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ANALYSIS OF THE EFFECT OF CHANGES IN VALUE-ADDED TAX RATES, FINANCIAL LITERACY, AND TAX LITERACY ON CONSUMER BEHAVIOR IN MALANG CITY

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Abstract. This study aims to examine the effect of changes in VAT rates, financial literacy, and tax literacy on consumer behavior in Malang City. This study uses primary data collected through distributing questionnaires to people in Malang City, with a sample size of 170 respondents. The sample selection was carried out using *purposive sampling* method. Data were analyzed using multiple linear regression analysis, assisted by IBM SPSS Statistics software. The results of this study indicate that changes in VAT rates and financial literacy have a positive and significant effect on consumer behavior. However, tax literacy has no significant effect on consumer behavior.

Keywords: Consumer Behavior, Financial Literacy, Purchase Decision, Tax Literacy, Theory of Planned Behavior, VAT Rate Change

I. INTRODUCTION

Consumer behavior is an important aspect in understanding economic dynamics, especially in the context of fiscal policy changes that directly affect people's purchasing power. One policy that has been in the spotlight in recent years is the increase in Value Added Tax (VAT) rates. VAT is a type of indirect tax charged on the consumption of goods and services, and directly affects the price of goods and people's purchasing decisions (Kurnaini & Rahmawati, 2024). The increase in the VAT rate to 11% since April 2022 and the planned further increase to 12% in 2025 raises concerns about a decrease in purchasing power and changes in people's consumption patterns.

The post-COVID-19 pandemic economic condition shows increasingly complex consumption dynamics. Although BPS data shows national economic growth of 5.05% in the second quarter of 2024 with household consumption as the main contributor (Sutrisno, in indonesia.go.id, 2024), the reality is that most households are still facing economic pressures due to the long-term impact of the pandemic. This makes it important to examine people's responses to fiscal policies that affect the price of goods, such as VAT rate policies.

In this situation, financial literacy and tax literacy become important aspects in helping people make more rational financial decisions. Financial literacy allows individuals to understand the economic impact of each policy, while tax literacy plays a role in shaping people's awareness and understanding of tax obligations and their impact on their daily lives (Dai & Suryanto, 2019; Sari, 2019). People who have a good understanding of both aspects tend to be wiser in responding to price changes and making spending adjustments.

Malang City, with the highest level of financial literacy in Indonesia and stable economic growth, is a strategic location to observe this phenomenon. Based on OJK data (2022), Malang City's financial literacy rate reached 69.43%, well above the national average. The socioeconomic diversity of the community also allows for extensive exploration of consumer behavior variables in responding to changes in VAT rates.

This study aims to analyze the influence of changes in VAT rates, financial literacy, and tax literacy on consumer behavior in Malang City. The theory used as the basis for analysis is the Theory of Planned Behavior (TPB) which is able to explain and predict consumer behavior based on three main components: attitudes towards behavior, subjective norms, and perceived behavioral control. With this approach, the research is expected to contribute to the understanding of the relationship between external and internal factors and people's consumption patterns.

The novelty of this study lies in the selection of variables and research locations that reflect current socioeconomic conditions, as well as the use of the TPB theoretical approach to link financial literacy, tax literacy, VAT policy, and consumer behavior. In addition, this study is expected to provide recommendations for the government and business actors in formulating policies and strategies that can maintain people's purchasing power amid fiscal changes.

II. LITERATURE REVIEW

A. Theory of Planned Behavior

Theory of Planned Behavior (TPB) is a development of the Theory of Reasoned Action (TRA) proposed by Ajzen (1991) to explain how a person's intention to behave is influenced by cognitive factors. TPB states that individual intention to perform a behavior is influenced by three main components, namely attitude toward behavior, subjective norm, and perceived behavioral control.

Attitude towards behavior reflects a person's positive or negative view of an action, which is formed from beliefs about the results of the behavior. Subjective norm refers to the social pressure individuals feel to perform or not perform an action. Meanwhile, perceived behavioral control refers to an individual's perception of the ease or difficulty of performing a behavior, which is influenced by past experience and resources.

In the context of consumer behavior, TPB is used to understand how purchase intention is influenced by consumer perceptions of VAT rate increases, and how financial literacy and tax literacy mediate the relationship. Consumers who have a positive attitude towards fiscal policy, are supported by the social environment, and feel they have control over their finances, tend to have a stronger intention to keep making purchases.

B. Value Added Tax

Value Added Tax (VAT) is an indirect tax on domestic consumption collected through sellers (Waluyo, 2017). Based on Law No. 7 of 2021 on Harmonization of Tax Regulations (HPP Law), Indonesia increased the VAT rate from 10% to 11% on April 1, 2022, and plans to raise it to 12% starting January 1, 2025. This policy aims to strengthen post-pandemic fiscal consolidation, broaden the tax base, and increase sustainable state revenue. The government also revised the list of VAT-exempt goods and services and maintained tax incentives for strategic sectors and low-income communities to ensure fairness (fiskal.kemenkeu.go.id, 2021; Asmarani, 2024).

Regionally, Indonesia's 12% VAT rate is among the highest in ASEAN, comparable to the Philippines (PWC, 2025). Although consistent with the average VAT rates in G20 and OECD countries, previous studies suggest that higher VAT rates may reduce household consumption by 0.32–0.51% within two to three years and negatively affect economic growth (Pratiwi, 2022; James et al., in Pratiwi, 2022; LPEM FEB UI, 2025).

VAT increases also influence consumer behavior. Concerns about inflation encourage consumers to become more price-conscious, compare alternatives, and postpone purchases. Samaduzzaman et al. (2015) found that consumers became more value-conscious following a VAT increase in North Wales. From the perspective of the Theory of Planned Behavior (TPB), changes in VAT rates may affect attitudes, subjective norms, and perceived behavioral control, which subsequently shape behavioral intentions and purchasing decisions.

C. Financial Literacy

Financial literacy refers to an individual's ability to understand financial concepts, products, and services in order to make sound financial decisions and achieve financial well-being (OJK; Lusardi & Mitchell, 2014). It encompasses financial knowledge, money management skills, long-term financial planning, and understanding of financial products such as savings, loans, insurance, and investments (Capuano & Ramsay, 2011; Anjarwati et al., 2023). Individuals with higher financial literacy are more likely to avoid financial mismanagement, make rational decisions, and improve their quality of life (Mendari & Kewal, 2013).

The level of financial literacy is influenced by factors such as education, financial management experience, family socioeconomic status, and social interaction (Gunawan & Chairani, 2019; Romadoni, 2015). Higher financial literacy also supports critical thinking and more rational economic decision-making, as literacy culture has been shown to positively influence analytical skills (Boli & Leon, 2024).

From the perspective of the Theory of Planned Behavior (TPB), financial literacy shapes positive attitudes toward financial behavior, strengthens subjective norms through supportive social environments, and enhances perceived behavioral control by increasing individuals' confidence in managing their finances. Consequently, financially literate individuals are better equipped to respond rationally to fiscal policy changes, such as VAT rate increases, through more effective budgeting and consumption decisions.

D. Tax Literacy

Tax literacy refers to an individual's ability to understand, manage, and apply tax information in making economic decisions. It includes knowledge of tax regulations, such as tax rates, taxable objects, and reporting procedures, as well as the ability to evaluate the impact of taxation on purchasing and spending decisions (Sari, 2019). Tax literacy also reflects an individual's ability to apply tax knowledge in fulfilling tax obligations (Ibda, 2019) and to make responsible tax decisions by considering their financial consequences (Bornman & Wassermann, 2018; Pham et al., 2020).

A sound understanding of taxation, particularly Value Added Tax (VAT), enables consumers to better evaluate the final price of goods and services, manage their budgets, and adjust consumption according to their financial conditions. Moreover, tax literacy promotes more responsible consumption behavior and fosters a positive attitude toward tax compliance by increasing public understanding of the purpose and benefits of taxation.

From the perspective of the Theory of Planned Behavior (TPB), tax literacy contributes to positive attitudes toward taxation, strengthens subjective norms through a social environment that encourages tax compliance, and enhances perceived behavioral control by increasing individuals' confidence in managing tax-related matters. Consequently, individuals with higher tax literacy are better prepared to respond rationally to changes in VAT rates by adapting their consumption strategies while maintaining financial stability and supporting broader economic development.

E. Consumer Behavior

Consumer behavior is the process of searching for, purchasing, using, evaluating, and responding to products or services to satisfy individual needs. This behavior is influenced by internal factors, such as motivation, attitudes, and perceptions, as well as external factors, including culture, social groups, and the economic environment (Schiffman & Kanuk, 2000; Mangkunegara, 2002; Setiadi, 2003). Purchasing decisions involve several stages, from problem recognition and information search to evaluation of alternatives and post-purchase behavior, and may be driven by either rational considerations or emotional and social influences (Lupiyoadi, 2001; Suharno, 2010; Rohmah, 2020).

Consumer behavior is also affected by socioeconomic conditions, education, and government policies such as changes in Value Added Tax (VAT) rates. In this context, financial literacy and tax literacy enable consumers to make more informed spending decisions, manage household budgets effectively, and adapt their consumption patterns to fiscal policy changes.

From the perspective of the Theory of Planned Behavior (TPB), consumer behavior is shaped by attitudes toward behavior, subjective norms, and perceived behavioral control. Consumers who possess positive attitudes toward financial management, receive support from their social environment, and believe they can control their financial decisions are more likely to exhibit responsible and rational consumption behavior. Therefore, understanding consumer behavior in relation to tax policy changes and literacy levels is essential for explaining consumption patterns in a changing economic environment.

F. Research Framework

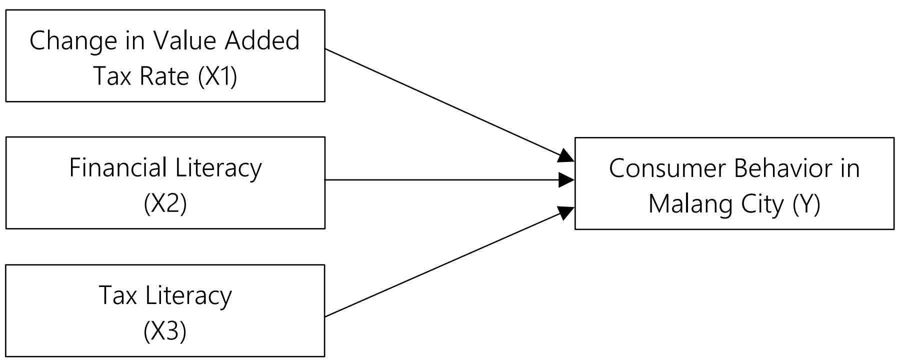

Figure 1 Research Framework

G. Hypothesis Development

The Effect of Changes in Value-Added Tax Rates on Consumer Behavior in Malang City

The Indonesian government officially increased the Value Added Tax rate from 10 percent to 11 percent since April 2022, as stipulated in the Harmonization of Tax Regulations Law Number 7 of 2021. This policy has a direct impact on consumer behavior through reduced disposable income, potentially changing people's consumption patterns (Nyame-Asiamah & Kawalek, 2021). The tariff increase encourages consumers to be more cautious in shopping, considering criteria such as price, availability, and product quality (Maitre-Ekern & Dalhammar, 2019). The impact also differs across income groups, with lower-income consumers tending to be more sensitive to price increases than higher-income groups (Currie & Rowley, 2010). Nevertheless, this condition also shows positive sides, such as increased financial awareness, more planned budget management, and more rational purchasing decisions (Lehner et al., 2016).

Research conducted by Kwan and Sarjono (2024) shows that an increase in the Value Added Tax rate has a direct impact on decreasing demand and shifting consumption to more affordable products. This result is supported by the findings of Alistiqomah (2025) which states that consumers adjust their consumption behavior by reducing the frequency of purchases or choosing cheaper alternatives in response to price increases. However, different results were presented by Mayuri et al. (2025) which states that partially the increase in Value Added Tax rates has no significant effect on consumer behavior, which is due to the low relevance of expenditure control in explaining the consumption response to the tariff change. In fact, in the research of Fahrianisa et al. (2025), found that Value Added Tax actually has a positive relationship with consumptive behavior, where higher rates encourage increased consumption, especially through the use of digital wallets.

Based on various previous research findings, it can be concluded that changes in Value Added Tax rates have the potential to influence consumer behavior, both directly through the price mechanism and indirectly through changes in awareness and financial management. Therefore, the hypothesis in this study was developed to test the extent to which an increase in the Value Added Tax rate affects people's purchasing decisions and consumption patterns, particularly in Malang City.

H1: Changes in value-added tax rates have a positive effect on consumer behavior.

The Effect of Financial Literacy on Consumer Behavior in Malang City

Financial literacy reflects the extent to which individuals are able to manage their financial interests in order to achieve optimal welfare. Individuals with good financial literacy tend to be able to distinguish between needs and wants, so they are better able to manage their expenses rationally in everyday life. This literacy not only plays a role in helping individuals plan their finances effectively, but also influences their consumption patterns, especially when it comes to adjusting to changing economic conditions. By understanding the basic principles of financial management, consumers are more adaptable and avoid waste, which ultimately contributes to making wiser and more targeted purchasing decisions.

Research conducted by Sustiyo (2020) found that financial literacy has a significant and negative effect on student consumption behavior, especially in generation Z. The higher the level of financial literacy, the higher the level of financial literacy. The higher the level of financial literacy, the more rational and controlled the consumer behavior. This shows that financial literacy as an internal psychological factor is able to suppress consumptive tendencies, especially in age groups that are vulnerable to the influence of modern lifestyles. Furthermore, a study by Rahmawati and Putri (2023) also shows that financial literacy has a negative and significant effect on student consumptive behavior. This means that the better the financial literacy, the lower the tendency to make impulse purchases. This finding reinforces the view that financial literacy is one of the key factors in shaping rational and frugal consumer behavior.

However, not all research results show the same relationship. Research by Ariria and Ulfatun (2025) states that financial literacy actually has a positive and significant influence on consumptive behavior. In this context, the higher the financial literacy of individuals, the higher the level of consumption. This shows that a better understanding of financial aspects does not always lead to savings, but can also encourage consumption if individuals utilize this knowledge to access more financial products or services. Thus, financial literacy does not automatically shape frugal consumer behavior, but depends on how individuals apply the knowledge in their daily lives.

Based on this explanation and taking into account the results of previous studies that show different results, the hypothesis in this study was developed to examine how financial literacy affects consumer behavior, especially in the context of consumption decision making in Malang City.

H2: Financial literacy has a positive effect on consumer behavior

The Effect of Tax Literacy on Consumer Behavior in Malang City

Tax literacy is closely related to consumer behavior, especially in the context of economic decision making related to spending. When individuals have a good understanding of the tax system, including the mechanism of tax imposition and calculation, they will be more aware of the impact that taxes have on the price of goods and services. This awareness encourages more cautious and measured consumption behavior, especially when there is an increase in the Value Added Tax (VAT) rate. Individuals who understand that an increase in VAT has an impact on the final price of a product tend to be more selective in spending their income. This reflects a rational and planned form of consumer behavior, which considers external variables such as fiscal policy in the decision-making process.

Tax literacy also plays a role in shaping people's responses to tax policy changes. Those who understand the economic implications of tax rate changes are better equipped to adjust their consumption and spending patterns, which in turn encourages more responsible consumption behavior. Thus, tax literacy is not only useful in improving compliance with tax obligations, but also strengthens the ability of individuals to make efficient consumption decisions in accordance with existing economic conditions.

Research by Sustiyo (2022) shows that Value Added Tax literacy has a significant effect on the consumptive behavior of Generation Z. Individuals with a good understanding of VAT are proven to be better able to suppress consumptive tendencies in shopping for goods and services. However, different findings were presented by Lingga et al. (2024) who stated that VAT literacy has no significant effect on purchasing behavior. Even though respondents have a high level of tax literacy, they still make purchases because they consider VAT a reasonable part of every transaction. Furthermore, a study conducted by Mayuri et al. (2025) also concluded that tax literacy has no significant effect on consumer behavior. Respondents in the study, who were mostly students, maintained their consumption patterns despite being aware of the VAT levy. This is based on the perception that VAT is not detrimental enough or has a major impact on their purchasing decisions.

Based on this explanation and taking into account the results of previous studies that show mixed results, the hypothesis in this study was developed to examine the extent of the influence of tax literacy on consumer behavior, especially in the context of purchasing decisions amid changes in the Value Added Tax rate policy.
H3: Tax literacy has a positive effect on consumer behavior

III. RESEARCH METHODOLOGY

A. Type of Research

This research uses a quantitative approach with a quantitative descriptive analysis method. The purpose of this study is to analyze the effect of Rate Changes Value Added Tax (X1), Financial Literacy (X2), and Tax Literacy (X3) on Consumer Behavior (Y). This study involves four variables, namely three independent variables and one dependent variable. Based on the number of indicators in the research instrument, the minimum number of samples is determined by referring to the formula of Hair et al. (2010), which is 5 to 10 times the number of indicators. Therefore, the minimum number of samples in this study was 85 respondents and a maximum of 170 respondents. Researchers used the maximum number, 170 respondents, to obtain more stable and valid results.

B. Research Object

The object of this research is the people of Malang City who act as consumers and are potentially affected by changes in tax policy, especially changes in Value Added Tax rates, and have a relationship with aspects of financial literacy and tax literacy. This research focuses on individuals who live in Malang City, are between 17 and 60 years old, have regular income or receipts, and have purchased goods and/or services subject to Value Added Tax. The sampling technique used was purposive sampling, which is a non-probability sampling technique that involves deliberately selecting subjects based on certain criteria set by the researcher. The number of samples in this study was determined based on the formula Hair et al. (2010), namely the number of indicators multiplied by 5 to 10, with the final number of samples used as many as 170 respondents so that the analysis results are more stable and valid.

C. Data Source and Collection Method

The types of data used in this study consist of primary data and secondary data. Primary data was obtained directly through distributing questionnaires to the people of Malang City who met the criteria for respondents. The questionnaire was structured to measure the variables of Value Added Tax rate changes, financial literacy, tax literacy, and consumer behavior. Meanwhile, secondary data were collected from various literatures such as books, scientific journals, previous research results, and relevant official documents, which were used to support, strengthen, and complete the analysis of primary data in this study.

D. Operational Definition and Variable Measurement

Changes in Value Added Tax Rates

In this study, the variable change in Value Added Tax rates is proxied through consumer perceptions of the impact of the increase in the VAT rate from 10% to 11% which took effect on April 1, 2022, as well as the anticipation of a further increase to 12% on January 1, 2025 as stipulated in the Law on Harmonization of Tax Regulations (UU HPP) No. 7 of 2021. This perception is measured through indicators of changes in the prices of goods and services, adjustments to consumption patterns, and consumer sensitivity to price increases due to changes in VAT rates.

Financial Literacy

In this study, the financial literacy variable is proxied through an individual's understanding and ability to manage personal finances wisely, as defined by the Financial Services Authority (OJK). Financial literacy is measured using indicators of basic skills in managing finances (money basics), the ability to save and plan finances, as well as an understanding of financial products and investment . These indicators reflect respondents' level of knowledge and skills in making rational and responsible financial decisions.

Tax Literacy

In this study, the tax literacy variable is proxied through the level of individual understanding of the basic aspects of taxation, especially those related to Value Added Tax. Tax literacy is measured using indicators of knowledge of tax rates, ability to calculate taxes correctly, understanding of the obligation to pay taxes owed, and knowledge of tax return reporting procedures. These indicators are used to assess the extent to which respondents understand and are able to apply tax information in making daily consumption decisions.

IV. RESULT AND DISCUSSION

A. Research Data

Data collection was carried out through distributing online questionnaires using Google Forms distributed through social media such as Whatsapp and X. Respondents in this study are people in Malang City who are 17-60 years old, have regular income, and have purchased or used goods and/or services subject to Value Added Tax. The online method was chosen because it is considered efficient in reaching respondents widely, while saving time and money. The questionnaire distribution took place from February 25 to March 5, 2025, which is presented in Table 1 below.

Table 1. Distribution of Questionnaire Distribution

No	Description	Number	Percentage
1	Number of questionnaire responses received	176	100%
2	Number of invalid questionnaire responses	3	1,70%
3	Total valid questionnaire responses	173	98,30%
4	Number of questionnaire responses that can be processed	170	96,59%

Source: Data Processed (2025)

B. Validity Test Results

In this study, the validity test was carried out using the Pearson bivariate correlation technique, namely by correlating each statement item against the total score of the variable. An item is declared valid if the calculated r value is greater than or equal to the r table at a significance level of 5% (two-sided test), which means that the item has a significant correlation with the total score and is suitable for use as a measuring instrument in research. This validity shows the extent to which the items are able to represent the construct being measured. The validity test results are shown in the table for each variable. The following are the results of the validity test of each variable used in this study.

Table 2. Validity Test of Value Added Tax Rate Changes

Statement	Pearson Correlation	Sig. 2 Tailed	Description
X1.1	0,501	<0,001	VALID
X1.2	0,794	<0,001	VALID
X1.3	0,791	<0,001	VALID
X1.4	0,615	<0,001	VALID
X1.5	0,567	<0,001	VALID
X1.6	0,578	<0,001	VALID
X1.7	0,255	<0,001	VALID

Source: Data Processed (2025)

Based on the validity test results presented in Table 2, all statement items for the Value Added Tax Rate Change variable show a significant Pearson Correlation value with a significance value (Sig. 2-tailed) <0.001. All correlation values are also greater than the r table value at the 5% significance level of 0.1506, so it can be concluded that all statement items are valid and suitable for use in research.

Table 3. Financial Literature Validity Test

Statement	Pearson Correlation	Sig. 2 Tailed	Description
X2.1	0,490	<0,001	VALID
X2.2	0,714	<0,001	VALID
X2.3	0,704	<0,001	VALID
X2.4	0,444	<0,001	VALID
X2.5	0,403	<0,001	VALID
X2.6	0,551	<0,001	VALID
X2.7	0,544	<0,001	VALID
X2.8	0,623	<0,001	VALID
X2.9	0,483	<0,001	VALID
X2.10	0,394	<0,001	VALID

Source: Data Processed (2025)

Based on the validity test results presented in Table 3, all statement items for the Financial Literature variable show a significant Pearson Correlation value with a significance value (Sig. 2-tailed) <0.001. All correlation values are also greater than the r table value at the 5% significance level of 0.1506, so it can be concluded that all statement items are valid and suitable for use in research.

Table 4. Tax Literature Validity Test

Statement	Pearson Correlation	Sig. 2 Tailed	Description
X3.1	0,723	<0,001	VALID
X3.2	0,565	<0,001	VALID

Statement	Pearson Correlation	Sig. 2 Tailed	Description
X3.3	0,706	<0,001	VALID
X3.4	0,658	<0,001	VALID
X3.5	0,677	<0,001	VALID
X3.6	0,598	<0,001	VALID
X3.7	0,620	<0,001	VALID
X3.8	0,556	<0,001	VALID
X3.9	0,576	<0,001	VALID
X3.10	0,693	<0,001	VALID

Source: Data Processed (2025)

Based on the validity test results presented in Table 4, all statement items for the Tax Literature variable show a significant Pearson Correlation value with a significance value (Sig. 2-tailed) <0.001. All correlation values are also greater than the r table value at the 5% significance level of 0.1506, so it can be concluded that all statement items are valid and suitable for use in research.

Table 5. Consumer Behavior Validity Test

Statement	Pearson Correlation	Sig. 2 Tailed	Description
Y.1	0,378	<0,001	VALID
Y.2	0,715	<0,001	VALID
Y.3	0,598	<0,001	VALID
Y.4	0,709	<0,001	VALID
Y.5	0,466	<0,001	VALID
Y.6	0,454	<0,001	VALID
Y.7	0,523	<0,001	VALID
Y.8	0,576	<0,001	VALID

Source: Data Processed (2025)

Based on the validity test results presented in Table 5, all statement items for the Consumer Behavior variable show a significant Pearson Correlation value with a significance value (Sig. 2-tailed) <0.001. All correlation values are also greater than the r table value at the 5% significance level of 0.1506, so it can be concluded that all statement items are valid and suitable for use in research.

C. Reliability Test Results

The level of reliability in this study was measured using the Cronbach Alpha (α) coefficient value. High reliability is characterized by an alpha value close to 1. If the Cronbach Alpha value is more than 0.90, the reliability is considered perfect. If it is in the range of 0.70 to 0.90, then reliability is considered high. Alpha values between 0.50 to 0.70 indicate moderate reliability, while values below 0.50 indicate low reliability. A low alpha value can be a sign that there are items in the instrument that are less consistent in measuring the intended construct. The following are the results of the reliability test of the variables used in this study which are presented in Table 6 below.

Table 6. Reliability Test

Variable	Cronbach Alpha	Description
Value Added Tax Rate Change	0,702	Reliable
Financial Literacy	0,728	Reliable
Tax Literacy	0,836	Reliable
Consumer Behavior	0,677	Reliable

Source: Data Processed (2025)

Based on Table 6, the Cronbach Alpha value for each variable in this study is obtained, namely: changes in Value Added Tax rates of 0.702, financial literacy of 0.728, tax literacy of 0.836, and consumer behavior of 0.677. These values indicate that all variables have an acceptable level of reliability because the Cronbach Alpha value is above the minimum limit of 0.50. Thus, the items in the questionnaire can be considered reliable and able to provide consistent results if the same statement is submitted again to respondents at different times.

D. Normality Test Results

In this study, the normality test was used to determine whether the data on the independent and dependent variables followed a normal distribution as one of the assumptions in regression analysis. The test was carried out using the Kolmogorov-Smirnov method. The test results show that the significance value is greater than 0.05, which means that the data in this study are normally distributed. Thus, the data qualifies for further regression analysis.

Table 7. Normality Test Results

One-Sample Kolmogorov-Smirnov Test			
			Unstandardized Residual
N			170
Normal Parameters[a,b]	Mean		0,0000000
	Std. Deviation		2,60346337
Most Extreme Differences	Absolute		0,062
	Positive		0,055
	Negative		-0,062
Test Statistic			0,062
Asymp. Sig. (2-tailed)[c]			0,200d
Monte Carlo Sig. (2-tailed)[e]	Sig.		0,112
	99% Confidence Interval	Lower Bound	0,103
		Upper Bound	0,120
a. Test distribution is Normal.			
b. Calculated from data.			
c. Lilliefors Significance Correction.			
d. This is a lower bound of the true significance.			
e. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 2000000.			

Source: Data Processed (2025)

Based on the results of the normality test with Kolmogorov-Smirnov listed in Table 7, the significance value shows a number of 0.200 or greater than the significance value of 0.05. Thus, it can be concluded that the data used is normally distributed.

E. Multicollinearity Test Results

In this study, multicollinearity testing was carried out to see if there was a very strong relationship between the independent variables in the regression model. This test is done by looking at the Variance Inflation Factor (VIF) value and tolerance value. The VIF value is used to measure how much the variance of the regression coefficient increases due to the correlation between the independent variables, while the tolerance value is the opposite. Based on the criteria described by Ghozali (2016), if the VIF value is less than 10 and the tolerance value is more than 0.10, it can be concluded that there is no multicollinearity. The test results in this study show that all variables meet these criteria, so the regression model used is declared free from multicollinearity problems.

Table 8. Multicollinearity Test Results

Coefficients [a]		
Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Value Added Tax Rate Change	0,636	1,571
Financial Literacy	0,817	1,224
Tax Literacy	0,642	1,558
Dependent Variable: Consumer Behavior		

Source: Data Processed (2025)

Based on the multicollinearity test results shown in Table 8, it is known that all independent variables have a tolerance value above 0.10 and a Variance Inflation Factor (VIF) value below 10. In detail, the Value Added Tax rate change variable has a tolerance value of 0.636 and a VIF of 1.571; the financial literacy variable has a tolerance value of 0.817 and a VIF of 1.224; while the tax literacy variable has a tolerance value of 0.642 and a VIF of 1.558. Based on the limits set by Ghozali (2016), these results indicate that there are no multicollinearity symptoms in the regression model, because all tolerance values are greater than 0.10 and all VIF values are less than 10. Thus, the regression model in this study is declared free from multicollinearity problems.

F. Heteroscedasticity Test Results

Detection of heteroscedasticity in multiple linear regression can be done through the scatterplot graph between the predicted value (ZPRED) and the residual (SRESID). If the points are scattered randomly without a certain pattern around the zero line, then there is no heteroscedasticity (Ghozali, 2016). In addition, the Glejser test is also used to identify symptoms of heteroscedasticity through analysis of significance values.

Table 9. Heteroscedasticity Test Results Using the Glesjer Test

Coefficients [a]					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1,662	1,579		1,053	0,294
VAT Rate Change I	-0,004	0,037	-0,011	-0,119	0,905
Financial Literacy	0,026	0,038	0,060	0,702	0,484
Tax Literacy	-0,015	0,033	-0,044	-0,462	0,644
a. Dependent Variable: Abs_RES					

Source: Data Processed (2025)

Based on Table 9, it is known that the significance value for the variable change in value-added tax rates (X1) is 0.905. For the financial literacy variable (X2), the significance value is 0.484. As for the tax literacy variable (X3), the significance value reaches 0.644. From these data, it can be concluded that these three variables have a significance value of more than 0.050 which indicates that heteroscedasticity does not occur.

G. Multiple Regression Test

1. Multiple Linear Regression Test Results

Regression analysis is used to measure the influence between the independent variable and the dependent variable. Multiple linear regression occurs when there is more than one independent or dependent variable. The purpose of multiple linear regression analysis is to determine the direction and magnitude of the influence of the independent variable on the dependent variable (Ghozali, 2018).

Table 10. Multiple Linear Regression Test Results

Coefficients [a]					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	21,604	2,490		8,677	<0,001
VAT Rate Change I	0,177	0,063	0,248	2,802	0,006
Financial Literacy	0,189	0,060	0,247	3,161	0,002
Tax Literacy	0,004	0,054	0,006	0,065	0,948
a. Dependent Variable: Consumer Behavior					

Source: Data Processed (2025)

Based on the multiple linear regression test results in Table 10, the following equation results are obtained:

$$Y = a+b_{1X1}+b_{2)\ X(2)}+b_{(3)\ X(3)}$$
$$Y = 21{,}604+0{,}177+0{,}189+0{,}004$$

Notes:
Y = Dependent variable (consumer behavior)
a = Constant number
b_1 = Regression coefficient between changes in value-added tax rates and consumer behavior
b_2 = Regression coefficient between financial literacy and consumer behavior
b_3 = Regression coefficient between tax literacy and consumer behavior

Based on the multiple linear regression equation, the constant value a of 21.604 indicates the condition when the consumer behavior variable is not influenced by other variables, namely changes in VAT rates (X1), financial literacy (X2), and tax literacy (X3). In other words, if there is no influence from the independent variables, consumer behavior remains constant. The regression coefficient value b1 for the variable rate change p (X1) of 0.177 indicates that every 1 unit increase in the change in value-added tax rates will increase consumer behavior by 0.177, assuming other variables remain constant. For the financial literacy variable (X2), the b2 value of 0.189 means that every 1 unit increase in financial literacy will increase consumer behavior by 0.189. The tax literacy variable (X3) has a b3 coefficient value of 0.004. This means that every 1 unit increase in tax literacy will increase consumer behavior by 0.004.

2. Test Coefficient of Determination (R^2)

The coefficient of determination can be seen in the *R-Square* (R2) value in the *Model Summary* table. If the coefficient of determination is close to 1 and away from 0 (zero), the independent variable has a better ability to provide information to predict the dependent variable (Ghozali, 2016). The *R-Square* value is categorized as strong if more than 0.6, moderate if more than 0.33 but less than 0.67, and weak if more than 0.19 but less than 0.33 (Chin, 1998).

Table 11. Test Coefficient of Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,415[a]	0,172	0,157	2,62688
a. Predictors: (Constant). Tax Literacy. Financial Literacy. Value Added Tax Rate Change				

Source: Data Processed (2025)

Based on Table 11, the R-Square (R2) coefficient value is 0.172 or 17.2%. So it can be concluded, the magnitude of the influence of variable changes in VAT rates, financial literacy, and tax literacy on consumer behavior is 0.172 or 17.2%. While the remaining 82.8% is explained by other factors not explained in this study. The coefficient of determination (R^2) value of 0.172 is included in the low category. There are several possibilities that can explain this condition. First, the independent variables used tend to have little effect on the dependent variable.

Second, there are other variables that are more influential but have not been included in the model. Therefore, the existing regression model can still be improved, for example by adding other relevant variables or considering a different analysis approach.

3. T-test

Regression testing is carried out with a 95% confidence level or with a significance level of 5%. If the calculated t value is greater than the t table value at a significance level of 5%, it indicates a partially significant effect between the independent and dependent variables, which means that H0 is rejected and Ha is accepted (Fatmawati & Lubis, 2020). Based on the explanation listed in Rustanti & Alfianti (2018), the t table value can be calculated using the following formula:

$$t \text{ table} = t\ (a/2;\ n\text{-}k\text{-}1)$$
$$t \text{ table} = t\ (0.05/2;\ 170\text{-}3\text{-}1)$$
$$t \text{ table} = t\ (0.025;\ 166)$$

Notes:
a = 95% confidence level or 5% significance (0.05)
n = Number of samples
k = Number of independent variables

Based on the t test results in the equation above, the variable changes in Value Added Tax rates and financial literacy show a positive and significant influence on consumer behavior, because it has a calculated t value greater than the t table (1.974) and a significance of less than 0.05. Meanwhile, the tax literacy variable has a significance value of 0.948 and a calculated t value of 0.065, which indicates that this variable has no significant effect on consumer behavior.

4. F test

The decision in this test is taken by looking at the significance value of F in the ANOVA table. If the significance value of F <0.05, it can be concluded that the regression model is feasible to use or fit the data.

Table 12. F test

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	238,420	3	79,473	11,517	<0,001[b]
	Residual	1145,486	166	6,901		
	Total	1383,906	169			
a. Dependent Variable: Consumer Behavior						
b. Predictors: (Constant). Tax Literacy. Financial Literacy. Value Added Tax Rate Change						

Source: Data Processed (2024)

Table 12 shows that the significance value of F is <0.001 or less than 0.05. This indicates that the regression model used in the study is statistically significant. Thus, the regression model can be said to be feasible (fit) to be used in the analysis and has a good ability to explain consumer behavior.

H. Discussion

The Effect of Changes in Value Added Tax Rates on Consumer Behavior

The results of the first hypothesis test show that changes in Value Added Tax rates have a positive and significant effect on consumer behavior. This indicates that the increase in Value Added Tax rates encourages consumers to be more rational and planned in making purchasing decisions, such as comparing prices, choosing economical products, and delaying non-urgent purchases (Solomon, 2004; Carty, 2013; Samaduzzaman et al., 2015). Consumer responses also differ by income group, where low-income consumers tend to reduce consumption, while the upper middle class optimizes spending (Currie & Rowley, 2010).

According to the Theory of Planned Behavior, this behavior is explained through the components of attitude, subjective norms, and perceived behavioral control. Consumers begin to assess consumptive behavior as inefficient, follow social norms to save money, and feel able to control spending. This finding is supported by Kwan & Sarjono (2024) and Alistiqomah (2025) who state that an increase in Value Added Tax rates increases price sensitivity and encourages consumers to change consumption patterns. However, research by Mayuri et al. (2025) shows different results, that changes in Value Added Tax rates do not have a significant effect on consumption behavior, because consumers continue to meet basic needs despite rising prices.

Effect of Financial Literacy on Consumer Behavior

The test results show that financial literacy has a positive and significant effect on consumer behavior. This means that the higher the financial literacy, the wiser consumers are in making purchasing decisions.

Financial literacy includes the ability to manage money, save, plan finances, and understand financial products (Dai & Suryanto, 2019; Capuano & Ramsay, 2011). This makes consumers more rational and able to distinguish needs and wants (Putri et al., 2016; Bai, 2023), and encourages long-term consumption planning (Li et al., 2020).

According to the Theory of Planned Behavior, financial literacy influences behavior through positive attitudes towards wise consumption, social norms for frugal living, and a sense of control over financial decisions.

This finding is in line with Sustiyo (2020) and Rahmawati & Putri (2023), which show that financial literacy reduces consumptive behavior. However, Ariria & Ulfatun (2025) and Prihastuty & Rahayuningsih (2024) found that high literacy does not always reduce excessive consumption due to external factors such as lifestyle and advertising.

Effect of Tax Literacy on Consumer Behavior

The results of the third hypothesis test show that tax literacy has no significant effect on consumer behavior. Tax literacy relates to an individual's ability to understand tax information and apply it in the right decision (Sari, 2019). However, tax understanding is not always reflected in controlling consumptive behavior. Many external factors such as lifestyle, social pressure, and advertising are more dominant in influencing consumption decisions. This is also reflected in the low R^2 value, indicating that the independent variables in the model are not strong enough to explain consumer behavior thoroughly.

According to Bird (2010), the majority of consumers are not even aware of the existence of taxes such as Value Added Tax because they are usually included in the price. Consumers tend to see prices as a whole without considering the tax element (Olsen et al., 2019), so tax knowledge does not change their behavior.

In the Theory of Planned Behavior framework, attitudes towards consumption, social pressure, and perceived behavioral control are key. Tax knowledge does not necessarily change consumptive attitudes, social pressure remains dominant, and consumers feel able to buy despite being taxed. As tax is seen as an unavoidable policy, tax literacy is not strong enough to influence consumption.

This finding is consistent with Mayuri et al. (2025) and Lingga et al. (2024) who concluded that tax literacy, including literacy on Value Added Tax, is not significant in influencing consumptive behavior. However, different results were shown by Sustiyo (2022) who found that an understanding of VAT can actually reduce consumption.

V. CONCLUSION

This study found that changes in Value Added Tax rates and financial literacy have a positive and significant influence on consumer behavior in Malang City. Changes in Value Added Tax rates encourage consumers to be more selective and wise in making purchases. Similarly, good financial literacy improves consumers' ability to plan expenses and make rational consumption decisions. However, tax literacy is not proven to have a significant effect on consumer behavior. Although consumers understand aspects of taxation, this understanding does not necessarily change their consumption decisions. This shows that external factors and the perception of tax as an indirect burden are still more dominant in influencing people's consumption behavior.

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