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By Universitas Muhammadiyah Sidoarjo

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Literacy And Sanctions Predict Land Tax Compliance Without Digitalization Moderation Support: Literasi Dan Sanksi Memprediksi Kepatuhan Pajak Bumi Tanpa Dukungan Moderasi Digitalisasi

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Abstract

General Background Taxation serves as a fundamental instrument for financing state development and ensuring economic stability. **Specific Background** In Bojonegoro Regency, adherence to rural and urban Land and Building Tax payments remains notably low, reaching only 60 percent in 2022 amid various administrative constraints. **Knowledge Gap** While recent literature emphasizes technological transformation in revenue administration, it remains uncertain whether digital systems successfully govern the relationship between fundamental taxpayer knowledge, penalties, and payment adherence in rural settings. **Aims** This study investigates the direct role of fiscal knowledge and administrative penalties on property revenue adherence, while explicitly examining technological platform integration as a moderating variable. **Results** Based on Partial Least Squares Structural Equation Modeling of 87 respondents, both fundamental knowledge and strict penalties positively and significantly predict payment adherence, mutually explaining 66.6 percent of the behavioral variance. Conversely, technological platforms failed to significantly govern the relationship between either regulatory knowledge or penalties and actual payment fulfillment. **Novelty** This research demonstrates that in specific rural demographics, foundational fiscal comprehension and consistent penalty enforcement dictate behavioral adherence independently of technological adoption. **Implications** Regional governments must prioritize direct education and firm law enforcement to secure regional revenue, alongside parallel efforts to provide technological infrastructure assistance for rural citizens.

Highlights

- ♦ Fundamental fiscal knowledge positively shapes property payment behavior in rural regions.
- ♦ Strict administrative penalties successfully enforce obligation fulfillment among registered citizens.
- ♦ Technological platforms fail to strengthen the connection between regulatory understanding and revenue collection.

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INTRODUCTION

Tax is a primary source of state revenue that plays an essential role in financing development and ensuring economic stability. As stated by (Saputri & Khoiriawati, 2021), taxes are mandatory contributions imposed on individuals or entities under the law, without direct compensation, and allocated for the public interest to improve social welfare. Beyond its fiscal function, taxation also has a regulatory role in sustaining economic growth [1]. Rural and Urban Land and Building Tax (PBB-P2) is one of the main sources of Regional Original Income (PAD) collected from the ownership or use of land and buildings [2].

Taxpayer compliance plays a crucial role in increasing regional revenue, while non-compliance can hamper development financing [3]. In Bojonegoro Regency, the level of PBB payment compliance in 2022 only reached around 60% [4]. In addition, administrative constraints, such as delays in updating payment data by Bapenda, also affect the effectiveness of tax collection [5]. Tax compliance is influenced by various factors, including taxpayer knowledge and awareness, tax sanctions, outreach, and the quality of the tax system. (Rosyida, 2018) emphasized that adequate tax knowledge enables taxpayers to better understand their rights and obligations, thereby encouraging voluntary compliance [6]. Similarly, sanctions also play a vital role. (I. Hidayat & Gunawan, 2022) demonstrated that clear, firm, and consistent tax sanctions significantly affect compliance [7], while (Brigita Tapiory et al., 2023) argued that sanctions perceived as fair and logical can enhance taxpayers' willingness to comply [8].

In addition, the quality of tax services contributes to compliance. (R. Hidayat & Wati, 2022) found that responsive, transparent, and digitally supported services in Bandung City improved taxpayer satisfaction and trust, thereby strengthening compliance with PBB obligations. In line with this, recent studies underline the importance of tax digitalization as a transformative approach to improve efficiency, transparency, and participation [9]. (Sugiyono, 2024) reported that digitalization strengthens the link between tax literacy, sanctions, and compliance by simplifying access to information, expediting transactions, and enhancing transparency [10]. However, implementation challenges remain, particularly in rural areas with limited technological infrastructure. (Sinuhaji et al., 2024) confirmed that digital platforms could accelerate tax payments and reduce administrative errors when accompanied by strong public understanding and socialization [11].

This study examines the influence of tax literacy and tax sanctions on compliance with PBB payments, with tax digitalization as a moderating variable. The study was conducted in Krangkong Village, Kepohbaru District, Bojonegoro Regency, which has a relatively low level of tax compliance. The research findings are expected to enrich empirical evidence regarding the contribution of tax literacy, sanctions, and digitalization in increasing taxpayer compliance and regional tax revenue.

THEORETICAL FRAMEWORK

A. Taxation Theory

Taxation theory emphasizes the role of taxes as an instrument for financing the state, creating equity, and maintaining economic stability. It rests on three fundamental principles: justice, efficiency, and compliance, which guide fiscal policy formulation (Mumu et al., 2020). In Indonesia, this perspective is reflected in regulations such as PMK No. 172/2023, which aim to strengthen fairness and transparency in tax administration [12]. Beyond its normative aspect, taxation theory also incorporates a behavioral perspective, recognizing that compliance is influenced not only by economic incentives but also by psychological and social factors [13]. This framework provides the conceptual basis for analyzing the influence of literacy, sanctions, and digitalization on taxpayer compliance.

B. Theory of Planned Behavior (TPB)

According to the Theory of Planned Behavior, a person's intention to perform an action is influenced by their attitude toward that behavior, subjective norms, and their perception of their ability to control their behavior (Nelawati & Utami, 2023) [14]. In the context of land and building tax (PBB), tax literacy helps form positive attitudes, sanctions reinforce social norms, and ease of access strengthens perceived control. Together, these elements shape the intention and ultimately the actual behavior of taxpayers in fulfilling their obligations.

C. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) describes how users accept and adopt new technologies, determined mainly by perceived usefulness and perceived ease of use [15]. In taxation, TAM is highly relevant to digital services such as e-filing and e-billing, where taxpayers' willingness to use depends on their trust, digital literacy, and confidence in the system (Mulyani, Sri, Fidiana, 2021). A positive perception of simplicity and benefits increases acceptance, which in turn strengthens compliance [16].

D. Tax Literacy

Tax literacy encompasses an understanding of tax rules, procedures, digital services, and administration [17]. High literacy can increase voluntary compliance and reduce reporting errors [18]. In the PBB, a good understanding encourages taxpayers to fulfill their obligations in a timely manner. Therefore, tax literacy plays a crucial role in building awareness and trust in the tax system.

E. Tax Sanctions

Tax sanctions serve as a corrective instrument to ensure compliance with tax regulations [19]. Studies indicate that strict sanctions significantly affect compliance, especially among taxpayers with low levels of tax morality [20]. However, other findings highlight that sanctions alone are insufficient if not accompanied by effective socialization and facilitation [21]. For instance, in rural areas, some taxpayers pay taxes primarily out of fear of sanctions rather than awareness. This shows that sanctions function better as a complement to education rather than as the sole enforcement tool.

F. Taxpayer Compliance

Taxpayer compliance encompasses both willingness and ability to meet tax obligations [22]. Compliance is influenced by multiple factors such as knowledge, perceived fairness of the tax system, sanction enforcement, and the ease of tax procedures [23]. Empirical studies in Indonesia show that compliance is often higher in urban areas due to better access to information and digital facilities [24]. Meanwhile, in rural areas, compliance tends to be lower, not due to disobedience, but rather due to limited understanding and access. Thus, compliance is a behavioral construct shaped by both individual awareness and institutional support.

G. Land and Building Tax (PBB)

The Land and Building Tax (PBB) is one of the main pillars of local tax revenue that directly supports regional development [25]. Compliance with PBB is crucial because it is a mass tax with broad taxpayer coverage. Research shows that effective outreach, a transparent collection system, and ease of payment can improve PBB compliance [26]. However, in rural areas, there are still obstacles such as inaccurate data, low taxpayer understanding, and the perception that PBB is a burden. Therefore, improving compliance requires improvements in regulations, services, and community participation.

H. Tax Digitalization

Tax digitalization represents a paradigm shift in the administration of taxation by integrating digital platforms into taxpayer services [27]. Empirical evidence shows that the adoption of e-Filing, e-Billing, and other applications has significantly increased compliance by simplifying the reporting process and reducing face-to-face interaction that may cause inefficiencies [11]. Furthermore, digitalization supports transparency and accountability, which in turn builds public trust in the tax system [28]. Nevertheless, disparities in internet access, low digital literacy among rural communities, and the need for continuous system updates are still obstacles in achieving the full potential of digital taxation. Thus, digitalization must be seen not only as a technological transformation but also as a cultural and institutional shift that requires synergy between the government and society.

HYPOTHESES

H₁ : Tax Literacy (X₁) positively affects Compliance with Land and Building Tax (Y).

Tax literacy is the ability of taxpayers to understand regulations, rights, obligations, and tax procedures. A good level of literacy improves awareness and encourages compliance, including the payment of Land and Building Tax [29]. Studies by (Nur Rohmah, Nuridah, 2024) and (Mumu et al., 2020) confirm that higher tax knowledge positively influences tax compliance [30][12].

H₂ : Tax Sanctions and Compliance with Land and Building Tax

Tax sanctions are legal instruments designed to ensure taxpayer compliance through administrative fines, interest, or even criminal penalties. They serve both as law enforcement tools and preventive measures to encourage discipline in fulfilling obligations, including the payment of Land and Building Tax [31]. Prior studies (I. Hidayat & Gunawan, 2022) confirm that sanctions positively influence compliance, as the fear of penalties motivates taxpayers to act responsibly [7].

H₃ : Digitalization Moderates the Effect of Tax Literacy on Compliance

Tax digitalization refers to the use of online platforms such as e-Filing, e-Billing, and DJP Online to simplify reporting, payment, and supervision [32]. Digital systems enhance accessibility, transparency, and efficiency, enabling taxpayers with higher literacy to apply their knowledge more effectively. Empirical studies (Wijaya et al., 2025) show that digitalization significantly strengthens the link between tax literacy and compliance by reducing barriers to tax administration [33].

H₄ : Digitalization Moderates the Effect of Tax Sanctions on Compliance

While sanctions encourage compliance, their effectiveness depends on taxpayers' awareness and timely access to information. Digitalization enhances this process by providing real-time, transparent, and easily accessible information about obligations and penalties [27]. Studies (Septiyani, 2025) reveal that sanctions communicated through digital systems increase compliance with Land and Building Tax [34].

H₅ : Tax Literacy (X₁) and Tax Sanctions (X₂) Simultaneously Affect Compliance in Paying Land and Building Tax (Y)

Tax literacy equips taxpayers with knowledge of their rights, obligations, and reporting procedures, which fosters awareness

and voluntary compliance. Meanwhile, tax sanctions act as a deterrent by ensuring legal consequences for non-compliance. Studies show that literacy and sanctions together strengthen taxpayer responsibility [29].

METHOD

This study uses a quantitative approach with a survey design to test hypotheses and objectively analyze relationship between variables using statistical techniques.

A. Population and Sample

The study population included 694 registered Land and Building Tax (PBB) taxpayer in Bojonegoro Regency. The sample was determined using the Slovin formula with a 10% margin of error, resulting in 87 respondents considered representative of the population.

B. Data Collection Techniques

Primary data were obtained through the distribution of structured questionnaires based on indicators for each research variable. The survey method was chosen because it is effective for collecting data directly from taxpayers in a relatively time using statistical techniques.

C. Research Model and Analysis Technique

The research model consists of two independent variables (Tax Literacy and Tax Sanctions), one dependent variable (Tax Compliance), and one moderating variable (Tax Digitalization). This model is designed to examine the direct effect of tax literacy and tax sanctions on compliance and to test how digitalization moderates these relationships.

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0 software. PLS-SEM was selected due to its suitability for analyzing models with relatively small sample sizes, latent variables, and complex relationships.

D. Measurement Model (Outer Model)

Convergent Validity: An indicator is valid if the outer loading > 0.70 .

Reliability: Composite Reliability > 0.70 and Cronbach's Alpha > 0.60 indicate acceptable internal consistency.

Structural Model (Inner Model)

R-Square (R^2): Assesses the explanatory power of independent variables (≥ 0.75 = strong, ≈ 0.50 = moderate, ≤ 0.25 = weak).

F-Square (f^2): Evaluates effect size ($f^2 > 0.35$ = large, $f^2 > 0.15$ = medium, $f^2 > 0.02$ = small).

Path Coefficient: Measures the strength and significance of relationships between latent variables.

E. Hypothesis Testing

The bootstrapping method was employed to test the significance of direct, indirect, and moderated effects. Relationships are considered significant if the t-statistic > 1.96 and p-value < 0.05 .

F. Descriptive Statistics

Descriptive statistics were used to present respondent characteristics and questionnaire response distributions, including mean, standard deviation, minimum, and maximum values. These statistics provided an initial overview of the data before conducting SEM-PLS analysis.

RESULTS AND DISCUSSION

A. Results

The results present the findings from the data analysis, hypothesis testing, and the interpretation of relationships among variables. The analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS 4.0 focusing on both the measurement model (outer model) and the structural model (inner model).

1. Structural Model Evaluation

a. Coefficient of Determination (R-square)

Tabel 1. Hasil Uji R-square

	R-Square	R-Square adjusted
Kepatuhan Membayar PBB (Y)	0.666	0.645

Based on table 1, the R-Square value for the variable Compliance in Paying Land and Building Tax (Y) is 0.666, with an Adjusted R-Square of 0.645. This indicates that the combination of Tax Literacy, Tax Sanctions, and Tax Digitalization as a moderating variable explains 66.6% of the variance in tax compliance, while the remaining 33.4% is explained by other factors outside the model. Overall, the R-Square value falls into the strong category, suggesting that the research model has good predictive relevance and is feasible for further analysis.

b.f-square

The F-Square (f^2) test is used to estimate the relative importance of each independent variable on the dependent variable, thereby determining whether the independent variables are meaningful to be included in the model. The results of the F-Square test in this study are presented in the following table.

Tabel 2. Hasil Uji f-square

	X1	X2	Y	Z	Z x X1	Z x X2
X1			0.258			
X2			0.242			
Y						
Z			0.004			
Z x X1			0.055			
Z x X2			0.020			

Based on table 2, the f^2 value of Tax Literacy (X1) on Compliance in Paying Land and Building Tax (Y) is 0.258, which falls into the medium effect category. The f^2 value of Tax Sanctions (X2) on Y is 0.242, also indicating a medium effect.

Furthermore, the f^2 value of Tax Digitalization (Z) on Y is 0.004, showing a very small or negligible effect. Meanwhile, the moderating interaction Z x X1 on Y has an f^2 value of 0.055, categorized as a small effect, and the moderating interaction Z x X2 on Y has an f^2 value of 0.020, which also indicates a small effect.

2. Hypothesis Testing

Hypothesis testing was conducted to examine the relationships among constructs using the bootstrapping method based on the path coefficient results. The analysis produced t-statistics and p-values to determine the direction and significance of the effects of Tax Literacy, Tax Sanctions, and Tax Digitalization on Compliance in Paying Land and Building Tax, as well as the moderating role of Tax Digitalization. The results are presented in Table 4.10.

Table 3. Hasil Uji Bootstrapping

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
X1 → Y	0.423	0.423	0.124	3.415	0.001
X2 → Y	0.408	0.425	0.099	4.102	0.000
Z → Y	0.049	0.051	0.099	0.494	0.621
Z x X1 → Y	0.140	0.135	0.085	1.653	0.098
Z x X2 → Y	-0.065	-0.082	0.063	1.021	0.307

H₂ (X2 → Y): Accepted, positive and significant. Tax Sanctions enhance Compliance in Paying Land and Building Tax.

H₃ (Z x X1 → Y): Rejected, not significant. Tax Digitalization does not moderate the effect of Tax Literacy on Compliance.

H₄ (Z x X2 → Y): Rejected, not significant. Tax Digitalization does not moderate the effect of Tax Sanctions on Compliance.

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H₅ (X₁ & X₂ → Y): Accepted, simultaneous effect confirmed. Tax Literacy and Tax Sanctions together explain 66.6% of the variance in Tax Compliance ($R^2 = 0.666$; Adjusted $R^2 = 0.645$), indicating a strong explanatory power of the model.

B.Results

In this section, the researcher further explains the interpretation of the results of the research hypothesis testing through bootstrapping with the help of smart PLS 4.0 software.

1. The Effect of Tax Literacy on Land and Building Tax Compliance

The first hypothesis (H1), which tests the effect of Tax Literacy on Land and Building Tax Compliance, has an original sample value of 0.423, with a t-statistic of $3.415 > 1.96$ and a p-value of $0.001 < 0.05$. This means that hypothesis (H1) is accepted. This means that Tax Literacy has a positive and significant impact on Land and Building Tax Compliance.

The findings of this study indicate that increasing taxpayer understanding of tax aspects leads to a higher level of compliance with Land and Building Tax obligations. A high level of tax literacy reflects taxpayers' ability to understand reporting and payment procedures, tax calculations, tax contributions to regional development, and awareness of tax rights and obligations, including the consequences of non-compliance. High tax literacy encourages taxpayers to recognize that taxes are an obligation to be fulfilled, not a burden to be avoided. This increases their awareness and responsibility in paying their Land and Building Tax (PBB) on time.

The results of this study are consistent with the Theory of Planned Behavior (TPB) approach, where positive taxpayer attitudes are formed when they have a good understanding of taxes, subjective norms in their environment support their compliance, and perceived behavioral control also increases because taxpayers perceive they are capable and able to easily fulfill their tax obligations.

These findings indicate that efforts by local governments or related parties to improve taxpayer tax literacy are crucial for increasing tax compliance levels. Tax education programs, socialization of tax regulations, training, and the provision of easily accessible information will help taxpayers understand the importance of taxes and how to fulfill their tax obligations.

The findings of this study align with previous studies by (Nur Rohmah, Nuridah, 2024) and (Mumu et al., 2020), which confirmed that understanding or insight into taxation plays a crucial role in driving taxpayer compliance. An individual's level of tax awareness is influenced by their understanding of tax concepts, regulations, and benefits. Therefore, tax compliance levels show positive results as their understanding of tax aspects increases, supporting previous research that emphasizes the importance of tax literacy in improving tax compliance in the community.

2. The Effect of Tax Sanctions on Land and Building Tax Compliance

The second hypothesis (H2), which tests the effect of tax sanction on land and building tax compliance, showed an original sample value of 0.408, with a t-statistic of $4.102 > 1.96$ and a p-value of $0.000 < 0.05$, indicating that hypothesis (H2) is accepted. This means that the implementation of tax sanctions has been proven to have a positive and significant effect on land and building tax compliance.

The results of this study indicate that the more assertive, clear, and consistent the application of tax sanctions by local governments, the higher the level of compliance in paying land and building tax. The tax sanctions in question can take the form of administrative fines, late interest, or collection actions. This finding supports the concept of perceived behavioral control in the Theory of Planned Behavior (TPB), where the presence of sanctions creates the perception of strong external control, thus encouraging taxpayers to comply due to the potential consequences.

The findings of this study are consistent with previous research by (I. Hidayat & Gunawan, 2022) and (Afisah & Witono, 2023), which suggested that tax sanctions have a positive contribution to taxpayer compliance. Awareness of the legal risks of tax violations encourages individuals to fulfill their tax obligations in a timely manner in accordance with applicable regulations. Therefore, it can be concluded that consistent and firm enforcement of sanctions is a crucial factor in encouraging tax compliance, strengthening evidence that fear of sanctions plays a psychological role in shaping compliant behavior.

3. Tax Digitalization Moderates the Effect of Tax Literacy on Land and Building Tax Compliance

The third hypothesis (H3), which tested the moderating effect of Tax Digitalization on the relationship between Tax Literacy and Land and Building Tax Compliance, had an original sample value of 0.140, a t-statistic of $1.653 > 1.96$, and a p-value of $0.098 < 0.05$, indicating that hypothesis (H3) was rejected. This means that Tax Digitalization does not significantly moderate the effect of Tax Literacy on Land and Building Tax Compliance.

The results of this study indicate that the existence of digital tax systems such as e-SPPT, online payments, regional tax applications, and tax information websites has not been proven to strengthen the relationship between tax literacy and taxpayer compliance. This indicates that taxpayers with a high level of tax understanding are able to fulfill their tax obligations without relying heavily on digital technology support. These findings indicate that, within the context of the Theory of Planned Behavior (TPB), perceived behavioral control is more influenced by tax literacy itself than by digitalization support. This means that taxpayers with a good understanding of taxation are still able to fulfill their obligations even though technology plays an insignificant role as a supporting factor. Within the Technology Acceptance Model (TAM) framework, these results indicate that the perceived ease of use of tax technology is not yet a determining factor in

strengthening the relationship between tax literacy and compliance with property tax payments.

These research findings align with those of (Ndung & Methasari, 2025), who found that although tax digitalization can simplify the tax reporting and payment process, its influence does not always strengthen the relationship between tax literacy and compliance. This is because taxpayers with a good level of tax literacy tend to be able to fulfill their tax obligations without over-reliance on digital systems. Furthermore, research by (D. Putri & Murdiawati, 2025) found that the role of digitalization as a supporting factor is not always significant, especially if taxpayers already have adequate tax understanding. This situation suggests that tax literacy can directly encourage compliance without requiring significant moderating support from digitalization.

Therefore, it can be concluded that while digitalization in the tax system provides technical convenience in the reporting and payment process, its presence does not always strengthen the relationship between tax literacy and taxpayer compliance. Taxpayers with high tax literacy tend to be able to fulfill their obligations in a timely manner and in accordance with regulations without relying on digital support.

4. Tax Digitalization Moderates the Effect of Tax Sanctions on Land and Building Tax Compliance

The fourth hypothesis (H4), which examines the moderating role of Tax Digitalization in the relationship between Tax Sanctions and Land and Building Tax Compliance, yielded an original sample value of -0.065, a t-statistic of $1.021 < 1.96$, and a p-value of $0.307 > 0.05$, indicating that hypothesis (H4) is rejected. This means that Tax Digitalization does not significantly moderate the effect of Tax Sanctions on Land and Building Tax Compliance.

The results of this study indicate that although tax sanctions have a significant effect on compliance, tax digitalization does not significantly strengthen or weaken this relationship. This may occur because tax sanctions are essentially law enforcement policies, while tax digitalization focuses more on providing facilities and service systems. Therefore, tax digitalization does not influence taxpayers' perceptions of the risk of sanctions being imposed. This finding differs from previous research, such as that presented by (Wijaya et al., 2025), which showed that a digital tax system can strengthen the influence of sanctions due to its transparent and accountable implementation. Furthermore, research by (Feri Alvoncius R.P. & Hapsari, 2024), which stated that digitalization contributes to increased tax compliance, including strengthening the influence of sanctions. Similarly, (Septiyani, 2025) emphasized the importance of digital system support in the implementation of tax sanctions to increase compliance with property tax (PBB).

This study found different results, in which digitalization of taxation did not strengthen the influence of tax sanctions on compliance. This difference in results is likely due to several factors, including:

- a. Limited or low understanding and skills of taxpayers in using digital systems, resulting in the lack of optimal utilization of digitalization.
- b. Uneven or limited technological infrastructure in the research area, leading taxpayers to continue to prefer manual services.
- c. Taxpayers' behavioral preferences still rely on direct interaction, resulting in the lack of digitalization as a significant driving factor in increasing the effect of sanctions on tax compliance.

Thus, it can be concluded that although tax digitalization is theoretically expected to be able to strengthen the influence of tax sanctions on compliance, in the context of this research, tax digitalization has not played a significant role as a moderating variable.

5. Tax Literacy and Tax Sanctions Simultaneously Have a Positive Influence on Land and Building Tax Compliance

Based on the R-Square test results, a value of 0.666 was obtained, indicating that Tax Literacy and Tax Sanctions simultaneously explain 66.6% of the variation in land and building tax compliance. Meanwhile, the remaining 33.4% is influenced by other variables outside the research model. This value indicates that the model has a good ability to explain taxpayer compliance, thus accepting the fifth hypothesis (H5). This means that tax literacy and tax sanctions simultaneously have a positive and significant effect on compliance with PBB (land and building tax) payments.

This findings indicates that these two variables mutually support each other in improving taxpayer compliance. Tax literacy helps increase taxpayer understanding, awareness, and responsibility in fulfilling tax obligations correctly and on time.

Meanwhile, tax sanction act as a regulatory enforcement mechanism that encourages a deterrent effect against tax violations. This instrument increases compliance through coercion when educational approaches are not fully effective. Firm, transparent, and fair sanctions will instill fear of violating regulations while simultaneously increasing voluntary compliance. This study shows that educational approaches through tax literacy and law enforcement approaches through tax sanctions play a strategic role in fostering compliant behavior among taxpayers.

The findings of this study align with the results of studies conducted by (Mumu et al., 2020) and (Yuliatic & Fauzi, 2020), which show that tax literacy plays a crucial role in increasing taxpayer awareness and compliance with land and building tax obligations. A good understanding of rights, obligations, and tax payment procedures encourages voluntary compliance. Furthermore, the presence of firm sanctions strengthens the influence of literacy on compliant behavior, particularly in rural areas where tax information remains limited.

CONCLUSION

This study concludes that Tax Literacy and Tax Sanctions significantly enhance Compliance in Paying Land and Building Tax, while Tax Digitalization, either directly or as a moderating variable, does not provide a significant contribution. Simultaneous testing showed that tax literacy and tax sanctions explained 66.6% of the variation in taxpayer compliance, indicating the model's strong explanatory power. The results of this study demonstrate the need for improved tax education consistent enforcement of sanctions, and the provision of more accessible tax services to improve compliance and optimize PBB (land and building tax) revenue. Furthermore, tax digitalization in rural areas needs to be supported by strengthening internet infrastructure, simplifying digital payment services, and providing assistance to taxpayers in utilizing tax platforms. Local governments can also collaborate with village governments, banks, and financial service agents to provide digital help centers and tax payment services closer to the community. These steps are expected to increase the use of digital services while expanding taxpayer access to a more efficient and transparent tax system.

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References

- [1] A. M. Saputri and N. Khoiriawati, "The effect of tax knowledge, attitude, and taxpayer awareness on taxpayer compliance in paying land and building tax," *SOSEBI: Journal of Social Economics and Islamic Business Student Research*, vol. 1, no. 1, pp. 14–23, 2021, doi: 10.21274/sosebi.v1i1.4917.
- [2] W. A., D. N. Anisa, and T. A., "Analysis of the effectiveness and contribution of rural and urban land and building tax (PBB-P2) to regional original income (PAD) in Kediri City," *JUMBA: Journal of Management, Business, and Accounting*, vol. 3, no. 2, 2024.
- [3] W. Pransiska and I. I. Wardhani, "Effect of taxpayer awareness, tax knowledge, and tax socialization on taxpayer compliance in paying land and building tax," *Jurnal Ilmiah Akuntansi Keuangan dan Bisnis (JIKABI)*, vol. 1, no. 2, pp. 217–231, 2022, doi: 10.31289/jbi.v1i2.1413.
- [4] Y. M. Kirom, "The effect of taxpayer awareness, tax sanctions, and tax knowledge on land and building taxpayer compliance in Bojonegoro region," *JEBIS: Journal of Economics, Business, and Social*, vol. 2, no. 4, pp. 57–66, 2025.
- [5] Y. E. Ramadhana, "Bapenda Bojonegoro finds delayed PBB-P2 payments: 19 districts have not paid taxes," *Radar Bojonegoro*, Nov. 6, 2024.
- [6] I. A. Rosyida, "The effect of tax knowledge, awareness, and tax amnesty knowledge on taxpayer compliance," *J-MACC: Journal of Management and Accounting*, vol. 1, no. 1, pp. 29–43, 2018.
- [7] I. Hidayat and S. Gunawan, "Taxpayer awareness, tax sanctions, and service quality on taxpayer compliance in paying land and building tax," *Manazhim*, vol. 4, no. 1, pp. 110–132, 2022.
- [8] B. Tapiory, W. D. Ernawati, and F. Z. Oktavia, "The influence of taxpayer understanding, awareness, and perception of tax sanctions on land and building taxpayer compliance," *Journal of Accounting Business and Humanities*, vol. 10, no. 2, pp. 56–64, 2023.
- [9] R. Hidayat and S. R. Wati, "The effect of taxpayer awareness and service quality on land and building tax compliance in Bandung City," *Owner*, vol. 6, no. 4, pp. 4009–4020, 2022, doi: 10.33395/owner.v6i4.1068.
- [10] A. M. Gumilang, Rosidawaty, and T. Septiani, "Analysis of digitalization policy in taxation systems on MSME taxpayer compliance," *Balance Vocation Accounting Journal*, vol. 8, no. 1, pp. 65–71, 2024.
- [11] V. L. Sinuhaji, H. Purba, and J. Y. Hutapea, "The effect of tax digitalization and tax understanding on taxpayer compliance with tax socialization as moderating variable," *Journal of Economic, Business and Accounting (COSTING)*, vol. 7, no. 2, pp. 6974–6990, 2024, doi: 10.31539/costing.v7i4.9884.
- [12] A. Mumu, J. J. Sondakh, and I. G. Suwetja, "The effect of tax knowledge, tax sanctions, and taxpayer awareness on land and building tax compliance," *Going Concern: Journal of Accounting Research*, vol. 15, no. 2, p. 175, 2020.
- [13] G. L. O. L. Gaol, T. F. H. Hasibuan, and H. Dalimunthe, "The effect of tax socialization, tax knowledge, sanctions, and income on land and building tax compliance," *Jurnal Adijaya Multidisciplinary*, vol. 2, no. 1, pp. 9–24, 2024.
- [14] N. Nelawati and C. K. Utami, "Theory of Planned Behavior implications on land and building taxpayer compliance," *Equilibrium: Journal of Economics, Management and Accounting*, vol. 12, no. 2, p. 276, 2023, doi: 10.35906/equili.v12i2.1606.
- [15] I. Maita and S. Majid, "Acceptance of e-learning using Technology Acceptance Model (TAM)," *Jurnal Sistem Informasi dan Teknologi*, vol. 4, pp. 30–35, 2022.
- [16] S. Mulyani and F. Fidiana, "The effect of e-registration, e-billing, and e-filing using TAM approach," *Jurnal Ilmu dan Riset Akuntansi*, vol. 10, no. 5, pp. 1–20, 2021.
- [17] C. Purba et al., "Personal taxation in urban communities in Medan," 2025.
- [18] L. D. Nistiana, D. K. Wardani, and A. Primastiwi, "The effect of tax literacy on taxpayer compliance," *As-Syirkah: Islamic Economic & Financial Journal*, vol. 2, no. 2, pp. 99–114, 2022, doi: 10.56672/syirkah.v2i2.47.
- [19] C. F. Sumuan and F. Fidiana, "Tax sanctions from authority perspective," *Jurnal Ilmiah Akuntansi dan Bisnis*, vol. 15, no. 1, p. 107, 2020, doi: 10.24843/jiab.2020.v15.i01.p10.
- [20] R. Cipta, P. Putra, and W. Ginting, "Influence of taxation socialization, tax sanctions, and tax knowledge on individual taxpayer compliance," 2025.
- [21] N. D. Afisah and B. Witono, "The effect of tax knowledge, sanctions, service quality, and awareness on taxpayer compliance," *Edunomika*, vol. 7, no. 2, pp. 1–11, 2023.
- [22] Ministry of Finance of the Republic of Indonesia, "Decree No. 544/KMK.04/2000 on taxpayer supervision system," 2000.
- [23] I. Noviana and M. Ak, "Corporate taxpayer compliance in digital taxation era," 2024.

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Vol. 11 No. 1 (2026): June

DOI: 10.21070/acopen.11.2026.14692

- [24] Z. Zhafira, "Taxpayer compliance, service quality and sanctions during COVID-19," *Jurnal Pajak Vokasi (JUPASI)*, vol. 4, no. 1, pp. 1–10, 2022.
- [25] M. Yunanda, N. A. Syahputri, and P. A. Ningtyas, "Land and building tax (PBB)," *Jurnal Ilmu Hukum, Sosial dan Humaniora*, vol. 2, pp. 314–325, 2024.
- [26] R. Allyreza, S. Mumtaz, and E. Jumiati, "Factors affecting taxpayer compliance in paying land and building tax in Serang Regency," *Indonesian Journal of Social and Political Sciences*, vol. 4, no. 1, 2023.
- [27] F. A. R. P. and A. A. Hapsari, "Effectiveness of tax digitalization on taxpayer compliance," *OPTIMA Journal*, vol. 1, no. 1, pp. 39–50, 2024, doi: 10.33830/optima.v1i1.7088.
- [28] C. I. Choiriah, M. C. Mawardi, and D. A. Rudiningtyas, "Effect of digital taxation systems and administration on taxpayer compliance," *E-Jurnal Ilmiah Riset Akuntansi*, vol. 14, no. 1, pp. 208–215, 2025.
- [29] N. N. Yuliatic and A. K. Fauzi, "Tax literacy, service quality, sanctions and MSME taxpayer compliance," *Akuntansi Bisnis & Manajemen*, vol. 27, no. 2, 2020.
- [30] N. Rohmah and N. Nuridah, "The effect of taxpayer awareness on land and building tax compliance," 2024.
- [31] E. H. Tpoi, "Factors affecting motor vehicle taxpayer compliance," 2025.
- [32] A. Agung, G. Agung, and I. Prathama, "Legal analysis of taxpayer compliance in the era of tax digitalization in Indonesia," 2024.
- [33] H. Wijaya, M. Zuliyana, D. P. Putra, and S. Rani, "The effect of tax digitalization, tax knowledge, and sanctions on individual taxpayer compliance," *EKUILNOMI*, vol. 7, no. 1, pp. 53–67, 2025.
- [34] T. W. B. Septiyani, "The effect of socialization, incentives, and tax sanctions on land and building tax compliance," 2025.