

Exploration of the Readiness of Indonesian MSMEs in Facing Digital Taxes and Their Implications for Tax Justice

Nurjana Suleman, Dewi Ngabito, Nur Lazimatul Hilma Sholehah

*Universitas Ichsan Gorontalo Utara,
Kecamatan Kwandang, Kabupaten Gorontalo Utara, 96252, Indonesia*

ABSTRACT

The Indonesian government has adopted a digital tax policy in response to accelerating digital transformation aimed at increasing state revenue from digital economy transactions. However, this policy also brings new challenges for micro, small, and medium enterprises (MSMEs), which are the pillars of Indonesia's economy. This study examines the readiness of MSMEs in Indonesia to face digital taxation challenges and analyzes their impact on the perception of tax justice. This study uses a quantitative method with data collection through questionnaires. The population studied is MSMEs that use digital platforms in Gorontalo. Samples were selected using the purposive sampling method. The data analysis technique is a structural equation model (SEM) with Smart PLS 3.0 software. The study results show that understanding digital taxes and tax technology infrastructure positively affects digital tax compliance. In addition, understanding digital taxes also positively impacts the perception of digital taxes. However, tax technology infrastructure and digital tax compliance do not positively influence tax perception. The influence of understanding digital taxes and tax technology infrastructure on digital tax perceptions is largely mediated by digital tax compliance. Technology adaptation moderates the relationship between digital tax understanding and tax technology infrastructure to the perception of tax justice. However, the effect of technology adaptation moderation on the relationship between digital tax understanding and tax technology infrastructure and the perception of tax justice is insignificant.

Keywords: digital tax; digital tax compliance; MSMEs; perception of tax justice; technology infrastructure.

INTRODUCTION

In the era of accelerating economic digitalization, many countries, including Indonesia, have begun to implement digital taxes to accommodate the change in economic paradigm from conventional to digital (Riswanto et al., 2024). This digital tax is designed to capture the value of transactions on digital platforms, ensuring that large technology companies and Micro, Small and Medium Enterprises (MSMEs) operating in the digital space contribute somewhat to taxes (Gurendrawati, 2023).

According to data from the Ministry of Cooperatives and Small and Medium Enterprises, in 2023, the number of MSMEs that have switched to digital platforms reached more than 20 million business units, which shows a rapid increase compared to previous years. This transformation provides an excellent opportunity for MSMEs to expand the market but also poses new challenges related to compliance with digitally enforced tax regulations (Nataliawati et al., 2024). The main challenge MSMEs face in the context of digital taxes is low digital literacy and understanding of digital tax regulations. A survey from the Indonesian MSME Association in 2022 revealed that around 60% of MSMEs still do not understand the digital taxation mechanism well. This misunderstanding can lead to unintentional tax non-compliance and affect MSMEs' perception of tax justice. Furthermore, the unpreparedness of MSMEs to deal with digital taxes can have implications for tax justice. Tax fairness is a concept that emphasizes fair and equal treatment for all taxpayers. However, if MSMEs are not ready or able to comply with digital tax

provisions, this can create a gap between MSMEs and large business actors who can better adapt to the new regulations.

In understanding the challenges and opportunities faced by MSMEs in the context of digital taxation, the Theory of Planned Behavior (TPB) developed by Ajzen (1991) is a relevant theoretical framework. This theory explains that attitudes towards behavior, subjective norms and perceived behavioral control influence a person's behavior. Regarding digital taxation, MSMEs' attitude towards digital tax obligations is greatly influenced by their understanding of the benefits and associated burdens. If MSMEs perceive that digital taxes have a positive impact, such as supporting broader economic development, they will tend to be more compliant. On the other hand, if digital taxes are considered a burdensome burden, compliance can be hampered. In addition, social norms also play an essential role. Surrounding environments such as MSME communities, business associations, and stakeholder support can influence how MSMEs view and comply with digital tax regulations. These norms create a collective push to comply with tax obligations, especially if such compliance is considered standard within their communities. Another factor that is no less important is the control of behavior felt by MSMEs. Many MSMEs face challenges in the form of low digital literacy and understanding of digital taxation mechanisms. When they feel they don't have the ability or resources to comply with digital taxes, their compliance levels tend to be low. Conversely, when MSMEs feel able to understand and implement digital tax obligations, they are more likely to demonstrate compliance.

Data from the Directorate General of Taxes shows that in 2023, the tax compliance rate of MSMEs is still low, around 30%, far below the government's target. This low compliance reinforces the argument that the readiness of MSMEs for digital taxes still requires special attention, especially in the context of tax justice. Therefore, this research is important to assess the extent of the readiness of MSMEs in Indonesia to face the implementation of digital taxes and their impact on tax justice. As the economy transitions to digitalization accelerates, the study aims to identify problems that may arise from adaptation to the new tax system and understand their implications for the development and sustainability of MSMEs. Research on the readiness of Indonesian MSMEs to face digital taxes and their implications for tax fairness has been discussed in various previous studies. Research (Avendano & Rosenkranz, 2020) regarding digital platforms and international taxation in Asia explained that digital literacy and understanding of tax regulations greatly determine the level of MSME compliance. This research also emphasizes the importance of government support in the form of education and technology facilities to increase the readiness of MSMEs to face digital taxes. In line with this study, research by (Meiryani et al., 2022) About the Analysis of Compliance Taxpayers of Micro Small and Medium Enterprises of E-Commerce Users explained that the increase in the effectiveness of e-commerce is directly proportional to the challenges in tax compliance, especially due to the complexity of digital taxation that MSME actors have not fully understood. This research also reveals the perception of tax injustice among MSME actors who feel that digital tax regulations are more beneficial to large companies. Furthermore, research by (Mulyani et al., 2023) on regulations and compliance in electronic commerce taxation policies: addressing cybersecurity challenges in the digital economy shows that while many MSMEs see potential benefits from digital taxes, they also face significant barriers such as a lack of technological infrastructure and low levels of digital literacy. The study also notes that this unpreparedness can exacerbate tax injustices, especially with no adequate policy intervention.

METHODS, DATA, AND ANALYSIS

The method used in this study is a quantitative method with an analysis technique using Structural Equation Modeling (SEM). SEM analysis is carried out by evaluating the model based on the

outer and inner model measurements. The measurement of the outer and inner models aims to test the validity and reliability of the latent variable indicator by referring to the amount of the outer loading of the latent variable. In this study, the data was processed using Smart PLS 3.0 software, which was also used to screen data so that the questionnaires collected did not have missing values. This section will present an interpretation of data processed using Smart PLS 3.0 software on each variable: Digital Tax Understanding Level, Tax Technology Infrastructure, Digital Tax Compliance, Technology Adaptation, and Tax Justice Perception.

The population in this study is MSMEs that utilize digital platform services in Gorontalo, with sample selection carried out through the purposive sampling method. For data analysis, SEM is used, which is assisted by Smart PLS 3.0 software. The variables studied include the Level of Understanding of Digital Tax and Technology Infrastructure as exogenous variables, while Digital Tax Compliance and Perception of Tax Justice are endogenous variables. In addition, Technology Adaptation was determined as a moderation variable in this study (Ghodang, 2020). The model of this study can be described as follows:

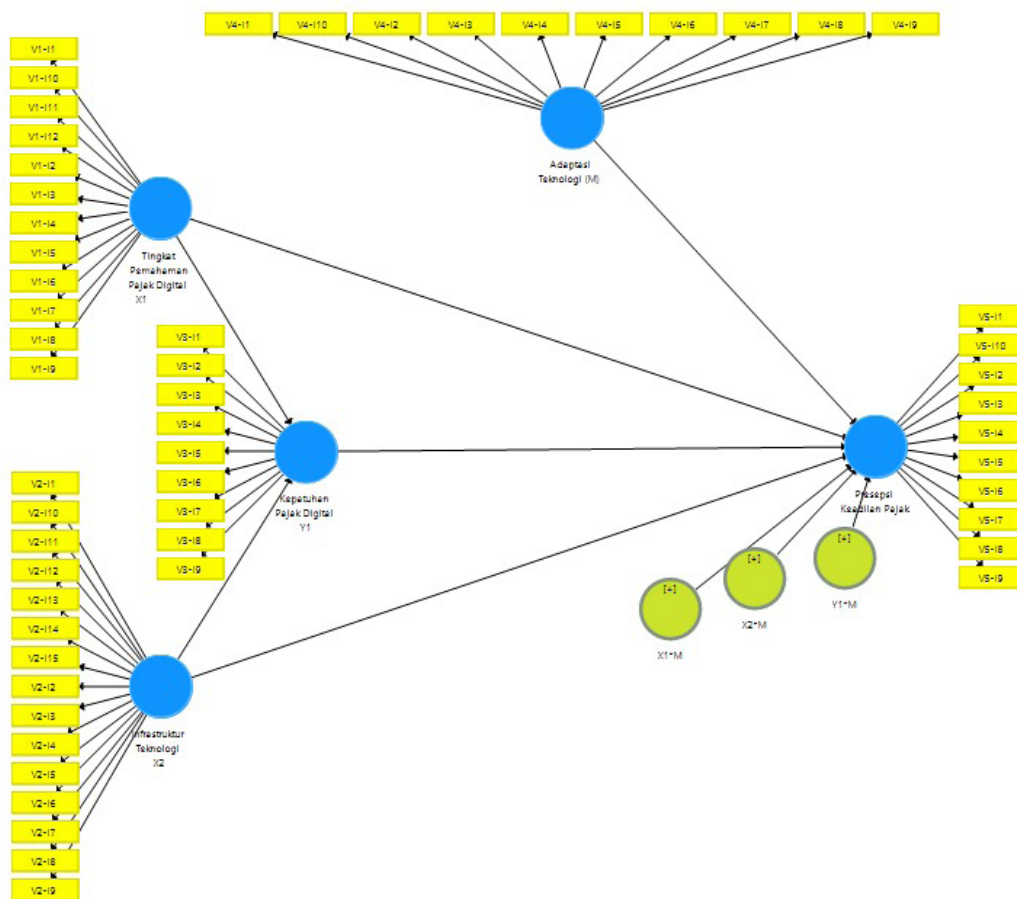


Figure 1. Research Model

RESULT AND DISCUSSION

Construct Validity Test

There are 3 models of testing data validity on processed data using SmartPLS software: convergent validity, average variance extracted (AVE) and discriminant validity. To see the results of the data validity test, you can see the following data presentation:

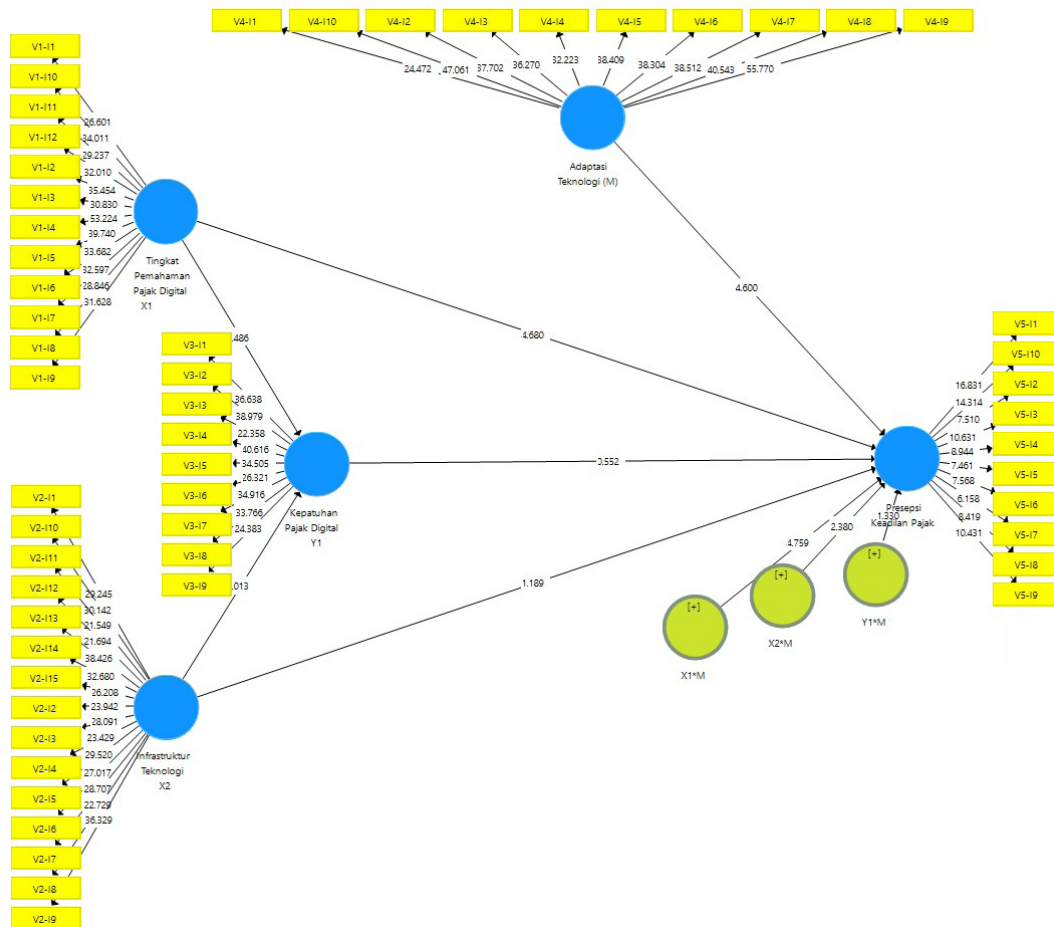


Figure 2. Outer Model

Convergent Validity measures the validity of reflexive indicators as a measure of variables that can be seen from the outer loading of each variable indicator. An indicator is validity if the outer loading value is above 0.70 (Sarwono, 2014). Meanwhile, the outer loading value can still be tolerated up to 0.50, and the value below 0.50 can be dropped from the analysis. In the existing indicators, it can be seen that all variable indicators have an outer loading above 0.70.

Construct Reliability Test

The reliability test determines whether the indicators of all the research variables used are good constructs for forming a latent variable. The results of the construction reliability test for each variable shows that the value of Cronbach's alpha and composite reliability of all research variables has been more than 0.7. These results show that all the variables used in this study are reliable.

Results of the Inner Model of the Structure of Research Variable Relationships

R Square

The inner model test was carried out to see whether the relationship between latent variables, namely exogenous and endogenous constructs, can answer questions about the relationship between latent variables that have been previously hypothesized. This inner model test or structural test is seen

from 3 types of values in Smart PLS data processing that was carried out previously. Each variable's R Square Adjusted value is above 0.3, which is considered weak. The R Square Adjusted value above 0.3 for endogenous latent variables can be used as a rough rule to illustrate that the endogenous variable can predict exogenous variables at a weak level. Based on the data above, the influence of the Digital Tax Understanding Level and Tax Technology Infrastructure on Digital Tax Compliance was 0.426 or 42.6%, and the magnitude of the Digital Tax Understanding Level and Tax Technology Infrastructure on the Perception of Tax Justice was 0.331 or 33.1%.

Goodness of Fit

Based on the Model Fit indicators analysis, a Normed Fit Index (NFI) value greater than 0.90 indicates that the proposed model demonstrates a good fit with the observed data. In other words, the model can explain a substantial portion of the variance in the data, suggesting that the model is acceptable and adequately represents the relationships between variables in the context of this study.

Hypothesis Test

The test data results can be used to answer the hypothesis in this study by looking at the statistics and P values. The hypothesis will be accepted if the P-value < 0.05. This study also directly and indirectly influences each variable because there are independent and dependent variables, moderation, and intervention. To test the direct effect, it can be seen in the coefficient table that is on Smart PLS bootstrapping as shown in the test table below:

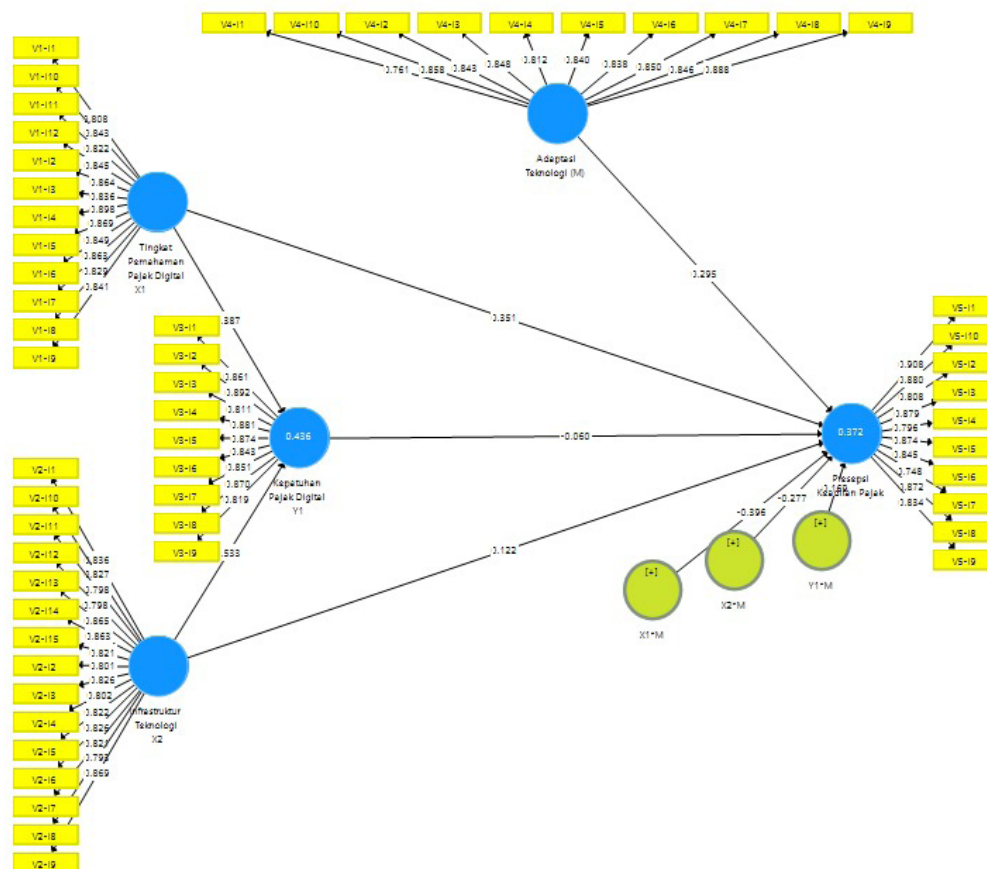


Figure 3. Inner Model

Direct Influence Testing

This coefficient path test will show how strong the independent variable's influence is on the dependent variable. Based on the inner model schema shown in the figure and the path coefficients table, it can explain the largest to smallest influence.

Table 1. Path Coefficient

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Digital Tax Understanding Level (X1) -Digital Tax Compliance > (Y1)	0.387	0.387	0.071	5.486	0.000
Digital Tax Understanding Level (X1) -> Tax Justice Perception (Y2)	0.351	0.353	0.075	4.680	0.000
Tax Technology Infrastructure (X2) -Digital Tax Compliance > (Y1)	0.533	0.537	0.059	9.013	0.000
Tax Technology Infrastructure (X2) -> Perception of Tax Justice (Y2)	0.122	0.118	0.103	1.189	0.235
Digital Tax Compliance (Y1) -> Perception of Tax Justice (Y2)	-0.060	-0.063	0.109	0.552	0.581
Digital Tax Understanding Level (X1) X Technology Adaptation (M) -> Perception of Tax Justice (Y2)	-0.396	-0.401	0.083	4.759	0.000
Tax Technology Infrastructure (X2) X Technology Adaptation (M) -> Perception of Tax Justice (Y2)	-0.277	-0.269	0.116	2.380	0.018
Digital Tax Compliance (Y1) X Technology Adaptation (M) -> Perception of Tax Justice (Y2)	0.169	0.171	0.127	1.330	0.184

It can be explained that the largest influence is exerted by the tax technology infrastructure variable on digital tax compliance, with a value of 9.013. The second largest influence is the level of digital tax understanding on digital tax compliance, with a value of 5.486. In third place is the variable of digital tax understanding through technological adaptation on the perception of tax justice, with a value of 4.759. In fourth place is the digital tax understanding level on the perception of tax justice, with a value of 4.680. Fifth is the variable of tax technology infrastructure through technological adaptation on the perception of tax justice, with a value of 2.380. The sixth is digital tax compliance through technological adaptation on the perception of tax justice, with a value of 1.330, and the seventh is the tax technology infrastructure variable on the perception of tax justice, with a value of 1.189. The smallest influence is the digital tax compliance variable on the perception of tax justice, with a value of 0.552. To determine the significance of the variables, the P-value is used, where values below 0.05 indicate statistical significance.

Model 1 (The Effect of Independent Variables on Digital Tax Compliance)

Partially, the value generated in the variable of the level of digital tax understanding on digital tax compliance P value is 0.000, where the value is $0.000 < 0.05$, it can be concluded that the first hypothesis is accepted, or the variable of the level of digital tax understanding has a significant effect on digital tax compliance. Partially, the value generated on the tax technology infrastructure variable on digital tax compliance has a P value of 0.000, where the value is $0.000 < 0.05$, it can be concluded that statistically,

the hypothesis is accepted, or the tax technology infrastructure variable has a significant effect on digital tax compliance.

Model 2 (The Effect of Independent Variables on the Perception of Tax Fairness)

Partially, the value generated on the variable of the level of digital tax understanding to the perception of tax justice P value is 0.000, where the value is $0.000 < 0.05$, it can be concluded that this hypothesis is accepted, or the variable of the level of digital tax understanding has a significant effect on the perception of tax justice. Partially, the value generated in the tax technology infrastructure variable on the perception of tax justice P value is 0.235. Where the value is $0.235 > 0.05$, it can be concluded that statistically, the hypothesis is rejected, or the tax technology infrastructure variable does not have a significant effect on the perception of tax justice. Partially, the value generated in the digital tax compliance variable on the perception of tax justice P value is 0.581. Where the value is $0.581 > 0.05$, it can be concluded that statistically, the hypothesis is rejected, or the digital tax compliance variable does not have a significant effect on the perception of tax justice.

Indirect Influence Testing

This analysis is more oriented to explaining the results of indirect influence, in other words, using mediation and moderation. Based on the inner model scheme that has been shown in the figure and also in the indirect effect table with the following results:

Table 2. Indirect Effect

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Digital Tax Understanding Level (X1) -Digital Tax Compliance > (Y1) -> Tax Justice Perception (Y2)	-0.032	-0.035	0.060	0.532	0.595
Tax Technology Infrastructure (X2) -Digital Tax Compliance > (Y1) -> Tax Justice Perception (Y2)	-0.023	-0.024	0.043	0.543	0.587
Digital Tax Understanding Level (X1) * Technology Adaptation (M) -> Tax Justice Perception (Y2)	-0.396	-0.401	0.083	4.759	0.000
Tax Technology Infrastructure (X2) * Technology Adaptation (M) -> Tax Justice Perception (Y2)	-0.277	-0.269	0.116	2.380	0.018
Digital Tax Compliance (Y1) * Technology Adaptation (M) -> Perception of Tax Justice (Y2)	0.169	0.171	0.127	1.330	0.184

The results of the table above show that the statistical value shows a figure of 0.532, a p-value of 0.595, and a cooperative value of -0.032 at the level of digital tax understanding by digital tax compliance turns out to have a p-value of $0.595 > 0.05$ and the cooperative shows a negative direction of -0.032, where it can be concluded that digital tax compliance is not able to positively and significantly mediate between the level of digital tax understanding and the perception of tax justice.

Furthermore, the table value of 0.587 and the coordination value of 0.543 in the assessment of tax technology infrastructure through digital tax compliance turned out to have a p-value of $0.587 > 0.05$, and the coordination showed a negative direction of -0.023, which means that digital tax compliance is not able to mediate positively and significantly between tax technology infrastructure and the perception of tax justice.

The table value of p-value 0.000 and the coordination value of 4.759 in the assessment of technology adaptation moderated the level of digital tax understanding to the perception of tax justice with a p-value of $0.000 < 0.05$ and the coordination showed a negative direction of -0.396 which means that technology adaptation was able to moderate negatively and significantly between the level of digital tax understanding and the perception of tax justice.

Furthermore, the table value p-value is 0.018, and the cooperative value is 2.380 in the assessment of technology adaptation moderating tax technology infrastructure to the perception of tax justice with a p-value of $0.018 < 0.05$ and the coordination shows a negative direction of -0.277 which means that technology adaptation can moderate negatively and significantly between tax technology infrastructure and the perception of tax justice.

The table value of $p = 0.184$ and the coordination value of 1,330 in the assessment of technology adaptation moderating digital tax compliance to the perception of tax justice with a p value of $0.184 > 0.05$ and the coordination showed a positive direction of 0.169, which means that technology adaptation is not able to positively and significantly moderate digital tax compliance to the perception of tax justice.

Based on the results of the research, several results of hypothesis testing will be discussed based on the following analysis:

The Effect of Digital Tax Understanding Level on Digital Tax Compliance

The results of this study show that partially, the value generated from the variable of digital tax understanding level on digital tax compliance has a P value of 0.000. Since the value is $0.000 < 0.05$, it can be concluded that the first hypothesis is accepted, which means that the variable of digital tax understanding level has a significant effect on digital tax compliance.

According to tax compliance theory, taxpayer compliance is influenced by various factors, including understanding or knowledge of tax regulations. In the Theory of Planned Behavior put forward by Ajzen (1991), individual behaviour, including compliance with tax regulations, is greatly influenced by attitudes, subjective norms, and perceived behavioural control. A good understanding of digital taxes can increase positive attitudes towards compliance and strengthen behavioural control perceived by taxpayers, ultimately increasing tax compliance.

In the tax literature, tax compliance can be divided into voluntary compliance and enforced compliance. A good understanding of digital taxes tends to increase voluntary compliance, where taxpayers comply with regulations because they understand and receive the benefits of paying taxes. Conversely, a lack of understanding often leads to forced compliance, where taxpayers only obey for fear of sanctions. Thus, strategies to improve digital tax understanding can shift the focus from enforced compliance to more voluntary and sustainable compliance.

With the development of digital technology, information about digital taxes has become more accessible to the public. Digital platforms, social media, and official government websites are important in disseminating relevant and up-to-date information regarding digital tax obligations. The findings that digital tax understanding significantly affects compliance show that education through digital channels can effectively improve tax compliance. It also means that government investment in information technology can positively impact overall tax compliance.

The findings of this study underscore the importance of tax policies that focus on educating and improving taxpayer understanding. Policies designed to improve digital tax understanding can include broader outreach programs, training, and the provision of easily accessible resources to businesses and

the general public. In addition, responsive guidance and assistance services from tax authorities can also help improve compliance.

While digital tax understanding has proven to impact compliance, challenges remain, especially when reaching all levels of society, including groups with limited access to technology or information. On the other hand, the digital age also brings opportunities to develop a more transparent and accountable tax system, which can ultimately lead to higher compliance. High digital tax compliance can contribute significantly to state revenue, which can be used to finance development programs that directly impact people's welfare. Therefore, improving digital tax understanding is important for individual compliance and has far-reaching economic and social development implications.

The results of this study are in line with research conducted by Nataliawati et al. (2022), which found that digital tax education and socialization have a significant impact on taxpayer behaviour, especially in supporting the implementation of e-commerce taxes in Indonesia. The results of his research conclude that a low level of digital tax understanding is often the main obstacle to increasing taxpayer compliance. However, this finding is also contrary to the results of research from Rahmawan et al. (2021), which show that although digital tax understanding among taxpayers is increasing, this does not always have a direct impact on tax compliance. This study reveals that other factors, such as perceptions of tax fairness and ease of access to digital tax platforms, also play an important role. Taxpayers who feel that the digital tax system is unfair or too complex tend to remain non-compliant even if they have a good understanding.

The Influence of Tax Technology Infrastructure on Digital Tax Compliance

The results of this study show that the tax technology infrastructure variable significantly influences digital tax compliance, with a P value of 0.000. Since the value is $0.000 < 0.05$, it can be concluded that the second hypothesis is accepted, which means that tax technology infrastructure has a significant effect on digital tax compliance. These findings confirm that the existence and quality of technology that supports the digital tax system greatly affects taxpayer compliance with their tax obligations. This is very relevant in today's digital era, where technology is important in facilitating the tax administration process.

Tax technology infrastructure includes various elements such as online tax payment platforms, electronic tax reporting systems, tax applications, and technical support that makes it easier for taxpayers to meet their tax obligations. Reliable and readily accessible infrastructure will reduce barriers for taxpayers in the tax reporting and payment process, ultimately improving their convenience and compliance.

In tax compliance theory, taxpayer compliance is influenced by various factors, including knowledge, attitudes, social norms, and perceived behavioural control (Ayu Fhatonah & Astuning Saharsini, 2022). An efficient tax technology infrastructure can strengthen perceived behavioural control by reducing tax obligations' difficulty and complexity. As technology makes reporting and payment easier, taxpayers feel more in control and more likely to comply.

A good tax technology infrastructure plays a key role in encouraging taxpayer compliance. For example, an intuitive and user-friendly e-filing system allows taxpayers to report income and pay taxes easily and on time. Additionally, the availability of mobile apps for tax reporting provides flexibility for taxpayers to meet their obligations from anywhere, reducing potential delays or non-compliance. Technological infrastructure also plays a role in improving the effectiveness of supervision and audits by tax authorities. The state-of-the-art, technology-based system allows tax authorities to track digital transactions, analyze real-time data, and detect potential non-compliance. This is in line with the theory of economic deterrence, where risks are detected and sanctioned by an efficient supervision system, increasing the level of taxpayer compliance.

The study results show that technology infrastructure significantly affects digital tax compliance and has important implications for tax policy. The government must continue investing in developing and maintaining technological infrastructure supporting the tax system. In addition, socialization and training on the use of tax technology need to be improved so taxpayers can make optimal use of the technology. Although tax technology infrastructure has a positive impact, challenges regarding technology access gaps in remote areas or among less technologically literate groups are still problematic. Therefore, inclusive policies that ensure equitable access and technical support for all taxpayers must be developed to improve overall tax compliance.

The results of this study are in line with research conducted by Santoso and Lestari (2022) which shows that government investment in the development of tax technology infrastructure, including the integration of cloud-based tax systems, has a significant impact on increasing tax compliance among MSMEs. The study also highlights that technology support can reduce errors in tax reporting that are often the main cause of non-compliance. However, there are also studies that offer a different perspective. A study by Rahman et al. (2021) revealed that although the tax technology infrastructure has been well provided, factors such as technological literacy and taxpayers' perception of data security are still the main obstacles to improving digital tax compliance. This research shows that advanced technology does not always guarantee compliance if users feel doubt or distrust in the existing system.

The Effect of Digital Tax Understanding Level on Tax Justice Perception

This study's results show that the digital tax understanding level variable significantly influences the perception of tax justice, with a P value of 0.000. Since the value is $0.000 < 0.05$, it can be concluded that the third hypothesis is accepted, which means that the level of digital tax understanding significantly affects the perception of tax fairness.

The level of understanding of digital taxes refers to how taxpayers understand the concepts, rules, and policies related to taxes imposed on digital economic activities. The higher a person's understanding of digital taxes, the more likely they are to understand the reasons behind the implementation of the tax, including aspects such as the legal basis, fiscal goals, and economic impact. Meanwhile, the perception of tax justice is the subjective view of taxpayers toward the fairness of the tax system, including an assessment of whether the tax burden is distributed fairly, whether taxes are collected and used in the right way, and whether the tax system is consistent with the principles of vertical and horizontal justice.

Based on the tax knowledge theory, taxpayers' knowledge and understanding of tax regulations can affect their attitudes and behaviours toward tax payments (Yulianti & Kurniawan, 2019). Understanding digital taxes can reduce uncertainty and confusion and increase the perception that the tax system is fair and reliable. A high level of digital tax understanding gives taxpayers a better insight into how and why the tax is imposed.

Taxpayers who understand that digital taxes are enacted to address the challenges arising from the globalization of the digital economy, such as tax avoidance by multinational companies based abroad, tend to have a more positive perception of tax fairness. Conversely, if taxpayers have a low understanding, they may see digital taxes as an unfair additional burden, especially if they don't understand the context and reasons behind the imposition of the tax. This lack of understanding can lead to the perception that the government is unfair or not transparent in managing taxes.

Based on the results of this study, education about taxes plays a very important role. Educational programs that increase taxpayers' understanding of digital tax concepts and rules can help improve

the perception of fairness, as taxpayers will be better able to understand that the taxes they pay are used for legitimate and fair purposes. In addition, increased transparency and communication from tax authorities regarding implementing digital taxes can also help form a more positive perception of justice. For example, suppose the government can clearly explain how the revenue from digital taxes is used to develop digital infrastructure or public services. In that case, taxpayers will tend to see that their taxes are reasonable and fair. Therefore, tax education and transparency are essential to increase understanding, which can improve taxpayers' perception of tax justice. Without sufficient understanding, taxpayers may feel that digital taxes are an unfair additional burden, affecting their compliance with tax obligations.

The results of this study align with the research of Wahyuni et al. (2022), which concluded that structured and effective digital tax education not only increases taxpayer compliance but also improves the perception of the fairness of the tax system. Taxpayers who understand the digital tax mechanism are more likely to see this system as a fair effort to create a level playing field between actors and conventional and digital businesses. In addition, research from Nugraha and Rizki (2021) shows that digital tax understanding does not always correlate positively with the perception of tax justice. This research reveals that even though the level of taxpayer understanding has increased, they still feel that the digital tax system is more beneficial to large companies than MSMEs. This affects their perception of tax fairness, especially if they feel that the supervision of large corporations is less firm.

The Influence of Tax Technology Infrastructure on the Perception of Tax Justice

The results of this study show that the tax technology infrastructure variable does not significantly influence the perception of tax fairness, with a P value of 0.242. Since the value is $0.242 > 0.05$, it can be concluded that the fourth hypothesis is rejected, which means that the tax technology infrastructure has no significant effect on the perception of tax fairness. Tax technology infrastructure refers to information and communication technology systems used by tax authorities to manage the tax process, including tax registration, reporting, payments, and audits. This infrastructure aims to improve tax administration efficiency, accuracy, and transparency. However, many taxpayers focus more on the result of the tax system, such as the amount of tax they have to pay and how the tax is used, rather than paying attention to the technical processes involved. Although tax technology infrastructure can improve efficiency, it does not directly affect their perception of tax fairness if they do not significantly impact the fair distribution of tax burdens. Additionally, while tax technology infrastructure may already be sophisticated, not all taxpayers have the same access or awareness of this technology. Ignorance or lack of access to such technology can make taxpayers not feel the direct impact of this infrastructure on the fairness of the tax system.

According to the taxpayer satisfaction theory, taxpayer satisfaction with the tax system is not only influenced by technical aspects, such as technological infrastructure, but more by emotional aspects and perceptions, such as a sense of fairness, transparency, and social benefits from the taxes paid (Aji et al., 2021). If taxpayers feel that their taxes are not being used fairly or transparently, then even sophisticated technological infrastructure will not change their perception of tax fairness. The finding that tax technology infrastructure does not significantly affect the perception of tax fairness may be due to several factors. First, taxpayers may focus more on how tax revenues are used to fund public services and support public welfare than on collecting taxes. Therefore, while tax technology infrastructure improves efficiency and accuracy in tax collection, it may not be enough to influence their perception of the social justice derived from the taxes paid. Second, tax technology is often seen more as a tool to support tax administration than

as a determining factor in justice itself. Taxpayers may consider technological infrastructure important but not enough to ensure fairness if other elements, such as tax burden distribution and use of tax revenue, are inadequate. Finally, an individual's experience using tax technology systems can vary greatly. Some taxpayers may have a positive experience with tax technology, such as ease of tax reporting. In contrast, others may experience technical difficulties or a lack of support, which obscures the relationship between technology and the perception of fairness. Therefore, although tax technology infrastructure is important for the efficiency of tax administration, it does not necessarily affect the perception of tax justice. The perception of fairness is more influenced by how taxpayers feel about the distribution of tax burdens and tax revenue, which is not directly related to the sophistication of technology tax authorities use.

The research of Rahman et al. (2021) found that although tax technology infrastructure improves the efficiency of the tax system, this is not always followed by the perception of tax justice among taxpayers. They revealed that the existence of technology alone is not enough to create a sense of justice if it is not accompanied by policy transparency and justice in supervision. This study supports the finding that technology does not directly affect the perception of tax fairness. However, this finding is different from research from Pratama et al. (2023) which shows that a reliable and transparent tax technology infrastructure can improve the perception of tax fairness. The study highlights that taxpayers who benefit from technology such as ease of access to information and a more efficient payment system, tend to have a positive perception of tax fairness. They argue that the perception of tax justice is highly dependent on taxpayers' direct experience in using the technology. In addition, Santoso and Lestari (2022) found that in developing countries, the impact of tax technology infrastructure on the perception of justice is highly dependent on the level of public literacy and trust in the system. Taxpayers who have low digital literacy or lack confidence in the security and integrity of technology often feel that the system is unfair.

The Effect of Digital Tax Compliance on the Perception of Tax Justice

The results of this study show that the digital tax compliance variable does not significantly influence the perception of tax justice, with a P value of 0.581. Since the value is $0.581 > 0.05$, it can be concluded that the fifth hypothesis is rejected, which means that digital tax compliance has no significant effect on the perception of tax fairness. These findings indicate a dissonance between the technical aspects of compliance and subjective perceptions of fairness. Digital tax compliance is concerned with how taxpayers meet their obligations using technology, such as automated reporting and online payments. However, the perception of tax justice reflects the taxpayer's view of whether the tax burden and benefits received are fair and equitable.

Digital tax compliance focuses more on how taxpayers technically comply with tax rules, often driven by existing regulations and technology. However, the perception of tax fairness involves a broader assessment of whether the tax system is fair, including how taxes are distributed and how the public perceives the benefits. Even though taxpayers comply with digital taxes, they may not be satisfied or see the system as fair if they feel that the distribution of the tax burden is disproportionate or if the benefits of those taxes are not felt equally.

Justice theory explains that individuals evaluate justice by comparing what they contribute (input) and what they receive (output) compared to others. In the context of taxation, inputs can be taxable income, while outputs can be benefits from tax-financed public services. Even though taxpayers are compliant with the digital tax system, they may not feel that the system is fair if the distribution of tax burden is disproportionate. Taxpayers may feel that the tax system benefits certain groups, such as

large corporations or high-income individuals, compared to those with lower incomes. If taxpayers feel their contribution is more significant than the benefits they receive, they will feel unfair. In addition, the perception of tax justice is greatly influenced by the extent to which taxpayers believe the government uses tax funds transparently and responsibly. If there is a perception that tax funds are misused or not used efficiently, then digital compliance will not change this negative perception. In addition, unequal access to technology that supports digital tax compliance can also create gaps. Those lacking technological proficiency may feel overwhelmed by the digital tax system, which ultimately affects their perception of the tax system's fairness. Therefore, high digital tax compliance does not necessarily increase the perception of tax fairness because qualitative factors, such as distributive fairness and government transparency, influence this perception. To improve the perception of tax fairness, further efforts are needed to ensure that the tax system is designed fairly and transparently and that access to tax technology is distributed evenly.

This research aligns with Yusuf et al. (2022), who found that digital tax compliance is more often influenced by external factors such as regulatory pressures and incentives than by the perception of tax fairness. They stated that the perception of fairness has more to do with the tax policy itself, such as the structure of tax rates and transparency, than with the level of individual compliance with digital tax obligations. In contrast, the research of Pratomo and Hartono (2023) shows opposite results. They found that compliant taxpayers, especially on digital platforms, tend to perceive tax fairness more because they feel that they contribute proportionately. This study highlights that tax compliance accompanied by a deep understanding of the distribution of tax benefits can strengthen the perception of tax justice. Another survey by Wibowo and Setyawan (2021) also revealed that although the level of digital tax compliance is high, the perception of tax justice does not always increase. They argue that factors such as preferential treatment of certain groups and lack of transparency in tax allocation affect the perception of fairness more than compliance.

The Influence of the Level of Understanding of Digital Tax on the Perception of Tax Fairness Through Digital Tax Compliance

The results of this study show that the variable of digital tax understanding through digital tax compliance does not significantly influence the perception of tax justice, with a P value of 0.587. Since the value is $0.587 > 0.05$, it can be concluded that the sixth hypothesis is rejected, which means that the level of digital tax understanding through digital tax compliance has no significant effect on the perception of tax fairness. These findings reveal a complex dynamic between taxpayers' knowledge, compliance behaviour, and their perception of the tax system's fairness. While taxpayers understand digital tax rules and regulations and comply with tax obligations, this does not automatically improve their view of tax fairness.

The theory of distributive justice explains that distributive justice focuses on how individuals feel justice in the economic system's distribution of burdens and benefits, including taxation (Yusri, 2020). In taxation, distributive justice refers to the perception that the tax system must impose taxes proportionally according to the individual's ability and provide equal benefits to all parties. If taxpayers feel that even though they are compliant and understand the digital tax system, the tax burden they bear is not proportional to the benefits they receive, or if they feel that the system benefits some groups more than others, then their perception of fairness may be compromised. For example, taxpayers who understand digital taxes may realize that the system is designed in a way that is not entirely fair to all parties. They

may see that digital taxes add to the administrative burden without providing any real benefits or that the regulations benefit large corporations more than individuals or small businesses. This imbalance can trigger the feeling that the tax system is not distributing the burden and benefits fairly, even if the taxpayer complies with the existing rules. In addition, a deeper understanding of digital taxes can make taxpayers more critical of the existing system. They may be more aware of imbalances or injustices in implementing tax policies, lowering their perception of overall tax fairness. This suggests that higher knowledge and compliance are not necessarily directly proportional to perceptions of fairness, especially if there is a perceived gap between the tax burden paid and the benefits received. Therefore, it is important to understand that the perception of tax fairness is shaped by how well taxpayers understand and comply with the rules and how fairly they perceive the system regarding burden distribution and benefits. These findings confirm that tax reforms to improve fairness should consider aspects of distributive fairness, not just focus on improving digital tax understanding and compliance.

These findings align with the research of Yusuf and Handayani (2021), who stated that although the level of digital tax understanding can improve tax compliance, the indirect relationship through compliance is often less significant in the perception of tax justice. They argue that the perception of justice is more influenced by policy aspects such as the distribution of tax benefits and government transparency. However, the research of Lestari and Nugroho (2022) shows different results. They found that the level of digital tax understanding accompanied by increased compliance can strengthen the perception of tax fairness. The study reveals that taxpayers with a good understanding are more likely to feel fair because they understand how taxes are managed and used for development. In addition, Setiawan et al. (2023) highlight that although tax compliance can link understanding and perception of fairness, this effect is only significant in a transparent and accessible tax system. When the tax system is considered complex or not transparent, digital tax compliance does not necessarily increase the perception of tax fairness.

The Influence of Tax Technology Infrastructure on Perceptions of Tax Fairness Through Digital Tax Compliance

The results of this study show that the digital technology infrastructure variable through digital tax compliance does not significantly influence the perception of tax justice, with a P value of 0.595. Since the value is $0.595 > 0.05$, it can be concluded that the seventh hypothesis is rejected, which means that the digital technology infrastructure through digital tax compliance has no significant effect on the perception of tax fairness. These findings indicate a complex relationship between technology, compliance, and perception of fairness in modern taxation. In procedural justice theory, justice is measured by the result or distribution (distributive justice) and the process or procedure used to achieve that outcome (Zelmiyanti, 2017). In the context of taxation, procedural justice relates to how taxpayers feel transparency, consistency, and participation in the decision-making process and implementation of tax policies.

Tax technology infrastructure, such as digital tax systems, is designed to improve efficiency and accuracy in tax collection and facilitate taxpayer compliance. However, while these systems aim to improve efficiency, they can also create the perception that the tax process is becoming more inhumane, less transparent, or too bureaucratic. Suppose technology is implemented without considering the specific needs and conditions of different groups of taxpayers. In that case, it can create a feeling that the system is unfair, especially if taxpayers feel they are losing control or influence over the process.

The negative influence found in this study can be caused by several factors related to procedural justice. For example, if taxpayers feel that implementing digital tax technology complicates the compliance

process without providing any tangible benefits or that the technology adds an administrative burden without adequate explanation, they may feel that the system is being deemed unjust. In addition, if the tax technology infrastructure is considered inclusive or incapable of accommodating the needs of taxpayers with varying levels of access to technology, this can exacerbate the perception that the system is unfair.

Perceptions of injustice can also arise if taxpayers feel that technology is being used more as a control tool for law enforcement than to support them in complying with their tax obligations. Technology that focuses too much on enforcement without considering the human aspect and support can trigger discomfort and a feeling that the system emphasizes coercive compliance more than fair and transparent collaboration. In this case, the ineffectiveness of tax technology infrastructure in improving the perception of tax justice through digital tax compliance may also be caused by the procedural injustice taxpayers feel. They may see that even though they are digitally compliant, the processes used to achieve that compliance do not pay attention to fairness in the way they want or expect.

To remedy this situation, policymakers must consider how the tax technology infrastructure is implemented, ensuring that the processes are fair, transparent, and participatory. This may include involving taxpayers in developing and implementing technology, ensuring that the system is easily accessible and understood by all groups, and providing adequate support to help taxpayers adapt to technological changes. While technology has great potential to improve efficiency and compliance, if not implemented with taxpayers' perceptions of fairness, its impact could be counterproductive and reduce the perception of tax fairness among taxpayers.

These findings are consistent with research from Priyanto and Wulandari (2021) which shows that while digital technology infrastructure can improve efficiency in tax reporting and payment, its effect on the perception of justice is often limited. They stated that tax fairness is influenced more by tax redistribution policies and transparency in budget allocation than by technology itself. On the other hand, research by Fitriana and Kusnadi (2022) found that a good digital technology infrastructure, if followed by high tax compliance, can increase the perception of tax justice. The study reveals that transparent technology, such as easy-to-use e-filing, can provide a sense of justice to taxpayers because the process is considered fair and accountable. Another study by Susanto et al. (2023) shows that the indirect effects of technology on the perception of justice are only significant in an environment with a highly integrated taxation system. In contexts where technology has not fully supported the tax process or there are gaps in implementation, the relationship tends to be insignificant.

The Effect of Digital Tax Understanding Level on Tax Justice Perception Moderated by Technology Adaptation

This study's results show that the digital tax understanding variable moderated by technology adaptation significantly influences the perception of tax justice, with a P value of 0.000. Since the value is $0.000 < 0.05$, it can be concluded that the eighth hypothesis is accepted. Technological adaptation strengthens the relationship between digital tax understanding and tax justice perceptions. Based on the theory of justice put forward by Adams (1963), it is stated that individuals will feel fair when the comparison between their inputs (effort, time, knowledge) and outputs (rewards, rewards) is comparable to other individuals in the same context. In the context of digital taxes, a deep understanding of digital taxes is one of the important inputs for taxpayers. When taxpayers understand the implementation of digital taxes, the calculation of tax liabilities, and the benefits of digital tax compliance, they are more likely to feel that the tax system is fair.

Technology adaptation plays an important role as a catalyst that strengthens the effect of digital tax understanding on the perception of tax justice. Taxpayers who have adapted to technology tend to have easier access to information, understand digital procedures, and conduct tax transactions efficiently. Thus, they feel that this technology-based tax system provides convenience and clarity, ultimately increasing their perception of its fairness. On the other hand, without adequate technological adaptation, even taxpayers who understand digital taxes may still feel unfair. This can happen if they face difficulties putting their knowledge into practice, for example, due to technical barriers or lack of access to adequate technology. In this case, technological adaptation is key to bridging the gap between theoretical understanding and practical experience in the digital taxation system. Therefore, fairness in the tax system depends not only on taxpayers' knowledge or understanding but also on their ability to implement that understanding in an increasingly digital context. A fair taxation system should consider the different levels of technological adaptation among taxpayers and provide adequate support to ensure that all taxpayers, regardless of their level of technological adaptation, can participate equally and feel fairness in their tax obligations.

The government and tax authorities need to develop tax policies focusing on improving digital tax understanding and aspects of technology adaptation. This can be done through technology training, access to digital devices, and technical assistance to ensure that all taxpayers feel justice in the digital tax system. Thus, an inclusive strategy is urgently needed to support all taxpayers facing digital transformation in the tax system.

The research of Wang et al. (2021) also supports this finding by stating that technology adaptation plays an important role in building taxpayers' trust in the digital tax system. The study found that users more proficient in using technology tend to feel that the system is more transparent and fair. On the other hand, this study is contrary to research conducted by Ahmad and Zulkifli (2022), which stated that technological adaptation does not have a significant effect on the perception of tax justice in the context of MSMEs. This is due to other factors, such as administrative burden and lack of technological infrastructure support that obscures the positive influence of digital tax understanding itself.

The Effect of Tax Technology Infrastructure on the Perception of Tax Justice Moderated by Technology Adaptation

The results of this study show that the tax technology infrastructure variable moderated by technology adaptation significantly influences the perception of tax justice, with a P value of 0.018. Since the value of $0.018 < 0.05$, it can be concluded that the ninth hypothesis is accepted. This means that tax technology infrastructure moderated by technological adaptation significantly affects the perception of tax justice. The social systems theory framework from Niklas Luhmann explains how social systems function through communication and how adaptation and integration between system elements can affect societal stability and perception. In the context of taxation, tax technology infrastructure is one of the key elements that make up the modern tax system. This infrastructure includes various aspects, such as digital platforms for tax reporting, data management systems, and technical tools that facilitate interaction between taxpayers and tax authorities. When properly implemented, this infrastructure should increase efficiency, transparency, and accountability in the tax system, which is expected to improve the perception of tax fairness.

The results of the study show that technology adaptation is a factor that moderates the relationship between tax technology infrastructure and the perception of tax justice. This means that even though

advanced tax technology infrastructure has been provided, taxpayers' perception of the tax system's fairness is greatly influenced by how much they can adapt to the technology. Taxpayers who are more technologically adaptive will have an easier time accessing and utilizing this infrastructure, making them more likely to feel that the system is fair. Conversely, less adaptive taxpayers may find it difficult to use the available infrastructure, leading to feelings of injustice or dissatisfaction.

This discussion emphasizes that tax technology infrastructure cannot stand alone as a determinant of the perception of tax justice. The quality of infrastructure must be balanced with efforts to improve technology adaptation among taxpayers. Even the most sophisticated infrastructure may not deliver the expected results regarding justice perceptions without adequate technological adaptation. This shows the importance of synergy between technology and individual adaptability in creating a tax system that is considered fair by all parties.

In the framework of social systems theory, technological adaptation can be seen as an integration mechanism that allows various elements in the tax system to work in harmony. When taxpayers can adapt to the technology provided, they contribute to the stability of the tax system and, in turn, reinforce the perception that the system is fair and trustworthy. Therefore, a tax system that wants to improve its perception of fairness must focus on developing technological infrastructure and increasing technological literacy and taxpayers' adaptation to the technology. Thus, there is a need for a holistic approach to tax policy that includes the development of a solid technological infrastructure while providing the necessary support for taxpayers to adopt and adapt to the technology. This may involve training programs, increased access to technology, and other interventions to ensure that all levels of society can effectively and fairly utilize digital tax infrastructure.

The research of Pratama and Santoso (2023) supports these findings by showing that technological adaptation in digital taxation infrastructure plays an important role in creating a higher perception of tax fairness among taxpayers. They found that the adaptation of technology by taxpayers can reduce the obstacles faced in using the digital tax system, thereby increasing their perception of the fairness of the tax system. In contrast, the research of Zainudin et al. (2021) states that although the tax technology infrastructure in Indonesia continues to develop, technological adaptation by taxpayers does not always result in a higher perception of fairness. They argue that even though the infrastructure already exists, barriers related to technological knowledge and uncertainty about digital tax policies cause injustice in the eyes of some taxpayers, especially among MSMEs who are not fully ready to adapt to technology.

The Effect of Digital Tax Compliance on the Perception of Tax Justice Moderated by Technology Adaptation

The results of this study show that the digital tax compliance variable moderated by technological adaptation does not significantly influence the perception of tax justice, with a P value of 0.184. Since the value is $0.184 > 0.05$, it can be concluded that the tenth hypothesis is rejected, which means that digital tax compliance moderated by technological adaptation has no significant effect on the perception of tax fairness.

Based on the Theory of Planned Behavior developed by (Ajzen, 1991), Individual behaviour is influenced by their intentions driven by attitudes toward behaviours, subjective norms, and perceptions of control over those behaviours. In the context of digital taxes, tax compliance is the behaviour expected of taxpayers. This level of compliance is influenced by taxpayers' attitudes toward digital tax compliance, applicable social norms (e.g., perceptions of others' views on the importance of compliance), and their

perception of control over such behaviour (e.g., the ability or ease of fulfilling tax obligations digitally). However, the finding that digital tax compliance does not significantly affect the perception of tax justice, even when moderated by technological adaptation, indicates that other factors are more dominant in shaping this perception of justice.

One possible explanation is that taxpayers often see digital tax compliance as a legal obligation that must be met, regardless of whether they feel the system is fair. In this case, compliance reflects more normative compliance than a personal evaluation of the tax system's fairness. Taxpayers may feel compelled to comply with digital tax rules due to external pressures or legal obligations rather than because they consider the system fair. As a result, while digital tax compliance rates are high, this doesn't always translate into a more positive perception of tax fairness.

Technological adaptations expected to facilitate digital tax compliance may also not strongly influence the perception of justice. If technological adaptation is only seen as a means to meet legal obligations more easily and not as an integral part of the system's justice evaluation process, then its impact on the perception of justice will be limited. In this study, technological adaptation makes compliance easier but not enough to change the fundamental perception of the tax system's fairness.

The perception of tax fairness may be influenced more by other factors, such as government transparency, the allocation of public funds, or how the tax system is designed and run as a whole rather than simply compliance with the digital tax system. While technological adaptations have eased the compliance process, this has not been enough to address deeper issues related to trust and perception of the tax system's fairness. Therefore, this study indicates that efforts to improve the perception of tax justice should not only focus on improving digital tax compliance or technology adaptation. Instead, tax policy should include a more comprehensive approach involving greater transparency, effective communication about the use of tax funds, and systemic reforms to create a more real sense of justice among taxpayers. This suggests that to build a strong perception of justice, more than just digital tools and mechanisms are needed; A holistic and comprehensive approach to the entire tax system is needed.

Wijaya et al. (2023), in their research, stated that although digital tax compliance has increased with technological adaptation, the perception of tax justice is not always affected by this factor. This study found that many other factors, such as trust in the government and transparency of the tax system, have a greater influence on the perception of tax fairness. Technological adaptation, while important to improve compliance, is not enough to change taxpayers' perceptions of tax fairness. A different study was conducted by Prasetyo and Sari (2021) which found that technological adaptation in the digital tax system actually strengthens tax compliance and significantly increases the perception of tax fairness. They argue that better and more transparent technology integration helps taxpayers feel more confident that their tax obligations are being treated fairly.

CONCLUSION AND SUGGESTIONS

Conclusion

Based on the research results and discussion, it can be concluded that a good understanding of digital taxes and tax technology infrastructure influences the readiness of MSMEs in Indonesia to face digital taxes. These two factors have proven to impact digital tax compliance significantly. In addition, understanding digital taxes also significantly affects the perception of digital tax justice.

However, the study's results also revealed that understanding digital taxes, tax technology infrastructure, and tax compliance did not significantly influence the general perception of tax justice.

Nonetheless, technology adaptation significantly moderates the relationship between digital tax understanding and tax technology infrastructure to the perception of tax justice. On the other hand, digital tax compliance moderated by technological adaptation does not significantly affect the perception of tax justice. This shows that although technological adaptation is important, its impact is not always strong in influencing the perception of tax fairness in MSMEs using digital platforms in Indonesia.

Technological adaptation can strengthen understanding and infrastructure, but it is not always enough to change the perception of tax fairness if other factors, such as transparency or distributive fairness, are unmet. Therefore, a more comprehensive and inclusive tax policy is needed to ensure that all taxpayers, including MSMEs, feel justice in the digital tax system.

SUGGESTION

Based on the conclusions above, several steps have been taken to improve the readiness of Indonesian MSMEs to face digital taxes while building a perception of tax justice. First, digital tax education and training for MSMEs, tailored to their needs, is important to understanding the obligations and benefits of digital tax compliance. In addition, the development of tax technology infrastructure needs to be improved to make the reporting system more accessible, especially for MSMEs in areas with limited internet access.

The government is also expected to encourage technology adaptation among MSMEs through training and incentives to increase the use of technology in tax reporting. Tax policy transparency is urgently needed to build a perception of tax fairness by showing that the taxes imposed are proportional to the capacity of MSMEs.

ACKNOWLEDGMENTS

We want to express our deepest gratitude to the Government of the Republic of Indonesia, especially the Directorate of Research, Technology and Community Service (DRTPM), for the research grant assistance that has been given. This support is invaluable in implementing our research, so that it can make a real contribution to the development of science and the improvement of the quality of MSMEs in Indonesia in facing the challenges of digital taxation. Hopefully, the results of this research will be useful for economic progress and national development.

REFERENCES

- Aji, A. W., Erawati, T., & Murti, M. K. (2021). Pengaruh Fasilitas Pelayanan, Kemampuan Kerja, Dan Responsiveness Terhadap Kepuasan Wajib Pajak (Studi Kasus Pada Wajib Pajak Yang Terdaftar Di Kantor Pelayanan Pajak Pratama Wates). *AKURAT Jurnal Ilmiah Akuntansi*, 12(3), 49–56.
- Ajzen, I. (1991). The Theory Of Planned Behavior. *Organizational Behavior And Human Decision Processes*. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Avendano, R., & Rosenkranz, P. (2020). Digital Platforms And International Taxation In Asia. In *Aric.Adb. Org* (Issue June). https://aric.adb.org/pubs/digitalmarket/managing-development-digital-marketplaces-asia_CH9.pdf
- Ayu Fhatonah, & Astuning Saharsini. (2022). Faktor-Faktor Yang Mempengaruhi Kepatuhan Wajib Pajak Umkm Di Wilayah Ngemplak. *Juremi: Jurnal Riset Ekonomi*, 2(4), 521–536. <https://doi.org/10.53625/juremi.V2i4.4457>

- Fitriana, A., & Kusnadi, R. (2022). The Role Of Digital Tax Infrastructure In Enhancing Tax Fairness Perception: The Mediating Effect Of Compliance. *Journal Of Tax Policy And Administration*, 14(3), 45-62.
- Ghodang, H. (2020). *Path Analysis (Analisis Jalur)*. Penerbit Mitra Grup. [https://Books.Google.Co.Id/Books?Id=B4cheaaaqbaj](https://books.google.co.id/books?id=B4cheaaaqbaj)
- Gurendrawati, I. R. Z. A. D. B. E. (2023). *UMKM Naik Kelas Pemberdayaan Ekonomi Skala Mikro*. Pustaka Pelajar.
- Lestari, P., & Nugroho, S. (2022). Understanding Digital Tax Compliance And Its Impact On Fairness Perception Among Small Businesses. *Journal Of Taxation Studies*, 15(4), 215-230.
- Meiryani, M., Suganda, Y. M., Lindawati, A., Lusianah, L., Kaban, S. E. B., & Thomas, G. N. (2022). Analysis Of Compliance Taxpayers Of Micro Small And Medium Enterprises Of E-Commerce User. *2022 13th International Conference On E-Business, Management And Economics*, 419-427. [https://Doi.Org/10.1145/3556089.3556191](https://doi.org/10.1145/3556089.3556191)
- Mulyani, S., Suparno, S., & Sukmariningsih, R. M. (2023). Regulations And Compliance In Electronic Commerce Taxation Policies: Addressing Cybersecurity Challenges In The Digital Economy. *International Journal Of Cyber Criminology*, 17(2), 133-146. [https://Doi.Org/10.5281/Zenodo.4766709](https://doi.org/10.5281/zenodo.4766709)
- Nataliawati, R., Sulistyowati, R., Prananda, A., & Afifah, U. (2024). Pencegahan Penggelapan Pajak Melalui Peningkatan Religiusitas, Penanggulangan Machiavellianism Dan Transformasi Digital/ : Studi Berdasarkan Perspektif Gender. *Owner*, 8(1), 893-901. [https://Doi.Org/10.33395/Owner.V8i1.1930](https://doi.org/10.33395/owner.v8i1.1930)
- Nataliawati, D., Suryani, T., & Santoso, R. (2022). The Impact Of E-Commerce Tax Policies On Smes' Compliance In Indonesia. *Asia-Pacific Tax Review*, 8(4), 120-135.
- Nugraha, M., & Rizki, A. (2021). Examining Fairness Perceptions In Digital Tax Policies: A Focus On Small And Medium Enterprises. *Journal Of Fiscal Policy Studies*, 7(3), 34-49.
- Prasetyo, E., & Sari, D. (2021). The Effect Of Technological Adaptation On Tax Compliance And Its Impact On Fairness Perception In The Digital Era. *Journal Of Indonesian Tax Studies*, 19(4), 203-218.
- Pratama, H., Kusuma, A., & Widodo, S. (2023). The Role Of Tax Infrastructure In Improving Taxpayers' Perception Of Fairness In Indonesia. *Taxation And Economic Development Journal*, 15(2), 112-128.
- Pratama, A., & Santoso, B. (2023). The Role Of Technology Adaptation In Mediating Digital Tax Literacy And Taxpayer Satisfaction. *Indonesian Taxation Journal*, 15(1), 67-79.
- Pratomo, B., & Hartono, A. (2023). Tax Compliance And Perceptions Of Fairness: A Study Of Digital Taxpayers In Indonesia. *Journal Of Digital Economic Studies*, 8(1), 45-60
- Priyanto, D., & Wulandari, E. (2021). Examining The Relationship Between Tax Technology, Compliance, And Fairness Perception In The Digital Economy. *Indonesian Tax Review*, 18(2), 89-103.
- Rahman, M., Yusof, Z., & Siti, N. (2021). The Role Of Trust In Digital Tax Systems: Challenges In Developing Economies. *Emerging Markets Tax Journal*, 9(1), 25-40.
- Riswanto, A., Joko, J., Napisah, S., Boari, Y., Kusumaningrum, D., Nurfaidah, N., Judijanto, L., Efitra, E., & Gustiani, W. (2024). *Ekonomi Bisnis Digital: Dinamika Ekonomi Bisnis Di Era Digital*. PT. Sonpedia Publishing Indonesia. [https://Books.Google.Co.Id/Books?Id=Kcvueaaaqbaj](https://books.google.co.id/books?id=Kcvueaaaqbaj)
- Santoso, A., & Lestari, D. (2022). Cloud-Based Tax Systems And Taxpayer Compliance In Developing Economies. *Global Journal Of Tax Studies*, 6(3), 88-102.
- Sarwono, J. (2014). *Path Analysis Dengan SPSS*. Elex Media Komputindo. [https://Books.Google.Co.Id/Books?Id=_Nlmdwaaqbaj](https://books.google.co.id/books?id=_Nlmdwaaqbaj)

- Setiawan, R., Mulyani, T., & Hidayat, A. (2023). Exploring The Mediating Role Of Tax Compliance In The Relationship Between Tax Understanding And Fairness Perception. *International Journal Of Public Finance*, 19(1), 34-49.
- Susanto, R., Dewi, L. A., & Nugraha, H. (2023). Exploring The Indirect Effects Of Digital Tax Systems On Fairness Perception: Evidence From Emerging Economies. *Asia-Pacific Journal Of Taxation*, 10(1), 34-50.
- Wahyuni, F., Hartono, A., & Setiawan, D. (2022). The Effect Of Structured Tax Education On Compliance And Fairness Perception. *Indonesian Tax Review*, 10(2), 56-70.
- Wang, J., Liu, H., & Chen, Q. (2021). Digital Tax Systems And Taxpayer Fairness Perception: The Mediating Effect Of Trust In Technology. *International Journal Of Tax Research*, 18(2), 130-145.
- Wibowo, T., & Setyawan, R. (2021). The Impact Of Compliance On Tax Fairness Perceptions: A Mixed-Method Study. *Asian Journal Of Tax Research*, 5(2), 99-115.
- Wijaya, S., Santoso, A., & Yulia, R. (2023). Digital Tax Compliance, Technology Adaptation, And Fairness Perception: Exploring The Moderating Role Of Transparency. *International Journal Of Taxation And Public Policy*, 25(1), 89-104.
- Yulianti, A., & Kurniawan, A. (2019). Pengaruh Pengetahuan Perpajakan Dan Persepsi Keadilan Terhadap Tingkat Kepatuhan Wajib Pajak Melalui Kepercayaan. *Jurnal Riset Keuangan Dan Akuntansi*, 5(1). <https://doi.org/10.25134/jrka.v5i1.1929>
- Yusuf, M., & Handayani, A. (2021). Tax Fairness Perceptions In The Digital Economy: The Role Of Understanding And Compliance. *Digital Economy And Taxation Journal*, 7(2), 98-112.
- Yusuf, M., Ahmad, R., & Sari, D. (2022). External Factors Influencing Digital Tax Compliance And Fairness Perceptions in Southeast Asia. *International Taxation Journal*, 14(3), 75-89.
- Zainudin, A., Wibowo, S., & Haryanto, B. (2021). Challenges Of Digital Tax Infrastructure And Its Effect On Taxpayer Fairness Perception In Indonesia. *Asian Journal of Public Policy*, 29(3), 150-162.