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The Effect of Tax Literacy, Taxpayer Awareness, and Tax Sanctions on MSME Tax Compliance

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A B S T R A C T

MSMEs play an important role in supporting economic growth and increasing state revenue through taxation. However, the level of tax compliance among MSME taxpayers in Indonesia remains relatively low. This study aims to examine the effect of tax literacy, taxpayer awareness, and tax sanctions on MSME tax compliance in Denpasar. The study applies a quantitative approach using primary data collected through questionnaires distributed to MSME taxpayers. The sampling technique used purposive sampling, resulting in 150 respondents who met the research criteria. Data analysis was conducted using multiple linear regression with the assistance of SPSS software. Prior to hypothesis testing, classical assumption tests were carried out, including normality, multicollinearity, and heteroscedasticity tests, and the results indicated that the regression model fulfilled the required assumptions. The findings reveal that tax literacy has a positive and significant effect on MSME tax compliance. Taxpayer awareness also positively and significantly affects MSME tax compliance. In addition, tax sanctions were found to have a positive and significant effect on taxpayer compliance. Simultaneously, tax literacy, taxpayer awareness, and tax sanctions significantly influence MSME tax compliance. The coefficient of determination shows that 54.1% of the variation in MSME tax compliance can be explained by the independent variables. These findings imply that improving tax education, strengthening taxpayer awareness, and implementing consistent tax sanctions can enhance voluntary tax compliance among MSMEs.

1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) are widely recognized as key drivers of economic development in both developed and developing countries. According to the Organisation for Economic Co-operation and Development (OECD, 2025), MSMEs account for more than 90% of business entities worldwide and generate approximately 60–70% of total employment. Their contribution extends beyond economic growth by promoting innovation, reducing poverty, strengthening supply chains, and enhancing regional resilience. During and after the COVID-19 pandemic, MSMEs demonstrated remarkable adaptability through digital transformation and business innovation, reinforcing their role as an essential pillar of sustainable economic recovery (OECD, 2025; World Bank, 2024).

Despite their significant contribution, MSMEs continue to face substantial taxation challenges. In many developing countries, tax compliance among MSMEs remains relatively low due to complex tax regulations, limited tax literacy, inadequate taxpayer education, administrative burdens, and weak enforcement mechanisms. Consequently, governments lose

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considerable tax revenue that could otherwise support infrastructure development, education, healthcare, and other public services (OECD, 2025). Improving MSME tax compliance has therefore become a strategic priority for tax authorities seeking to strengthen fiscal sustainability and broaden the tax base.

Tax compliance refers to taxpayers' willingness to fulfill their legal obligations by accurately calculating, paying, and reporting taxes according to prevailing regulations. Within self-assessment taxation systems, such as that adopted in Indonesia, voluntary compliance is fundamental because taxpayers are responsible for determining and reporting their own tax liabilities. Consequently, identifying the determinants of taxpayer compliance has become an important topic in taxation research (Kirchler et al., 2023).

Traditional economic theories explain tax compliance primarily through deterrence mechanisms, emphasizing audits and sanctions. However, recent behavioral taxation studies suggest that taxpayer behavior is also influenced by psychological and institutional factors, including tax literacy, taxpayer awareness, trust in government, perceived fairness, and moral responsibility (Alm & Torgler, 2024). These perspectives indicate that improving voluntary compliance requires not only effective law enforcement but also greater taxpayer understanding and positive attitudes toward taxation.

Indonesia provides an important context for investigating taxpayer compliance. As one of Southeast Asia's largest emerging economies, Indonesia relies heavily on tax revenue to finance national development. Taxes contribute more than 70% of government revenue, yet Indonesia's tax-to-GDP ratio remains approximately 12%, substantially below the OECD average of around 34% (OECD, 2025). This relatively low ratio reflects persistent challenges in expanding the tax base and improving taxpayer compliance.

Among all taxpayer groups, MSMEs represent one of Indonesia's largest untapped sources of tax revenue. According to the Ministry of Cooperatives and SMEs (2025), Indonesia has more than 65 million MSMEs, representing approximately 99% of all business entities. Collectively, these enterprises contribute over 60% of national GDP and absorb approximately 97% of total employment. Nevertheless, their contribution to tax revenue remains relatively low because of limited compliance, informal business practices, and incomplete taxpayer registration.

To address these challenges, the Indonesian government has introduced numerous tax reforms, including simplified tax rates, electronic filing systems, digital tax administration, taxpayer education programs, and modernization of the Core Tax Administration System (CTAS). These reforms aim to simplify compliance procedures and encourage voluntary compliance. However, despite continuous modernization, compliance among MSMEs remains below expectations, suggesting that administrative reforms alone are insufficient to improve taxpayer behavior.

Recent studies indicate that MSME tax compliance is influenced by both internal and external factors. Internal determinants include tax literacy and taxpayer awareness, whereas external determinants include tax sanctions, government policies, and the quality of tax administration. These factors interact in shaping taxpayers' willingness to comply voluntarily within the self-assessment taxation system (Kirchler et al., 2023; Alm & Torgler, 2024).

Tax literacy has emerged as one of the most important determinants of taxpayer compliance. It refers to taxpayers' understanding of tax regulations, administrative procedures, reporting mechanisms, and legal obligations. Individuals with higher tax literacy are generally better able to calculate taxes accurately, complete tax returns correctly, and avoid administrative errors. Previous studies consistently

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demonstrate that tax literacy positively influences taxpayer compliance by reducing information asymmetry and increasing taxpayers' confidence in fulfilling their obligations (Rosanti & Simorangkir, 2024; Sulistyowati et al., 2024).

Another important determinant is taxpayer awareness, which reflects taxpayers' willingness to fulfill their obligations voluntarily based on their understanding of taxation's contribution to national development. Taxpayers with higher awareness generally perceive tax payment not only as a legal obligation but also as a civic responsibility. Consequently, taxpayer awareness strengthens voluntary compliance and discourages tax evasion (Widjaja et al., 2024; Farida Styaningrum et al., 2025).

Tax sanctions constitute the primary external mechanism encouraging compliance. Administrative fines and legal penalties increase the expected cost of non-compliance and discourage taxpayers from violating tax regulations. Nevertheless, recent behavioral studies suggest that sanctions are most effective when combined with sufficient tax literacy and taxpayer awareness. Compliance driven solely by punishment may not produce sustainable voluntary compliance in the long term (Tanady & Lukman, 2024; Yuliani et al., 2024).

Although previous studies have extensively examined tax literacy, taxpayer awareness, and tax sanctions, their findings remain inconsistent. Some studies conclude that tax literacy significantly improves compliance, whereas others report insignificant effects because taxpayers continue to face administrative complexity and institutional constraints. Similarly, while many studies find that taxpayer awareness positively influences compliance, several report insignificant relationships, particularly among MSMEs operating in informal sectors. In addition, evidence regarding the effectiveness of tax sanctions remains mixed, indicating that enforcement alone may not sufficiently explain taxpayer behavior.

These inconsistencies reveal several important research gaps. First, an empirical gap exists because previous findings regarding the effects of tax literacy, taxpayer awareness, and tax sanctions remain inconsistent across different contexts. Second, a theoretical gap arises because most studies rely primarily on deterrence theory while paying limited attention to behavioral perspectives such as the Theory of Planned Behavior (TPB), which explains taxpayer compliance through attitudes, perceived behavioral control, and behavioral intentions. Third, a methodological gap is evident because many studies examine these determinants separately rather than simultaneously within a comprehensive analytical framework. Finally, a contextual gap remains because empirical evidence from Indonesian MSMEs, particularly in Denpasar, is still relatively limited despite the region's rapidly growing business sector and ongoing tax administration reforms.

To address these gaps, this study simultaneously examines the effects of tax literacy, taxpayer awareness, and tax sanctions on MSME tax compliance in Denpasar, Indonesia. Unlike previous studies that often investigate these variables independently, this research integrates cognitive, psychological, and institutional determinants within the Theory of Planned Behavior framework. Tax literacy represents perceived behavioral control, taxpayer awareness reflects favorable attitudes toward tax compliance, and tax sanctions function as institutional deterrence mechanisms. This integrated approach provides a more comprehensive explanation of taxpayer behavior under Indonesia's self-assessment taxation system.

The novelty of this study lies in three aspects. First, it integrates tax literacy, taxpayer awareness, and tax sanctions into a unified behavioral model explaining MSME tax compliance. Second, it provides updated empirical evidence following Indonesia's recent tax administration reforms, including digital taxation initiatives and the implementation of the Core Tax Administration

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System. Third, it contributes contextual evidence from Denpasar, one of Indonesia's major economic and tourism centers, where MSMEs play a strategic role in regional economic development.

The findings are expected to contribute both theoretically and practically. Theoretically, this study enriches behavioral taxation literature by extending the application of the Theory of Planned Behavior in explaining MSME tax compliance. Practically, the findings provide recommendations for policymakers and tax authorities to improve voluntary compliance through enhanced tax education, strengthened taxpayer awareness, and consistent implementation of tax sanctions. Accordingly, this study aims to examine both the individual and simultaneous effects of tax literacy, taxpayer awareness, and tax sanctions on MSME tax compliance, thereby providing empirical evidence to support more effective taxation policies and sustainable revenue mobilization in developing economies.

2. Literature Review

2.1 Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) explains that an individual's behavior is influenced by behavioral intention, which is shaped by three components: attitude toward the behavior, subjective norms, and perceived behavioral control. Attitude reflects an individual's evaluation of a behavior, subjective norms refer to perceived social pressure, and perceived behavioral control represents the perceived ease or difficulty of performing the behavior. These components jointly determine behavioral intention, which subsequently influences actual behavior. In taxation research, TPB has been widely used to explain taxpayer compliance behavior, particularly in understanding how psychological factors influence taxpayers' willingness to fulfill their obligations (Suciantari & Supadmi, 2024).

In the context of MSME taxation, taxpayer awareness can be associated with attitude toward behavior, as taxpayers who realize the importance of taxes for national development tend to develop positive attitudes toward compliance. Meanwhile, tax literacy is closely related to perceived behavioral control because taxpayers with adequate knowledge of tax regulations and procedures perceive tax compliance as easier to implement. Higher levels of awareness and knowledge strengthen taxpayers' intention to comply, which ultimately leads to compliant behavior (Wahidiyah & Agustini, 2025).

Therefore, the Theory of Planned Behavior provides a theoretical foundation for analyzing MSME tax compliance. Tax literacy improves perceived behavioral control, while taxpayer awareness strengthens attitudes toward compliance. When both factors increase, taxpayers' intention to comply becomes stronger, resulting in higher levels of tax compliance among MSME taxpayers (Islamey & Muslimin, 2024).

2.2 MSME Tax Compliance

Tax compliance in the MSME sector is an important factor in strengthening state revenue and supporting sustainable economic growth. MSMEs represent a large portion of economic actors; however, their compliance level is still relatively low compared to large enterprises. Previous literature reviews indicate that MSME tax compliance is influenced by economic aspects, knowledge, awareness, trust, government policies, and technological factors. These findings suggest that improving compliance requires both internal and external approaches (Mulyo et al., 2024).

Furthermore, implementation of MSME tax policies in Indonesia shows that although simplified tax rates facilitate administration, compliance challenges remain, particularly due to low tax literacy and limited access to tax information. This condition highlights the importance of taxpayer education and awareness in improving compliance behavior (Burhamzah, 2025).

2.3 Tax Literacy and MSME Tax Compliance

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Tax literacy refers to the level of taxpayer understanding regarding tax regulations, procedures, and obligations. Adequate tax literacy enables taxpayers to properly calculate and report taxes, reducing unintentional non-compliance. Studies indicate that tax knowledge significantly influences MSME tax compliance because taxpayers with higher literacy are more likely to understand their obligations and fulfill them correctly. Research conducted on MSMEs found that tax knowledge has a significant positive effect on compliance, highlighting the importance of improving tax education among small business owners (Amanda & Hadi, 2023).

In addition, systematic literature reviews emphasize that knowledge and understanding of taxation are among the main determinants influencing MSME tax compliance. Increased tax understanding improves voluntary compliance and reduces administrative errors in tax reporting (Lestari & Fuadah, 2025).

2.4 Taxpayer Awareness and MSME Tax Compliance

Taxpayer awareness is defined as the willingness of taxpayers to voluntarily fulfill their tax obligations. Awareness arises when taxpayers understand the role of taxes in supporting national development and public services (Farida Styaningrum et al., 2025). Empirical research shows that taxpayer awareness has a positive effect on MSME tax compliance. Higher awareness encourages voluntary compliance and reduces tax evasion behavior (Widjaja et al., 2024b).

Another study examining MSME taxpayers found that awareness significantly influences compliance behavior, especially when supported by improved tax communication and socialization programs. This indicates that awareness plays an important role in building voluntary compliance among MSME taxpayers (Andrew et al., 2024).

2.5 Tax Sanctions and MSME Tax Compliance

Tax sanctions are penalties imposed on taxpayers who fail to comply with tax regulations. These sanctions function as deterrence mechanisms to prevent non-compliance (Simatupang et al., 2023). Research shows that tax sanctions significantly influence MSME tax compliance, as taxpayers tend to comply to avoid penalties and legal consequences. A systematic literature review found that effective tax sanctions improve compliance, particularly within self-assessment tax systems (Kumalasari, 2025).

Empirical findings also indicate that tax sanctions positively affect MSME taxpayer compliance, suggesting that stricter penalties increase the perceived cost of non-compliance and motivate taxpayers to fulfill their obligations (Yuliani et al., 2024).

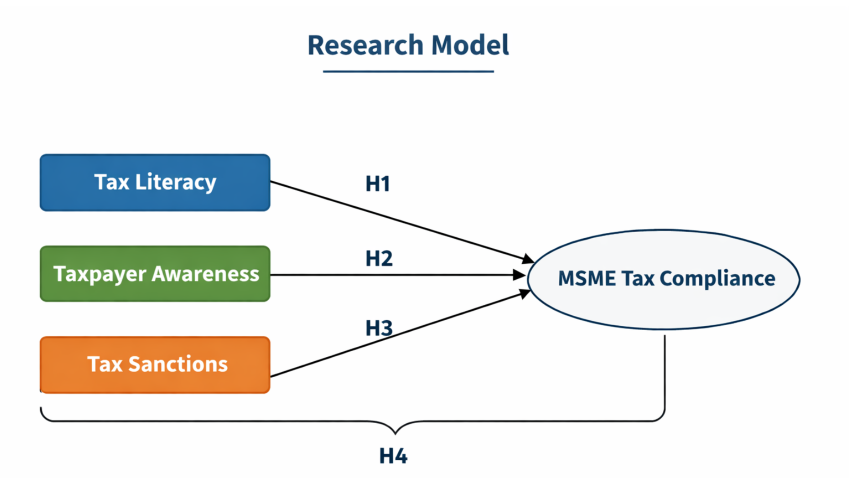

Fig. 1. Research Model

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2.6 Hypotheses or Research Propositions

Tax literacy reflects the level of understanding of taxpayers regarding tax regulations, procedures, and obligations. Higher tax literacy enables MSME taxpayers to better understand their tax responsibilities, thereby increasing their compliance behavior.

H1: Tax literacy has a positive and significant effect on MSME tax compliance.

Taxpayer awareness refers to the willingness of taxpayers to voluntarily fulfill their tax obligations. Taxpayers with higher awareness tend to comply with tax regulations without coercion.

H2: Taxpayer awareness has a positive and significant effect on MSME tax compliance.

Tax sanctions act as deterrent mechanisms that discourage taxpayers from violating tax regulations. The existence of stricter sanctions encourages MSME taxpayers to comply with their tax obligations.

H3: Tax sanctions have a positive and significant effect on MSME tax compliance.

This hypothesis examines the combined influence of internal factors (tax literacy and taxpayer awareness) and external factors (tax sanctions) on MSME tax compliance.

H4: Tax literacy, taxpayer awareness, and tax sanctions simultaneously have a significant effect on MSME tax compliance.

3. Research Methods

This study uses a quantitative research approach with a causal explanatory design. The purpose of this research is to examine the effect of tax literacy, taxpayer awareness, and tax sanctions on MSME tax compliance. The quantitative approach is used because the data collected is numerical and analyzed using statistical methods.

3.1 Research Design

This study examines the effect of tax literacy, taxpayer awareness, and tax sanctions on MSME tax compliance. The research model consists of three independent variables and one dependent variable. Tax literacy (X1), taxpayer awareness (X2), and tax sanctions (X3) are hypothesized to influence MSME tax compliance (Y).

3.2 Population and Sample / Research Participants

The population of this study consists of Micro, Small, and Medium Enterprises (MSMEs) located in Denpasar. The sampling technique used in this research is purposive sampling. The criteria for selecting respondents are as follows:

1. MSME owners operating in Denpasar
2. MSMEs that already have a Taxpayer Identification Number (NPWP)
3. MSMEs that have conducted business activities for at least one year
4. MSME taxpayers who have experience in fulfilling tax obligations

The total number of samples used in this study is 150 respondents. This sample size is considered sufficient for multiple regression analysis using SPSS.

3.3 Data Sources and Data Collection

This study uses primary data obtained directly from respondents. The data are collected through questionnaires distributed to MSME taxpayers in Denpasar. The questionnaire is designed to measure the perception of respondents regarding tax literacy, taxpayer awareness, tax sanctions, and MSME tax compliance.

3.4 Research Model Equation

The regression model in this study is formulated as follows:

$$Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \varepsilon$$

Where:

Y = MSME Tax Compliance

α = Constant

$\beta1, \beta2, \beta3$ = Regression coefficients

X1 = Tax Literacy

X2 = Taxpayer Awareness

X3 = Tax Sanctions

ε = Error term

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3.5 Data Analysis Techniques

The data analysis in this study is conducted using SPSS software. The analysis includes descriptive statistics, validity and reliability tests, classical assumption tests, and multiple linear regression analysis.

4. Results and Discussion

4.1 Research Results

4.1.1 Descriptive Statistical Test

These descriptive statistics show that the number of observations used in this study is 150 respondents for all variables. The MSME tax compliance variable has a minimum value of 22 and a maximum value of 25, with a mean score of 23.87 and a standard deviation of 0.833. This indicates that the level of MSME tax compliance among respondents is relatively high and the responses are relatively homogeneous.

The tax literacy variable has a minimum value of 19 and a maximum value of 25, with an average value of 22.86 and a standard deviation of 1.593. This result suggests that respondents generally have a good level of understanding of tax regulations, although there is slightly more variation compared to tax compliance.

Taxpayer awareness shows a minimum value of 18 and a maximum value of 25, with a mean value of 22.89 and a standard deviation of 1.695. This indicates that most respondents have high awareness in fulfilling their tax obligations, but the variability of responses is relatively moderate.

The tax sanctions variable has a minimum value of 19 and a maximum value of 25, with an average score of 22.81 and a standard deviation of 1.619. This suggests that respondents perceive tax sanctions as relatively strong, and the responses are moderately dispersed.

Overall, the mean values of all variables are close to the maximum score, indicating that respondents tend to agree with the statements related to tax literacy, taxpayer awareness, tax sanctions, and MSME tax compliance. The relatively small standard deviation values indicate that the data are homogeneous and the responses among respondents do not vary widely.

Table 1. Descriptive Statistics Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
MSME Tax Compliance	150	22	25	23.87	.833
Tax Literacy	150	19	25	22.86	1.593
Taxpayer Awareness	150	18	25	22.89	1.695
Tax Sanctions	150	19	25	22.81	1.619
Valid N (listwise)	150				

Source: SPSS data processed (2026)

4.1.2 Classical Assumption Tests

4.1.2.1 Normality Test

Kolmogorov-Smirnov test, the significance value (Asymp. Sig. 2-tailed) is 0.200. This value is greater than the significance level of 0.05. Therefore, it can be concluded that the residual data are normally distributed. In addition, the test statistic value is 0.048 with a sample size of 150 observations. Since the significance value exceeds 0.05, the normality assumption in the regression model is fulfilled. This indicates that the regression model is appropriate for further analysis using multiple linear regression.

4.1.2.2 Multicollinearity Test

The multicollinearity test was conducted by examining the tolerance values and Variance Inflation Factor (VIF) for each independent variable. The results show that

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the tax literacy variable has a tolerance value of 0.744 and a VIF value of 1.345. Taxpayer awareness has a tolerance value of 0.918 and a VIF value of 1.090. Tax sanctions have a tolerance value of 0.748 and a VIF value of 1.337.

All tolerance values are greater than 0.10 and all VIF values are less than 10. These results indicate that there is no multicollinearity among the independent variables in the regression model. Therefore, it can be concluded that the independent variables, namely tax literacy, taxpayer awareness, and tax sanctions, do not have high correlations with each other. Thus, the regression model meets the multicollinearity assumption and is suitable for further analysis.

4.1.2.3 Heteroscedasticity Test

The heteroscedasticity test was conducted using the Glejser method by regressing the absolute residuals on the independent variables. The results show that the significance value for tax literacy is 0.384, taxpayer awareness is 0.133, and tax sanctions is 0.211. All significance values are greater than 0.05. This indicates that none of the independent variables significantly affect the absolute residuals. Therefore, it can be concluded that there is no heteroscedasticity problem in the regression model. These results suggest that the variance of the residuals is constant, and the regression model satisfies the heteroscedasticity assumption. Thus, the data are suitable for further regression analysis.

4.1.1 Hypothesis Test

The hypothesis testing was conducted using multiple linear regression analysis to examine the effects of tax literacy, taxpayer awareness, and tax sanctions on MSME tax compliance. The regression results are presented in Table 2. The regression equation produced a constant value of 12.384, indicating the baseline level of MSME tax compliance when all independent variables are assumed to remain constant. Although the constant has limited substantive interpretation, it serves as the intercept of the regression model.

The regression coefficient for tax literacy is 0.157 with a significance value of 0.000, which is below the 0.05 significance level. This finding indicates that tax literacy has a positive and statistically significant effect on MSME tax compliance. In other words, an increase in taxpayers' understanding of tax regulations, reporting procedures, and tax obligations is associated with higher levels of tax compliance. Therefore, Hypothesis 1 (H1) is supported.

Similarly, taxpayer awareness has a regression coefficient of 0.151 with a significance value of 0.000. The positive coefficient indicates that greater taxpayer awareness significantly increases MSME tax compliance. Taxpayers who recognize the importance of taxation and understand their fiscal responsibilities are more likely to comply voluntarily with tax regulations. Accordingly, Hypothesis 2 (H2) is accepted.

The tax sanctions variable records the largest regression coefficient ($\beta = 0.194$) with a significance value of 0.000, indicating a positive and statistically significant influence on MSME tax compliance. This result suggests that stronger and consistently enforced tax sanctions increase taxpayers' willingness to comply with tax obligations by discouraging non-compliance. Consequently, Hypothesis 3 (H3) is supported.

Based on the standardized regression coefficients (Beta), tax sanctions ($\beta = 0.378$) represent the strongest predictor of MSME tax compliance, followed by taxpayer awareness ($\beta = 0.307$) and tax literacy ($\beta = 0.301$). These findings suggest that although all three variables significantly contribute to taxpayer compliance, tax sanctions exert the greatest relative influence within the proposed regression model.

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Table 2. Multiple Linear Regression Results

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.	Tolerance	VIF
(Constant)	12.384	0.882	–	14.044	0.000	–	–
Tax Literacy	0.157	0.034	0.301	4.633	0.000	0.744	1.345
Taxpayer Awareness	0.151	0.029	0.307	5.249	0.000	0.918	1.090
Tax Sanctions	0.194	0.033	0.378	5.825	0.000	0.748	1.337

Dependent Variable: MSME Tax Compliance.
Source: SPSS output processed by the authors (2026).

4.1.2 F-Test

The overall significance of the regression model was evaluated using the F-test. As presented in Table 3, the regression model produced an F-statistic of 57.413 with a significance value of 0.000, which is substantially lower than the 0.05 significance threshold. These results indicate that the regression model is statistically significant.

This finding demonstrates that tax literacy, taxpayer awareness, and tax sanctions simultaneously influence MSME tax compliance, thereby supporting Hypothesis 4 (H4). Collectively, these independent variables provide a significant explanation for variations in taxpayer compliance among MSMEs. Furthermore, the regression sum of squares is 55.927, while the residual sum of squares is 47.407, resulting in a total sum of squares of 103.333. These results indicate that the proposed regression model possesses satisfactory explanatory capability and is appropriate for hypothesis testing.

Table 3. ANOVA (F-Test Results)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	55.927	3	18.642	57.413	0.000
Residual	47.407	146	0.325		
Total	103.333	149			

Dependent Variable: MSME Tax Compliance.
Predictors: (Constant), Tax Literacy, Taxpayer Awareness, and Tax Sanctions.
Source: SPSS output processed by the authors (2026).

4.1.3 Coefficient of Determination (R^2)

The explanatory power of the regression model was assessed using the coefficient of determination (R^2). As shown in Table 4, the correlation coefficient (R) is 0.736, indicating a strong positive relationship between the independent variables and MSME tax compliance. The R Square value of 0.541 indicates that 54.1% of the variation in MSME tax compliance can be explained jointly by tax literacy, taxpayer awareness, and tax sanctions. The remaining 45.9% is attributable to other variables not incorporated into the present research model.

After adjusting for the number of predictors, the Adjusted R Square is 0.532, suggesting that approximately 53.2% of the variance in MSME tax compliance is explained by the regression model. This result demonstrates that the model possesses good explanatory power while minimizing potential estimation bias. In addition, the standard error of the estimate (0.570) is relatively small, indicating that the model provides reasonably accurate predictions of MSME tax compliance. Overall, these findings confirm that the proposed regression model adequately explains taxpayer compliance behavior among MSMEs.

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Table 4. Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.736	0.541	0.532	0.570

Predictors: (Constant), Tax Literacy, Taxpayer Awareness, and Tax Sanctions.
Dependent Variable: MSME Tax Compliance.
Source: SPSS output processed by the authors (2026).

4.2 Research Discussion

4.2.1 Effect of Tax Literacy on MSME Tax Compliance

The results of hypothesis testing indicate that tax literacy has a positive and significant effect on MSME tax compliance. This is shown by the regression coefficient value of 0.157 and a significance value of 0.000, which is less than 0.05. These results indicate that higher tax literacy leads to increased MSME tax compliance. This finding suggests that MSME taxpayers who understand tax regulations, calculation procedures, and reporting mechanisms are more likely to fulfill their tax obligations properly. Adequate tax knowledge reduces errors in tax reporting and increases taxpayer confidence in fulfilling their obligations. Therefore, improving tax literacy among MSMEs is essential to enhance voluntary tax compliance.

This result is consistent with the Theory of Planned Behavior, which states that knowledge influences attitudes and behavior. Better tax literacy strengthens taxpayers' intention to comply, which ultimately increases compliance behavior. This finding also supports previous studies that found tax literacy has a significant positive effect on taxpayer compliance. Therefore, the first hypothesis stating that tax literacy has a positive effect on MSME tax compliance is accepted.

This result is consistent with the findings of (Simatupang et al., 2023), who found that tax literacy significantly improves MSME taxpayer compliance. This study by (Aida Nur Aini et al., 2025) also found that tax literacy has a positive effect on taxpayer compliance.

4.2.2 Effect of Taxpayer Awareness on MSME Tax Compliance

The results show that taxpayer awareness has a positive and significant effect on MSME tax compliance. This is indicated by the regression coefficient value of 0.151 and a significance value of 0.000, which is less than 0.05. This means that higher taxpayer awareness leads to higher MSME tax compliance. Taxpayer awareness reflects the willingness of taxpayers to fulfill their obligations voluntarily. When MSME taxpayers understand the importance of taxes for national development and recognize their responsibility as taxpayers, they tend to comply without coercion. High awareness encourages voluntary compliance and reduces tax avoidance behavior.

This finding is also in line with the Theory of Planned Behavior, where awareness reflects behavioral intention. Stronger awareness leads to stronger intentions to comply, which eventually results in higher compliance behavior. This finding supports previous research showing that taxpayer awareness significantly influences tax compliance. The second hypothesis stating that taxpayer awareness has a positive effect on MSME tax compliance is accepted.

The finding also supports (Hernando et al., 2023); Suciantari & Supadmi, 2024) which shows that higher taxpayer awareness increases tax compliance. This finding indicates that taxpayer awareness has a positive influence on taxpayer compliance (Zaikin et al., 2022).

4.2.3 Effect of Tax Sanctions on MSME Tax Compliance

The results indicate that tax sanctions have a positive and significant effect on MSME tax compliance. This is shown by the regression coefficient value of 0.194 and a

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significance value of 0.000, which is less than 0.05. This means that stricter tax sanctions lead to higher MSME tax compliance. Tax sanctions function as a deterrent mechanism to prevent taxpayers from violating tax regulations. When taxpayers perceive sanctions as strict and unavoidable, they tend to comply to avoid penalties. Therefore, tax sanctions play an important role in encouraging compliance behavior among MSMEs.

This finding supports deterrence theory, which explains that individuals will comply with regulations when the cost of non-compliance is high. Strong tax sanctions increase the perceived risk and motivate taxpayers to fulfill their obligations. The result also supports previous studies that found tax sanctions significantly affect taxpayer compliance. Based on these results, the third hypothesis stating that tax sanctions have a positive effect on MSME tax compliance is accepted. This result is consistent with (Tanady & Lukman, 2024) who found that tax sanctions significantly increase taxpayer compliance.

4.2.4 Simultaneous Effect of Independent Variables

Based on the F-test results, tax literacy, taxpayer awareness, and tax sanctions simultaneously have a significant effect on MSME tax compliance, with a significance value of 0.000. This indicates that the three variables jointly influence MSME tax compliance. Furthermore, the coefficient of determination (Adjusted R^2) value of 0.532 shows that 53.2% of MSME tax compliance is explained by tax literacy, taxpayer awareness, and tax sanctions, while the remaining 46.8% is influenced by other variables outside this study.

These findings indicate that both internal factors (tax literacy and taxpayer awareness) and external factors (tax sanctions) play important roles in improving MSME tax compliance. Simultaneously, this finding is supported by Andrew et al., (2024) who reported that tax literacy, taxpayer awareness, and tax sanctions jointly influence taxpayer compliance.

5. Conclusion

5.1 Summary of Key Findings

This study examined the effects of tax literacy, taxpayer awareness, and tax sanctions on MSME tax compliance in Denpasar, Indonesia. Using a quantitative approach and multiple linear regression analysis, the findings demonstrate that all three independent variables positively and significantly influence MSME tax compliance, both individually and simultaneously.

The empirical results indicate that tax literacy enhances taxpayers' understanding of tax regulations, reporting procedures, and fiscal responsibilities, thereby encouraging more accurate and timely tax compliance. Likewise, taxpayer awareness strengthens voluntary compliance by fostering taxpayers' recognition of the importance of taxation in supporting public services and national development. Furthermore, tax sanctions serve as an effective deterrence mechanism by increasing the perceived costs of non-compliance, motivating MSME taxpayers to fulfill their legal obligations.

Among the three determinants, tax sanctions exhibit the strongest standardized effect, suggesting that enforcement mechanisms remain an important instrument for improving compliance within Indonesia's self-assessment taxation system. Moreover, the coefficient of determination indicates that tax literacy, taxpayer awareness, and tax sanctions collectively explain a substantial proportion of the variation in MSME tax compliance, while the remaining variation may be attributed to other behavioral, institutional, and economic factors not included in this study. Overall, these findings confirm that both internal behavioral factors and external institutional mechanisms play complementary roles in promoting sustainable tax compliance among MSMEs.

5.2 Theoretical Contributions

This study contributes to the growing body of behavioral taxation literature by

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extending the application of the Theory of Planned Behavior (TPB) in explaining tax compliance among MSMEs. While previous studies have generally examined tax literacy, taxpayer awareness, or tax sanctions separately, this study integrates these determinants into a single analytical framework, providing a more comprehensive explanation of taxpayer compliance behavior.

The findings support the TPB by demonstrating that tax literacy strengthens perceived behavioral control through improved knowledge and understanding of taxation procedures, while taxpayer awareness reflects favorable attitudes toward tax compliance as a civic responsibility. Tax sanctions complement these internal behavioral factors by functioning as an external regulatory mechanism that reinforces compliant behavior through deterrence.

Furthermore, this research enriches empirical evidence from developing economies by demonstrating that voluntary tax compliance cannot be explained solely by enforcement mechanisms. Instead, taxpayer behavior results from the interaction between cognitive understanding, psychological awareness, and institutional enforcement. Therefore, this study contributes to the advancement of behavioral taxation theory by highlighting the multidimensional nature of taxpayer compliance within a self-assessment taxation system.

5.3 Practical and Policy Implications

The findings provide several practical implications for governments, tax authorities, and policymakers seeking to improve MSME tax compliance. First, tax authorities should strengthen tax literacy through continuous education programs, practical training, digital learning platforms, and simplified tax guidelines specifically designed for MSME owners. Improving taxpayers' understanding of taxation is expected to reduce administrative errors and encourage voluntary compliance.

Second, efforts to increase taxpayer awareness should be expanded through public campaigns emphasizing the relationship between tax revenue and public welfare. Increasing transparency regarding the utilization of tax revenue may strengthen public trust and motivate taxpayers to comply voluntarily. Third, tax sanctions should continue to be implemented consistently, fairly, and transparently. Effective sanctions are essential for creating legal certainty and discouraging intentional tax evasion. However, enforcement should be balanced with educational and service-oriented approaches to avoid compliance motivated solely by fear of punishment.

Finally, policymakers should continue accelerating tax administration modernization through digital taxation systems, electronic filing services, and integrated taxpayer databases. These initiatives can reduce compliance costs, simplify administrative procedures, and improve overall taxpayer experience, particularly for MSMEs with limited administrative capacity.

5.4 Limitations of the Study

Despite providing meaningful empirical evidence, this study has several limitations that should be acknowledged. First, the research was conducted exclusively among MSMEs operating in Denpasar, limiting the generalizability of the findings to other provinces or countries with different socioeconomic and institutional characteristics. Second, this study employed a cross-sectional research design using questionnaire-based primary data. Consequently, the findings capture taxpayer perceptions at a single point in time and may be affected by common method bias or respondents' subjective evaluations.

Third, the study focused only on three explanatory variables—tax literacy, taxpayer awareness, and tax sanctions. Although these variables explain a considerable proportion of taxpayer compliance, other potentially important determinants such as trust in

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government, tax morale, perceived fairness, digital taxation adoption, tax service quality, compliance costs, and economic conditions were not incorporated into the analytical model. Finally, the use of multiple linear regression identifies direct relationships among variables but does not capture more complex behavioral mechanisms such as mediation, moderation, or indirect effects that may further explain taxpayer compliance behavior.

5.5 Directions for Future Research

Future studies are encouraged to expand the present research in several important directions. First, future research should incorporate additional behavioral and institutional variables, including tax morale, trust in government, perceived tax fairness, digital tax services, tax complexity, tax service quality, and financial capability, to develop a more comprehensive model of MSME tax compliance. Second, researchers are encouraged to employ more advanced analytical techniques, such as Partial Least Squares Structural Equation Modeling (PLS-SEM), Covariance-Based Structural Equation Modeling (CB-SEM), mediation analysis, moderation analysis, or multigroup analysis. These approaches may provide deeper insights into the complex relationships among behavioral determinants of tax compliance. Third, comparative studies involving different provinces, regions, or countries would provide broader empirical evidence regarding the influence of socioeconomic, institutional, and cultural differences on taxpayer behavior. Longitudinal research is also recommended to examine changes in taxpayer compliance following tax policy reforms and digital transformation initiatives. Finally, future studies may adopt mixed-method or qualitative approaches, including interviews, focus group discussions, and case studies, to explore taxpayers' motivations, perceptions, and decision-making processes in greater depth. Such approaches would complement quantitative findings and contribute to a more holistic understanding of voluntary tax compliance among MSMEs.

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