

# The effect of technology utilization and modernization of the tax administration system on the compliance of individual MSME taxpayers in the city of Samarinda

Ferdinandus Moa Bora<sup>1</sup>, Set Asmapane<sup>2</sup>

Faculty of Economics and Business, Mulawarman University. Samarinda, East Kalimantan

✉Corresponding Author: [set.asmapane@feb.unmul.ac.id](mailto:set.asmapane@feb.unmul.ac.id)



## ABSTRACT

This study aims to determine the effect of technology utilization and modernization of the tax administration system on the compliance of MSME taxpayers in Samarinda City. This type of research is quantitative research using primary data and measured using the Likert scale. The number of samples used in this study was 100 respondents of individual MSME taxpayers in Samarinda City which was determined using purposive sampling. This study used multiple linear regression analysis method processed through SPSS (Statistical Product and Service Solutions) version 26 program. The results of this study show that simultaneously the variables of technology utilization and modernization of the tax administration system have a positive and significant effect on the compliance of individual MSME taxpayers. Meanwhile, partially the variable of technology utilization has a positive and significant effect on the compliance of individual MSME taxpayers and the modernization of the tax administration system has a positive and significant effect on the compliance of individual MSME taxpayers

*This is an open-access article under the [CC-BY-SA](#) license*



Copyright © 2024 Ferdinandus Moa Bora, Set Asmapane

## Article History

*Received 2023-11-15*

*Revised 2024-02-04*

*Accepted 2024-02-29*

## Key Word

Technology utilization;  
tax administration system  
modernization;  
msme individual taxpayer compliance

## 1. Introduction

Taxes are one of the largest revenues earned by the state. Reported on the ministry of finance page, in BUDGET In 2021, state revenue of IDR 2,011.3 T was determined. The amount consisted of Tax Revenue of IDR 1,547.8 T, Non-Tax Revenue of IDR 458.5 T, and Grant Receipt of IDR 5.0 T. according to Margareta (2020), Mandatory tax levies that are paid by the people for the state and will be used for the benefit of the government and the general public. People who pay taxes will not benefit from taxes directly, because taxes are used for public interests not for personal interests. Therefore, tax collection can be forced because it is based on the law as well as its implementation rules (Kurniawan, 2020).

Micro, small and medium enterprises (MSMEs) are stand-alone management, capital is provided by themselves, company assets are small, marketing areas are local, and the number of employees is limited. MSMEs are also an industry that has long made an important contribution to the economy, namely providing employment. According to Law No.20/2008 on Micro, Small and Medium Enterprises in Indonesia has criteria based on assets and turnover as follows: Micro enterprises have a maximum asset of 50 million and a maximum turnover of 300 million. Small businesses have assets of more than 50 million-500 million and turnover of more than 300 million-2.5 billion. Medium-sized enterprises have assets of more than 500 million-10 billion and a turnover of more than 2.5 billion. Large businesses have assets of more than 10 billion and a turnover of more than 50 billion. The government sets an MSME tax rate of 0.5% of every income earned by Micro, Small and Medium Enterprises (MSMEs), as stipulated in Government Regulation No. 23 of 2018.

The achievement of the revenue target depends on taxpayer compliance. Compliance is still an unresolved problem in Indonesia, especially in the city of Samarinda, if the community is not compliant in fulfilling their tax obligations, there will be a desire for evasion, circumvention, smuggling and tax negligence which will affect state tax revenue. Tax revenues in Samarinda City in the past four years have been unstable, This can be seen in 2018 tax revenue was 128.68% of the Samarinda city tax revenue target, in 2019 it was 111.37% of the Samarinda city tax revenue target, in 2020 it was 91.13% of the Samarinda city tax revenue target and in 2021 it was 108.54% of the Samarinda city tax revenue target. This unstable income can be influenced by the lack of compliance of taxpayers in carrying out their obligations.

In today's era of globalization, the development of information technology is very fast. From this technological advancement, many facilities are facilitated to streamline people's work from various aspects. Technological developments are also utilized by DGT to make it easier for taxpayers to fulfill their tax obligations, so that the convenience of technology will affect taxpayer compliance.

Tax administration reform is carried out by the Directorate General of Taxes which is an effort to improve the quality of tax services to taxpayers. E-registration, e-filing and e-billing are evidence of updates made by DGT in tax administration by utilizing information technology and internet facilities to make it easier for taxpayers to register, report tax returns and pay their tax obligations without having to come to the nearest KPP.

TAM is poured into practice, which shows the results of a person's level of interest and acceptance in information systems or technology (Aryati & Putritanti, 2017). The results and users of technology-based information systems individually will affect attitudes in obtaining the use of these information systems. In this study, the use of technology and modernization of the tax administration system are factors that determine the level of acquisition of technology use in taxpayer attitudes, so that taxpayers as end-user behavior affect the level of compliance.

## **2. Library Review**

### **2.1. Taxpayer Compliance**

Taxpayer compliance is a condition where taxpayers are able to fulfill their obligations and exercise their tax rights in accordance with applicable regulations (Widya, 2015). Nurmantu dalam Rizky, (2019), explaining that there are two kinds of compliance, namely, formal and material compliance. Formal compliance is circumstances in which taxpayers formally fulfill their tax obligations in accordance with the provisions of applicable tax laws and regulations. While the definition of material compliance is a condition where taxpayers carry out their tax obligations substantively, namely by carrying out their tax obligations honestly, properly and correctly in accordance with the provisions of applicable laws and regulations and submitting them to the Tax Service Office before the deadline. Based on some of the above understandings, it can be concluded that taxpayer compliance is a condition that taxpayers have obeyed or complied with their tax obligations by calculating in accordance with applicable regulations, paying obligations and re-depositing annual tax returns in accordance with established regulations. According to Nabila (2020), the measurement of this taxpayer compliance variable is based on the following indicators:

- 1) Compliance in calculating in accordance with applicable regulations
- 2) Compliance in paying
- 3) Compliance in reporting tax returns

### **2.2. Technology Utilization**

Technology has a fairly fast development and has an impact on the world community regarding its use and utilization. According to Sudrajat & Parulian Ompusunggu (2015), information technology is Technology used to process data, including obtaining, compiling, and storing data in various ways to produce quality information, namely relevant, accurate and timely information, which is used for personal, business, and government interests and is strategic in decision making. Technological developments are also utilized by the Directorate General of Taxes in providing facilities-based e-system To improve services to make it easier for taxpayers to carry out their obligations. Utilization of information technology in taxation-based modernization e-system It is expected to increase taxpayer compliance while increasing public trust in tax administration (Rizky, 2019). In Kurniawan (2020), the measurement of variables in the use of this technology is based on the following indicators:

- 1) Online payment;
- 2) Timeliness;
- 3) Modernization of Tax Administration System.

### **2.3. Modernization of Tax Administration System**

Indonesia has carried out tax reform in 1983 in the field of administration. These fundamental changes include: official assesment system become self assesment system. This system change aims to reduce direct contact between the fiscal and taxpayers, which was previously feared to lead to illegal practices to avoid or reduce the tax obligations of the taxpayers concerned (Widya, 2015). According to Setiana et al. (2013) Modernization of the tax administration system is the improvement or improvement of administrative performance either individually, groups or institutions to make it more efficient, economical and faster with the aim of maximizing tax revenue. The modernization of the tax administration system also follows technological advances with computerized system-based services in the hope of improving more effective control mechanisms by supporting the implementation of the DGT code of ethics for employees, which regulates employee behavior in performance, duties and implementation good governance. According to Putri et al. (2020), Good governance is the implementation of a transparent and accountable tax administration system, by utilizing a reliable and modern information technology system. The strategy taken is to provide excellent service and intensive supervision of taxpayers. In addition, to achieve a high level of tax compliance, increase confidence in tax administration and achieve a high level of productivity of tax employees. Deep Ariani & Utami (2016) The measurement of this variable of tax administration system modernization is based on the following indicators:

- 1) Administration System
- 2) Surveillance Effectiveness
- 3) Human Resources Professional

### 3. Method

Sampling of this study using the method Purposive Sampling. Purposive Sampling is a sampling technique with specified criteria with the aim of obtaining a repressive sample (Fahlevi, 2018). In this case, the main criteria are individual MSME actors who have a minimum turnover of 500 million and are registered with KPP Pratama Samarinda Ilir and KPP Pratama Samarinda Ulu. In this study, sampling used the Slovin formula with the following formula:

$$n = \frac{N}{1 + N\epsilon^2}$$

Information:

n = Number of samples

N = Total population

ε = Standard error

The number of MSME business actors registered in the city of Samarinda is 5,472. The tolerable error rate or standard error in this study was 10% determined by the researcher. The number of samples to be taken is:

$$n = \frac{5.472}{1 + 5.472(10\%)^2} = 99.8365 = 100 \text{ taxpayers of MSME actors}$$

From the calculation above, the number of samples used in this study is 100 MSME business actors registered in the city of Samarinda.

Deep This research collection method The data conducted in this study used questionnaires. Statement indicators in the questionnaire are measured using a scale likert. With a total of 9 statements consisting of variable technology utilization 3 statements, modernization of the tax administration system 3 statements and taxpayer compliance 3 statements. The statements in the questionnaire display the answers of research respondents in measures including Strongly Agree (SS) score 5, Agree (S) score 4, Neutral (N) score 3, Disagree (TS) score 2 and Strongly Disagree (STS) score 1, Numbers on this scale use the Likert scale which is used to measure attitudes, opinions, and perceptions of a person or group of people about social phenomena (Ahyyar et al., 2020).

#### 3.1. Validity Test

The validity test is used to test the questionnaire used whether it meets the validity requirements using the Pearson approach. By correlating each value in the statement value with the total value of the statement number. Then from the correlation coefficient that has been obtained still has to be tested for significance using the t test or comparing with the r table on assumptions:

- 1) If t counts > of t table, then the statement number is valid.
- 2) If t counts < of t table, then the statement number is invalid.

#### 3.2. Reliability Test

A reliability test is a measuring tool used to measure whether the statements in a questionnaire are consistent or stable over time using the same measuring instrument (Nabila, 2020). Reliability calculation using Cronbach Alpha. If value:

- 1) If Cronbach Alpha or α > 0.60 then the statement is reliable
- 2) If Cronbach Alpha α < 0.60 then the statement is not reliable

#### 3.3. Classical Assumption Test

##### 1) Normality Test

The normality test is a data test performed to test whether in a regression model confounding or residual variables are normally distributed or not. (Brata et al., 2017). In this

study, the data normality test was carried out through a test one sample Kolmogorov-sminov test to know the significance of normally distributed data. With decision making criteria, namely:

- a) The sig value or significance or probability value  $< 0.05$  then the data is abnormal.
- b) If the sig value or significance or probability value  $> 0.05$  then the data is normal.

## 2) Multikolinierites Test

The multicollinearity test is to test whether the regression model finds correlations between independent variables (Sudrajat & Ompusunggu, 2015). The technique used in this test is seen from Variance Inflation Factor (VIF). With a limit of VIF values is 10. If the VIF value is more than 10, it can be concluded that multicollinearity occurs (Brata et al., 2017).

## 3) Heterokedasitas Test

Deep Kurniawan (2020) UIJI heterokedacity aims to test whether in regression models there are variance inequalities from residuals of one observation to another. If the variance from the residual of one observation to another is the same, then homoskedocity or heteroscedasticity does not occur. In this study using the glejser test, it is by progressing the linear regression model used to get residual values by regression, after which it is absolutized and regression is carried out with all independent variables. A regression model is called heteroscedasticity-free if the significance t value of the regression results in the residual absolute value of the independent variable is more than 0.05.

## 4) Simultan Test

Test F to show whether all independent variables in the model have the same influence on the dependent variable. Test with significance 0.05 or  $\alpha = 5\%$ . To test the hypothesis, F statistics are used with the following decision criteria:

- a) The significance value  $< 0.05$  then it is concluded that the research model is feasible and all independent variables can affect the dependent variable.
- b) If the significance value  $> 0.05$ , it is concluded that the research model is not feasible and all independent variables cannot affect the dependent variable.

## 5) Test Coefficient of Determination (R<sup>2</sup>)

The coefficient of determination test measures the influence of the independent variable on the dependent variable. The coefficient of determination ranges from 0 to 1. The closer to 1, the better the independent variable describes the dependent variable (Yosi Rizki, 2020).

## 6) Multiple Linear Regression Analysis Test

Multiple linear regression analysis is a linear relationship between two or more independent variables and the dependent variable. This analysis is to predict the value of the dependent variable if the value of the independent variable increases or decreases and to determine the direction of the relationship between the independent variable and the dependent variable whether each independent variable is positively or negatively related (Kurniawan, 2020). The multiple linear regression analysis method uses the following formula:

$$Y = \alpha + \beta_1 \cdot X_1 + \beta_2 \cdot X_2 + e$$

Information:

- Y : Taxpayer Compliance  
 $\alpha$  : Constant Number (Value of Y, when X=0)  
 $X_1$  : Technology Utilization  
 $X_2$  : Modernization of Tax Administration System  
 $\beta_1$  : Regression coefficient for technology utilization variables  
 $\beta_2$  : Regression coefficient for tax administration system modernization variables  
 $e$  : Error

## 3.4. Hypotesis Test

In the hypothesis test, if the significance value is less than 0.05 (sig  $< 0.05$ ) it means that the independent variable has an influence on the dependent variable, while if the significance value is greater than 0.05 (sig  $> 0.05$ ), it means that the independent variable has no influence on the

dependent variable. Test the hypothesis can be concluded through the following basis:  
If the significance value is less than 0.05 ( $\text{sig} < 0.05$ ) and the coefficient is positively directional, then the hypothesis is accepted.  
If the significance value is greater than 0.05 ( $\text{sig} > 0.05$ ) or the coefficient is negatively directed then the hypothesis is rejected.

## 4. Results and Discussion

### 4.1. Validity Test

The validity test is used to determine the feasibility of each statement from Technology Utilization, Tax Administration System Modernization and MSME Taxpayer Compliance registered with KPP Pratama Samarinda Ilir and KPP Pratama Samarinda Ulu. A questionnaire is said to be valid if  $r_{\text{counts}} > r_{\text{table}}$ .

**Table 1.**  
Validity Test

Item	Correlation Coefficient	r Table	Information
X1.1	0,781	0,195	Valid
X1.2	0,855	0,195	Valid
X1.3	0,774	0,195	Valid
X2.1	0,787	0,195	Valid
X2.2	0,851	0,195	Valid
X2.3	0,882	0,195	Valid
Y1	0,715	0,195	Valid
Y2	0,929	0,195	Valid
Y3	0,868	0,195	Valid

Based on the results of the table above with all variables containing 9 statements are declared valid because  $r_{\text{counts}} > r_{\text{table}}$ .

### 4.2. Reliability Test

Reliability test to determine consistency in measurements when used many times at different times. A questionnaire is considered reliable if Cronbach's Alpha score is  $> 0.60$ .

**Table 2.**  
Reliability Test

Variable	Item	Cronbach's Alpha
Technology Utilization (X1)	3	0.727
Modernization of the Tax Administration system (X2)	3	0.793
Taxpayer Compliance (Y)	3	0.823

Based on the results of the table above with all variables containing 9 statements are declared reliable because the result of Cronbach's Alpha  $> 0.60$ .

### 4.3. Coefficient of Determination Test

The R2 test is used to measure the effect of the independent variable on the dependent variable. The closer the value of R2 is close to 1 means that the values of X1 and X2 have the ability to determine the value of Y.

**Table 3.**  
Coefficient of Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.699a	.488	.472	115.382
a. Predictors: (Constant), X2, X1				

From the results of the table above shows the result of R2 of 0.48 or 48%. These results



show that the independent variable can explain the relationship and its effect on the dependent variable by 48%. The remaining 52% was determined by variables outside the research model.

#### 4.4. Hypotesis Test Result

**Tabel 4.**  
Uji Hipotesis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Say.
	B	Std. Error	Beta		
(Constant)	2.091	.515		4.064	.000
1 X1	.248	.105	.225	2.367	.020
X2	.284	.088	.307	3.228	.002

a. Dependent Variable: Y

From the results of the table above showing the results of the t test, the hypothesis can be tested as follows:

- 1) The significance value of technology utilization (X1) is  $0.020 < 0.05$  and the t value is positively marked 2.367 which shows that the use of positive technology is significant for MSME taxpayer compliance. Based on these results, the first hypothesis (H1), namely the use of technology, has a positive and significant effect on the compliance of MSME taxpayers is accepted.
- 2) The significance value of tax administration system modernization (X2) is  $0.02 < 0.05$  and the t value with a positive sign of 3.228 which shows that the modernization of the tax administration system is positive significant for MSME taxpayer compliance. Based on these results, the second hypothesis (H2), namely the modernization of the tax administration system, has a positive and significant effect on the compliance of MSME tax wajib received.

#### 4.5. Multiple Linear Regression Analysis

Multiple linear regression analysis is used to determine how much influence between independent variables, namely: the use of technology and modernization of the tax administration system, on the dependent variable, namely: MSME taxpayer compliance.

From the results of table 4 above shows that the multiple regression equations obtained from the results of the analysis are:

$$Y = 2.091 + 0.248(X1) + 0.284(X2) + e$$

Information:

- 1) The constant is 2.091, which means that if the value of technology utilization and modernization of the tax administration system is 0, the compliance of MSME taxpayers will be worth 2.091.
- 2) The value of the regression coefficient of technology utilization is 0.248, which means that every increase in one unit of value of technology utilization, assuming the value of other variables does not change, the compliance of MSME taxpayers will increase by 0.248.
- 3) The value of the tax administration system modernization revision coefficient is 0.284, which means that every increase in one unit of tax administration system modernization value, assuming the value of other variables does not change, MSME taxpayer compliance will increase by 0.284.

#### 5. Conclusion

Based on the results of the research and discussion above, the following conclusions can be drawn:

- 1) The use of technology has a positive and significant effect on the compliance of MSME taxpayers. This shows taxpayers who feel the ease of utilizing e-system-based technology to fulfill their tax obligations. So that with the convenience felt by taxpayers, it can increase taxpayer compliance.
- 2) Modernization of the tax administration system has a positive and significant effect on the

compliance of MSME taxpayers. It can be said that tax modernization has been going well with the meaning that taxpayers can accept updates carried out by DGT with the expertise possessed by DGT's human resources in providing information and supervision with a modern system.

- 3) The use of technology and modernization of the tax administration system simultaneously have a positive and significant effect on the compliance of MSME taxpayers. This means that the ease and usefulness of utilizing technology with a modern tax system is felt by taxpayers, causing a good perception for taxpayers. With the effectiveness and efficiency in the performance of individual work through the modern tax administration system, taxpayers will fulfill tax obligations without coercion.

### References

- Ahyar, H., Maret, U. S., Andriani, H., Sukmana, D. J., Mada, U. G., Hardani, S.Pd., M. S., Nur Hikmatul Auliya, G. C. B., Helmina Andriani, M. S., Fardani, R. A., Ustiawaty, J., Utami, E. F., Sukmana, D. J., & Istiqomah, R. R. (2020). *Qualitative & Quantitative Research Methods Book* (Issue March).
- Ariani, M., & Utami, T. E. (2016). The effect of tax apparatus services, modernization of the tax administration system and tax sanctions on the motivation of individual taxpayers in paying income tax. *Journal of Accounting and Business Studies*, 7(1), 1–22.
- Aryati, T., & Putritanti, L. R. (2017). The effect of technology utilization and modernization of the tax administration system on individual taxpayer compliance. *Journal of Accounting and Finance Research*, 4(3). <https://doi.org/10.17509/jrak.v4i3.4669>
- Brata, J. D., Yuningsih, I., & Kesuma, A. I. (2017). The Effect of Taxpayer Awareness, Fiscal Services, and Tax Sanctions on Compliance of Individual Taxpayers Conducting Business Activities and Free Work in Samarinda City The Effect of Taxpayer Awareness, Fiscal Services, and Tax Sanctions on. *Economic Forum*, 19(1), 69–81.
- Fahlevi, A. & O. (2018). The effect of financial performance on share prices in plantation companies listed on the Indonesia Stock Exchange. *Journal of Management and Business*, 15(1), 39–48. <https://doi.org/10.54367/jmb.v18i1.418>
- Kurniawan, A. (2020). THE EFFECT OF TECHNOLOGY UTILIZATION AND MODERNIZATION OF THE TAX ADMINISTRATION SYSTEM ON THE COMPLIANCE OF PERSONAL TAXPAYERS DOMICILED IN WEST SURABAYA.
- Margaret. (2020). Analysis of the Application of E-filing as an Effort to Increase Individual Taxpayer Compliance in Submitting Annual Tax Returns at KPP Pratama Samarinda.
- Ministry of Finance Data Portal. (2021). Ministry of Finance. <https://djpk.kemenkeu.go.id/portal/data/apbd>
- Putri, V., Maryani, M., Dewi, R., Prasetyo, B., & Gusnandar, S. (2020). The Effect Of Taxpayer Awareness And Modernization Of Tax Administration System On Personal Taxpayer Compliance. *Journal Of Archaeology Of Egypt*, 17(4), 2741–2748.
- State Budget Realization as of December 31, 2021. (2021). Ministry of Finance. <https://djpb.kemenkeu.go.id/portal/id/berita/lainnya/pengumuman/153-apbn/3924-realisasi-apbn-per-31-desember-2021.html>
- Rizky, M. N. (2019). Utilization of Information Technology, Tax Socialization, and Tax Knowledge on Taxpayer Compliance. *Utilization of information technology, tax socialization, and tax knowledge on taxpayer compliance*, 1–136.
- Setiana, S., En, T. K., & Agustina, L. (2010). The Effect of the Implementation of Modern Tax Administration System on Taxpayer Compliance (Survey of Bandung Pratama Tax Service Office Bojonagara). *Journal of Accounting*, 2(2), 134–161.
- Sudrajat, A., & Parulian Ompusunggu, A. (2015). Utilization of Information Technology, Tax Socialization, Tax Knowledge, and Tax Compliance. *Journal of Accounting & Taxation Research (JRAP)*, 2(02), 193–202. <https://doi.org/10.35838/jrap.v2i02.110>
- Widya, K. (2015). The effect of modernization of the tax administration system on individual taxpayer compliance at the Tax Service Office (Kpp) Pratama Madiun. *Assets: Journal of Accounting and Education*, 4(2), 145. <https://doi.org/10.25273/jap.v4i2.683>



Yosi Rizki Nabila. (2020). The Effect of Tax Administration Modernization on Individual Taxpayer Compliance in Tax Return Reporting (Empirical Study on Individual Taxpayers at the Magelang Pratama Tax Service Office). Yosi Rizki Nabila.