gender	Female	92	0.46
	Male	108	0.54
Education Level	High School	53	0.27
	Bachelor Degree	139	0.70
	Master Degree	8	0.04
Type of Taxpayer	Employee	166	0.83
	Business Owner	27	0.14
	Independent Worker	7	0.04
Timeliness of Tax Payment	On Time	178	0.89
	Late	22	0.11
Timeliness of Tax Reporting	On Time	171	0.86
	Late	29	0.15
Tax Penalty	Yes	14	0.07
	No	186	0.93
Tax Incentive	Yes	6	0.03
	No	194	0.97

The initial step before hypothesis testing is variable description testing. The results of descriptive statistical testing are shown in Table 3.

Table 3. Description of Research Variables

Variable	Observations	Mean	Std. Dev	Min	Max
Taxpayer Compliance	200	3.27	0.42	2.33	4
Digitalization of Tax Information	200	3.29	0.41	2.17	4
Tax Justice	200	3.28	0.37	2.5	4
Tax Awareness	200	3.22	0.38	2.5	4

Table 4 illustrates the Pearson Correlation Matrix between the main variables of the study, shedding light on the relationships among taxpayer compliance, digitalization of tax information, tax justice, tax awareness, and several control variables.

The analysis reveals a moderate positive relationship between digitalization of tax information and taxpayer compliance ($r = 0.467$), emphasizing that improved digital tools and platforms contribute significantly to enhancing compliance. Similarly, tax awareness shows a moderate positive correlation with compliance ($r = 0.408$), suggesting that better-informed taxpayers are more likely to fulfill their obligations voluntarily.

The table also highlights the interplay between the main variables. Notably, tax justice is strongly correlated with tax awareness ($r = 0.674$), indicating that perceptions of fairness in the tax system can significantly enhance taxpayer understanding and motivation. Additionally, digitalization of tax information is positively related to tax justice ($r = 0.531$) and tax awareness ($r = 0.537$), demonstrating how digital tools improve perceptions of fairness and awareness.

The control variables show varying levels of correlation with taxpayer compliance. Education level has a small positive correlation with compliance ($r = 0.125$), implying that taxpayers with higher educational backgrounds may better understand and adapt to digital tax systems. However, other control variables, such as gender, types of taxpayers, and tax sanctions, exhibit weaker or negligible correlations with compliance, indicating they may play a less prominent role in influencing taxpayer behavior.

Table 4. Pearson Correlation matrix of the main variables

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(8)	(10)	(11)
(1) Compliance	1										
(2) Digitalization	0.467	1									
(3) Tax Justice	0.343	0.531	1								
(4) Tax Awareness	0.408	0.537	0.674	1							
(5) Gender	0.000	0.000	0.000	0.000	1						
(6) Education	0.125	0.042	0.001	0.059	0.181	1					
(7) Types of Taxpayers	0.020	0.041	0.044	0.030	0.002	0.029	1				
(8) Billing	0.090	0.048	0.064	0.014	0.100	0.026	0.022	1			
(9) Reporting	0.050	0.065	0.058	0.122	0.019	0.094	0.079	0.445	1		
(10) Tax Sanctions	0.031	0.056	0.025	0.021	0.057	0.035	0.097	0.467	0.277	1	
(11) Tax Incentives	0.029	0.060	0.052	0.062	0.073	0.039	0.031	0.219	0.094	0.526	1

Table 4 underscores the critical roles of digitalization of tax information and tax awareness in driving taxpayer compliance, with tax justice serving as a key enabler of awareness. These findings reinforce the importance of fostering fairness, enhancing awareness, and investing in digital tools to build a more compliant and equitable tax system.

3.4. Model

Hypothesis testing in this study consists of 3 stages, multivariate regression testing, mediation regression testing, and control variable regression testing. Multivariate regression testing is conducted to test the direct influence of independent variables on dependent variables. Mediation regression testing uses tax awareness variables as mediating variables using path analysis.

Testing of control variables to show other variables, especially taxpayer self-characteristics on dependent variables. Illustration of research model:

Model 1

$$\text{TaxCom}_{ij} = \beta_0 + \beta_1 \text{TaxDig} + \beta_2 \text{TaxFair} + \beta_3 \text{TaxAwar} + \varepsilon_{ij} \quad (1)$$

Model 2

$$\begin{aligned} \text{TaxCom}_{ij} &= \beta_0 + \beta_3 \text{TaxAwar} + \varepsilon_{ij} \\ \text{TaxAwar}_{ij} &= \beta_0 + \beta_1 \text{TaxDig} + \beta_2 \text{TaxFair} + \varepsilon_{ij} \\ \text{TaxCom}_{ij} &= \beta_0 + \beta_1 \text{TaxDig} + \beta_2 \text{TaxFair} + \beta_3 \text{TaxAwar} + \varepsilon_{ij} \end{aligned} \quad (2)$$

Model 3

$$\begin{aligned} \text{TaxCom}_{ij} &= \beta_0 + \beta_1 \text{TaxDig} + \beta_2 \text{TaxFair} + \beta_3 \text{TaxAwar} \\ &\quad + \beta_4 \text{Gender} + \beta_5 \text{Taxpayer} + \beta_6 \text{Billing} \\ &\quad + \beta_7 \text{Report} + \beta_8 \text{Sank} + \beta_9 \text{Insen} + \varepsilon_{ij} \end{aligned} \quad (3)$$

Explanation:

- β = Coefficient
- TaxCom = Taxpayer Compliance
- TaxDig = Digitization of Tax Information
- TaxFair = Tax Fairness
- TaxAwar = Tax Awareness
- Gender = Gender
- Education = Level of Education
- Taxpayer = Type of Taxpayer
- Billing = Accuracy of Tax Payments
- Report = Accuracy of Tax Reporting
- Sank = Tax Sanctions
- Insen = Tax Intensive
- ϵ = error

4. RESULTS AND DISCUSSION

4.1. Regression analysis

This study examines the effect of tax information digitalization, tax fairness, and tax awareness on taxpayer compliance (model 1 and model 3). Table 5 shows that digitalization, tax fairness, and tax awareness significantly affect the 0.05 level. This study also adds control variables to see how strongly the independent variables affect the dependent. Adjusted R square shows a value of 0.558 or 55.8%, meaning that there is an assumption that variables outside the study have an effect. This study uses respondent characteristics as control variables, namely gender, type of taxpayer, the accuracy of payment, the accuracy of reporting, tax sanctions, and tax incentives. The test results show that only the kind of taxpayer affects taxpayer compliance.

Table 5. The results of the regression model (1) without and with the respondent characteristic control variables (3)

Variables	Taxpayer Compliance 1		Taxpayer Compliance (3)	
	Std. Error	Sig.	Std. Error	Sig.
Digitalization of Tax Information	0.061	0.000	0.398	0.000
Tax Justice	0.076	0.001	0.252	0.000
Tax Awareness	0.074	0.001	0.219	0.001
Gender			-0.002	0.973
Education Level			0.159	0.003
Taxpayer Type			0.134	0.006
Timeliness of Tax Payment			0.045	0.351
Timeliness of Tax Reporting			0.045	0.444
Tax Penalty			0.032	0.551
Tax Incentive			0.066	0.289

The results in Table 5 demonstrate that the digitalization of tax information, tax justice, and tax awareness significantly influence taxpayer compliance. Among these variables, digitalization of tax information shows the strongest positive effect, with a highly significant coefficient of 0.061 at the 0.000 level. Similarly, tax awareness and tax justice are important predictors, with coefficients of 0.074 and 0.076, respectively. In contrast, the taxpayer characteristics such as gender, education level, and tax penalties have less significant impacts, with higher p-values, indicating that they might not play as crucial a role in shaping compliance behavior. The findings suggest that enhancing digitalization and awareness initiatives can effectively improve compliance, reinforcing the need for further investment in these areas. Key findings are presented in Table 5, emphasizing the significant predictors of compliance (e.g., digitalization, fairness) while omitting redundant details for readability. Refer to Appendix A for detailed regression coefficients.

4.2. Mediating regression analysis

The mediation analysis was performed to further understand the interplay between tax information digitalization, tax fairness, and taxpayer compliance. The analysis evaluates the role of taxpayer awareness in mediating the relationship between these variables, offering insights into how digital initiatives and fairness perceptions contribute to compliance behavior. As detailed in the following findings, different pathways emerge that explain the direct and indirect influences these factors have on taxpayer compliance. The mediation model provides a comprehensive understanding of these dynamics, emphasizing the importance of structural and procedural elements in fostering greater taxpayer engagement. The mediation model is carried out through three stages, namely:

- Testing the variables of tax information digitalization and tax fairness on taxpayer compliance.
- Testing the variables of tax information digitalization and tax fairness on taxpayer awareness.
- Testing taxpayer awareness on taxpayer compliance.

The first mediation model of tax information digitalization on taxpayer compliance with taxpayer awareness as a mediator shows a direct influence value of 0.406 and an indirect influence of 0.059, so it can be said that awareness can mediate the influence of tax information digitalization on taxpayer compliance. The second mediation model of tax fairness on taxpayer compliance with taxpayer awareness as a mediator shows a direct influence value of 0.231 and an indirect influence of 0.059. Thus, it can be concluded that awareness does not mediate the effect of tax information digitalization on taxpayer compliance. This outcome may stem from fairness perceptions being inherently tied to the structural and procedural aspects of taxation, which directly influence compliance without relying on individual awareness. The findings suggest that fairness operates more as an independent determinant rather than a process mediated by awareness. The mediation analysis was conducted using path analysis to examine the indirect effects of tax digitalization and fairness through tax awareness. The lack of mediation in fairness is likely attributed to its direct impact on compliance, eliminating the need for awareness as an intermediary. These results underscore the significance of structural and procedural fairness in shaping taxpayer behavior. However, limitations of this method include its reliance on self-reported data, which may introduce potential biases.

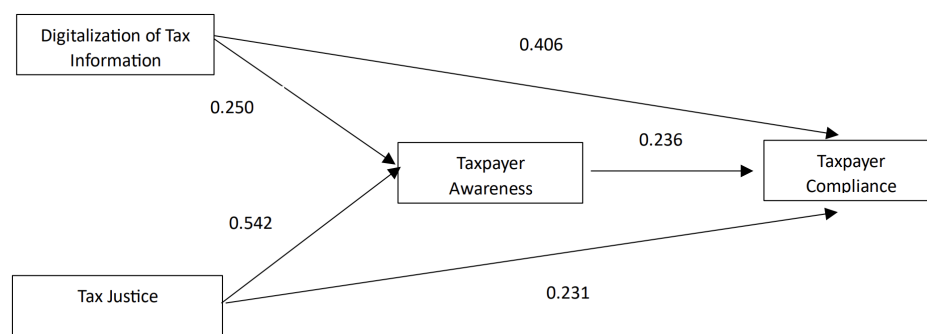


Figure 1. The Results of The Regression Model (2) Using The Mediating Variable

4.3. Discussion

Taxpayer compliance is a taxpayer character that the government expects to emerge voluntarily in taxpayers. Their willingness to fulfill tax obligations on time will show this taxpayer character. If everyone becomes a taxpayer, it will undoubtedly encourage increased government revenue. The results of the study show that the three variables affect taxpayer compliance. The tax reform that the Indonesian government has pioneered is in line with changes or reforms in government from the old order to the new order. Various tax regulations have been updated, forms of service to taxpayers have been improved in quality, and even the digitalization of the registration process to tax reporting. The digitalization of tax information that has been developed is designed with a display and process that makes it easy. Instructions for work are also displayed in digital taxation as a direction for taxpayers to run the system. This condition impacts tax officers reducing direct services in the office, reducing delays in taxpayers reporting taxes.

Moreover, the government works with banks, marketplaces, and others to serve fast, efficient, and timely tax payments. Continuous updates to tax information and improvements to tax applications impact taxpayers being more disciplined in paying and reporting taxes. The digitalization of tax information causes taxpayers to have a positive perception of the government efforts, which are intended to reduce errors and potential fraud. Positive perceptions cause taxpayers to want to contribute to the country through voluntary and timely tax payments and reporting. Timely fulfillment of tax obligations will reduce tax sanctions, making taxpayers increasingly compliant. The pandemic that hit the world did not affect taxpayers ability to fulfill their tax obligations because the digitization of tax information did not prevent people from becoming non-compliant.

One of the ways of tax reform is by reconstructing tax regulations that will benefit all citizens. The Indonesian government reconstruction of tax regulations is a change or review of the applicable tax rates. Tax rates in Indonesia are considered high compared to Southeast Asian countries with the same economic conditions. The large number of tribes with uneven economic distribution is considered that tax rates do not provide justice for all citizens, so the current government has reduced tax rates and even provided various reductions or eliminations of tax rates. For example, in 2018, the government implemented a final tax rate of 5% for individual taxpayers, and then during the pandemic, the government provided a tax incentive of 0%. The determination of progressive tax rates currently applied is considered an effort by the government to provide fair tax treatment. Tax justice can be seen in who has to pay more and who pays less. Taxpayer fairness can also be seen from their perception of the tax administration process, referring to sanctions that are considered disproportionate. This perception is reinforced by taxpayers sense of moral obligation to comply with tax regulations and perceptions related to trust in the government. The sense of fairness perceived by taxpayers fosters a positive outlook that the government has utilized tax funds wisely and fairly. However, fairness perceptions may vary significantly among socioeconomic groups. For instance, lower-income taxpayers might prioritize proportional benefits from tax-funded services, whereas higher-income groups may emphasize procedural equity in tax administration. Recognizing and addressing these differences can help tailor policies to better meet the diverse needs of taxpayers. Which encourages people to be loyal to the government and try to fulfill their tax obligations in a timely manner.

Taxpayer awareness arises when taxpayers can fulfill tax obligations voluntarily on the basis of understood perceptions, felt experiences, treatment of tax officers, and perceptions of tax benefits enjoyed by the wider community. Increasing taxpayer awareness certainly forms positive behavior to become more compliant

taxpayers. The Indonesian government carries out tax reform in an integrated manner through the reconstruction of tax regulations, changes in the behavior of tax officer services, changes in tax facilities, and changes in technology. One of the government efforts is to strengthen anti-corruption laws in government institutions to ensure that citizens tax funds are not misused. The government deliberately creates changes that can change citizens negative perceptions into positive perceptions. This is evident in the willingness of taxpayers to fulfill their tax obligations in the unstable economic conditions following the pandemic.

Another fact found in this study is that the level of education and type of taxpayer also dominantly influence taxpayer compliance. Most taxpayers who were respondents in this study had a bachelor degree, and the mindset and behavior carried out were based on logic and consideration of correct behavior. Adapting to changes in tax regulations and technological demands is done faster so that they do not experience difficulties paying and reporting taxes. Most respondents have a background as taxpayers who work for companies and receive a fixed income that employers or companies have taxed. Companies in Indonesia are seen as more compliant in paying and reporting taxes, both individual and corporate taxes. If a company commits a tax violation, it will experience high risks, including financial, corporate reputation, and business opportunity risks.

Creating voluntary taxpayer compliance must arise from positive perceptions and experiences that taxpayers feel. When a pandemic occurs, everyone does not have the opportunity to have direct physical contact, which is detrimental to the government as people may not visit the bank to pay taxes or the tax office to report their taxes. The increasing demands for technology and compliant behavior encourage the government to improve the digital tax reporting system. The use of tax information systems, e-filing platforms, and other digital tools greatly assist taxpayers in fulfilling their tax obligations. Digitizing tax information can increase accessibility and convenience, transparency and accuracy, supervision, and law enforcement. The great benefits encourage taxpayers to understand their tax obligations and rights more. Digitalization allows taxpayers to access relevant tax information, improving their understanding. Good tax awareness, supported by easy access to information through digital platforms, increases taxpayer motivation to comply with tax obligations. This ensures the maintenance of taxpayer compliance, which has been positively built, as taxpayers show positive responses with increasing numbers of those who pay and report taxes, decreased tax sanctions, and increasingly accurate tax reporting. This positive response arises from taxpayers' awareness that paying taxes significantly supports the government in providing optimal services.

Furthermore, these reforms hold substantial potential for entrepreneurial development. By streamlining tax processes and ensuring fairness, digital tools lower compliance costs for small businesses, fostering growth in the digital economy and promoting innovation in entrepreneurial sectors. Additionally, these findings can inform policy-making by emphasizing the importance of integrating user-friendly digital tools into tax systems. For entrepreneurs, particularly in the digital technology sector, the results create opportunities to develop innovative tax solutions tailored to small businesses and startups. This can further stimulate growth in the digital economy while encouraging broader entrepreneurial participation. Taxes make a significant contribution to people with lower incomes and have an impact on changing the economy of other communities. Taxes encourage various government policies oriented towards the wider community. Increasing taxpayer awareness promotes the creation of taxpayer compliance. To increase taxpayer awareness, integrated efforts must be made that involve the role of the government through tax reform, including building good service programs, simplifying payment and reporting procedures, continuously disseminating tax regulations, monitoring effective compliance, and strengthening law enforcement firmly and fairly.

5. MANAGERIAL IMPLICATION

The government should prioritize the development and integration of digital tools such as e-filing systems and online payment platforms to improve efficiency, transparency, and taxpayer compliance. These technologies can make tax processes more accessible while reducing administrative burdens. Additionally, tax policies need to be customized to address the diverse needs of different socioeconomic groups. Ensuring fairness through proportional benefits and procedural equity can foster greater trust in the tax system and improve voluntary compliance. Furthermore, increasing tax education and public awareness campaigns is crucial for fostering taxpayer understanding and compliance. At the same time, combating corruption and enhancing transparency in the use of tax revenues will build public trust and create a more supportive environment for compliance.

6. CONCLUSION

Taxpayer compliance is always a current and future challenge for the government. Taxpayer compliance is more directed at positive behavioral changes in tax policies set by the government. Behavioral changes can be realized due to positive perceptions, awareness of the benefits and role of taxes, and positive services from tax officers to taxpayers. The study results show that digitalization of tax information, tax fairness, and tax awareness affect taxpayer compliance. Digitalization, one form of reform through digital transformation developed by the government, appears to be able to encourage taxpayer awareness in fulfilling tax obligations, and taxpayer awareness also encourages taxpayer compliance behavior.

This study examined taxpayer perceptions through the distribution of questionnaires and direct discussions; however, it has certain limitations. The geographical focus on Surabaya may limit the generalizability of the findings, as compliance behaviors could vary in rural or less industrialized regions. Additionally, external economic factors, such as recent tax policy changes or macroeconomic conditions, may have influenced the results, underscoring the need for further investigation. The limited sample size, concentrated exclusively on taxpayers in Surabaya, may not reflect the broader Indonesian population. Furthermore, the cross-sectional design restricts the ability to capture dynamic changes in taxpayer compliance over time.

Future research should employ larger, more diverse samples and longitudinal designs to validate and expand upon these findings. Namely, it does not measure the actual behavior of taxpayers. The suggestion is that further studies should use experimental methods and deepen other character factors that can measure taxpayer behavior. However, this study recommends that government policy be focused on the actual benefits received by taxpayers because real benefits can build positive perceptions and awareness of the role of taxes for the wider community. This change in awareness is what can create voluntary taxpayer compliance.

7. DECLARATIONS

7.1. About Authors

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7.2. Author Contributions

Conceptualization: SS; Methodology: DO; Software: NR; Validation: SS and DO; Formal Analysis: KP and SS; Investigation: SS; Resources: DO; Data Curation: DO; Writing Original Draft Preparation: NR and KP; Writing Review and Editing: NR and KP; Visualization: DO; All authors, SS, DO, NR, and KP, have read and agreed to the published version of the manuscript.

7.3. Data Availability Statement

The data presented in this study are available on request from the corresponding author.

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7.5. Declaration of Conflicting Interest

The authors declare that they have no conflicts of interest, known competing financial interests, or personal relationships that could have influenced the work reported in this paper.

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