



Research Paper

## Business Strategy in Increasing Competitiveness in the Automotive Component Industry (Case Study at PT Metindo Erasakti)

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**ABSTRACT:** The automotive component industry is currently in an era of rapid technological development, because companies need a mature business strategy to survive. This study aims to see the effect of Product Quality, Product Cost and Accuracy of Product Delivery on Customer Satisfaction and Competitiveness in the Automotive Component Industry. So that the company can get an overview of the strategies that will be implemented as a company that is competitive in its field. The method used in this research is quantitative method with Multiple Linear Regression Analysis which is supported by Validity Test, Reliability Test, t test (Partial), F test and Coefficient of Determination using SPSS Version 25 Software. , Product Cost and Accuracy of Product Delivery Partially and Simultaneously affect Customer Satisfaction and Competitiveness of PT Metindo Erasakti in the Automotive Component Industry.

**KEYWORDS:** Product Quality, Product Cost, Product Delivery Accuracy, Customer Satisfaction, and Competitiveness

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### I. INTRODUCTION

Indonesia is a developing country that has various industrial sectors. The development of the industrial sector has progressed rapidly, for example is the manufacturing industry in the automotive sector. Along with changes and advances in technology, the development of business competition in the industrial sector will be increasingly difficult. The manufacturing industry itself is a type of industry that processes raw materials or raw materials into semi-finished products or finished products. In the processing, technology is needed so that the company's productivity is maximized. In the industrial world, technology is an important factor in the processing of company resources. Ideally, technology proficiency should be taken into account by the company as its business strategy, to reach market penetration, as well as develop new products. This makes technology as one of the determinants of competitiveness factors whose efficiency and effectiveness must be measured at each period, so that it can be used as evaluation material by company management.

This study aims to examine business strategies in the automotive component industry to increase competitiveness. This study uses a case study of an automotive component company in Bekasi named PT Metindo Erasakti. PT Metindo Erasakti was established in 1989, operates with the support of automotive components for motor vehicles and has 9 major customers including PT Honda Prospect Motor, PT Astra Daihatsu Motor, PT Toyota Motor Manufacturing of Indonesia, PT Nissan Motor Indonesia, PT Hino Motor Manufacturing of Indonesia, PT Suzuki Indomobil Motor 2W&4W, PT Kawasaki Motor Indonesia and PT Yamaha Indonesia Motor Manufacturing. PT Metindo Erasakti's flagship product is divided into two parts, automotive components for four-wheeled and two-wheeled vehicles. For four-wheel component products, including Steering Hanger, Support Radiator, Reinforcement Roof Panel, Cowl Top Outer, Frame Back Door, and others. As for the two wheel components, they are Main Stand, Side Stand, Handle Bar Comp, Bracket handle, and so on.

As an automotive company that has been established for more than 30 years, PT Metindo until now continues to strive to maintain product quality and is committed to always delivering goods according to the schedule given by the customer. However, based on quality and delivery performance data provided by customers every month for the last four years, PT Metindo has still not achieved the target for both product quality and delivery. This is due to the lack of fast response to handling quality problems and the high level of emergency rit delivery.

## **II. RESEARCH METHODS**

To test the characteristic hypothesis of this study, quantitative research methods were used using the SPSS (Statistical Package for the Social Sciences) computer program and the data collection technique used in this study was a survey method for employees of PT Metindo Erasakti using a questionnaire with purposive sampling technique. The analytical techniques used in this study include Validity and Reliability Test, Multiple linear regression analysis, R square test or the coefficient of determination, t test and F test.

### **Validity test**

Validity test is used to measure the validity or validity of a questionnaire. A questionnaire is said to be valid if the questions on the questionnaire are able to reveal something that will be measured by the questionnaire [1]. The significance test is carried out by comparing the calculated r value with the r table for degree of freedom (df) = n-2, in this case n is the number of samples and alpha = 0.05. If r count is greater than r table and the value is positive, then the item or question or indicator is declared valid [1].

### **Reliability Test**

Reliability Test is a tool to measure a questionnaire which is an indicator of a variable or construct. A questionnaire is said to be reliable or reliable if a person's answer to the statement is consistent or stable from time to time [1].

Measurement of reliability is done by means of one shot or measurement only once then the results are compared with other questions or measure the correlation between the answers to questions. SPSS provides facilities to measure reliability with the statistical test Cronbach Alpha ( $\alpha$ ) [1].

A construct or variable is said to be reliable if it gives a Cronbach Alpha value  $> 0.6$  [1].

### **Multiple Linear Regression Analysis**

Hypothesis testing in this study using Multiple Linear Regression Analysis. Regression analysis is an analytical technique used to test the effect of the independent variable on the dependent variable. Simple linear regression is used if the dependent variable is influenced by only one independent variable, while multiple linear regression is used to test the effect of more than one independent variable on the dependent variable. Regression equation:

$$Y = b_0 + b_1X_1 + b_2X_2 + \dots + b_nX_n + e$$

Where:

Y = dependent variable

X<sub>1</sub>, X<sub>2</sub>, X<sub>n</sub> = Independent Variabel b<sub>0</sub> = regression constant

b<sub>1</sub>, b<sub>2</sub> = regression coefficient = 0

Hypothesis Accepted if:

1. Nilai sig (P Value)  $< \alpha$

1. Regression coefficient is in line with the hypothesis

### **Test R square or coefficient of determination**

The coefficient of determination (R<sup>2</sup>) test is used to measure how far the model's ability to explain the variation of the dependent variable [2].

R-Square or coefficient of determination is a simple measure and is often used to test the quality of a regression line equation (Gujarati, 2004: 81). The R-Square value provides an overview of the suitability of the independent variable in predicting the dependent variable.

The properties of the R-Square are:

a. R<sup>2</sup> is a non-negative quantity

b. The limit is 0 R<sup>2</sup> 1

To find out which estimation method gives better results, the criterion used is to compare the R-Square (R<sup>2</sup>) value which shows how big the proportion of variation in the dependent variable is explained by the independent variable. A value close to one means that the independent variables provide almost all the information needed to predict the variation of the dependent variable. If the value of the coefficient of determination is greater, then the greater the ability of all independent variables in explaining the variance of the dependent variable.

### **t Test**

Each correlation coefficient generated needs to be tested by t test. The t-test is used to partially test the

significance of the relationship between the X and Y variables or it can be said that the t-test basically shows how far one independent variable individually explains the dependent variations [1]. If the value of t arithmetic t table with an error rate of 5%, then the coefficient is significant. Furthermore, the independent variable that gives the dominant influence is determined based on the largest coefficient. The t-test was carried out with an error rate of 5% ( $\alpha = 0.05$ ) and degrees of freedom dk (n-2).

If the value of Sig.  $< 0.05$ , it means that the Independent variable (X) partially affects the dependent variable (Y) [3].

**F Test**

To find out the correlation between independent variables together on the dependent variable, depending on whether the F test is significant or not. If F count  $> F$  table with an error rate of 5%, then between the independent variable and the dependent variable there is a significant effect, in other words the hypothesis is acceptable. Conversely, if F count  $< F$  table at an error rate of 5%, then the independent variable and the dependent variable have no significant effect, in other words the hypothesis is rejected.

By using the probability figure of significance, When the significance probability of  $> 0.05$ , then  $H_0$  is received and  $H_1$  is rejected. When the significance probability of  $< 0.05$ , then  $H_0$  is rejected and  $H_a$  is accepted, [1].

**2. RESULTS AND DISCUSSION Validity and Reliability Test**

From the results of the analysis of the validity test on the Product Quality, Product Cost and Product Delivery variables, it was found that each question item has an r count greater than r table and a positive value, then the item or question or indicator of the Product Quality variable above is declared valid. And from the results of the analysis of reliability tests on all variables, it was found that the Cronbach Alpha value  $> 0.6$  so that all of the variables mentioned above were declared reliable.

**Analisis Regresi Linear Berganda**

The value of Product Quality has t count = 7.053 with probability = 0.000  $< 0.05$ , meaning that the Product Quality produced by PT Metindo Erasakti has a positive contribution to customer satisfaction (Y1). The product cost value has t count = -3.404 with probability =

$< 0.05$ , meaning that the product's competitive cost has a positive contribution to customer satisfaction (Y1). And for the value of Product Delivery has t count = 5.156 with probability = 0.000  $< 0.05$ , meaning that the accuracy of product delivery has a positive contribution to customer satisfaction (Y1).

Tabel 4.7. Hasil Uji Hipotesis terhadap Y1

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.201	2.801		2.214	.029
	quality_produk_X1	.865	.122	.763	7.063	.000
	cost_produk_X2	-.484	.142	-.433	-3.404	.001
	dilevery_produk_X3	.450	.087	.477	5.156	.000

a. Dependent Variable: kepuasan\_pelanggan\_Y1

The value of Product Quality has t count = 8,721 with probability = 0.000  $< 0.05$ , meaning that the Product Quality produced by PT Metindo Erasakti has a positive contribution to PT Metindo's competitiveness in the automotive component industry (Y2). The product cost value has t count = -4.083 with probability = 0.000  $< 0.05$ , meaning that the product's Competitiveness Cost has a positive contribution to the competitiveness of PT Metindo in the automotive component industry (Y2). And the value of Product Delivery has t count = 6.858 with probability = 0.000  $< 0.5$ , meaning that the accuracy of product delivery has a positive contribution to the competitiveness of PT Metindo Erasakti in the Automotive component industry (Y2).

Tabel 4.8. Hasil Uji Hipotesis terhadap Y2

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.598	2.502		.639	.525
	quality_produk_X1	.954	.109	.799	8.721	.000
	cost_produk_X2	-.518	.127	-.440	-4.083	.000
	dilevery_produk_X3	.535	.078	.538	6.858	.000

a. Dependent Variable: daya\_saing\_Y2

**t Test**

Based on the t-test that has been carried out, Product Quality (X1) produces a sig value of  $0.000 < 0.05$ , meaning that the Product Quality variable (X1) affects the Customer Satisfaction variable (Y1), Product Cost (X2) produces a sig value of  $0.001 < 0.05$ , which means the Cost variable Product (X2) has an effect on the variable Customer Satisfaction (Y1). And Product Delivery (X3) produces a sig value of  $0.000 < 0.005$ , which means that the Product Delivery variable (X3) affects the Customer Satisfaction variable (Y1).

Tabel 4.9. Hasil Uji t terhadap Y1

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.201	2.801		2.214	.029
	quality_produk_X1	.865	.122	.763	7.063	.000
	cost_produk_X2	-.484	.142	-.433	-3.404	.001
	dilevery_produk_X3	.450	.087	.477	5.156	.000

a. Dependent Variable: kepuasan\_pelanggan\_Y1

Based on the t-test that has been carried out, Product Quality (X1) produces a sig value of  $0.000 < 0.05$ , meaning that the Product Quality variable (X1) affects the Competitiveness variable (Y2), Product Cost (X2) produces a sig value of  $0.000 < 0.05$ , which means the Cost variable Product (X2) has an effect on the Competitiveness variable (Y2). And Product Delivery (X3) produces a sig value of  $0.000 < 0.005$ , which means that the Product Delivery variable (X3) affects the Competitiveness variable (Y2).

Tabel 4.10. Hasil Uji t terhadap Y2

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.598	2.502		.639	.525
	quality_produk_X1	.954	.109	.799	8.721	.000
	cost_produk_X2	-.518	.127	-.440	-4.083	.000
	dilevery_produk_X3	.535	.078	.538	6.858	.000

a. Dependent Variable: daya\_saing\_Y2

**Uji F**

Based on the results of the F test, resulting in the value of Sig. of  $0.000 < 0.05$  Sig value, it means that the Product Quality Variable (X1), Product Cost Variable (X2) and Product Delivery Variable (X3) simultaneously affect the Customer Satisfaction Variable (Y1). The results of the F SPSS test also produce an F count of 43,937 and an F table of 3.09, where if  $F \text{ count} > F \text{ table}$  means X1, X2 and X3 have an effect on Y1, so the results of the F test for Product Quality Variables (X1), Product Cost (X2) and Product Delivery (X3) Affects Customer Satisfaction (Y1).

Tabel 4.11. Hasil Uji F terhadap Y1

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	784.279	3	261.426	73.650	.000 <sup>b</sup>
	Residual	340.761	96	3.550		
	Total	1125.040	99			

a. Dependent Variable: daya\_saing\_Y2  
 b. Predictors: (Constant), dilevery\_produk\_X3, quality\_produk\_X1, cost\_produk\_X2

Based on the results of the F test, resulting in the value of Sig. of 0.000 < 0.05 Sig value, it means that the Product Quality Variable (X1), Product Cost Variable (X2) and Product Delivery Variable (X3) simultaneously affect the Competitiveness Variable (Y2). The results of the F SPSS test also produce an F count of 73,650 and an F table of 3.09, whereif F count > F table means X1, X2 and X3 have an effect on Y2, so the results of the F test for Product Quality Variables (X1), Product Cost (X2) and Product Delivery (X3) Affects Competitiveness (Y2).

Tabel 4.12. Hasil Uji F terhadap Y2

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	586.117	3	195.372	43.937	.000 <sup>b</sup>
	Residual	426.883	96	4.447		
	Total	1013.000	99			

a. Dependent Variable: kepuasan\_pelanggan\_Y1  
 b. Predictors: (Constant), dilevery\_produk\_X3, quality\_produk\_X1, cost\_produk\_X2

**Test R square or coefficient of determination**

Based on the results of the R Square Test or the Coefficient of Determination, it can be seen that the value of the coefficient of determination is found in the Adjusted R Square value of 0.565. This means that the ability of variables X1, X2 and X3 in explaining the Y1 variable is 56.5%, the remaining 43.5% is explained by other variables not explained in this study.

Tabel 4.13. Hasil Koefesien Determinasi terhadap Y1

Based on the results of the R Square Test or the Coefficient of Determination, it can be seen that the value of

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.761 <sup>a</sup>	.579	.565	2.109

a. Predictors: (Constant), dilevery\_produk\_X3, quality\_produk\_X1, cost\_produk\_X2

the coefficient of determination is found in the Adjusted R Square value of 0.688. This means that the ability of the variables X1, X2 and X3 in explaining the Y2 variable is 68.8%, the remaining 31.2% is explained by other variables not explained in this study.

Tabel 4.14. Hasil Koefesien Determinasi terhadap Y2

<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.835 <sup>a</sup>	.697	.688	1.884
a. Predictors: (Constant), dilevery_produk_X3, quality_produk_X1, cost_produk_X2				

### III. CONCLUSION

Based on the results of the analysis of the variables of Product Quality, Product Cost, Product Delivery Accuracy, Customer Satisfaction and Competitiveness using multiple linear regression analysis methods, it can be concluded as follows:

1. There is an Influence of Product Quality on Customer Satisfaction.  
Product Quality produced by PT Metindo Erasakti has an influence on customer satisfaction, thus in its application to achieve customer satisfaction a very mature strategy is needed. Several ways to strengthen PT Metindo's business strategy in the aspect of Product Quality are that every man power understands the quality standards of the products produced must be in accordance with customer requests by way of more training for new members to find out what factors often occur and knowledge about products and services. quality standards of automotive parts and their handling in case of problems with product quality. In addition, PT Metindo must be responsive to quality problems that occur in the company's internal and quality problems at customers. And for handling quality problems, it is known to the highest level of the company to prevent the problem from recurring.
2. There is an Influence of Product Cost on Customer Satisfaction.  
Product Cost has an influence on Customer Satisfaction. To create a competitive product cost, it is necessary to emphasize on important indicators including making production improvements to create more efficient costs. Reducing production costs to get maximum profit. Benchmarking against competitors of similar companies to find out the level of price competitiveness.
3. There is an Influence of Product Delivery Accuracy on Customer Satisfaction.  
The accuracy of product delivery greatly affects customer satisfaction. In the aspect of product delivery, there are dimensions in its application, namely: Making deliveries according to the specified amount & time, Ensuring the shipping documents are in accordance with the receiving standards at the customer, Checking before the part is sent to avoid missing parts, Reporting a maximum of H-1 if there is potential delivery delay to prevent the occurrence of a stop line at the customer.
4. There is an Influence of Product Quality on Competitiveness.  
Product Quality has an influence on Competitiveness. To deal with the very fast progress in the industrial world, several implementations related to Quality that can be done in the face of increasingly fierce business competition include Checking Tooling regularly to ensure that the resulting product still meets the quality standards desired by the customer. Each production line has a Quality Standard Check sheet as a sign that the parts produced are up to standard. Perform Quality Improvements to minimize the NG Ratio to parts.
5. There is an Influence of Product Cost on Competitiveness.  
Product cost has a significant influence on competitiveness. Cost is the best strategy in competing in the industrial world, especially the automotive industry. Menciptkan Cost Low does not mean the quality of the resulting products are also low, but was used as a challenge for PT Metindo Erasakti to continue to make improvement in order to obtain Cost efficient but quality of the product remains the best.
6. There is an Influence of Product Delivery Accuracy on Competitiveness.  
The accuracy of product delivery has an influence on competitiveness. On time delivery is a must because the production chain at the customer will run well if the component parts sent from the supplier arrive according to the given schedule. If there is a delivery delay, the customer will experience a stop line, resulting in a loss. The loss will be claimed to the supplier so that there will be additional costs that the supplier must pay to compensate for the loss. In this case, PT Metindo applies several ways to consistently deliver parts according to the schedule from the customer, including making check sheets related to shipping standards to make it easier to check before part delivery. Report a maximum of H-1 if there is a potential delivery delay to prevent the occurrence of a stop line at the customer. Make a monthly delivery report and analyze the problem if there is a delivery delay. Reducing the level of emergency rites to minimize transportation costs. In terms facility or area of delivery need improvement. Along with the increase in loading, the delivery area becomes more crowded and it is necessary to evaluate store delivery.
7. There is an effect of product quality, product cost and product delivery accuracy on customer

satisfaction.

8. There is an effect of product quality, product cost and product delivery accuracy on competitiveness.

#### **IV. SUGGESTIONS**

Based on the conclusions above, the researchers suggest the following:

1. In terms of customer satisfaction :

If the service to the customer is good, but there are still many parts that experiencedelivery delays and many parts are found that are NG in the customer then this willaffect the quality of the product in the future, so things that need to be improved from PT Metindo Erasakti must start from the side of product quality and Accuracy of Product Delivery .

2. In terms of the competitiveness of PT Metindo Erasakti in the Automotive Industry:

Investment in the latest machine tools and technology. However, investment is not the only way to increase competitiveness. Maintaining and optimizing existing assets will be more effective. Challenging on Complicated Function Parts and Light Metal Processing Technology in anticipation of changes in Market Needs (more high added value, and electric vehicles). Continuously updating related to the conditions and achievements that have been made by PT Metindo Erasakti. Creating an image that PT Metindo Erasakti is a specialist productive company andPT. Metindo Erasakti does its own design in collaboration with the customer (Customer approved MES design).

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