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THE IMPACT OF PRODUCT QUALITY AND LEAD TIME ON CUSTOMER SATISFACTION IN RUMA BATAK BOUTIQUE

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Abstract: Ruma Batak is a boutique that accepts orders for making typical Batak fashion products. The production system uses the make-to-order method. The problem faced by the company is sudden demand for product orders, and the production process exceeds the time offered. The research aims to measure the level of customer satisfaction at Ruma Batak Boutique through surveys, interviews, or other research instruments. This research uses a quantitative method. Sample data will be obtained using a questionnaire method and then processed using SPSS version 26 software. The results of this research show that product quality and product delivery time are two important factors that impact customer satisfaction at Ruma Butik Batak, and there need to be improvements in production services to increase customer satisfaction.
Keywords: *customer satisfaction, product quality, service quality, lead time, boutique, customer loyalty.*

1. Introduction

Ruma Batak Boutique, as a manufacturing company engaged in the production of unique products with elements of Batak culture, is no exception to the important impact of product quality and lead time. These unique products not only represent the Ruma Batak Boutique brand but also the unique qualities of the region. Therefore, research regarding the impact of product quality and lead time on customer satisfaction at Ruma Batak Boutique is very relevant and important.

Product quality one of the factor is which very influential to customer perception. Customers want products that meet or even exceed hope. In the case of Ruma Batak Boutique, product quality covers not only the aspect of physique (material, appearance, design) but also the product's ability to reflect Batak culture. (Anggraini, 2020)

Lead time is required to finish order customers in the production process and product delivery. Companies who can deliver the product on time will be more likely to get trust customers in the case of Ruma Batak Boutique, which possibly owns products with seasonal or special requests lead times, which good can increase customer satisfaction. (Cuandra et al., 2023)

This relevant study will provide an overview of Ruma Batak Boutique in improving product quality and managing lead time efficiently to increase customer satisfaction. By better understanding customer preferences and needs, Ruma Batak Boutique can optimize production strategies and lead them to achieve superior competition. (Pradikta, 2018)

Study This relevance will give an outlook to Boutique Batak Ruma on improving product quality and managing lead time efficiently to increase customer satisfaction. With a better understanding of customer preferences and needs, Ruma Batak Boutique can optimize strategy production and deliver them to reach superior competition.

Thus, this study investigates the impact of product quality and time on customer satisfaction in Ruma Batak Boutique. Standart lead time in Ruma Batak Boutique is two weeks. It is hoped that the results of this research can guide companies in improving product quality and time management, fulfilling customers' expectations, and increasing Power in industry manufacturing, which is competitive.

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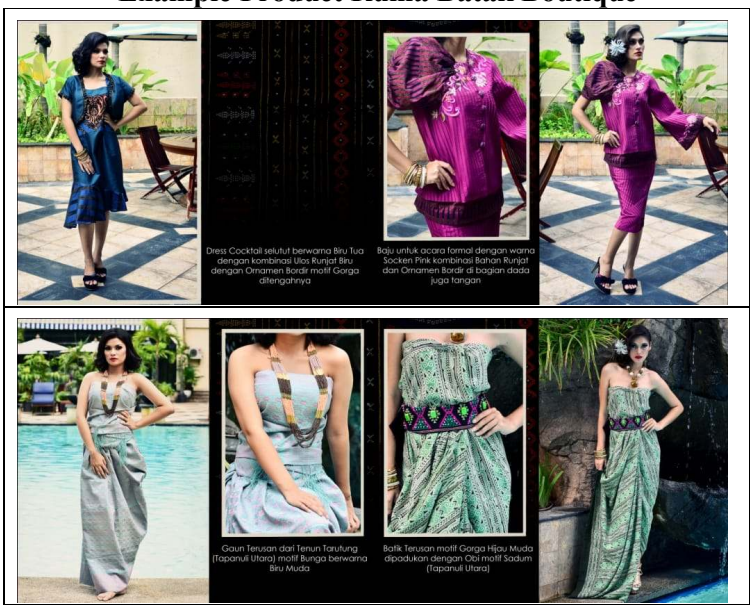
Example Product Ruma Batak Boutique



2. Literature review

2.1.1 Fast Delivery Theory

According to Michael (2016), activity delivery is a way no in fact; it is often encountered in everyday life - today, most manufacturers cannot handle delivery problems without assistance from several delivery service providers. To overcome pain, the producer naturally needs a qualified partner business to take distribution and good delivery so that products and services can be provided quickly and impact consumers as the target market from that manufacturer alone.

Syafrida Hafni Sahir et al. (2020) stated that operationalizing customer expectations in assessing delivery quality is a matter of which especially controversial characteristics thing will service which accepted service delivery goods.

According to Suyono (2003), freight forwarding (service delivery goods) is a body business that aims to give service management services or all activities necessary for its implementation delivery, transportation, And the reception of goods with the use of multimodal transport-good land, sea, and air.

In conclusion, product delivery to customers by the promised time can increase customer satisfaction. Customers tend to feel satisfied when they accept the product appropriate time. Delivery fast operations require careful planning and accurate information about request customer, supply, and production. The company must have system information which is good for support delivery and which appropriate time.

2.1.2 Supply Chain Management

According to Kotler (2022), supply chain management is planning, implementing, and controlling the physical and information flow of the point origin (supplier) to point consumption (customer). To reach satisfaction, the customer on cost is in accordance.

Douglas m Lambert (2014), an expert in the field of chain supply, defines supply chain management as the integration of business processes end-to-end that combines market understanding and perspective customer with knowledge of processes company and understanding about connection in and in between chain supply.

Martin Christopher (1998), a teacher big in field supply chain, describes supply chain

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management as art and knowledge connecting and coordinating all the elements involved in activity chain supply.

In conclusion, supply chain management is a discipline that involves planning, coordinating, and controlling activities related to the flow of goods, services, information, and funds from suppliers to customers to achieve customer satisfaction efficiently and effectively. this involves market understanding, business process integration, and internal coordination chain supply to reach objective business which more big.

2.1.3 Customer Satisfaction and Loyalty Theory

Philip Kotler (2021), a renowned marketing professor, defines satisfaction as a "level feeling customer after comparing the performance of the product he received with his expectations." According to Kotler, loyal customers tend to buy products or services from a particular company repeatedly and more consistently than competitors.

Fred Reichheld (2003), creator of the draft Net Promoter Score (NPS), describes customer loyalty as “a customer's tendency to recommend the company's products or services to others." He believes the delighted customer will likely become a "promoter" company.

Richard L. Oliver, an academic in the marketing field, sees customer satisfaction as "evaluation positive to experience consumption." According to Oliver, customer loyalty is a customer's tendency to keep transacting with a particular brand or company for a long time.

Shows that customer satisfaction is the first step to creating loyal customers which is strong. Loyalty customer covers the trend of the customer to purchase products or services repeatedly from a particular company and recommend it to a person. Fulfilling or exceeding customer expectations is key to creating customer satisfaction, and companies should strive to create a positive consumption experience. Satisfied and loyal customers can become valuable promoters to help the company build a base of customer which more big and reach success period long.

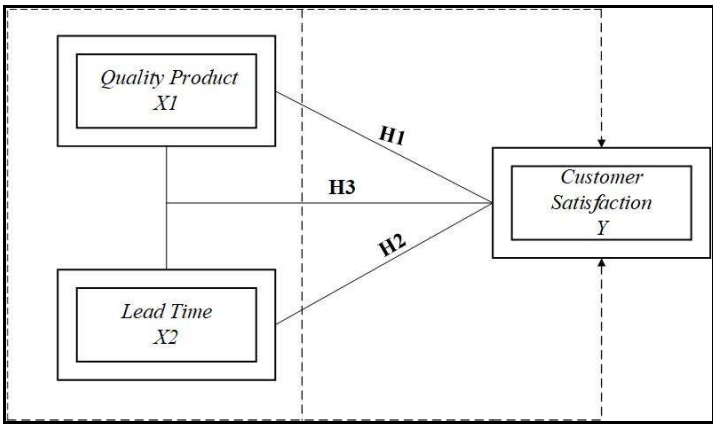

Fig. 1. Research model

3. Research Method

This research will use quantitative descriptive methods. This method uses statistical techniques to analyze data and test research hypotheses. The period of this research begins from the date of granting the study permit with a period of approximately 2 (two) months, one month of data processing, including presentations in the form of a thesis and ongoing guidance. This research process was carried out in the Jabodetabek and North Sumatra areas targeting Ruma Batak Boutique customers. This research will involve Ruma Batak Boutique customers aged <17 to >31 years and domiciled in Jabodetabek and North Sumatra. This research took a

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Advances in Transportation and Logistics Research
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sample of 123 people as respondents who would be given a questionnaire to fill in. Then the researcher processed the results of the questionnaire using SPSS version 26 software.

3.1 Operational Definition

Putri, Anindya Dwiana, and Sri Rahayu Tri Astuti. "Faktor-Faktor Yang Mempengaruhi Kepuasan Konsumen Serta Dampaknya Terhadap Minat Beli Ulang Konsumen (Studi Pada Blends Pasta & Chocolate Cabang Unika Semarang)." *Diponegoro Journal of Management* 6.2 (2017): 73-82.

Variable	Dimensions	Indicator	Statement
Product quality	Quality Material and Component	Reliability Material and Component	Is you feel that material and component in product This can reliable? Is you feel believe with the quality?
	Quality Power Stand	Resilience Material	How opinion You about quality materials used in product this? Is material the long lasting?
		Consistency Production	Is every material or component produced with uniform quality? Is There is variation in quality in between the same products?
		Material Source	From where origin material or component this? Is There is problem related ethics or necessary environment noticed?
Lead Time	Production Lead Time	Time Average Production	How long does it usually take needed for produce product?
	Service Lead Time Customer	Efficiency Production	How efficiency production in this process? Is There is frequent problem something happens that slows it down production?
		Time Processing Order	How long will it take for processing order customer after order accepted?
		Estimate Time order	Is company give estimation realistic time to customer connection with delivery or fulfillment order?

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Customer satisfaction	Quality Service	Compliance Level with Time Completion	Is company often keep or exceed promise time promised solution?
	Loyalty Customer	Time Response	How much fast You usually accept response from team service customer after submit request or questions?
		Loyalty Brand	Is You own preference to brand and tend choose it than brand competitors?
		Recommendation	Is You will recommend product or our services to Friend or family?

4. Results and discussion

4.1 Respondent Profile

The respondents characteristics are someone aged 17 to > 31 years, focused on respondents who have used Ruma Batak products and live in Jakarta. Based on the results of the distributed questionnaire, the respondents' characteristics were obtained based on age, gender, and domicile. The following are categories of respondent characteristics based on the questionnaire results:

1. Age

The age characteristics of respondents are divided into four categories: age <17, 18-24 years, 25-30 years, and 31> years. The following are the results of respondent data based on age characteristics.

Table 4.1 Respondent Data by Age

		AGE			
		Frequency	Percent	Valid Percent	**Cumulative Percent**
Valid	<17 YEARS	34	27.6	27.6	**27.6**
	18 - 24 YEARS	32	26.0	26.0	**53.7**
	25 - 30 YEARS	29	23.6	23.6	**77.2**
	>31 YEARS	28	22.8	22.8	**100.0**
	Total	**123**	**100.0**	**100.0**	

The data shows that respondents aged <17 dominate with a percentage of 27.6%, while those aged 28-24 are 26%, those aged 25-30 are 23.6%, and those aged >31 years are 22.8%. From this data, it can be concluded that Ruma Batak's customers dominate, namely customers aged <17 years.

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2. Gender

The gender characteristics of respondents are divided into two categories, namely men and women. The following are the results of respondent data based on gender characteristics.

Table 4.2 Respondent Data by Gender

GENDER					
		Frequency	Percent	Valid Percent	**Cumulative Percent**
Valid	MAN	53	43.1	43.1	**43.1**
	WOMA N	70	56.9	56.9	**100.0**
	Total	**123**	**100.0**	**100.0**	

The table above shows that women dominated the respondents in this study at 56.9%, while the respondents were men at 43.1%.

3. Work

Respondents' jobs were divided into five work types: students, university students, private employees, state civil servants, and others. Below is a table of respondents' employment data.

Table 4.3 Respondent data by work

WORK					
		Frequency	Percent	Valid Percent	**Cumulative Percent**
Valid	STUDENT	18	14.6	14.6	**14.6**
	STUDENT	29	23.6	23.6	**38.2**
	PRIVATE SECTOR EMPLOYEE	27	22.0	22.0	**60.2**
	STATE CIVIL APPARATUS	21	17.1	17.1	**77.2**
	OTHER	28	22.8	22.8	**100.0**
	Total	**123**	**100.0**	**100.0**	

Based on the data obtained, it shows that students dominate the respondents' work.

4.2 Instrument Testing

4.2.1 Validity test

According to Ghozali (2018), validity can be defined as the ability to measure tools or research instruments to measure variables or constructs that should be measured precisely, accurately, and consistently. In other words, validity testing aims to ensure that the tools used in research are truly measured in what they should count and provide valid results.

In this research, the author distributed questionnaires to 123 respondents. The research data was collected, processed, and presented in the appendix. The results of this validity test measure whether a questionnaire is valid or not.

If a questionnaire is valid or valid, the statements can reveal something the questionnaire will measure. The significance test was carried out by comparing the $_{\text{calculated r value}}$ (Corrected Item Total Correlation) with the r $_{\text{table value}}$ for degree of freedom (df) = n – 2 (n is the number of samples). With a sample size (n) of 123 with a significance level of 5%, the r $_{\text{table}}$ in the research

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is (n-2) = (123-2) = 121, so r_{table} = 0.177. If the $_{calculated}$ r is greater than the r_{table} and is positively correlated, then the item or statement is valid. In other words, items or statements have a positive correlation.

a. Product quality (X1)

Table 4.4 Product quality Test (X1)

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	**Cronbach' s Alpha if Item Deleted**
QUESTION X1 NO.1	23.56	9,035	,921	**,954**
QUESTION X1 NO.2	23.59	8,737	,932	**,952**
QUESTION X1 NO.3	23.56	8,806	,924	**,953**
QUESTION X1 N0.4	23.59	8,851	,897	**,956**
QUESTION X1 NO.5	23.59	8,884	,868	**,959**
QUESTION X1 N0.6	**23.50**	**9,645**	**,768**	**,969**

According to Table 4.4, the results of the product quality variable validity test (X1), all statements are declared valid because each is corrected Item -Total Correlation or $r_{count} > r_{table}$ and at a significance
<0.05. The r table 0.177 is obtained from the statistical r_{table} where the value df=N (number of respondents)-2.

The author uses a 1-way significance level for the 0.05 significance level test. Based on the product quality validity test table (X1), it shows that each questionnaire item 1 to 6 is VALID because the r_{count} starts from the lowest to the highest, namely 0.952 to 0.969 > r_{table}, namely 0.177.

b. Lead Time (X2)

Table 4.5 Lead Time Test (X2)

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	**Cronbach' s Alpha if Item Deleted**
QUESTION X2 NO.1	14.01	2,959	,810	**,928**
QUESTION X2 NO.2	13.98	2,942	,859	**,912**

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Advances in Transportation and Logistics Research
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QUESTION X2 NO.3	13.99	2,893	,881	**,905**
QUESTION X2 NO.4	**13.95**	**3,080**	**,842**	**,918**

According to table 4.7, the validity test results for the Lead time variable (X2), all statements are declared valid because each is Corrected Item -Total Correlation or $r_{count} > r_{table}$, and at a significance <0.05. The r_{table} 0.177 is obtained from the statistical r_{table} where the value df=N (number of respondents)-2.

The author uses a 1-way significance level for the 0.05 significance level test. Based on the Lead time validity test table (X2), it shows that each questionnaire item 1 to 4 is VALID because the $_{calculated\ r}$ starts from the lowest to the highest, namely 0.905 to 0.928 > r_{table}, namely 0.177.

c. Customer Satisfaction (Y)

Table 4.6 Customer Satisfaction Test

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	**Cronbach's Alpha if Item Deleted**
QUESTION Y NO.1	23.60	6,815	.763	**.953**
QUESTION Y NO.2	23.50	7,170	.816	**.944**
QUESTION Y NO.3	23.51	6,973	.854	**.940**
QUESTION Y NO.4	23.47	7,071	.874	**.938**
QUESTION Y NO.5	23.49	7,006	.887	**.936**
QUESTION Y NO 6	**23.53**	**6,809**	**.908**	**.933**

According to Table 4., the results of the validity test for the Customer Satisfaction variable (X3), all statements are declared valid because every corrected item -total correlation or $r_{count} > r_{table}$, and at a significance <0.05. The r_{table} 0.177 is obtained from the statistical r_{table} where the value df=N (number of respondents)-2.

The author uses a 1-way significance level for the 0.05 significance level test. Based on the customer Satisfaction (Y) validity test table, it shows that each questionnaire item 1 to 6 is VALID because the $_{calculated\ r}$ starts from the lowest to the highest, namely 0.933 to 0.953 > t_{able}, namely 0.177.

4.2.2 RELIABILITY TEST

According to Sugiyono (2019), the Reliability Test is used to show the reliability, accuracy, thoroughness, and consistency of the indicators in the questionnaire. So, sound research, besides being valid, must also be reliable to have accuracy values when tested in different periods.

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Table 4.7 RELIABILITY TEST

No	Research variable	Alpha Compute	Alpha Table
1	Y (Customer Satisfaction)	0.964	**0.177**
2	X1 (Product quality)	0.935	**0.177**
3	**X2 (Lead Time)**	**0.950**	**0.177**

Based on the data in Table 4.7 above, it is known that the Product quality (X1) has a Cronbach Alpha value <0.06, namely 0.935. Meanwhile, the variables Lead Time (X2) and Customer Sanctification (Y) have Cronbach Alpha values > 0.60, namely X2 = 0.950 > 0.60, and Y = 0.964 > 0.60. This proves that the Product quality (X1) is declared unreliable (Not Reliable). Meanwhile, the variables Lead Time(X2 and CustomeSatisfaction on(Y) in this study can be declared reliable (Reliable).

4.3 Statistical Data Analysis Processing statistical data using SPSS version 25 software results in the following analysis results:

4.3.1 Product quality analysis results (X1) on Customer Satisfication(Y)

Processing data information using SPSS version 25 software resulted in the following analysis results:

Table 4.8 Results of simple regression analysis between variables X1 and Y variable

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	**Beta**		
1	(Constant)	3,085	,612		5,040	**,000**
	LEAD TIME	1,217	,075	,877	16,245	**,000**
	PRODUCT QUALITY	**,086**	**,047**	**,098**	**1,819**	**.071**

a. Dependent Variable: CUSTOMER SATISFACTION

From the results of Table 4.8 above, it can be seen that $\hat{Y}$= 3.085 + 0.086 X1 with the following analysis:

A. The constant value is 3,085, which means that if the value of the Product quality (X1) does not exist or X = 0, then the value of the Customer Satisfaction variable (Y) is 3,085.

B. From the results, the Product quality coefficient value (X1) is 0.086, which means that for every increase in the Product quality (X1) by one unit, Customer Satisfaction (Y) will experience an increase of 0.086 units.

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Table 4.9 Results of correlation coefficient analysis between variables X1 and Y variable

Correlations

		PRODUCT QUALITY	CUSTOMER SATISFACTION
PRODUCT QUALITY	Pearson Correlation	1	**,890** **
	Sig. (2-tailed)		**,000**
	N	123	**123**
CUSTOMER SATISFACTION	Pearson Correlation	,890 **	**1**
	Sig. (2-tailed)	,000	
	N	**123**	**123**

**. Correlation is significant at the 0.01 level (2-tailed).

From Table 4.9 above, the correlation value for the Product quality variable (X1) is 0.890, meaning that Product quality have a strong relationship with Customer Satisfaction.

Table 4.10 Results of analysis of the coefficient of determination between variable X1 and Y variable

Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	**,890** [a]	**,792**	**,790**	**1,444**

a. Predictors: (Constant), PRODUCT QUALITY

b. Dependent Variable: CUSTOMER SATISFACTION

From the results of Table 4.10, the analysis results obtained from the coefficient of determination value of 0.792 mean that Product quality has an impact contribution of 79.2% on customer satisfaction.

Table 4.11 Partially Significant Test Results (T-Test)

Coefficients [a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6,091	1,039		5,860	**,000**
	PRODUCT QUALITY	**,783**	**,036**	**,890**	**21,458**	**,000**

a. Dependent Variable: CUSTOMER SATISFACTION

From the table above, the calculated T value for the product quality impact variable (X1) is 21,458. Meanwhile, the T-table value is 5,860. So it can be seen that the t-count is 21.458 >

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t-table 5,860, and the significant value is 0.000. So the resulting hypothesis can be concluded that Ho is rejected and Ha is accepted, which means there is a positive and significant impact between product quality and consumer satisfaction.

4.3.2 Lead Time analysis results (X2) on Customer Satisfaction(Y)

Processing data information using SPSS version 26 software resulted in the following analysis results

Table 4.12 Results of simple regression analysis between variable X2 and Y variable

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t
		B	Std. Error		
1	(Constant)	3,236	,612		**5,284**
	LEAD TIME	**1,340**	**.033**	**,966**	**41.101**

a. Dependent Variable: CUSTOMER SATISFACTION

From the results of Table 4.12 above, it can be seen that $\hat{Y}$= 3.236 + 1,340 X1 with the following analysis:

A. The constant value is 3,236, meaning if the matter of the Lead Time (X2) does not exist or X = 0, then the Customer Satisfaction variable (Y) is 3,236.

B. From the results, the Lead Time coefficient value (X2) is 1,340, which means that for every increase in the Product quality (X1) by one unit, Customer satisfaction (Y) will experience an increase of 1,340 units.

Table 4.13 Results of correlation coefficient analysis between variables X2 and Y variable

Correlations

		LEAD TIME	CUSTOMER SATISFACTION
LEAD TIME	Pearson Correlation	1	**,966** **
	Sig. (2-tailed)		**,000**
	N	123	**123**
CUSTOMER SATISFACTION	Pearson Correlation	,966 **	**1**
	Sig. (2-tailed)	,000	
	N	**123**	**123**

**. Correlation is significant at the 0.01 level (2-tailed).

From Table 4.13 above, the correlation value for the Lead Time variable (X2) is 0.966, meaning that Lead time does not have a strong relationship with Customer Satisfaction.

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Table 4.14 Results of analysis of the coefficient of determination between variable X2 and Y variable

Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,966 [a]	,933	,933	,819

a. Predictors: (Constant), LEAD TIME

b. Dependent Variable: CUSTOMER SATISFACTION

From the results of Table 4.14, the analysis results obtained from the coefficient of determination value of 0.933 mean that Lead Time has an impact contribution of 93.3% on customer satisfaction.

Table 4.15 Partially Significant Test Results (T-Test)

Coefficients [a]

del	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	3,236	,612		5,284	,
LEAD TIME	**1,340**	**.033**	**,966**	**41.101**	,

Dependent Variable: CUSTOMER SATISFACTION

From the table above, the calculated T value for the Lead Time impact variable (X2) is 41.101. Meanwhile, the T-table value is 5,284. So it can be seen that the t-count is 41.101 > t-table 5,284, and the significant value is 0.000. So the resulting hypothesis can be concluded that Ho is rejected. Yes, it is accepted, which means there is a positive and significant impact between Lead Time and Customer Satisfaction.

4.3.3 Results of Product quality Analysis (X1) and Lead Time (X2) Against Customer Satisfaction (Y)

Data processing using SPSS version 26 resulted in the following analysis:

Multiple Linear Regression

Complete statistical calculations in multiple linear regression analysis can be seen in the attachment and are further explained in the following table:

Table 4.16 Multiple Linear Regression Results for Variables X1 and X2 Against Y

Coefficients [a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

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Advances in Transportation and Logistics Research
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1	(Constant)	3,085	,612		5,040	,000
	LEAD TIME	1,217	,075	,877	16,245	,000
	PRODUCT QUALITY	,086	,047	,098	1,819	.071

a. Dependent Variable: CUSTOMER SATISFACTION

From the results of table 4.16 above, the regression equation model that can be written from these results in the form of a multiple linear regression equation is as follows:

Y = 3.085 + 0.086 X1 + 1,217 X2

The multiple linear regression equation means that for every 1 unit increase in the score in variable X1 (Product quality) of 0,086, it will be followed by an increase in variable Y (Customer Satisfaction) of 3,085 with the assumption that variables an increase of 1 unit score in variable X2 (Lead Time) of 1,217 will be followed by an increase in variable Y (Customer Satisfaction) of 3,085 with the assumption that variables.

Simple Correlation Coefficient

Table 4.17 results of multiple correlation coefficient analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.967[a]	.935	.934	.811	.935	862.395	2	120	.000

a. Predictors: (Constant), LEAD TIME, KUALITAS PRODUK

From the results of table 4.17 above, it is known that the correlation coefficient is 0.967, indicating that the two variables have a very strong and linear positive relationship according to the table of correlation levels and strength of relationship. Based on the R value in table 4.17 it is 0.967. So, the R value of 0.967 has a strong level of relationship.

Coefficient of Determination

Table 4.18 results of simultaneous analysis of the coefficient of determination

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.967[a]	.935	.934	.811	.935	862.395	2	120	.000

a. Predictors: (Constant), LEAD TIME, KUALITAS PRODUK

Based on the information in table 4.18 above, it can be seen that the coefficient of determination value in the following table has an R square value of 0.935. This means that the ability of the product quality

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and lead time comfort variables to impact the customer satisfaction variable is 93.5%, so the remainder from other research discussing this variable is 6.5%.

Hypothesis Test (F Test)

The results of the simultaneous significant coefficient test can be seen in the following table:

Table 4.19 F Test Results

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1134.165	2	567.083	862.395	.000[b]
	Residual	78.908	120	.658		
	Total	1213.073	122			
a. Dependent Variable: KEPUASAN PELANGGAN						
b. Predictors: (Constant), LEAD TIME, KUALITAS PRODUK						

From the results of table 4.19, the sig value is 0.000 < 0.05 from the calculated F value of 862,395 > F table 3.09, so it can be concluded that Ho is rejected and Ha is accepted, which means there is an impact of the variables Product quality (X1) and Lead Time (X2) simultaneously with the Customer Satisfaction variable (Y).

5. Conclusion

Based on the results of hypothesis testing, the following can be concluded:

1. Based on the results of this research analysis, it shows that Product quality has a positive and significant impact on customer satisfaction. By getting the correlation value above, the correlation value for the Product quality variable (X1) is 0.890, meaning that Product quality has a strong relationship with Customer Satisfaction. From the results of the value the Product quality coefficient (X1) is 0.792, meaning Product quality impacts customer satisfaction. The calculated T value for the impact variable Product quality (X1) is 21,458. Meanwhile, the T-table value is 5,860. So it can be seen that the t-count is 21,458 > t-table 5,860, and the significant value is 0.000. So the hypothesis states that there is a positive and significant impact between Product quality on Customer Satisfaction (Ha is accepted and Ho is rejected). This means that there is an impact positive and significant between Product quality and Customer Satisfaction. Thus, the proposed hypothesis H1 predicts that there is a positive and significant impact between the Product quality variable and the Customer Satisfaction variable.On the Product quality variable. The analysis results show that the Product quality variable (X_1) partially significantly impacts Customer Satisfaction (Y).
2. The results of this research analysis show that Lead Time has a positive and significant impact on Customer Satisfaction. By getting the correlation value above, the correlation value for the Lead Time variable (X2) is 0.966, meaning that Lead Time has a strong relationship with Customer Satisfaction. From the results of the coefficient value Lead Time (X2) is 0.933, meaning product quality impacts customer satisfaction. The calculated T value for the impact variable Lead Time (X2) is 41.101. Meanwhile, the calculated T value for the Lead Time impact variable (X2) is 41.101. Meanwhile, the T-table value is 5,284. So it can be seen that the t-count is 41.101 > t-table 5,284, and the significant value is 0.000. So the hypothesis states that there is a positive and significant impact between Lead Time and Customer

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Satisfaction (Ha is accepted and Ho is rejected). This means that there is a positive and significant impact Lead Time product and Customer Satisfaction. Thus the proposed hypothesis H2 is suspected of having a positive and significant impact between the Lead Time variable and the Customer Satisfaction variable is accepted.

3. Based on the results of this research analysis, shows that Product quality and Lead time has a positive and significant impact simultaneosly on Customer Satisfaction by:
   Y = 3.085 + 0.086 X1 + 1,217 X2
   The multiple linear regression equation means that for every 1 unit increase in the score in variable X1 (Product quality) of 0,086, it will be followed by an increase in variable Y (Customer Satisfaction) of 3,085 with the assumption that variables an increase of 1 unit score in variable X2 (Lead Time) of 1,217 will be followed by an increase in variable Y (Customer Satisfaction) of 3,085 with the assumption that variables

6. Implication

From the discussion of the research that has been carried out, the author provides suggestions for the Ruma Batak Boutique as follows:

1. Research shows that product quality significantly impact customer satisfaction, so companies can take action to improve the quality of their products. This may involve developing more stringent production processes, using higher quality raw materials, or improvements in product design.
2. In the Lead Time variable (X_2), it is necessary to pay attention to service time during the ordering process and production efficiency and make customers comfortable when serving at the Ruma Batak Boutique. Research finds that shorter lead times increase customer satisfaction, so companies must optimize their production processes and supply chains. This could include reduced production times, better inventory management, or improvements in product delivery logistics. To improve lead time, first identify the processes in your supply chain. Next, evaluate factors that can influence lead time, such as the production process, delivery, or raw material inventory. It may be necessary to optimize these processes. If there is a shortage of raw materials in the process, it is better to look for substitute raw materials with the same good quality
3. To improve review workflows and production processes to identify areas where efficiency can be improved. This can help in reducing lead time by speeding up the production process without sacrificing quality.

7. Research limitations

This research was prepared based on research references by following standard procedures and using literature that is by the objectives of this research. This research is intended to reveal the actual phenomenon of the problem defined as a research variable. The initial idea of this research departed from observations regarding the Purchasing Decision problem. The problem is then developed into a dependent variable and an objective function. As an objective function, this dependent variable is thought to be impact by other variables or is defined as an independent variable. Through studying concepts and theories, it turns out that many factors or independent variables impact purchasing decisions. However, due to limited research resources, the independent variables that are thought to be able to control the Purchase Decision are then limited so that only two independent variables are considered to be able to impact the dependent variable strongly. As a result, the results achieved in determining factors for the dependent variable are still minimal. Several limitations were felt during this research.

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http://proceedings.itltrisakti.ac.id/index.php/altr

References

Akbar, T., Suparman, A., Marina, S., Setiawan, E. B., & Indrawan, R. (2022). Tata Kelola Berkontribusi dan Kualitas Layanan Elektronik Perusahaan Pelayaran Nasional. Jurnal Manajemen Transportasi & Logistik (JMTRANSLOG), 9(1), 93. https://doi.org/10.54324/j.mtl.v9i1.980

Anggraini, S. (2020). Control Supply Internal Raw Materials Frame Stability Production with Economic Order Quantity Method in "Factory Know Demangan "Village…. eprints.umpo.ac.id. http://eprints.umpo.ac.id/5872/

Cuandra, F., Safero, B., Lim, M., Wijaya, C., & ... (2023). Manage Quality, Layout Strategy, _ And Management Supply for Efficiency Operational: Studies Case PT. Satnusa Batam. … Management. https://www.journal.stieamkop.ac.id/index.php/mirai/article/view/4376 satisfaction leads time product quality. (nd).

Khasanah, H., & HR, D. A. (2023). ANALYSIS OPTIMIZATION SUPPLY STOCK GOODS TRADE ON DISTRIBUTOR SUBMERSIBLE PUMP WITH product quality, leads time, customer satisfaction. (nd). ECONOMIC ORDER METHOD …. Journal of Industrial Engineering. http://univ45sby.ac.id/ejournal/index.php/industri/article/view/402

Maemunah, S., & Syakbani, B. (2021). Strategic Logistics on Halal Products. Valid: Jurnal Ilmiah, 18(2), 128–135. https://doi.org/10.53512/valid.v18i2.177

Padmasari, Q. (2023). Development System Information Management Supply Goods with Just-In-Time (JIT) Method at XYZ Company. technologyterkini.org. http://www.Teknologiterkini.org/index.php/cyberarea/article/view/408

Putra, D., & Purnawati, NK (2018). Performance Management Supply Goods Trading Pt. Artha Dinamis Sentosa Bali. ojs.unud.ac.id. https://ojs.unud.ac.id/index.php/manajemen/article/download/40185/25908

Ramdani, S. (2020). System Information Management Supply Raw Materials at Cv. Araza Jaya Independent. elibrary.unikom.ac.id. https://elibrary.unikom.ac.id/id/eprint/2869/

Riadi, S., Harlan, FB, Zelmiyanti, R., Hati, SW, & ... (2021). Management Supply and Warehouse Layout in Engineering Maintenance Aircraft Air Polytechnic Country Batam in Overview of Project- Based Learning. … Scientific Accounting And …. http://ojs.umrah.ac.id/index.php/jiafi/article/view/3861

Ricardianto, P., Utami, A. M., Setyawati, A., Kholdun, A. I., & Arubusman, D. A. (2021). Assessing Public Satisfaction in the Unit of Quick Reaction of Jakarta Transportation Agency. THE American Journal of Humanities and Social Sciences Research (THE AJHSSR), 4(5), 11–21.

Ricardianto, P., Utami, A. M., Setyawati, A., Kholdun, A. I., & Arubusman, D. A. (2021). Assessing Public Satisfaction in the Unit of Quick Reaction of Jakarta Transportation Agency. THE American Journal of Humanities and Social Sciences Research (THE AJHSSR), 4(5), 11–21.

Sanjaya, IP A., & Purnawati, N. K. (2021). Analysis performance management supply product UD. Sinar Jaya Karangasem. ojs.unud.ac.id. https://ojs.unud.ac.id/index.php/manajemen/article/download/68313/38889

ISSN: 2622-5778 (online)
Advances in Transportation and Logistics Research
http://proceedings.itltrisakti.ac.id/index.php/altr

Siregar, M.J. (2021). Control stock spare parts car with EOQ and Min-Max Inventory methods. Serambi Engineering Journal. http://ojs.serambimekkah.ac.id/jse/article/view/3121

Sumirahwati, S., Subandi, S., Saidah, D., & Wahyuni, R. E. (2021). Bauran Pemasaran Pt. Budiraya Tataprima Dalam Penentu Minat Pembeli. Jurnal Ekonomika Dan Manajemen, 10(2), 123. https://doi.org/10.36080/jem.v10i2.1776

Trisakti, I. T. L. (2023). PENGARUH BIAYA PENERAPAN PROTOKOL.