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The Effect of E-Filing, E-Billing, and Tax Awareness on Wpop Compliance with Tax Volunteers as A Moderating Variable at Kpp Pratama Jember

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Abstract

This study aims to analyze the effect of the implementation of e-filing, e-billing, and tax awareness on individual taxpayer compliance with tax volunteers as a moderating variable at the Jember Pratama Tax Office (KPP Pratama). The study used a quantitative approach by distributing questionnaires to 100 respondents. Data analysis was conducted using Moderated Regression Analysis (MRA). The results showed that e-filing and tax awareness had a positive and significant effect on taxpayer compliance, while the implementation of e-billing was insignificant on taxpayer compliance. Tax volunteers were proven to moderate the relationship between the implementation of e-filing and tax awareness, but tax volunteers were unable to moderate the implementation of e-billing on taxpayer compliance. Tax volunteers were able to help taxpayers understand and use tax services appropriately. This study shows that the combination of digital services such as e-filing and tax education through volunteers can improve tax compliance.

Keywords: E-filing, E-billing, Tax Awareness, Individual Taxpayer Compliance and Tax Volunteers

1. Introduction

Indonesia is a developing country with taxes as a significant source of revenue. Taxes play a crucial role as a component of state revenue. According to Law No. 28 of 2007, taxes are mandatory contributions paid to the state by individuals or entities, which are compulsory without any direct compensation and are used for the state's needs for the prosperity of the people (Dewi, 2023). Taxpayer compliance can be defined as the level of compliance demonstrated by taxpayers towards various aspects of the tax system. This encompasses a number of elements, including taxpayer compliance in registering themselves accurately and precisely with the tax authorities, as well as accurate and timely reporting through notification letters (Ilma'nun 2023; 49). Taxpayer compliance is influenced by several factors.

Year	Registered WP	Realization of Taxpayer Reporting SPT	Compliance
2020	355.668	69.007	19%
2021	373.936	86.232	23%
2022	394.406	86.988	22%
2023	415.671	74.793	18%
2024	459.402	72.995	16%

Table 1. Compliance Rate of Annual Tax Returns 2020-2024 in Jember Regency
Source: Jember Pratama Tax Office Data 2020-2024

Based on Table 1, the number of registered taxpayers in Jember Regency continues to increase annually. In 2024, there were 459,402 taxpayers. However, of these, only 72,995 taxpayers filed their annual tax returns. From 2020 to 2021, there was a 23% increase in annual tax return filings. However, from 2022 to 2024, annual tax return filings decreased, with the reporting rate recorded at 16% in 2024.

To improve tax compliance and increase tax revenue, bureaucratic reforms must be implemented to enhance the quality of public services. If tax service governance can be properly structured and implemented, the state will be able to provide excellent tax services (Rohayatin et al., 2017). The Directorate General of Taxes (DGT) provides a concept for tax modernization with several electronic tax applications, such as e-filing and e-billing. The benefits of these tax application services are to provide convenience for taxpayers (WP).

The application of e-filing is very useful in making it easier to submit WPOP Annual Tax Returns which can be done online and in real time (Setiawan, 2021).

Year	Registered WP	Number of E-filing Users	Percentage
2020	355.668	61.954	17%
2021	373.936	80.392	21%
2022	394.406	79.243	20%
2023	415.671	66.880	16%
2024	459.402	64.998	14%

Table 2. Development of e-filing submission at Jember Pratama Tax Office
Source: Jember Pratama Tax Office Data 2020-2024

The number of registered taxpayers (WP) experienced a consistent increase from 2020 to 2024, from 355,668 to 459,402. However, this trend was not accompanied by an increase in the number of e-filing users. In fact, after experiencing an increase in 2021 (21%) and remaining quite high in 2022 (20%), the percentage of e-filing users decreased to 16% in 2023 and again to 14% in 2024. This indicates that although the taxpayer base continues to grow, the level of e-filing usage has not grown commensurately and is even showing a downward trend. This phenomenon could be caused by various factors, such as a lack of socialization, technical obstacles in using the e-filing system, or taxpayers' preference for online tax reporting methods. This decline is a significant concern for tax authorities, who are focused on improving digital literacy and providing maximum support to taxpayers in utilizing technology-based tax services.

However, the research results show mixed results, according to Aditiya et al. (2020) and Andini et al. (2024) which show that the implementation of e-filing has a significant effect on taxpayer compliance, while research conducted by Putra et al. (2020) and Susanti et al. (2021) states that the implementation of e-filing does not have a significant effect on taxpayer compliance. E-billing is an online tax payment system using a payment code. Currently, the Directorate General of Taxes (DGT) has authorized several online services to obtain billing codes, including DJP Online (SSE1, SSE2, or SSE3) and ASP (Application Service Provider) (Mardlo, 2020).

Year	Registered WP	Number of E-Billing Users	Percentage
2020	355.668	8.643	2%
2021	373.936	7.195	2%
2022	394.406	7.419	2%
2023	415.671	6.115	1%
2024	459.402	5.688	1%

Table 3. Development of E-billing submission at Jember Pratama Tax Office
Source: Jember Pratama Tax Office Data 2020-2024

Based on data, the number of registered taxpayers (WP) increased from 355,668 in 2020 to 459,402 in 2024. However, e-billing users actually decreased from 8,643 (2%) to 5,688 (1%). This gap indicates low utilization of tax payment technology, despite the continued growth in the number of taxpayers. In the context of tax accounting, this indicates that the integration between financial recording systems and tax obligations is still suboptimal. Furthermore, it is important to understand that not all taxpayers pay taxes because some have income below the Non-Taxable Income (PTKP), thus not having a payment obligation even though they are still required to report. This condition also contributes to the low use of e-billing. Therefore, a strategy is needed that not only encourages formal compliance through reporting, but also education regarding the position of taxes in the accounting system, as well as simplification and system integration for taxpayers who meet the payment requirements.

Several previous studies examining the implementation of e-billing, research by Susanti et al. (2021), and Kurniawan (2023) proved that the implementation of e-billing had a significant positive effect, while research conducted by Nurchamid et al. (2018) and Asiah (2020) stated that the implementation of e-billing had no significant effect.

The next factor is tax awareness. Awareness is the state of knowing or understanding, while taxation is the matter of taxes. Therefore, tax awareness is the state of knowing or understanding taxes (Arras et al., 2024). Various studies have shown varying results, with some showing significant results (Romasali et al., 2022; Setiawan 2021 and Aras 2024) and others showing insignificant values (Bhoa 2022 and Mutiara et al., 2024).

To reach broader tax education, the Directorate General of Taxes (DGT) empowers third parties through a tax volunteer program. This program, which has been running since 2017, involves university students and non-students as speakers. Tax volunteers are a program of the Directorate General of Taxes (DGT) that promotes tax education through third parties in collaboration with partners or tax centers (Muamarah 2019). This program involves universities and students, as well as related parties, through training and assistance with tax return (SPT) reporting. The tax volunteer program aims to assist e-filing and e-billing programs so that they can complete their tax returns independently in the following year without requiring assistance. The intended use of e-filing refers to taxpayers using the system to file their annual tax returns online (Andini et al. 2024).

Based on this thinking, the researchers were interested in using tax volunteers as a moderating variable. This variable acts as a third party who helps provide tax outreach, training on the use of e-filing and e-billing, and tax return filing (Warno et al., 2022).

This study hypothesizes that the influence of e-filing, e-billing, and tax awareness on taxpayer compliance, and that the three variables of e-filing, e-billing, and tax awareness can be strengthened or weakened by moderating variables. Based on the background, urgency, and literature review described above, this study aims to analyze and empirically test the influence of e-filing, e-billing, and tax awareness on taxpayer compliance at the Jember Pratama Tax Office. The problem-solving plan in this study evaluates the direct and indirect influence by using tax volunteers as a moderating variable.

2. Methods

Research methods

This study uses a quantitative approach. The aim is to examine the influence of e-filing, e-billing, and tax awareness on taxpayer compliance, with tax volunteers acting as a moderating variable.

Population and Sample

The population in this study was the Taxpayers (WPOP) registered at the Jember Pratama Tax Office (KPP Pratama). The sample selection in this study used nonprobability sampling, with the Slovin formula determining the sample size.

Data analysis methods

1. This test is conducted to determine the validity of a questionnaire when a statement or question within it adequately describes what it is intended to measure.
2. This test is used for questionnaires for each variable indicator separately. A survey can be used to assess whether a person's responses to a statement are consistent or unrelated over time.
3. The normality test examines whether the residual variables in a regression model are normally distributed. Researchers use the Kolmogorov-Smirnov test to determine whether the data is normally distributed.
4. The multicollinearity test is conducted by examining the Variance Inflation Factor (VIF) value. This test aims to detect high correlations between independent variables. Excessive correlation can cause instability in the regression coefficient estimates and complicate the interpretation of the results.
5. The heteroscedasticity test aims to determine whether the model does not exhibit variance from one observation's residuals to another. In this study, the Glajser test was used by regressing the independent variables against their absolute values.
6. Moderated regression analysis (MRA) The purpose of moderated regression analysis is to determine whether the moderating variable will increase the variation or reduce the influence between variable X and variable Y.
7. Hypothesis testing uses the t-test to measure how much influence the independent variable (X) has on the explanation of the dependent variable (Y).

3. Results and Discussion

This section presents the results of data processing, both directly and indirectly, in relation to the research findings. The analysis process presents the results of instrument testing, which aims to verify the validity and reliability of the measuring instrument. The next step is the classical assumption test, which aims to ensure that the regression model meets certain requirements to ensure unbiased, consistent, and valid results. The final test uses the MRA test, which is used to strengthen or weaken the relationship between the independent variables and the dependent variable.

The analysis process begins with determining the research sample. From the total population registered as of 2024, using the Slovin formula, 100 respondents were selected for this study.

Instrument Test	Results	Information
Validity Test	From the results of the application of the variables e-filing, e-billing, tax awareness, compliance and tax volunteers, the calculated r_{value} is > r table.	The calculated $r_{value} > r_{table}$ and the significance level is <0.05, which means that the indicators used in this research variable are valid.
Reliability Test	From the results of the application of the variables e-filing, e-billing, tax awareness, compliance and tax volunteers, the Crounbach's Alpha value is >0.60.	This shows that Crounbach's Alpha >0.60.

Table 4. Summary of Instrument Test Results

The validity test results showed that each variable had a calculated r value > r table, indicating that the indicators used in this study were valid and could be used as a tool for collecting research data.

The reliability test results for each variable showed a Crounbach's Alpha value > 0.60. Thus, it can be concluded that all indicators related to each variable are reliable.

Test the Classical assumptions	Test method	Results	Information
Normality Test	Kolmogorov-Srirnov test	Asymp. Sig. (2-tailed)=0,200	Test distribution is Normal.
Multicollinearity Test	VIF (Variance Inflation Factor) & Tolerance	VIF < 10 and tolerance > 0.10 for all independent variables	There is no multicollinearity problem
Heteroscedasticity Test	Glejser Test	Significance Value > 0.05 For all variables (e-filing, e-billing and tax awareness)	The calculated $r_{value} > r_{table}$ and the significance level is <0.05, which means that the indicators used in this research variable are valid.

Table 5. Summary of the results of the Classical Assumption Test

The results of the normality test using the Kolmogorov-Smirnov test showed an asymp. sig. value of 0.200, indicating that the value is greater than the specified value of 0.05. These results indicate that the data collected from the respondent questionnaires are normally distributed.

The multicollinearity test showed that all independent variables had VIF values <10 and Tolerance values >0.10. These findings indicate that there is no significant multicollinearity problem in the model.

The results of the heteroscedasticity test using the Glajser test showed that all independent variables had significance values >0.05. It can be concluded that the independent variables used in this study do not exhibit heteroscedasticity problems in the regression model.

Hasil uji selanjutnya Moderated regression analysis (MRA):

$$Y = 48{,}777 - 0{,}887X_1 - 0{,}001X_2 - 0{,}589X_3 + 0{,}018(X_1xZ)0{,}001(X_2xZ) + 0{,}012(X_3xZ) + \epsilon$$

Based on the results of the MRA test, it is explained as follows:

1. A positive constant value of 48.777 demonstrates that if the implementation of e-filing, e-billing, and tax awareness are held constant/zero, the level of taxpayer compliance will increase.
2. The regression coefficient indicating the relationship between e-filing implementation and taxpayer compliance is negative. This means that higher levels of e-filing implementation are accompanied by a decrease in taxpayer compliance, assuming other variables remain constant.
3. The negative regression coefficient for the e-billing implementation variable indicates that an increase in e-billing usage tends to be accompanied by a decrease in taxpayer compliance, assuming other variables remain constant.
4. The negative regression coefficient for the tax awareness variable indicates that increased tax awareness can decrease taxpayer compliance, assuming other variables remain constant.
5. The positive regression coefficient for the interaction between e-filing implementation and tax volunteers indicates that the presence of tax volunteers can strengthen the influence of e-filing implementation on taxpayer compliance.
6. The positive regression coefficient for the interaction between e-billing implementation and tax volunteers indicates that the presence of tax volunteers can strengthen the influence of e-billing implementation on taxpayer compliance.
7. The positive regression coefficient on the interaction between tax awareness and tax volunteers shows that the presence of tax volunteers can strengthen the influence of awareness on taxpayer compliance.

The results of the t-test with moderation can be explained as follows:

1. The effect of e-filing on tax volunteers has a significance value of 0.000 < 0.05, indicating a significant effect of e-filing on tax volunteers.
2. The effect of e-billing on tax volunteers has a significance value of 0.087 > 0.05, indicating no significant effect of e-billing on tax volunteers.
3. The effect of tax awareness on tax volunteers has a significance value of 0.003 < 0.05, indicating a significant effect of tax awareness on tax volunteers.

The results of the t-test can be explained as follows:

1. The effect of e-filing on WPOP compliance has a significance value of 0.000 < 0.05, indicating a significant effect of e-filing on WPOP compliance.
2. The effect of e-billing on WPOP compliance has a significance value of 0.999 > 0.05, indicating no significant effect of e-billing on WPOP compliance.
3. The effect of tax awareness on WPOP compliance has a significance value of 0.005 < 0.05, indicating a significant effect of tax awareness on WPOP compliance.

The Impact of E-Filing on Individual Taxpayer Compliance

The implementation of e-Filing has been shown to have a positive impact on individual taxpayer compliance. This system facilitates reporting of tax obligations, allowing taxpayers to complete and submit their tax returns (SPT) online without having to visit the tax office. Furthermore, e-Filing features an automatic calculation feature that helps reduce potential errors in data entry and calculates the amount of tax payable more accurately. Thus, the convenience, speed, and effectiveness offered by e-Filing encourage taxpayers to be more compliant in reporting their tax obligations timely and correctly. These findings align with research conducted by Purta et al. (2020) and Andini et al. (2024), which showed a significant effect of e-filing on individual taxpayer compliance.

The Impact of E-Billing on Individual Taxpayer Compliance

The research results show that the implementation of e-Billing does not significantly impact individual taxpayer compliance. Although e-Billing aims to simplify the electronic tax payment process, the system is not yet effective in encouraging increased compliance. One reason is that not all taxpayers are required to pay taxes. Many are only required to file an annual tax return (SPT) because their income falls below the Non-Taxable Income (PTKP) threshold. Therefore, for taxpayers without payment obligations, the e-Billing system becomes irrelevant or rarely used. This situation may explain the insignificant impact of e-Billing on overall compliance, as some taxpayers are not motivated to use it.

This study rejects the hypothesis and research conducted by Susanti et al. (2021) and Kurniawan (2023) that stated that the implementation of e-billing affects taxpayer compliance. However, this study aligns with Nurchamid et al. (2018) and Asiah et al. (2020), whose test results indicate that the implementation of e-billing does not significantly impact taxpayer compliance.

The Influence of Tax Awareness on Individual Taxpayer Compliance

This study found that tax awareness has a positive effect on individual taxpayer compliance. Taxpayers who are aware of the importance of taxes to the state tend to pay taxes voluntarily without coercion. They understand that taxes are a primary source of funding for national development, thus feeling responsible for reporting their taxes accurately and paying them promptly. A high level of awareness encourages taxpayers to comply with their tax obligations, both in reporting and payment, which ultimately contributes to increased overall tax compliance.

This finding aligns with research conducted by Arras et al. (2024) and Setiawan et al. (2023), which demonstrated a significant effect of e-filing on individual taxpayer compliance.

The Impact of E-Filing on Individual Taxpayer Compliance with Tax Volunteers as Moderation

The results of this study indicate that tax volunteers are able to moderate the implementation of e-filing on individual taxpayer compliance. Tax volunteers act as a moderating factor in the relationship between e-filing implementation and individual taxpayer compliance. Through outreach, education, and mentoring activities carried out by tax volunteers, taxpayers gain a better understanding of how to use e-filing for tax reporting. This outreach helps overcome technical and understanding issues that often hinder the use of electronic systems.

Research conducted by Andini et al. (2023) showed that tax volunteers have the ability to moderate the effect of e-filing implementation on taxpayer compliance. Meanwhile, research conducted by Setiawan et al. (2021) found a significant positive and moderating effect.

The Influence of E-billing on Individual Taxpayer Compliance with Tax Volunteers as Moderation

The study results indicate that tax volunteers are unable to moderate the effect of e-Billing on taxpayer compliance. This insignificance may be due to several factors. First, tax volunteers may lack adequate technical training on e-Billing usage, thus being unable to provide effective assistance to taxpayers. Second, some taxpayers using e-Billing may already possess sufficient digital literacy and understanding, thus no longer requiring volunteer assistance in the tax payment process. Furthermore, not all taxpayers are obligated to pay taxes. Many only file their tax returns because their income falls below the Non-Taxable Income (PTKP).

The Influence of Tax Awareness on Individual Taxpayer Compliance with Tax Volunteers as a Moderator

The results of this study can be concluded that tax volunteers are able to moderate tax awareness towards individual taxpayer compliance, because tax volunteers play an active role in assisting the tax administration process. Although taxpayers are aware of fulfilling their tax obligations, they often still face technical and administrative obstacles. This is where the role of tax volunteers becomes crucial, namely by assisting with the filing process, ensuring completeness of documents, and expediting the tax reporting process to avoid delays. This is in line with research conducted by Arras et al. (2024), which concluded that tax volunteers can strengthen the influence of tax awareness on taxpayer compliance.

4. Conclusion

Based on the research results, it can be concluded that the implementation of e-filing has a positive effect on individual taxpayer compliance, because taxpayers have been able to use the system to report their annual tax returns independently. In contrast, the implementation of e-billing has no significant effect on compliance, due to a lack of understanding and taxpayer habits in using online tax payment services. In addition, tax awareness has been proven to have an effect on compliance, as indicated by the behavior of taxpayers who report and pay taxes voluntarily and in a disciplined manner. The role of tax volunteers as moderators shows varying results, tax volunteers are able to strengthen the influence of e-filing and tax awareness on compliance, but are unable to moderate the influence of e-billing, which indicates that assistance for the use of e-billing is still less than optimal.

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