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The influence of Brand Image, Sales Encounter and Digital Marketing on Purchasing Decisions in the Industrial Engineering Market at WIKA Instrument

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Abstract

The study analyzes the impact of brand image, salesperson interaction, and digital marketing on purchasing decisions in the industrial engineering market of WIKA Instrument Company. The research is driven by observed sales fluctuations despite various marketing efforts. A quantitative method with a multiple linear regression approach is applied, using questionnaires distributed to buyers who have completed transactions with the company. The findings reveal that all three independent variables significantly influence purchasing decisions, with digital marketing being the most dominant factor. Brand image acts as a moderating variable, while interaction with salespeople also plays a crucial role. The determination analysis indicates that these variables explain 71.7% of the variation in purchasing decisions. The F-test and t-test results further confirm the significance of these relationships. The study concludes that enhancing digital marketing strategies, supported by a strong brand image and effective salesperson interactions, can boost purchasing decisions.

Keywords: Brand Image, Digital Marketing, Purchase Decision, Industrial Engineering Market, Seller Interaction.

INTRODUCTION

Marketing is a crucial activity for companies, regardless of whether they operate in the goods or services sector, as it ensures business sustainability (Fabo et al., 2023). Every product, regardless of its type, requires marketing efforts, whether these efforts are explicitly recognized or not. This necessity is particularly evident in the industrial engineering market, where products are designed for specific purposes and cater to a limited target audience. An industrial market, also known as a business-to-business (B2B) or producer market, involves businesses selling products or services to other businesses, emphasizing specialized needs and professional transactions (Zimmerman & Blythe, 2017).

Included in the Industrial Engineering Market is any industry that uses engineering products in the process of making goods or processing data (Vernadat et al., 2018). It can be from the mining industry, oil and gas industry, food, beverage, and pharma industry, as well as other fields that use chemical or physical processes. WIKA is one of the companies engaged in the industrial engineering market or business-to-business, and it is an international company with a brand that carries its own name. The company, which is based in Klindenberg, Germany, has many branch companies in various countries. One of its branches is in Singapore which oversees the Indonesian market (Latzer et al., 2016).

WIKA has undertaken several business initiatives to promote its brand through soft-selling strategies in Indonesia. While WIKA has established itself as one of the top three instrument brands in Europe, its

brand positioning in the Indonesian market remains uncertain. To strengthen its presence, WIKA has implemented a customer-focused approach by deploying well-trained staff as consultants to provide personalized service and build customer trust. Additionally, WIKA leverages digital marketing by sharing advertising content from its parent company, WIKA Germany, to enhance brand visibility and create a consistent global image.

However, despite WIKA's efforts to reduce prices, the company still faced setbacks in certain situations. Such challenges often hinder WIKA from achieving the sales targets set by its head office, resulting in stagnant business development in Indonesia (Chan & Pribadi, 2022).

In recent years, WIKA Instrument has faced increasing targets set by its headquarters. This escalation presents unique challenges for the company, as it continues to experience fluctuations in sales. Despite market volatility, WIKA has significant potential to meet its annual targets by leveraging available opportunities more effectively (Umar et al., 2021).

The benefits of WIKA Instrument are able to increase sales with the right strategy, where marketing costs are placed in the right proportion on the right variables (Litwa et al., 2021). The purpose of this study is to determine the effect of experience with marketers on purchasing decisions.

RESEARCH METHODS

The study employs a quantitative research approach conducted in Banten, specifically in Tangerang. The research process involved several stages, including identifying phenomena or problems, preparing research papers, developing research instruments, collecting data, processing data, and reporting findings. To strengthen the study's reliability and validity, further explanation of the procedures for ensuring accurate data collection and analysis is recommended. Additionally, acknowledging potential limitations of the chosen methods would enhance the study's methodological transparency.

The population of this study is all buyers of goods who purchase industrial goods. The number of customer population is unknown. Customers in this industrial product can be from pharmaceutical factories, food factories, state electricity companies, chemical plants, oil and gas processing and others.

The sample of this study is part of the overall population of customers or buyers at the business. Sampling of the population is carried out using the non-probability sampling method with incidental sampling type. The samples taken by researchers are people or buyers who have made purchases at WIKA Instrument Pte Ltd who are willing to be respondents for research so that the sample is taken based on whoever comes to visit and decides to buy, where all respondents are met incidentally by the researcher.

The type of data in this study is numeric where the data obtained from the Likert scale questionnaire will be converted into numerical data.

RESULT AND DISCUSSION

Classical Assumption Analysis of Multiple Linear Models

Multiple regression is employed as a statistical method to analyze research data involving multiple independent variables. It is commonly used to measure variance and determine relationships between variables (Galvez, 2022). In this study, multiple regression analysis was applied to explore the relationships between three dependent variables and the independent variables, aiming to provide a comprehensive understanding of their interconnections. Expanding the analysis by incorporating detailed interpretations and visual aids could enhance the clarity and significance of the findings.

Among the three independent variables used, namely brand image, sales encounter, and digital marketing, the dependent variable, namely purchasing decisions. Not only does this know the direction of

the relationship, but researchers also want to know which relationship has the highest value (Schober et al., 2018).

The independent variables used in multiple regression are Factor Score Brand Image (FS_CITRA), Factor Score Sales Encounter (FS_Sales), and Factor Score Digital Marketing (FS_Digital), while the dependent variable is Factor Score Purchasing Decision (FS_Kep).

Classical Assumption Test

Before doing regression, it is necessary to test classical assumptions. There are several assumptions that need to be met to perform regression, including linearity, normality, multicollinearity, and homoscedasticity (absence of heteroscedasticity) tests. After passing these various tests, the regression will continue, and the regression model of all variables in this study will be shown.

Linearity Test

A linearity test is used to determine whether there is a linear relationship between variables. By doing bi-plotting or partial plotting of each dependent variable with its independent variable, a linear relationship will be obtained. The following are the results of the linearity test for each variable:

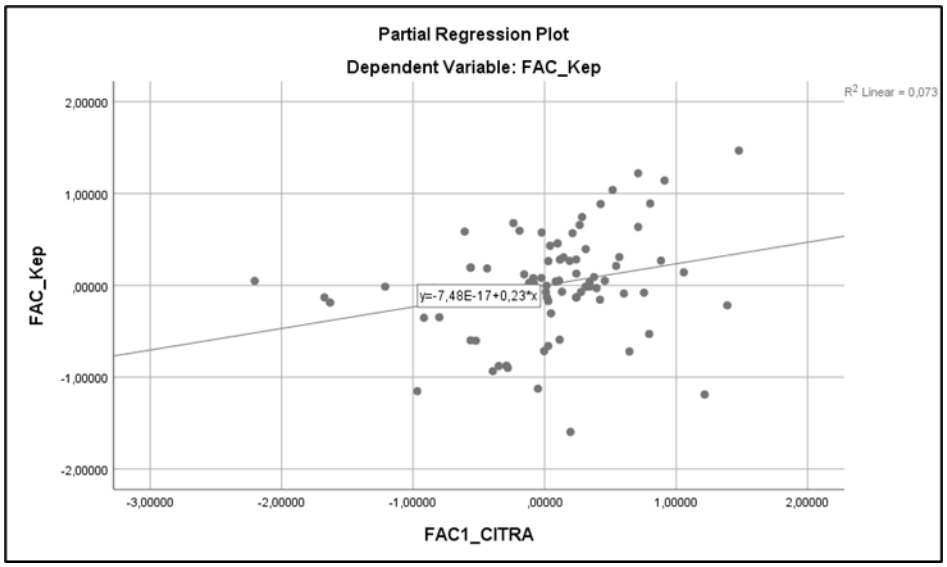

Figure 1. Brand image Linearity Test with Purchasing Decision

The scatterplot of the factor score of the independent variable brand image with the factor score of the dependent variable purchase decision looks to have a fairly linear relationship. In the graph above, the R Square value in this linear relationship is found to be 0.073 or 7.3%. This R Square shows how much the independent variable brand image as a whole is able to explain the variance of the dependent variable purchasing decisions. So, it can be concluded that the variable is only able to explain 7.3% of the variance in the dependent variable of purchasing decisions.

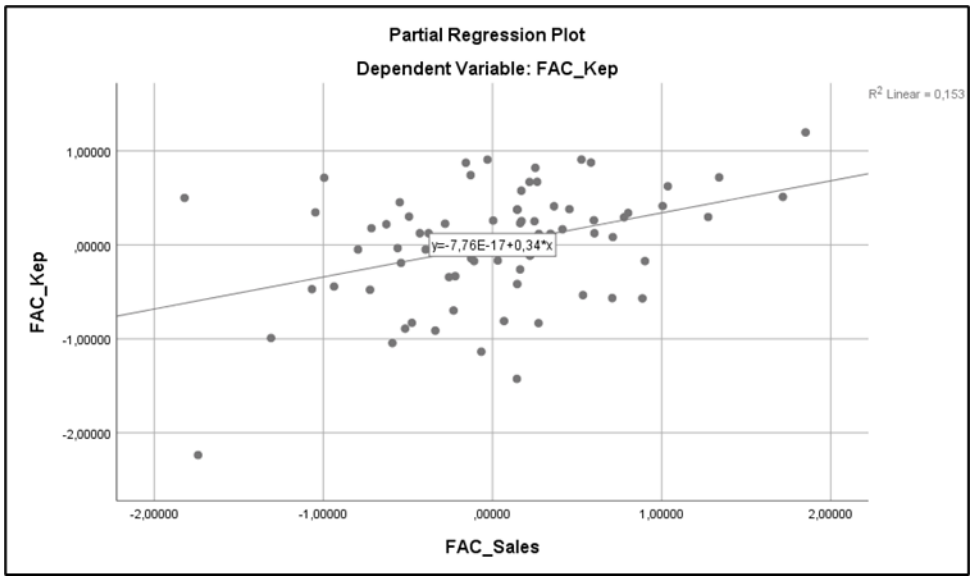

Figure 2. Linearity Test of Sales Encounter with Purchasing Decision

Next is to look at the relationship between the factor score value of the independent variable Sales Encounter and the factor score of the dependent variable purchasing decisions. From the picture above, the independent variable, Sales Encounter, and the dependent variable, purchasing decisions, have a linear relationship. In the graph above, it is found that the R Square value in this linear relationship is 0.153 or 15.3%. This R Square shows how much the independent variable Sales Encounter as a whole is able to explain the variance of the dependent variable purchasing decisions. So it can be concluded that with a linear regression model, the Sales Encounter variable is able to explain the variance of the dependent variable purchasing decisions by 15.3%.

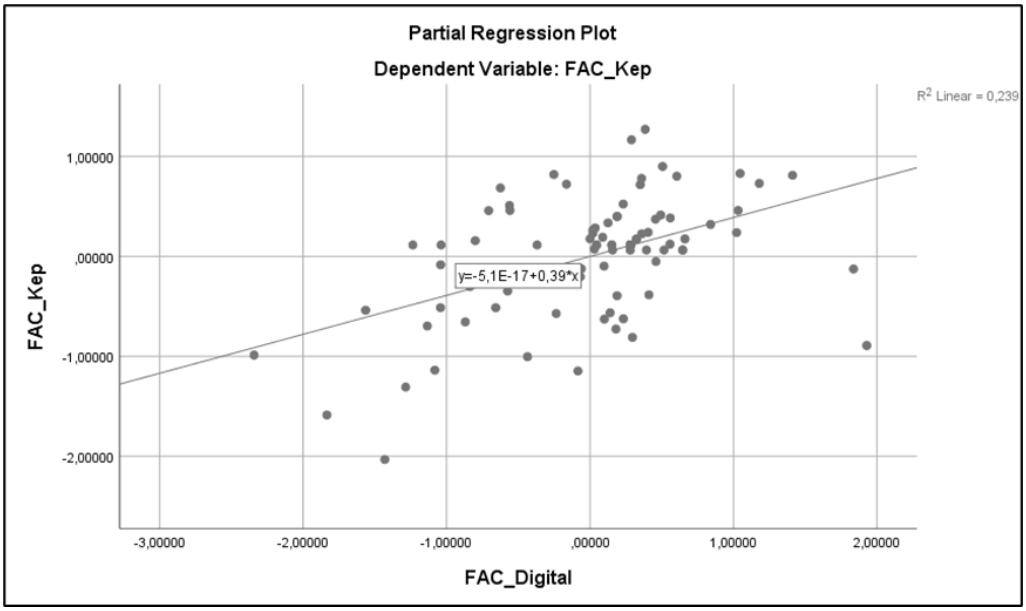

Figure 3. Linearity Test of Digital Marketing with Purchasing Decisions

In testing the linearity of the factor score of the independent variable Digital Marketing with the factor score of the dependent variable purchasing decisions, it is found that the two-factor scores have a linear relationship (Kam & Meyer, 2023). In the graph above, it is found that the R Square value in this linear relationship is 0.239 or 23.9%. This R Square shows how much the independent variable Digital Marketing as a whole is able to explain the variance of the dependent variable purchasing decisions. So, it can be concluded that the Digital Marketing variable is able to explain the variance of the dependent variable of purchasing decisions by 23.9%.

Residual Normality Test

To determine the normality of the residual distribution (the difference between the predicted value produced by the regression and the actual value of the observation), a normality test is used. There are many methods to determine whether the residual data is normally distributed or not, including visual methods, Kolmogorov-Smirnov (K-S), Shapiro-Wilk, Anderson-darling test, etc. (Gourinda et al., 2024). In this study, researchers used the visual method to determine whether the residual data was normally distributed or not. The following are the results of this test.

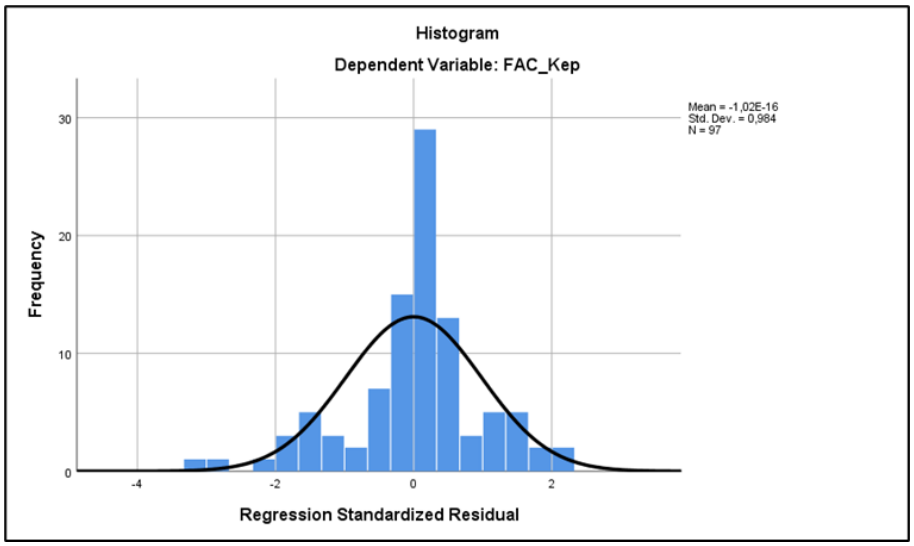

Figure 4. Residual Normality Test

From the histogram of residuals in the context of the normality test above, it appears that the distribution of residuals fairly follows the shape of a bell (normal distribution), and there is no histogram shape that leans to the left or right. However, in the graph above it does appear that there is a high distribution in the center.

Multicollinearity Test

Multicollinearity test is a test to determine the linear relationship between variables. The higher the multicollinearity between variables, the more biased the results will be. In linear regression equations, multicollinearity is undesirable. To determine the presence of multicollinearity between variables can be known by the tolerance number and also the VIF number. The following are the results of the multicollinearity test in this study:

Table 1. Multicollinearity Test

	Collinearity	Statistics
Model	**Tolerance**	**VIF**
1 (Constant)		
FAC1_CITRA	,424	2,358
FAC_Sales	,438	2,286
FAC_Digital	,566	1,766

From the multicollinearity test results, the tolerance value of the factor score Brand Image, Sales Encounter and Digital Marketing is above 0.1. While the VIF results for all variables are below 10. This shows that there is no multicollinearity between the independent variables. This is also supported by the VIF results. So this value also shows the absence of multicollinearity between the independent variables used in this study.

Heteroscedasticity test

To see whether there is an inequality in the variance of the residuals between several observations or not can be observed with the heteroscedasticity test (Berenguer-Rico & Wilms, 2021). A good regression model is one that does not have heteroscedasticity data or, in other words, has homoscedasticity. For this test, researchers use a scatterplot to see the distribution of data. The following are the results of this test.

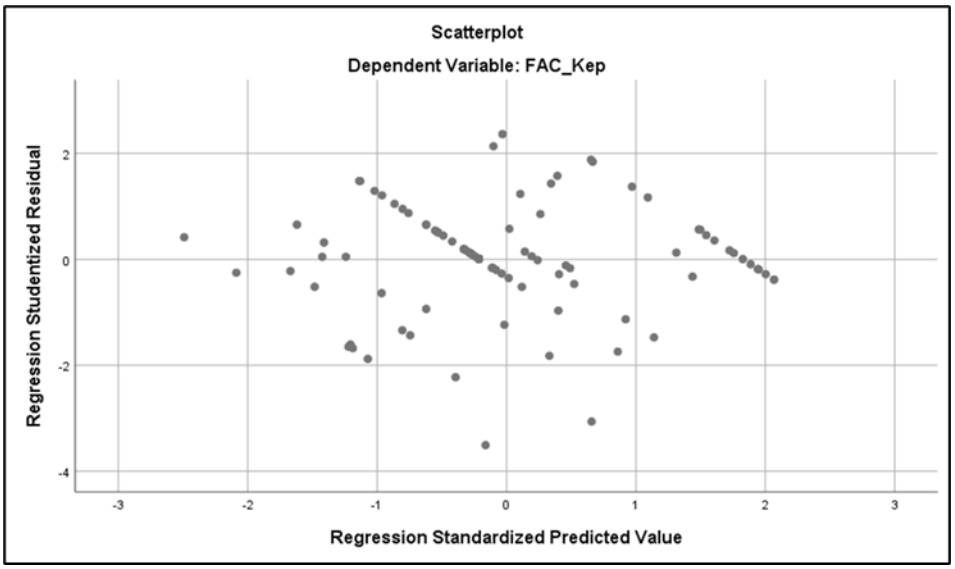

Figure 5. Heteroscedasticity test

The pattern formed from the ZPRED scatterplot, which describes the predicted value, and also ZRESID, which describes the residual value, appears irregular. This states that the residuals do not form a certain pattern (getting smaller or getting bigger) for all predicted value values. The magnitude of the residuals appears random for all levels of predicted value. This means that there is no heteroscedasticity in the regression model.

Using regression analysis can support the identification of a linear relationship between ZPRED and ZRESID. The following are the results of the regression test

Table 2. Evidence Test with ZPRED and ZRESID Regression

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	-4,178E-17	,051		,000	1,000
Unstandardized Predicted Value	,000	,064	,000	,000	1,000

The regression results between ZPRED and ZRESID displayed above show that the significance value is 1. This shows that there is no relationship between the prediction and the existing residual data. So it can be concluded that the predicted value is not able to predict the residual data, which means that the data does not experience heteroscedasticity.

To see further, researchers also conducted tests using the Spearman rho test. This test is also used to assess whether the data in the study experienced heteroscedasticity or homoscedasticity. The following are the results of the Spearman-Rho test:

Table 3. Heteroscedasticity Test with Spearman's Rho

Correlation						
			FAC1_CITRA	FAC_SALES	FAC_Digital	Unstandardiz
Sperman's rho	FAC1-CITRA	Correlation Coefficient	1.0000	,720**	,652**	-,059
		Sig. (2-tailed)	.	,000	,000	,567
		N	97	97	97	97
	FAC_Sales	Correlation Coefficient	,720**	1,000	,581**	-,120
		Sig. (2-tailed)	,000		,000	,240
		N	97	97	97	97
	FAC_Digital	Correlation Coefficient	,652**	,581**	1,000	,030
		Sig. (2-tailed)	,000	,000		
		N	97	97	97	97
	Unstradardized Residual	Correlation Coefficient	-,059	-,120	,030	1,000
		Sig. (2-tailed)	,567	,240	,767	.
		N	97	97	97	97
**Correlation is significant at the 0.01 level (2-tailed)						

From the table above, it is found that the significance value for each variable on the unstandardized residual is above 0.05. In the Spearman's Rho test, variables are said to have heteroscedasticity data if the sig. (2-tailed) below 0.05, and vice versa, if the value of sig. (2-tailed) above 0.05, then the data does not experience heteroscedasticity, or in other words, the data is homoscedasticity. It can be concluded that the data on each variable does not experience heteroscedasticity because all significance values on each variable are above 0.05.

Multiple Linear Regression Analysis

Multiple Regression Coefficient Analysis

Table 4. Multiple Linear Regression Results

Coefficients[a]									
Model		**Unstandardized B**	**Coefficients Std.Error**	**Standardized Coefficients Beta**	**t**	**Sig.**	**Zero-Order**	**Correlations Pertial**	**Part**
1	(Constant)	2.321E-16	,051		,000	1,000			
	FAC1-CITRA	,235	,087	,229	2,706	,008	,722	,270	,149
	FAC_Sales	,341	,083	,342	4,106	,000	,747	,392	,226
	FAC_Digital	,390	,072	,397	5,411	,000	,745	,489	,298

a. Dependent Variable: FAC_Kep

From the table above, a regression equation can be created that describes the correlation between the independent variable and the dependent variable. This equation is formed from standardized coefficients because researchers want to compare the strength of the correlation between the independent and dependent variables. The following is the multiple linear regression equation:

$$Y= 2.321 \text{ x } 10\text{-}16 + 0.229(X1) + 0.342(X2) + 0.397(X3) + e$$

$$\text{Purchase decision} = 2.321 \text{ x } 10\text{-}16 + 0.229\ (X1) + 0.342\ (X2) + 0.397\ (X3) + e$$

Based on the above equation, it can be explained that:

a. The constant value is 2.321E-16 or 2.321x10-16. This value is very small and the significance value or p-value is found above 0.05, which means it is not significant. So, it can be concluded that the constant or intercept in this regression equation does not have a significant effect on the dependent variable in the model.
b. The regression coefficient of the independent variable 1 (X1) or the Brand image variable is 0.229. This means that a one-unit increase in the Brand Image of WIKA Instrument will increase purchasing decisions by 0.229. Vice versa, if there is a one-unit decrease in Brand image will reduce purchasing decisions by 0.229.
c. The regression coefficient of the independent variable 2 (X2) or the Sales Encounter variable is 0.342. This means that a one-unit increase in Sales Encounter will increase purchasing decisions by 0.342. Vice versa, if there is a one-unit decrease in Sales encounters, the purchasing decision will decrease by 0.342.
d. The regression coefficient of independent variable 3 (X3) or the Digital Marketing variable is 0.397. This means that a one-unit increase in Digital Marketing carried out by WIKA Instrument will increase purchasing decisions by 0.397. Vice versa, if there is a one-unit decrease in Digital Marketing, there will be a decrease in purchasing decisions by 0.397.

From the regression equation formed, it can be seen that the X3 variable, namely Digital Marketing, makes the highest contribution that greatly influences purchasing decisions, followed by Sales Encounter and Brand Image.

Coefficient of Determination Analysis

The coefficient of determination (R2) analysis is an analysis to determine how much the ability of the independent variables to explain the variance of the dependent variable in the regression model formed. The coefficient of determination formed in this study is as follows:

Table 5. Coefficient of Determination Analysis

Model Summary[b]									
					Change statistics				
Model	**R**	**R Square**	**Adjusted R Square**	**Std Error of the estimate**	**R square change**	**F change**	**df 1**	**df 2**	**Sig. F Change**
1	,847[a]	,717	,708	,50356430	,717	78,552	3	93	,000
a. Predictor : (Constant), FAC_Digital, FAC_Sales, FAC1_CITRA									
b. Dependent Variable : FAC_Kep									

From the table above, it can be seen that the value of the coefficient of determination is 71.7%. This value explains the ability of all independent variables in the model to explain 71.7% of the variance of the dependent variable. These results were obtained from statistical analysis with the enter method. The coefficient of determination is formed from a regression model involving Brand Image, Sales Encounter, and Digital Marketing variables (Melović et al., 2020).

F test

The F test or simultaneous test aims to assess whether the ability of all independent variables simultaneously to explain the dependent variable is statistically significant. This is obtained by looking at the significance value. The following are the results of the F test in this study:

Table 6. F or Simultaneous Test Results

ANOVA[a]

Model		Sum Of Squares	df	Mean Square	F	Sig.
1	Regression	59,757	3	19,919	78,552	,000[b]
	Residual	23,583	93	,254		
	Total	83,340	96			
a. Dependent Variable : FAC_Kep						
b. Predictor : (Constant), FAC_Digital, FAC_Sales, FAC1_CITRA						

From the table above, it can be observed that the F-count value in the regression model equation formed from the independent variables of Brand Image, Sales Encounter, and Digital Marketing on purchasing decisions is 78,552, and this value is significant at the 5% confidence level. By using 4 variables and a sample of 97, the F table value with a confidence interval of 5% is 2.70, and this value is referred to as the F table. At the same time, the calculated f value based on statistical calculations is 78.552. So it can be concluded that the calculated F value is greater than the F table, which indicates that Hypothesis 0 is rejected. When hypothesis 0 is rejected, the independent variables simultaneously affect the dependent variable significantly.

Test t (Partial Test)

The t test or partial test is conducted to determine whether the effect of each independent variable in explaining the variable is significantly different, or in other words whether the regression coefficient for each independent variable is significantly different from zero.

Here are the results of the t-test calculation:

Table 7. T-Test Results (Partial Test)

Coefficients[a]						
Model		Unstandardized Coefficients B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2,321E-16	,051		,000	1,0000
	FAC1-CITRA	,235	,087	,229	2,706	,008
	FAC_Sales	,341	,083	,342	,4106	,000
	FAC_Digital	,390	,072	,397	5,411	,000
a. Dependent Variable: FAC_Kep						

Before comparing the value of t count with t table, it is necessary to know in advance the value of t table in research using 4 variables, 97 samples and a confidence interval of 5%. The value of the t table in this study is 1.985.

a. For the Brand Image variable, the t value is 2.706, which is greater than the t table value (1.985), and the significance value is below 0.05, so it can be interpreted that hypothesis 0 is rejected and shows that the Brand Image variable has a significant influence on purchasing decisions.
b. For the Sales Encounter variable, the t value is 4.106 greater than the t table value (1.985), and the significance value is below 0.05, so it can be interpreted that hypothesis 0 is rejected and shows that the Sales Encounter variable has a significant influence on purchasing decisions.

c. For the Digital Marketing variable, the t value is 5.411, which is greater than the t table value (1.985), and the significance value is below 0.05, so it can be interpreted that hypothesis 0 is rejected and shows that Digital Marketing variable has a significant influence on purchasing decisions.

CONCLUSION

Based on the findings of this study, it can be concluded that Brand Image, Sales Encounter, and Digital Marketing significantly influence purchasing decisions. To enhance purchasing decisions, companies should focus on strengthening their Brand Image to attract and retain customers. Improving interactions between buyers and salespeople can further boost purchasing intent. Notably, Digital Marketing emerges as the most influential factor, suggesting that businesses should prioritize strategic digital marketing efforts to drive customer engagement and increase sales. These insights offer valuable guidance for industry players aiming to optimize their marketing strategies and provide a foundation for future research in this area.

Brand image is a perception or feeling toward a brand that is able to influence consumer behavior (Zhang, 2015).This brand image is very important to the company, and it is considered that the brand image that has been built by WIKA Instrumentation is able to influence consumer behavior to purchase products from WIKA. Sales Encounter can influence brands and create brand loyalty (Desveaud et al., 2024). The knowledge of the salesperson is directly proportional to their performance (M.D. Groza, 2018). In accordance with the results of this study, Sales Encounters affect purchasing decisions, which also means driving the performance of these sales. The changing times have brought people's lifestyles to shift from conventional to online sites. (Sopiyan, 2022), Digital marketing is the biggest strength factor that can increase purchasing decisions.

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