
INFLUENCE OF PRODUCT QUALITY AND PRODUCT DESIGN ON PIXY PRODUCT PURCHASE DECISION

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Abstract: *This study aims to determine and analyze how much influence product quality and product design have on Pixy's product purchasing decisions. The analytical method used is the method of multiple linear regression (multi linear regression). The results of the t-test (partial) can be seen that there is an influence between Product Quality Variables on Pixy Product purchasing decisions with a tcount of 3.084 With = 5%, ttable (5%; 51-2 = 49) obtained a ttable value of 1.676 from the description it can be seen that tcount (3.084) > ttable (1.676), as well as the significance value of 0.000 > 0.05, it can be concluded that the first hypothesis is accepted, meaning that product quality (X1) has an effect on purchasing decisions (Y). Testing Hypothesis 2 states that: The results of the t-test (partial) can be seen that there is an influence between Product Design on the Pixy Product Purchase Decision with a tcount of -0.271 With = 5%, ttable (5%; 51-2 = 49) obtained the value ttable of 1.676 from the description it can be seen that tcount (-0.271) < ttable (1.676), and the significance value is 0.788 < 0.05, it can be concluded that the second hypothesis is rejected, meaning that Product Design (X2) has no effect on Purchase Decisions (Y) . Testing Hypothesis 3 states that: Product Quality and Product Design have a joint effect on the Pixy Product Purchase Decision (Case Study on STIE Bina Karya Tebing Tinggi Students). This is evident from the results of the F test which obtained an Fcount of 8,119 With = 5%, dk of numerator: 3, dk of denominator: 51-2-1(5%; 2; 48; ftable 3,191) obtained ftable value of 3.191. From this description, it can be seen that Fcount (8.119) > Ftable (3.191), and a significance value of 0.001 < 0.05, it can be concluded that the third hypothesis is accepted, meaning that Product Quality (X1) and Product Design (X2) have a joint effect (simultaneous) on the Purchase Decision Variable (Y).*

INTRODUCTION

The development of increasingly advanced business has resulted in increasingly fierce competition in the business world. The increasing level of competition in local and global businesses and uncertainty force companies to achieve competitive advantage in order to be able to win the competition in global business. At this time business competition for buyers and customers does not only focus on quality but also on design. One of the important things that need to be done and considered in the face of competition is to analyze what consumers want. Although marketers already have consumer segments that are considered to be able to influence consumer decisions to choose their products, the intense competitive pressure that is intentionally directed at changing consumer decisions is not ignored because it will make consumers change their decisions. Purchase decision is a concept in buying behavior where consumers decide to act or do something and in this case do something purchasing or utilizing certain products or services (Balawera, 2013). Consumer decision making is basically a problem solving process. Researchers using the purchase decision variable are still worthy of scrutiny considering the increasing number of products in circulation resulting in the need for various considerations for the community in making purchasing decisions. Consumer purchasing decisions can be made if the product is in accordance with what consumers want and need. In making purchasing decisions, the first thing that consumers consider when choosing a product is to look at the product attributes. This is why researchers use product attributes as one of the variables in this study. Product attributes have a very important role for consumers in making purchasing decisions. In a product there must be elements of product attributes that can influence consumers in making purchasing decisions, namely product quality, and design. Daryanto (2014) revealed that the factors that influence consumer purchasing decisions include product quality.

The products offered by the company provide support in an effort to support the buying process that will be made by consumers. One of the elements of a product is its quality where quality is also the most important thing because quality is the hallmark of the company. Because the quality is strong, tested and proven to be of high value, it is not only successful in defeating rational calculations, but also sophisticated in processing the emotional sides of consumers. Quality can have a high value because it is not just based on communication, but is all kinds of other efforts to strengthen these quality characteristics. In addition to product quality that needs serious attention from consumers, design is also a factor in purchasing decisions. Regarding product design, it is one of the factors that need serious attention from consumers, because the targeted consumers are not a few who start to question the problem of product design that is able to meet the needs and desires of consumers (Pradana 2010). Design according to general is a creative activity to plan and design something that is generally functional and does not exist before in order to solve a certain problem so that it has more value and becomes more useful for its users. According to Kotler and Armstrong (2014:254) product design is a bigger concept than style. Meanwhile, according to Tjiptono's (2010:78) view, product design is related to how a product has its own style to increase the value of the product to the final consumer. The design in this Pixy product is very attractive which attracts consumers because the packaging is very elegant. Inside the Pixy product packaging, there is also complete information about the product, from the ingredients, how to use it, BPOM license, MUI halal certificate and

others. So it makes it easier for consumers to use it. In the research of Rachman and Santoso (2015) stated that product design has a significant effect on purchasing decisions. According to Pramono quoted in the journal Ansah (2017), product design is the value contained in a product and is in the form of a distinctive and attractive product appearance as well as being a differentiator from competing products, where product design can produce its own attractive allure. In contrast to the research conducted by Nasution and Syamsuri (2016) product design has no effect on purchasing decisions.

Based on the description above, the writer is interested in conducting research and taking the title, namely "The Influence of Product Quality and Product Design on Channel Product Purchase Decisions". Research purposes The objectives to be achieved in this research are: 1. To find out and analyze the effect of product quality on consumer purchasing decisions for Pixy products. (Case Study on STIE Bina Karya Tebing Tinggi Students) 2. To find out and analyze the effect of product design on consumer purchasing decisions for Pixy products. (Case Study on STIE Bina Karya Tebing Tinggi Students) 3. To find out and analyze the effect of product quality and product design together on consumer purchasing decisions for Pixy products. (Case Study on STIE Bina Karya Tebing Tinggi Students).

THEORETICAL BASIS

According to Kotler (2010), marketing is a social and managerial process by which individuals and groups obtain what they need and want through creating, offering and exchanging products or value with others. Marketing is one of the main activities carried out by entrepreneurs in maintaining their business to develop and earn profits as a measure of the success of their business in the form of profit and satisfaction. Success or failure in achieving business goals depends on the expertise of the entrepreneur in the field of marketing. In addition, it depends on the functions of whether a business can run smoothly. According to William J. In Wicaksono (2010), marketing is an overall system of business activities designed to plan, set prices, promote and distribute goods and services that can satisfy the needs of both existing and potential buyers. Another opinion about marketing is expressed by Winer in Wicaksono (2010), marketing is covering whenever a person or organization makes a choice between various alternatives that have an influence on the decision.

Buying decision

Decision making is making an assessment and making choices. This decision was taken after going through several calculations and alternative considerations. Before the choice is made, there are several stages that the decision maker may go through. These stages may include identifying the main problem, developing alternatives to be chosen and arriving at the best decision making. Purchasing decision is an action or consumer behavior so whether or not to make a purchase or transaction, whether or not the number of consumers in making decisions is one of the determinants of whether or not the company's goals are achieved. According to aldi (2012) the purchase decision is a person's attitude to buy or use a product a product in the form of goods or services that are believed to satisfy themselves and the willingness to bear the risks that may arise. The purchase decision taken by the buyer is actually a collection of a number of organized decisions. According to Kotler and Armstrong (2014:253) "product quality is the characteristics of a product or service that bears on its ability to satisfy stated or implied customer need". Quality is the totality of features and

characteristics of a product or service that depend on its ability to satisfy stated needs. Meanwhile, according to Peter-Olson (in Mulyadi Nitisusastro, (2012: 195) purchasing decisions are "the process of interaction between effective attitudes, cognitive attitudes, behavioral attitudes with environmental factors with which humans make exchanges in all aspects of their lives. Cognitive attitudes reflect attitudes of understanding Effective attitudes reflect attitudes of beliefs and behavioral attitudes reflect attitudes of real actions, the decision to buy or not to buy is part of the element inherent in each individual called behavior, where it refers to real physical actions that can be seen and can be measured by others.

2. Product Quality

Quality is everything that determines customer satisfaction and efforts to change towards continuous improvement or known as Q-Mach = quality-meets agreed terms and changes. In the vocabulary quality is defined as the totality of the characteristics of a product that supports the ability to satisfy specified or defined needs, quality is defined as customer satisfaction (customers satisfaction) or conformance to the requirements (conformance to the requirements). Quality has a close relationship with customer satisfaction. Quality provides an impetus to customers to forge a strong relationship with the company. Quality, product is an effort to meet or exceed customer expectations, where a product has quality that is in accordance with predetermined quality standards, product excellence is in accordance with consumer tastes and quality is an ever-changing condition due to consumer tastes or expectations at a certain point in time. products are always changing. According to Kotler and Armstrong (2011:255) product quality is one of the leading market positioning tools. In addition, according to Tjiptono (2012:121) suggests that quality is everything that is able to meet the desires or needs of customers (meeting the needs of consumers). Quality in the view of consumers is something that has its own scope that is different from the quality in the view of producers when issuing a product which is usually known as actual quality.

Product Design

Product design is the value contained in a product and is in the form of a distinctive and attractive product appearance as well as being a differentiator from competing products, where product design can produce its own attractive allure according to Pramono (2012) quoted in the journal (Ansah, 2017). According to Kholifah, Djoko and Nurseto (2014) product design is the stages of the production process that have a direct influence on physical products, customers and the surrounding environment. Product design is one element to advance the industry so that the results of the product industry can be accepted by the public, because the products they get have good quality, affordable prices, attractive product designs, and get guarantees and so on (Susetyarsi, 2013).

RESEARCH METHODS

Scope of Research (Time and Place of Research) Location and Time The research was conducted at STIE Bina Karya Tebing Tinggi. The time of the study was carried out from December 2019 to May 2020. Types and Data source a. Data Type Research data sources according to Sugiyono (2015) are data sources that directly provide data to data collectors. Data obtained through direct research to the object of research either by questionnaires or direct interviews which still have to be reprocessed by researchers. Sources of research data are divided into 2, namely primary data sources and secondary data sources (Sugiyono,

2015), The data sources of this research include field research, namely research where the authors carry out data collection and make direct observations on Semester VI students of STIE Bina Karya Tebing Tall.

Data collection technique

Data collection methods used in this study are: 1. Questionnaire The technique of collecting data with a questionnaire is a data collection technique by providing a list of questions to respondents, with the hope that respondents will respond to questions in the questionnaire. In this questionnaire, a closed question model will be used, namely the form of questions that have been accompanied by alternative answers. 5) and negative responses (minimum) are given the smallest value (1). Respondents Perception Measurement Scale (Likert Scale 1 to 5) Strongly disagree Strongly agree 1 2 3 4 5 In this study, to facilitate respondents in answering the questionnaire, the rating scale is as follows: Scale 1-2: Tend to Disagree Scale 3: Doubtful Scale 4-5 : Tend to agree.

DISCUSSION

Classic assumption test The testing of classical assumptions with the SPSS 17.00 program carried out in this study includes:

1. Normality Test

Normality test aims to test whether in the regression model, the confounding or residual variables have a normal distribution (Ghozali, 2016:154). Testing the normality of the data can be done using two methods, graphs and statistics. The normality test of the graph method uses a normal probability plot, while the statistical method normality test uses the one sample Kolmogorov Smirnov Test. Normality test using the graphical method can be seen in the following figure:

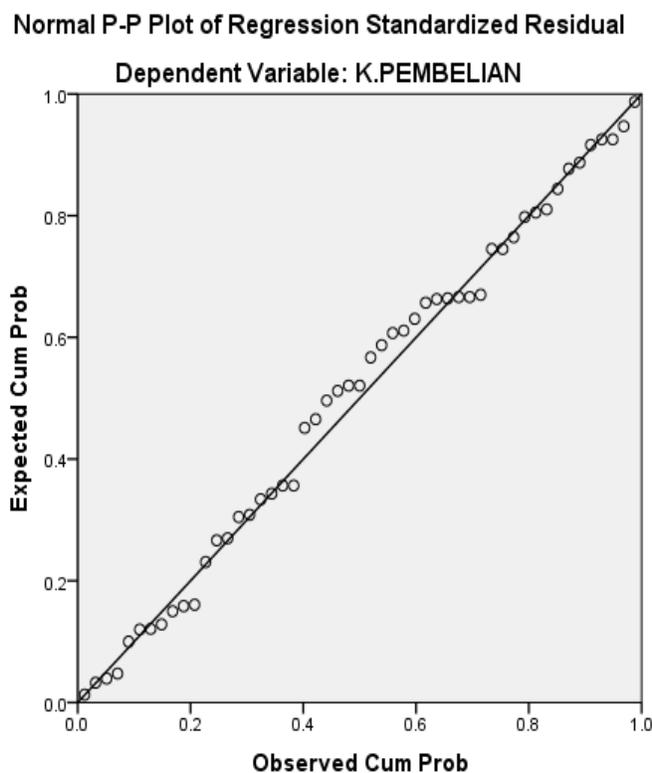


Figure 1 Normal P Plot

Data that is normally distributed will form a straight diagonal line and plotting the residual data will be compared with a diagonal line, if the distribution of residual data is normal, the line that describes the actual data will follow the diagonal line (Ghozali, 2016:154). The test results using SPSS 17 are as follows:

Table 1. One Sample Kolmogorov Smirnov Test One-Sample Kolmogorov-Smirnov Test

		Unstandardized Predicted Value
N		51
Normal	Mean	24.8627451
Parameters ^{a,b}	Std. Deviation	1.13773577
Most	Absolute	.087
Extreme	Positive	.049
Differences	Negative	-.087
Kolmogorov-Smirnov Z		.619
Asymp. Sig. (2-tailed)		.838
Monte Carlo	Sig.	.811 ^c
Sig. (2-tailed) 99% Confidence Interval	Lower Bound	.801
	Upper Bound	.821

a. Test distribution is Normal.

b. Calculated from data.

c. Based on 10000 sampled tables with starting seed 2000000.

From the output in table 4.7, it can be seen that the significance value (Monte Carlo Sig.) of all variables is 0.600. If the significance is more than 0.05, then the residual value is normal, so it can be concluded that all variables are normally distributed.

2. Multicollinearity

Test The multicollinearity test aims to determine whether there is a correlation between the independent variables in the regression model. The multicollinearity test in this study is seen from the tolerance value or variance inflation factor (VIF). The calculation of the tolerance value or VIF with the SPSS 17.00 program for windows can be seen in Table 4.8 below:

Table 2 Multicollinearity Test Results

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
1K.PRODUCT	.846	1.182
D.PRODUCT	.846	1.182

a. Dependent Variable: K. purchase

Based on table 2, it can be seen that the tolerance value of the Product Quality Variable

(X1) is 0.846 Product Design Variable (X2) is 0.846, all of which are greater than 1.182 while the VIF value of the Product Quality Variable (X1) is 1.182 Product Design Variable (X2). of 1.182 where all of them are smaller than 10. Based on the results of the above calculations, it can be seen that the tolerance value of all independent variables is greater than 0.10 and the VIF value of all independent variables is also smaller than 10 so that there is no correlation symptom in the independent variables. So it can be concluded that there is no symptom of multicollinearity between independent variables in the regression model.

3. Heteroscedasticity

Test The heteroscedasticity test aims to test whether from the regression model there is an inequality of variance from the residuals of one observation to another observation. A good regression model is one with homoscedasticity or no heteroscedasticity. One way to detect the presence or absence of heteroscedasticity is the Glejser test, in the Glejser test, if the independent variable is statistically significant in influencing the dependent variable, then there is an indication of heteroscedasticity. On the other hand, if the independent variable is not statistically significant in influencing the dependent variable, then there is no indication of heteroscedasticity. This is observed from the significance probability above the 5% confidence level (Ghozali, 2016; 138). The results of data processing using SPSS 17.00 show the results in the following table:

Table 4. Hasil Uji Glejser

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11.033	3.892		2.835	.007
1K.PRODUK	.439	.115	.516	3.804	.000
D.PRODUK	-.051	.189	-.037	-.271	.788

a. Dependent Variable: K. PURCHASE

Based on Table 3, it is known that the significant value of the product quality variable (X1) is 0.000 and the significant value of the Product Design variable (X2) is 0.788 where the product quality is less than 0.05 so it can be concluded that there are symptoms of heteroscedasticity.

F. Multiple Linear Regression

Test The multiple linear regression test explains the magnitude of the role of the Product Quality Variable (X1) and Product Design Variable (X2) on the Purchase Decision Variable (Y). Data analysis in this study used multiple linear regression analysis using SPSS 17.00 for windows. The analysis of each variable is described in the following description:

Table 4. Hasil Regresi Linier Berganda

Coefficientsa

Model		Unstandardized		Standardized
		Coefficients		Coefficients
		B	Std. Error	Beta
1	(Constant)	11.033	3.892	
	K.PRODUK	.439	.115	.516
	D.PRODUK	-.051	.189	-.037

b. Dependent Variable: K. PURCHASE

Based on these results, the multiple linear regression equation has the formulation: $Y = a + b_1X_1 + b_2X_2 + \dots$, so that the equation: $Y = 11,033 + 0.439X_1 - 0.051X_2$ is obtained. The description of the multiple linear regression equation above is as follows:

- The constant value (a) of 11,033 indicates the size of the Purchase Decision Variable (Y) if the Product Quality Variable (X1) and Product Design Variable (X2) are equal to zero.
- The regression coefficient value of the Product Quality Variable (X1) (b1) of 0.439 indicates the magnitude of the role of the Product Quality Variable (X1) on the Purchase Decision Variable (Y) with the assumption that the Product Design Variable (X2) is constant. This means that if the Product Quality Variable (X1) factor increases by 1 unit value, it is predicted that the Purchase Decision Variable (Y) will increase by 0.439 unit value with the assumption that the Product Design Variable (X2) is constant.
- The regression coefficient value of Product Design Variable (X2) (b2) of -0.051 indicates the lack of role of Product Design Variable (X2) on Purchase Decision Variable (Y) with the assumption that Product Quality Variable (X1) is constant. This means that if the Product Design Variable factor (X2) increases by 1 unit value, it is predicted that the Purchase Decision Variable (Y) will decrease by -0.051 unit value assuming the Product Quality Variable (X1) is constant.

G. Coefficient of Determination (R²)

The coefficient of determination is used to see how much the independent variable contributes to the dependent variable. The greater the value of the coefficient of determination, the better the ability of the independent variable to explain the dependent variable. If the determination (R²) is getting bigger (closer to 1), it can be said that the influence of the X variable is large on the Purchase Decision Variable (Y).

The value used to see the coefficient of determination in this study is in the adjusted R square column. This is because the adjusted R square value is not susceptible to the addition of independent variables. The value of the coefficient of determination can be seen in Table 5 below:

Tabel 5. Koefisien Determinasi

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.503 ^a	.253	.222	1.99644

a. Predictors: (Constant), D.PRODUK, K.PRODUK

b. Dependent Variable: K.PEMBELIAN

Based on table 5, it can be seen that the adjusted R square value is 0.222 or 22.2%. This shows that the Product Quality Variable (X1) and Product Design Variable (X2) can explain the Purchase Decision Variable (Y) of 0.222, the remaining 77.8% (100% - 22.2%) is explained by other variables outside this research model.

H. Hypothesis Test

1. t test (Partial)

The t statistic test is also known as the individual significance test. This test shows how far the influence of the independent variable partially on the dependent variable. In this study, partial hypothesis testing was carried out on each independent variable as shown in Table 6 below:

Tabel 6. Uji Parsial (t)

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.033	3.892		2.835	.007
	K.PRODUK	.439	.115	.516	3.804	.000
	D.PRODUK	-.051	.189	-.037	-.271	.788

a. Dependent Variable: K.PEMBELIAN

a. Hypothesis Testing the Effect of Product Quality Variable (X1) on Purchase Decision Variable (Y)

The form of hypothesis testing based on statistics can be described as follows:
Decision Making Criteria:

1. Reject the hypothesis if $t_{count} < t_{table}$ or $-t_{count} > -t_{table}$ or the value of Sig. > 0.05
- 2) Accept the hypothesis if $t_{count} \geq t_{table}$ or $-t_{count} \leq -t_{table}$ or Sig. < 0.05 From table 4.12, the t_{count} value is 3.804. With $\alpha = 5\%$, $t_{table} (5\%; nk = 51-2=49)$ the t_{table} value is 1.676. the significance value of $0.000 < 0.05$, it can be concluded that the first hypothesis is accepted, meaning that the Product Quality Variable (X1) has an effect on the Purchase Decision Variable (Y). The results of this study are in accordance with

the results of research conducted by TRIFANA LOKAS, ALTJEL. TUMBAL, MERLYN M. KARUNTU (2016)

b. Hypothesis Testing the Effect of Product Design Variables (X2) on Purchase Decision Variables (Y)

The form of hypothesis testing based on statistics can be described as follows:
Decision Making Criteria:

- 1) Reject the hypothesis if $t_{count} < t_{table}$ or $-t_{count} > -t_{table}$ or the value of Sig. > 0.05
- 2) Accept the hypothesis if $t_{count} \geq t_{table}$ or $-t_{count} \leq -t_{table}$ or Sig. ≤ 0.05 From table 4.12, the t_{count} value is obtained with $\alpha = 5\%$, $t_{table} (5\%; nk = 51-2=49)$ obtained t_{table} value of 1.676. From the description it can be seen that $t_{count} (-0.271) < t_{table} (1.676)$, and the value of the significance of which is $0.788 > 0.05$, it can be concluded that the second hypothesis is rejected, meaning that the Product Design Variable (X2) has no effect on the Purchase Decision Variable (Y). The results of this study are in accordance with the results of research conducted by FIRMANSYAH (2018).

2. Test F (Simultaneous)

This test basically shows whether all the independent variables included in this model have a joint effect on the dependent variable. The results of the F test can be seen in table 7 below:

Table 7. Hasil Uji Simultan (F)

ANOVA ^a		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64.722	2	32.361	8.119	.001 ^b
	Residual	191.317	48	3.986		
	Total	256.039	50			

a. Dependent Variable: K.PEMBELIAN

b. Predictors: (Constant), D.PRODUK, K.PRODUK

The form of hypothesis testing based on statistics can be described as follows:
Decision Making Criteria: a) The hypothesis is accepted if the calculated F value $> F_{table}$ or Sig. < 0.05 . b) The hypothesis is rejected if the calculated F value $< F_{table}$ or Sig. > 0.05 . From table 7, the F_{count} value is 8,119. With $\alpha = 5\%$, dk in the numerator: k, dk in the denominator: $nk-1$ (5%; 2., 48) the F_{table} value is 3.191. From the description it can be seen that $F_{count} (8,119) > F_{table} (3.191)$, and a significance value of $0.001 < 0.05$, it can be concluded that the third hypothesis is accepted, meaning that the Product Quality Variable (X1) and Product Design Variable (X2) have an effect on the Purchase Decision Variable (Y) simultaneously. . The results of this study are in accordance with the results of research conducted by Susan Novitasari Khadijah, Alimatul Khuzaimah (2016).

CONCLUSION

From the results of the analysis and discussion, there are several things that can be

concluded from this research, including:

1. The results of the regression analysis obtained the equation, $Y = a + b_1X_1 + b_2X_2 + e$, from the equation obtained $Y = 11,033 + 0.439X_1 - 0.051X_2$, which means that the decision to purchase Pixy Products (Case Study on STIE Bina Karya Tebing Tinggi Students) is influenced by Product Quality and Product Design Variables. Then the dominant variable influencing purchasing decisions is the Product Quality variable.
2. From the research, there is a relationship between Product Quality and Product Design Variables on Pixy Product Purchase Decisions (Case Study on STIE Bina Karya Tebing Tinggi Students), it can be seen the amount of adjusted R value. square of 0.222 or 22.2%. This shows that Product Quality (X_1) and Product Design (X_2) can explain the Purchase Decision (Y) by 22.2%, the remaining 77.8% (100% - 22.2%) is explained by other variables in outside of this research model.
3. The results of the t-test (partial) can be seen that there is no influence between Product Quality Variables on Pixy Product purchasing decisions (Case Study on STIE Bina Karya Tebing Tinggi students) with a tcount of 3.804 with $\alpha = 5\%$, $t_{table}(5\%; 51 - 2 = 49)$ obtained a t_{table} value of 1.676 from the description it can be seen that $t_{count}(3.084) < t_{table}(1.676)$, as well as the significance value of $0.000 < 0.05$, it can be concluded that the first hypothesis is accepted, meaning Product Quality (X_1) has no effect on the Purchase Decision (Y).

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