



E-Tax system, Socialization, and Tax Awareness on MSME Compliance: The Moderating Role of Understanding Level

Zalwa Fiqrianti Andini^{1*}, Andi Wawo², Della Fadhillatunisa³

^{1,2,3} UIN Alauddin Makassar, Gowa Regency, South Sulawesi, Indonesia

Email: zalwaharuna@gmail.com, andiwawo1578@gmail.com, della.fadhillatunisa@uin-alauddin.ac.id

ARTICLE INFO

Keywords:
Taxation e-system;
Tax awareness,
MSME taxpayer
compliance;
Tax socialization;
Level of understanding

ABSTRACT

This study examines the influence of the tax e-system, socialization, and tax awareness on MSME tax compliance, and examines whether the relationship is strengthened by the level of taxpayer understanding. This study is a quantitative study with a quantitative descriptive approach. The sampling method used is simple random sampling with a sloving formula based on the number of MSME taxpayers. The results show that the e-system, socialization, and awareness have a positive effect on MSME compliance. Analysis of moderating variables shows that the level of understanding strengthens the e-system and socialization on MSME compliance, but the level of understanding does not strengthen tax awareness among MSME taxpayers.

This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license



1. INTRODUCTION

As a developing country, Indonesia continues to implement development in various sectors to fulfill its promises to the public. One source of state revenue that contributes significantly to the state budget (APBN) is the micro, small, and medium enterprises (MSMEs). MSMEs are a form of independent business operated by individuals and companies in the economic sector. Of the approximately 60 million MSMEs in Indonesia, only 2.5%, or 1.5 million, report their taxes. This indicates that not all MSMEs understand how to calculate their tax obligations. According to data provided by the South Sulawesi Provincial Cooperatives and MSMEs Office, the number of MSMEs in 2020 reached 1,262,952, increasing to 1,565,134 by the end of December 2021, and then drastically increasing to 1,801,842 by the end of 2023.

The purpose of this study is to determine whether the implementation of the tax *e-system* has an effect on the compliance of MSME taxpayers, to determine whether tax socialization has an effect on the compliance of MSME taxpayers, to determine whether taxpayer awareness has an effect on the compliance of MSME taxpayers, to determine whether the level of understanding moderates the effect of the tax *e-system* on the compliance of MSME taxpayers, to determine whether the level of understanding moderates the effect of tax socialization on MSME taxpayers, to determine whether the level of understanding moderates the effect of tax awareness on the compliance of MSME taxpayers.

The Theory of Planned Behavior (TPB), introduced by Ajzen in 1991, has been widely used to understand and predict tax compliance behavior, focusing on attitudes, subjective norms, and perceived behavioral control (Fadhillatunisa et al., 2024). According to Ajzen (1991), *the Theory*

of Planned Behavior (TPB) is a theory based on the assumption that humans are rational beings who use available information systematically. Before taking an action, individuals will consider the implications or intentions of their actions before deciding whether or not to perform the behavior (Saputra, 2019). *The Theory of Planned Behavior* (TPB) is a theory developed from *the Theory of Reasoned Action* (TRA). This is because previous theories only focused on the rationality of behavior and behavior within individual consciousness. However, in reality, some individual actions are not fully within the individual's consciousness (Indrayanti & Iskandar, 2020).

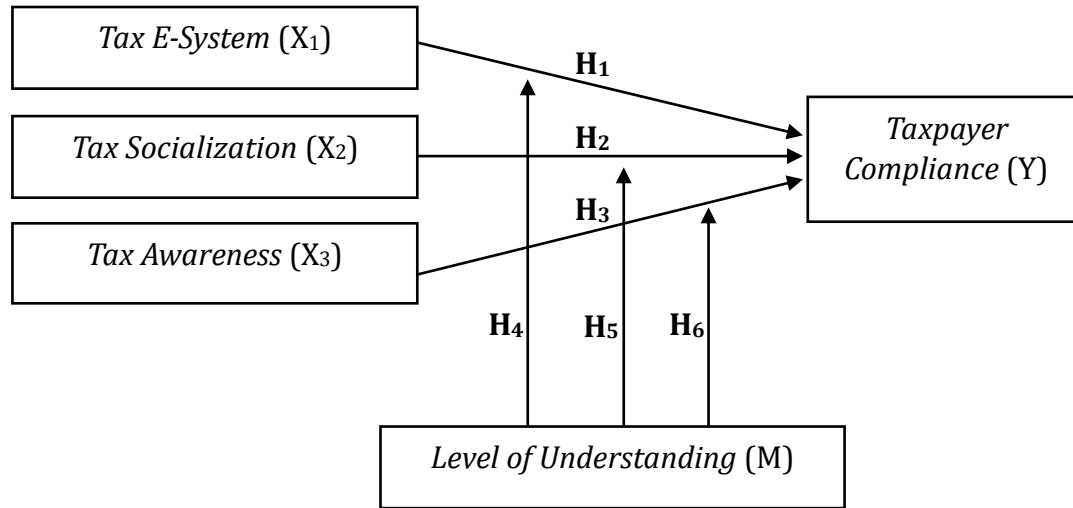
The Technology Acceptance Model (TAM), first introduced by Fred Davis in 1986, is one of the models often used to analyze factors influencing the acceptance of information systems and is a derivative model of *the Theory of Reasoned Action* (TRA) (Tambun et al., 2020). Some of the advantages of *the Technology Acceptance Model* (TAM) are that this model has a solid theoretical basis and helps answer the question of why many users of information technology systems do not use them because they do not intend to do so. In addition, many studies have tested *the Technology Acceptance Model* (TAM), and the findings of these studies largely support the model (Maryatin, 2017) in (Mulyani & Fidiana, 2021).

The e-taxation system is a modernization of the tax system using information technology, which is expected to facilitate taxpayers in fulfilling their tax obligations. Research by Balalembang & Andayani in 2020 stated that a system called an *e-system* is used to support administration through internet technology, so that all work processes and tax services are expected to run well, smoothly, quickly, and accurately. In line with TAM, which states that the theory of the use of information technology systems is recognized as very important and is widely used to describe how people accept the use of information technology systems. Tax compliance is a step that must be taken by taxpayers in fulfilling their tax obligations as a contribution to national development. By being compliant in paying taxes and understanding the importance of taxes for national economic development, it can increase state revenue. Tax understanding is the knowledge and mindset of taxpayers regarding their tax obligations to contribute to the government in ensuring justice and welfare to meet its funding needs and to achieve national prosperity. Tax understanding can be said to be an effort to encourage and build public awareness regarding the importance of complying with and understanding tax regulations.

Tax compliance is a step that must be taken by taxpayers to fulfill their tax obligations as a contribution to national development. By being compliant in paying taxes and understanding the importance of taxes for national economic development, state revenue can increase (Noviana et al., 2020). Tax compliance is also defined as a state in which all tax obligations that must be fulfilled by citizens in regulating and contributing to the expected progress of the country can be achieved (Bahri et al., 2019; Maxuel & Primastiwi, 2021). The higher the level of taxpayer awareness, the better the understanding and implementation of tax obligations, thus increasing compliance. Tax awareness is the willingness of taxpayers to contribute funds for the implementation of the tax function by paying taxes on time and in the correct amount (Danarsi et al., 2017).

Thus, this study aims to identify the extent to which tax understanding can moderate the influence of the e-tax system, tax socialization, and taxpayer awareness on MSME tax compliance. The following illustrates the conceptual framework of this study:

Framework of Thinking



According to data from the Makassar City Cooperatives and MSMEs Office, approximately 19,000 MSMEs were registered in 2023. Meanwhile, data from the West Makassar Pratama Tax Office (KPP Pratama) shows the number of MSMEs reporting their taxes in the following table:

Table 1 Number of MSME Taxpayers at West Makassar Tax Office

Year	MSME Taxpayers
2021	843
2022	906
2023	938
2024	950
2025	198

Source: Processed data, 2023

2. RESEARCH METHODS

The type of research used in this study is quantitative research. Quantitative research is a form of research that involves testing theories and/or hypotheses by measuring research variables using data or numbers. In this study, a comparative causality approach is used that explains the relationship between variables based on the research model construct model. The comparative causality method is described as "*ex post facto*", which means that data is collected after all observed events have occurred. In the context of comparative causality research, the independent variable acts as the causal variable, while the dependent variable acts as the effect variable. This research was conducted at the West Makassar Pratama Tax Service Office (KPP), located on Balaikota Street, Makassar City. Provide sufficient details of the method for work that may be reproduced. Published methods must be indicated by references; only relevant modifications should be described.

Population is a generalization area consisting of objects or subjects that have certain qualities and characteristics determined by the researcher to be studied and then conclusions drawn. The population of this study is MSME Taxpayers registered at the West Makassar Pratama Tax Office. The sample of this study will be determined using a *simple random sampling method* with the determination of the number using the Slovin formula with a 10% error limit, so that the determination of the research sample is more accurate and facilitates the determination of research data. The type of data used in this study is subject data. Subject data is a type of research data that includes the views, attitudes, opinions, experiences or characteristics of individuals or groups of people who are research subjects, which are generally referred to as respondents. This type of subject data is grouped based on the response method given, specifically through written responses as a result of responses to statements in the questionnaire presented by the researcher (Bayu, 2017) .

The data source used is primary data. Primary data is information obtained directly from individuals or groups who are respondents (Chandrarin, 2017) . Primary data was obtained through the use of a questionnaire containing a number of questions as an instrument for MSMEs registered with the West Makassar Tax Service Office (KPP). This study collected data through a questionnaire. A questionnaire is a data collection method that provides respondents with a set of written questions or statements to answer. This method is used to collect respondent information regarding individual behavior that influences tax compliance. In this study, the data analysis methods used are descriptive statistical analysis, data quality testing, classical assumption testing, multiple linear regression, and moderated regression testing. To conduct the data analysis, the IBM SPSS 25 computer program was used.

Descriptive statistical analysis is a statistical analysis that functions to provide a description and overview of the object being studied through sample and population data as it is, without conducting analysis and drawing general conclusions. This test is used to facilitate understanding of the variables used in the study. To determine the average, the number of questionnaire responses is divided by the number of statements multiplied by the number of respondents. Once the average number is known, the results are entered into a continuum line with the tendency of respondents' answers to be based on the average score value, which is then categorized into a score range. The determination or accuracy of an instrument's measurement is the main point of data validity testing. Validation testing aims to determine whether the questionnaire used in the study is valid by measuring its quality. A questionnaire is said to be valid if the questions in it can reveal something that can be measured by the questionnaire. Reliability testing is conducted to determine whether the questionnaire used to measure the research variables is reliable or not. There are two ways to measure reliability: either by measuring the correlation between answers

to questions or by measuring only once (*one shot*) . In this case, the measurement is done once, and the results are compared with other questions.

In a regression model, the normality test is used to determine whether the independent variable, the dependent variable, or both are normally or non-normally distributed. Statistical test results will be lower if a variable is not normally distributed. Regression is considered good if the data has a normal or near-normal distribution. In this study, the normality test used is the *Kolmogorov-Smirnov test* . The multicollinearity test is used to evaluate the relationship between independent variables in the regression model. If there is no significant correlation between the independent variables, then the regression model is considered good. To detect multicollinearity in a regression model, we can look at the tolerance value and *Variance Inflation Factor* (VIF). The tolerance value measures the extent to which the variability of an independent variable cannot be explained by other independent variables, while the VIF measures the extent to which the variance of a regression coefficient is affected by multicollinearity.

The heteroscedasticity test is a method used to determine whether there is a non-constant variation in the residual error between one observation and another in a regression model. A regression model is considered good if there is no heteroscedasticity. This study uses the Glejser Test by regressing the independent variable against the absolute value of the residual (ABS_RES). Hypothesis testing is a method used to make decisions based on data analysis from controlled trials or uncontrolled observations. The purpose of hypothesis testing is to decide whether to reject or accept a statement or assumption that has been made. The Multiple Linear Regression Test is used to test the effect of one or more independent variables on one dependent variable, either partially or simultaneously. Systematically, the multiple linear regression model can be expressed by the following formula: $Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + e$

Moderated Regression Analysis (MRA), also known as interaction testing, is a specific application of multiple linear regression where the regression equation includes an interaction between two or more independent variables. In MRA, we test whether the relationship between independent and dependent variables can be influenced or moderated by other independent variables. The coefficient of determination (R²) test is conducted to measure the model's ability to explain how the independent variables simultaneously influence the dependent variable, as indicated by the *adjusted R-Squared value* . The F-statistic test is conducted to measure the extent to which the independent variables collectively explain the dependent variable. The t-test is used to test hypotheses to demonstrate the effect of each independent variable separately on the dependent variable.

3. RESULTS AND DISCUSSION

No	Gender	Frequency (people)	Percentage (%)
1	Man	64	64%
2	Woman	36	36%
		Amount	100

Based on the gender of the respondents in Table 4.1 above, it shows that the respondents with the highest frequency were male respondents with a total of 64 people (64%). Meanwhile, the respondents with the lowest frequency were female respondents with a total of 36 people (36%). Thus, it can be concluded that the majority of MSME taxpayers registered at the West Makassar Pratama Tax Office are dominated by men. This may occur because men are still more active or more frequently involved as MSME business actors in the region. In other words, business ownership and management are still predominantly held by men.

No	Age	Frequency (people)	Percentage (%)
1	20-30 years	41	41%
2	31-40 years old	34	34%
3	>40 years	25	25%
		Amount	100

Based on table 4.2, it can be concluded that the majority of MSME taxpayer respondents registered at the West Makassar Pratama Tax Office (KPP Pratama) are aged 20-30 years, amounting to 41 people (41%). Next, aged 31-40 years are 34 people (34%). Finally, aged over 40 years are 25 people (25%). Thus, the highest age frequency registered at the West Makassar Pratama Tax Office is 20-30 years. The majority of MSME actors at the West Makassar Pratama Tax Office are aged 20-30 years, indicating that they are a young, *digital-native generation* accustomed to using technology.

		N	Minimum	Maximum	Mean
X1	100	15.00	20.00	18.30	1,872
X2	100	14.00	20.00	18.30	1,801
X3	100	11.00	16.00	14.57	1,499
Y	100	12.00	20.00	17.46	1,845
M	100	12.00	20.00	17.79	2,046
Valid N	100				

Based on table 4.3 above, the results of the study using descriptive statistics of the tax *e-system* (X_1) show a minimum value of 15.00, a maximum value of 20.00, an average value (*mean*) of 18.30 with a standard deviation of 1,872. Furthermore, the results of the tax socialization test (X_2) show a minimum value of 14.00, a maximum value of 20.00, an average value (*mean*) of 18.30 with a standard deviation of 1,801. Furthermore, the results of the tax awareness test (X_3) show a minimum value of 11.00, a maximum value of 16.00, an average value (*mean*) of 14.57 with a standard deviation of 1,499. In addition, the taxpayer compliance variable (Y) shows a minimum value of 12.00, a maximum value of 20.00, an average value (*mean*) of 17.46 with a standard deviation of 1.845. Meanwhile, the level of understanding variable (M) shows a minimum value of 12.00, a maximum value of 20.00, an average value (*mean*) of 17.79 with a standard deviation of 2.046.

Question Items	Presentation Frequency				Score	Mean
	STS (1)	TS (2)	S (3)	SS (4)		
X1.1	0	0	25	75	375	3.75
	0%	0%	25%	75%		
X1.2	0	0	32	68	368	3.68
	0%	0%	32%	68%		
X1.3	0	1	35	64	362	3.62
	0%	1%	35%	64%		
X1.4	0	4	30	66	363	3.63
	0%	4%	30%	66%		
X1.5	0	10	18	72	364	3.64
	0%	10%	18%	72%		
Overall Average						3.66

Based on the analysis results in table 4.4, it shows that there were 100 respondents who gave their perceptions regarding the statement of *the e-tax system* variable (X1) with an overall

average value of of 3.66 , which means that respondents gave a very good perception of *the e- tax system variable* .

Question Items	Presentation Frequency				Score	Mean
	STS (1)	TS (2)	S (3)	SS (4)		
X2.1	0	4	29	67	363	3.63
	0%	4%	29%	67%		
X2.2	0	2	32	66	364	3.64
	0%	2%	32%	66%		
X2.3	0	4	32	64	360	3.60
	0%	4%	32%	64%		
X2.4	0	0	23	77	377	3.77
	0%	0%	23%	77%		
X2.5	0	1	32	67	366	3.66
	0%	1%	32%	67%		
Overall Average						3.66

Based on the analysis results in table 4.5 , it shows that there were 100 respondents who gave their perceptions regarding the statement of the socialization variable. tax (X 2) with the overall average value of 3.66 , which means that respondents gave a very good perception of the socialization variable. tax .

Question Items	Presentation Frequency				Score	Mean
	STS (1)	TS (2)	S (3)	SS (4)		
X3.1	0	1	29	70	369	3.69
	0%	1%	29%	67%		
X3.2	0	0	31	69	368	3.68
	0%	0%	31%	69%		
X3.3	0	7	33	60	353	3.53
	0%	7%	33%	60%		
X3.4	0	2	30	68	366	3.66
	0%	2%	30%	68%		
Overall Average						3.64

Based on the analysis results in table 4.6 , it shows that there were 100 respondents who gave their perceptions regarding the statements from the awareness variable. tax (X 3) with an overall average value of 3.64 , which means that respondents gave a very good perception of the awareness variable. tax .

Question Items	Presentation Frequency				Score	Mean
	STS (1)	TS (2)	S (3)	SS (4)		
Y1	0	5	40	55	350	3.50
	0%	5%	40%	55%		
Y2	0	3	38	59	356	3.56
	0%	3%	38%	59%		
Y3	0	2	39	59	357	3.57

	0%	2%	39%	59%		
Y4	0	6	45	49	343	3.43
	0%	6%	45%	49%		
Y5	0	8	44	48	340	3.40
	0%	8%	44%	48%		
Overall Average						3.50

Based on the analysis results in table 4.7 , it shows that there were 100 respondents who provided their perceptions regarding the statement of the taxpayer compliance variable (Y) with an overall average value of of 3.50 , which means that respondents gave a very good perception of the mandatory compliance variable. tax .

Question Items	Presentation Frequency				Score	Mean
	STS (1)	TS (2)	S (3)	SS (4)		
M1	0	3	35	62	359	3.59
	0%	3%	35%	62%		
M2	0	3	26	71	368	3.68
	0%	3%	26%	71%		
M3	0	1	41	58	357	3.57
	0%	1%	41%	58%		
M4	0	6	47	47	341	3.41
	0%	6%	47%	47%		
M5	0	5	36	59	354	3.54
	0%	5%	36%	59%		
Overall Average						3.56

Based on the analysis results in table 4.8 , it shows that there were 100 respondents who gave their perceptions regarding the statement of the level of understanding variable (M) with an overall average value of of 3.56 , which means that respondents gave a very good perception of the level of understanding variable .

Variables	Item	r count	r table	Information
<i>E-system</i> (X1)	X1.1	0.725	0.195	Valid
	X1.2	0.708		Valid
	X1.3	0.716		Valid
	X1.4	0.720		Valid
	X1.5	0.686		Valid
Tax Socialization (X2)	X2.1	0.719	0.195	Valid
	X2.2	0.684		Valid
	X2.3	0.621		Valid
	X2.4	0.781		Valid
	X2.5	0.713		Valid
Tax Awareness (X3)	X3.1	0.743	0.195	Valid
	X3.2	0.690		Valid
	X3.3	0.739		Valid
	X3.4	0.682		Valid
Taxpayer Compliance (Y)	Y1	0.635	0.195	Valid

	Y2	0.622		Valid
	Y3	0.630		Valid
	Y4	0.633		Valid
	Y5	0.625		Valid
Level of Understanding (M)	M1	0.709	0.195	Valid
	M2	0.711		Valid
	M3	0.734		Valid
	M4	0.747		Valid
	M5	0.751		Valid

The validity test results in Table 4.9 show that all statement items are valid. This is because each statement obtained a calculated r value $> r$ table and obtained a significance value of 0.000 or < 0.05 , so all statement items are considered valid.

No	Variables	Cronbach Alpha	Information
1	Tax <i>E-System</i>	0.742	Reliable
2	Tax Socialization	0.734	Reliable
3	Tax Awareness	0.673	Reliable
4	Taxpayer Compliance	0.751	Reliable
5	Level of Understanding	0.781	Reliable

Based on the results of the reliability test in table 4.10, it shows that *the Cronbach's Alpha* (α) value of all variables is greater than 0.60 ($\alpha \geq 0.60$), so it can be concluded that the questionnaire instrument used to explain the variables of *e-taxation system*, tax socialization, tax awareness, taxpayer compliance and level of understanding is stated to be reliable or can be trusted as a measuring tool for variables.

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		100
Normal Parameters ^{a,b}	Mean	.0000000
	Standard Deviation	1.77238278
Most Extreme Differences	Absolute	.070
	Positive	.042
	Negative	-.070
Test Statistics		.070
Asymp. Sig. (2-tailed)		.200
a. Test distribution is Normal		

Based on the results of the normality test in Table 4.11, *the Kolmogorov-Smirnov significance value* at *Asymp sig (2-tailed)* was 0.200, which is greater than 0.05 or 5% ($0.200 > 0.05$). This value indicates that the data or variables tested are normally distributed.

Multicollinearity Test Results

Variables	Tolerance	VIF	Information
<i>E-system</i> (X1)	.201	4,985	No Multicollinearity Occurs
Tax Socialization (X2)	.191	5,249	No Multicollinearity Occurs
Tax Awareness (X3)	.980	1,020	No Multicollinearity Occurs
Level of Understanding (M)	.843	1,187	No Multicollinearity Occurs

Based on the results of the multicollinearity test in table 4.12, it shows that the data obtained from the *tolerance value* for the *e- tax system* variable is 0.201, tax socialization is 0.191, tax awareness is 0.980 and the level of understanding is 0.843. All *tolerance values* are each greater than 0.10 (>0.10). The VIF value for the *e- tax system* variable is 4.985, tax socialization is 5.249, tax awareness is 1.020 and the level of understanding is 1.187. All VIF values respectively indicate that the regression model in this study does not have symptoms of multicollinearity between independent variables because all variable tolerance values are greater than 0.10 (> 0.10) and all variable VIF values are less than 10.00 (<10.00).

Heteroscedasticity Test Results

Variables	Sig	Information
<i>E-system</i> (X1)	.518	There is no heteroscedasticity
Tax Socialization (X2)	.395	There is no heteroscedasticity
Tax Awareness (X3)	.673	There is no heteroscedasticity
Level of Understanding (M)	.927	There is no heteroscedasticity

Table 4.13 shows that none of the independent variables or moderating variables significantly influence the independent variables. This is evident from the significance probability level above 0.05, where the significance value for the *e-tax system* is 0.518, tax socialization is 0.395, tax awareness is 0.673, and the level of understanding is 0.927. Thus, it can be concluded that there is no heteroscedasticity in the regression model, making the regression model suitable for use.

Results of the Determination Coefficient Test (R^2)

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.616 ^a	.379	.360	1,476

Based on the results of the coefficient of determination (R^2) test in Table 4.14, the Adjusted R^2 value was 0.360, or 36%, which is in the moderate category. This indicates that 36% of taxpayer compliance is influenced by the *e-taxation system*, tax socialization, and tax awareness. The remaining 64% is influenced by other variables not examined in this study.

Simultaneous Regression Test Results (F Test)

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	128,315	4	32,079	14,614	.000 ^b
	Residual	208,525	95	2,195		
	Total	336,840	99			

Based on the F-test results in Table 4.15 above, the significance value is 0.000, which is less than 0.05 ($0.000 < 0.05$). The calculated F-value of 14.614 is greater than the F-table value of 2.55 ($df_1=4$ and $df_2=95$). Therefore, it can be concluded that the *e-tax system*, socialization, and awareness variables simultaneously or jointly influence taxpayer compliance.

Partial Regression Test Results (t-Test)

	Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	8,758	1,678		5,220	.007
	Total X ₁	.370	.120	.685	3,083	.003
	Total X ₂	.321	.129	.553	2,490	.000

	Total X ₃	.200	.110	.182	1,820	.000
--	----------------------	------	------	------	-------	------

Based on table 4.16, it can be seen that *the e-taxation system variable* has a calculated t of $3,083 > t_{\text{table}}$ of 1,661 (sig = 0.05 and df = nk, namely $100 - 4 = 96$) with an *unstandardized beta coefficient* of 0.370 and a significance level of 0.003 which is smaller than 0.05 (5%), then based on this description **H1 can be accepted**. This means that the implementation of *the e-taxation system* has a positive effect on taxpayer compliance. Thus, H1 which states that the implementation of *the e-taxation system* has a positive effect on taxpayer compliance is proven or acceptable. This shows that the better the implementation of *the e-taxation system*, the higher the level of taxpayer compliance.

Based on table 4.16, it can be seen that the tax socialization variable has a calculated t of $2,490 > t_{\text{table}}$ of 1,661 (sig = 0.05 and df = nk, namely $100 - 4 = 96$) with an *unstandardized beta coefficient* of 0.321 and a significance level of 0.000 which is smaller than 0.05 (5%), then based on this description **H2 can be accepted**. This means that tax socialization has a positive effect on taxpayer compliance. Thus, H2 which states that tax socialization has a positive effect on taxpayer compliance is proven or can be accepted. This shows that the better the implementation of tax socialization, the higher the level of taxpayer compliance.

Based on table 4.16, it can be seen that the tax awareness variable has a calculated t of $1,820 > t_{\text{table}}$ of 1,661 (sig = 0.05 and df = nk, which is $100 - 4 = 96$ with an *unstandardized beta coefficient* of 0.200 and a significance level of 0.000 which is smaller than 0.05 (5%), then based on this description **H₃ can be accepted**. This means that tax awareness has a positive effect on taxpayer compliance. Thus, H₃ which states that tax awareness has a positive effect on taxpayer compliance is proven or can be accepted. This shows that the higher the awareness, the higher the level of compliance.

Results of the Determination Coefficient Test (R²)

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.825 ^a	.680	.400	1,480

Based on the results of the coefficient of determination test in table 4.17, the *Adjusted R Square value* of 0.400 or equal to 40% is included in the moderate or medium category, which means that taxpayer compliance can be explained by the *Z-score variable e-tax system (X₁)*, *Z-score of tax socialization (X₂)*, *Z-score of tax awareness (X₃)*, level of understanding (M), X1_M, X2_M and X3_M by 40%. The remaining 60% is influenced by other variables that have not been examined in this study.

Simultaneous Regression Test Results (F Test)

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	118,618	7	16,945	7,143	.000 ^b
	Residual	218,222	92	2,372		
	Total	336,840	99			

The results of the F test in Table 4.18 show that the calculated F value is 7.143 with a significance level of 0.000, far below 0.05. This indicates that the *Z-score variable e-tax system (X₁)*, *Z-score of tax socialization (X₂)*, *Z-score of tax awareness (X₃)*, *Z-score of level of understanding (M)*, X1_M, X2_M and X3_M together or simultaneously influence taxpayer compliance.

Partial Regression Test Results (t-Test)

	Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	37,684	2,739		13,758	.015
	Total_X1	2,168	1,118	3,215	1,940	.000
	Total_X2	2,488	1,215	3,405	2,050	.004
	Total_X3	1,784	1,000	.638	1,784	.000
	Total_M	-1.215	1,127	-1,347	-1,078	.006
	X1_M	1,169	.317	5,213	3,688	.000
	X2_M	.685	.225	5,678	3,044	.008
	X3_M	-.052	.056	-1.141	-.923	.072

Based on the results of the t-test in table 4.20, it shows that the moderating variable X1_M has a calculated t of $3.688 > t_{table} 1.661$ with an *unstandardized beta coefficient* of 1.169 and a significance level of 0.000 or less than <0.05 , **then H4 is accepted**. This means that the variable level of understanding as a moderating variable can strengthen the relationship between the e-tax system variable and taxpayer compliance. The results of this study are relevant to two theories, namely *the Theory of Planned Behavior* (TPB) and *the Technology Acceptance Model* (TAM). In TAM theory, the level of user understanding of the e-tax system can increase the perception of ease and perception of benefits. When MSMEs understand the electronic tax system well, they are more likely to accept and use the system comfortably.

Based on the results of the t-test in table 4.20, it shows that the moderating variable X2_M has a calculated t of $3.044 > t_{table} 1.661$ with an *unstandardized beta coefficient* of 0.685 and a significance level of 0.008 or less than <0.05 , **then H5 is accepted**. This means that the variable level of understanding as a moderating variable can strengthen the relationship between the tax socialization variable and taxpayer compliance. The results of this study are relevant to *the Theory of Planned Behavior* (TPB), which states that effective tax outreach, through educational campaigns and social media, can shape taxpayers' positive attitudes toward their tax obligations. When taxpayers receive clear information, they tend to be more motivated to comply with those obligations.

Based on the results of the t-test in table 4.20, it shows that the moderating variable X3_M has a calculated t of $-0.923 < t_{table} 1.661$ with an *unstandardized beta coefficient* of -0.052 and a significance level of 0.072 or greater than > 0.05 , **then H6 is rejected**. If seen from the significance level which is greater than 5% but still below the 10% test level (the permissible error rate), then the variable level of understanding can be said to be able to moderate the influence of awareness on compliance but does not strengthen the relationship. The results of this study indicate that the level of understanding cannot strengthen the influence of tax awareness on taxpayer compliance, in line with *the Theory of Planned Behavior* (TPB), which states that tax awareness describes a positive attitude towards the importance of paying taxes, contributions to the state, and the understanding that taxes are a moral obligation. The level of understanding is more related to technical abilities, such as understanding regulations, reporting methods, the use of *e-filing*, and so on. In TPB, attitudes are strong enough to form intentions and encourage compliant behavior without having to be moderated by technical understanding. That is, understanding influences perceptions of behavioral control, not attitudes. Therefore, the level of understanding is more relevant to be used as an independent (free) variable that directly influences compliance, such as

research by Herdiatna & Lingga (2022) , Adzillah *et al* . (2023) which had a positive effect compared to being used as a moderating variable that strengthens the relationship between awareness and compliance.

4. CONCLUSION AND SUGGESTIONS

The conclusion of this study is that MSME taxpayer compliance at the West Makassar Pratama Tax Office is directly influenced by three main factors: the implementation of *the e-* tax system, tax socialization, and tax awareness, all of which have a significant influence. These three factors are the main pillars in encouraging taxpayer compliance with their tax obligations. However, the influence of *the e-system* and socialization on compliance is not independent. Both are strengthened by the level of taxpayer understanding. This means that *the e-system* and socialization will be much more effective in increasing compliance if taxpayers have a good understanding of taxation. In other words, understanding acts as a moderating variable that strengthens the relationship between technology and tax education on increased compliance .

The researcher's suggestion is to obtain more representative results, it is recommended that further research use more diverse sampling methods, such as *stratified sampling* , to ensure that all segments of the MSME taxpayer population are represented in the sample.

REFERENCE

- Abina, S., Amaning, N., Osei Anim, R., Kyere, A., & Kwakye, G. (2021). Tax Compliance among Ghanaian SMEs: How Impactful is Taxpayer Education? *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 10(4). <https://doi.org/10.6007/IJARAFMS/v10-i4/8332>
- Adawiyah, Prasetyono, H., & Estiningsih, W. (2021). Taxation and Tax Compliance at the Jagakarsa Tax Office. *Journal of Applied Business and Economics (JABE)*, 8(1), 42–55.
- Adzillah, NI, Mursalim, M., & Nurwahyuni, A. (2023). Factors Influencing the Level of Tax Compliance of Micro, Small, and Medium Enterprises in Makassar City. *Journal on Education*, 5(4), 14892–14909. <https://doi.org/10.31004/joe.v5i4.2564>
- Afifah, L.A., & Susanti, S. (2021). The Effect of Service Quality, Tax E-System, and Tax Socialization on Taxpayer Satisfaction. *Journal of Accounting, University of Jember*, 18(2), 87. <https://doi.org/10.19184/jauj.v18i2.19577>
- Agung, A., & Tanamal, R. (2021). The Influence of Perceived Usefulness, Perceived Convenience, Satisfaction, System Quality, and Taxpayer Understanding on Individual Taxpayer Interest in Using E-Filing. *Teknika*, 10(2), 128–136. <https://doi.org/10.34148/teknika.v10i2.368>
- Agustiningsih, W., & Isroah, I. (2016). THE EFFECTS OF E-FILING IMPLEMENTATION, TAX UNDERSTANDING LEVEL, AND TAXPAYER AWARENESS ON TAXPAYER COMPLIANCE AT THE PRATAMA KPP YOGYAKARTA. *Nominal, Barometer of Accounting and Management Research*, 5(2). <https://doi.org/10.21831/nominal.v5i2.11729>
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 33(1), 179–211. <https://doi.org/10.47985/dcidj.475>
- Alfina, Z., & Diana, N. (2021). The Effect of Tax Incentives Due to Covid-19, Tax Understanding, and Taxpayer Awareness on Taxpayer Compliance in Submitting Annual Tax Returns (A Study of Taxpayers Registered at the North Malang Tax Office). *E-Jra*, 10(04), 11. <https://remote-lib.ui.ac.id:2141/article/10.1134/S1075700720010025%0Ahttp://www.riset.unisma.ac.id/index.php/jra/article/view/10556>

- Alting, R., Syaifuddin, & Umarama, S. (2023). The Influence of Taxpayer Awareness and Tax Knowledge on Tax Compliance of Micro, Small, and Medium Enterprises in Ternate City. Bandung Conference Series: Accountancy, 3(1), 1–12. <https://doi.org/10.29313/bcsa.v3i1.5853>
- Ameliyaningsih, T., & Jannah, L. (2022). The Influence of Attitude Toward the Electronic Tax System, Tax Service, and Tax E-System Implementation on Tax Compliance of Individual Taxpayers Registered at the Jakarta Sawah Besar Dua Tax Office. *Artha Info*, 6(2), 118–125. <https://doi.org/10.31092/jia.v6i2.1771>
- Andi, & Sari, DN (2017). Factors Influencing Individual Taxpayers' Interest in Using E-Filing at the Serang Pratama Tax Office. *Science: Journal of Management and Business*, 10(1), 41–65. <https://doi.org/10.35448/jmb.v10i1.4273>
- Anugrah, MSS, & Fitriandi, P. (2022). Tax Compliance Analysis Based on the Theory of Planned Behavior. *Artha Info*, 6(1), 1–12. <https://doi.org/10.31092/jia.v6i1.1388>
- Anwar, DR (2018). THE EFFECT OF SUBJECTIVE NORMS, TAX FAIRNESS, RELIGIOSITY, AND SELF-EFFICACY ON INDIVIDUAL TAXPAYER COMPLIANCE. 1–108.
- Aras, AK, Bulutoding, L., & Fadhilatunisa, D. (2024). The Effect of Tax Service Quality and Tax Awareness on Individual Taxpayer Compliance with Tax Volunteers as a Moderating Variable. *Journal of Economic Education and Entrepreneurship Studies*, 5(1).
- Asmi, N. (2019). IMPLEMENTATION OF TAX AUDITS ON TAXPAYER COMPLIANCE IN THE DIGITAL ECONOMY ERA (Case Study at the West Makassar Pratama Tax Office). Diploma III Taxation Study Program, Faculty of Economics and Business, Muhammadiyah University of Makassar, 12.
- Asriandi, Tenriwaru, & Junaid, A. (2021). The Philosophy of Lempu' Na Getteng Culture from the Perspective of Taxpayer Compliance of Micro, Small, and Medium Enterprises. *YUME: Journal of Management*, 4(Vol. 4, No. 2 (2021)), 134–144. <https://doi.org/10.37531/yum.v11.75>
- Ayem, S., & Wahidah, U. (2022). Factors Influencing the Utilization of Tax E-Billing Using the Technology Acceptance Model (TAM) in MSMEs in the Special Region of Yogyakarta. *Proceedings of the National Conference on Accounting & Finance*, 4(1989), 106–113. <https://doi.org/10.20885/ncaf.vol4.art15>
- Bahri, S., Diantimala, Y., & Majid, M. (2019). THE EFFECT OF TAX SERVICE QUALITY, UNDERSTANDING OF TAX REGULATIONS, AND TAX SANCTIONS ON TAXPAYER COMPLIANCE (At the Banda Aceh City Tax Office). *DARUSSALAM ECONOMIC PERSPECTIVE JOURNAL*, 4(2), 318–334. <https://doi.org/10.24815/jped.v4i2.13044>
- Balalembang, YA, & Andayani. (2020). The Effect of the Tax E-System on Taxpayer Compliance at the Wonocolo Pratama Tax Office in Surabaya. *Journal of Accounting Science and Research (JIRA)*, 9(12), 29–39.
- West, KM (2025). Registered MSME Taxpayer Data.
- Bayu. (2017). Improving Skills in Developing Learning Outcome Instruments Based on Regional Interactive Modules on the Quality of Financial Reports.