

The Effect Of Market Segmentation And Product Distribution On Product Sales Volume PT. Garuda Mas Perkasa Medan

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ABSTRACT

This research aims to determine and analyze the effect of market segmentation and product distribution on sales volume at PT Garuda Mas Perkasa Medan. The type of research in this study is quantitative with an associative approach. The population of this study were employees of PT Garuda Mas Perkasa Medan. The sample selection method uses saturated sampling, the number of samples used is 50 sample data. Before conducting research, first test the instrument with validity test and reliability test. Prerequisite test analysis includes normality test, multicollinearity test and heteroscedasticity test. The data analysis method uses multiple linear regression. The results of this study are in accordance with the first hypothesis, that market segmentation affects sales volume. This can be seen from the test results which show that the value of t_{hitung} 3.915 is greater than t_{tabel} 2.010 with a significance value of 0.000 less than 0.05. The results of this study are in accordance with the second hypothesis, that product distribution has an effect on sales volume. This can be seen from the test results which show that the value of t_{hitung} 3.580 is greater than t_{tabel} 2.010 with a significance value of 0.000 smaller than 0.05. The results of the study are in accordance with the third hypothesis, that market segmentation and product distribution simultaneously affect sales volume. This can be seen from the F test which shows a significance value smaller than 0.05, which is 0.000. Then $F_{count} > F_{table}$ (26.845 > 3.190).

Keywords: Market Segmentation, Product Distribution, Sales Volume

I. INTRODUCTION

Background of the Problem

To increase the company's sales volume, one of the methods that can be done is to do and pay attention to market segmentation whether it has been done correctly and in accordance with the target market. The application of market segmentation can help companies know the target market and identify markets into smaller groups with similar needs and make it easier for companies to meet different market needs.

In addition to conducting market segmentation appropriately, as one of the producers of rubber sandals that has many competitors, PT Garuda Mas Perkasa Medan also needs to ensure the quality, availability and adequacy of the number of products and the certainty of its product services in the market so as to increase production capacity and help increase the sales volume of its products.

PT Garuda Mas Perkasa Medan is a central distributor located in Medan City, Jl. Kol. Yos Sudarso KM 6.5 Medan, other distributors are located in the cities of Jakarta, Semarang and Surabaya. These 4 distribution points are where PT Garuda Mas Perkasa Medan distributes its products to consumers. In addition to using large distributors PT Garuda Mas Perkasa Medan also distributes its products directly through a store in one of the shopping centers in Medan. namely Thamrin Plaza Medan. In addition, PT Garuda Mas Perkasa Medan also sells its products online using e-commerce applications.

Poor distribution that does not run smoothly will have a negative impact on sales volume growth, causing sales targets to not be achieved. One of the causes of distribution inefficiency is the limitation of raw materials. Therefore, to prevent the occurrence of distribution problems, the

company needs to review and conduct an in-depth analysis in order to determine exactly what type of distribution channel used is relevant to the products produced so that product distribution can run smoothly so as to achieve sales targets.

Based on the description stated above, the researcher is interested in conducting research with the title "**The Effect of Market Segmentation and Product Distribution on Product Sales Volume of PT Garuda Mas Perkasa Medan**".

Problem Identification

1. The number of companies that sell similar products to PT Garuda Mas Perkasa Medan has led to intense competition.
2. The limited raw materials caused the distribution to not run smoothly.
3. Product sales targets at PT Garuda Mas Perkasa Medan that have not been achieved.

Problem Formulation

1. Does market segmentation have a positive and significant effect on the sales volume of PT Garuda Mas Perkasa Medan products?
2. Does product distribution have a positive and significant effect on the sales volume of PT Garuda Mas Perkasa Medan products?
3. Do market segmentation and product distribution have a positive and significant effect on the sales volume of PT Garuda Mas Perkasa Medan products?

II. LITERATURE REVIEW

A. Sales Volume

Dian Rahmayanti (2023: 107), sales volume is a quantitative measure used to assess the amount of goods / services sold by a company in a certain period.

Factors Affecting Sales Volume

Suroto (2023: 155), factors that can affect sales volume, namely:

1. Quality of goods, attracting consumers to buy products in the company
2. Consumer tastes, are not fixed and they can change
3. Customer service can increase sales volume.
4. Competition to lower selling prices with discounts

Sales Volume Indicator

Kotler and Keller (2016), Indicators of sales volume are:

1. Price
2. Promotion
3. Product quality
4. Distribution channel

B. Market Segmentation

Lawrence in the book I Gusti Bagus (2018: 9), market segmentation is the process by which the market is divided into customers consisting of people with similar needs and characteristics that mobilize them to respond to product or service offers and certain strategic marketing programs in the same way.

Market Segmentation Requirements

Armstrong in Selvi Yona (2022: 15), the conditions that must be considered in order to support segmentation efforts to be more effective, namely:

1. *Measurability*, the level of information about the nature of the buyers, and the extent to which these requirements can be measured either quality or quantitatively.
2. *Accessibility*, the degree to which the company can effectively separate marketing efforts to the selected segmentation whether the segmentation can be reached, aired effectively if there are obstacles to area, transportation, distance or because of certain community actors.
3. *Substantiality*, the selected market segmentation is broad enough for individual marketing, so that it will bring profits in the long run.
4. Distinguishability (*Actionabilit*), to what extent can the effective program be designed to be attractive and serve the market segment.

Market Segmentation Indicators

Suprapti in Eky Edriana (2023: 25), marketers must use a combination of the four variables to get a good segmentation method, namely:

1. Geographical Segmentation, divides the market into different geographical units such as countries provinces, districts, cities, and other regions.
2. Demographic Segmentation, divides the market based on demographic variables such as age, gender, marital status, family size, family life cycle, income, occupation, education, religion, race, and nationality divided into groups.
3. Psychographic Segmentation, divides the market into different groups based on social class, lifestyle, or personality traits.
4. Behavioral Segmentation, an attempt to group the market into different segments or groups based on time of purchase, desired benefits, user status, usage level, attitude and reaction to a product.

C. Product Distribution

Philip Kotler in Eka Santi (2023: 11), distribution is a collection of organizations that make a process of delivering a good or service for use or consumption by consumers (buyers).

Factors Affecting Distribution

Rita & Supardi (2021: 884), Factors that affect distribution activities, namely:

1. Number of products, the quantity of products produced will affect the distribution process
2. Product properties, there are durable and perishable product properties.
3. Infrastructure and communication facilities, the availability of infrastructure facilities, especially good transportation, will increase distribution activities.
4. The size of the region, the spread of the target consumers cause a long distribution process.
5. Cost factor, distribution is a costly activity.
6. Market factors, if the market shows a positive trend towards the product, it increases distribution activities.
7. Purchasing patterns, purchasing regulations and feedback from distributors will be taken into consideration for the sustainability of the distribution process.
8. Producer / company factors, producers must pay attention to consumer demand for a product so that they really know the nature of the product.

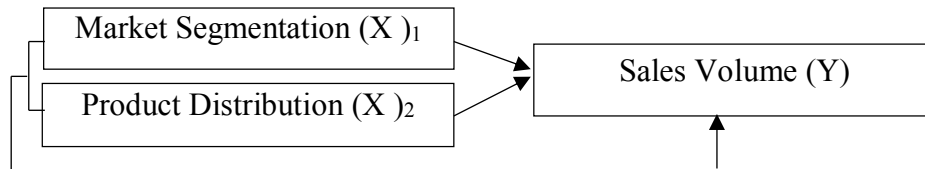
Distribution Indicator

Heru Sucianto Tjia, Suharno (2018: 94), distribution channels can be measured based on :

1. Availability of goods, product availability (stock) of goods at the distribution channel stage.
2. Ordering products, the distribution process from the product to the manufacturer, the order process, to the customer.

3. Speed in delivery, the route on which the goods are delivered from the limits set by the manufacturer.
4. Ease of obtaining products, ease of obtaining a product with the correct distribution service.

Picture of the Thinking Framework



Research Hypothesis

- H₀ : There is no effect of market segmentation on the sales volume of PT Garuda Mas Perkasa Medan products.
- H₁ : There is an effect of market segmentation on the sales volume of PT Garuda Mas Perkasa Medan products.
- H₀ : There is no effect of product distribution on the sales volume of PT Garuda Mas Perkasa Medan products.
- H₂ : There is an effect of product distribution on the sales volume of PT Garuda Mas Perkasa Medan products.
- H₀ : There is no effect of market segmentation and product distribution on the sales volume of PT Garuda Mas Perkasa Medan products.
- H₃ : There is an effect of market segmentation and product distribution on the sales volume of PT Garuda Mas Perkasa Medan products.

III. RESEARCH METHODS

Sandu & M. Ali Sodik (2015: 63), population is a generalization area consisting of objects or subjects that have a quantity of certain characteristics set by researchers to study and then draw conclusions. Sugiyono in Dani Nur Saputra (2022: 30), the sample is part of the number and characteristics of the population.

This research was conducted at PT Garuda Mas Perkasa Medan in 2023. The population of this study were employees of the central distributor of PT Garuda Mas Perkasa Medan, totaling 50 employees. The sample of this research is 50 employees of PT Garuda Mas Perkasa Medan in 2023. Data collection methods: questionnaires, observation, interviews, documentation. Data Analysis Techniques: validity test, reliability test, classical assumption test (normality test, multicollinearity test), hypothesis testing (multiple linear regression, t test, f test, determination test).

IV. RESULT AND DISCUSSION

Tabel Operational Definition of Variables

Variables	Definition	Indicator	Scale
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Market Segmentation (X1)	The process of dividing the <i>total market of goods and services</i> into smaller, more internally homogeneous groups. (Ari Setyaningrum and Jusuf Udaya 2015:50)	1. Geographical 2. Demographics 3. Psychographic Behavior (Suprapti in the book Eky Endriana, 2023: 25)	<i>Likert</i>
Distribution (X2)	A collection of organizations that make a process of delivering goods or services for use or consumption by consumers (buyers). (Philip Kotler in Eka Santi's book 2023: 11)	1. Availability of goods 2. Order process 3. Delivery speed 4. Product convenience (Heru Sucianto Tjia, Suharno, 2018: 94)	<i>Likert</i>
Sales Volume (Y)	A quantitative measure used to assess the amount of goods/services sold by a company in a certain period. (Dian Rahmayanti 2023: 107)	1. Price 2. Promotion 3. Product quality 4. Distribution channels. (Kotler & Keller, 2016)	<i>Likert</i>

IV.RESULT AND DISCUSSION

Respondent Identity Table

No.	Demographic Factors	Total	%	
1	Gender	Male	19	38.00%
		Female	31	62.00%
		Total	50	100%
2	Age	17-20	10	20.00%
		21-25	24	48.00%
		>25	16	32.00%
		Total	50	100%
3	Last Education	HIGH SCHOOL	36	72.00%
		S1	14	28.00%
		Total	50	100.00%
4	Revenue	IDR 2,000,000 - IDR 2,500,000	6	12.00%
		IDR 2,500,000 - IDR 3,000,000	27	54%
		> IDR 3,000,000	17	34.00%
		Total	50	100%

Source: Primary Data (processed) 2023

Table of Market Segmentation Variable Validity Test Results (X1)

No	Statement	r-count	r-table	Ket
1	Swallow sandals are the most widely used flip	0,727	0,278	Valid

	flops in the city / village			
2	Swallow sandals are suitable for use in different regions with different climates.	0,603	0,278	Valid
3	Swallow sandals can be used by everyone	0,667	0,278	Valid
4	Swallow sandals have an affordable price	0,701	0,278	Valid
5	Swallow sandals are in demand by all walks of life	0,760	0,278	Valid
6	Swallow sandals always make innovations in accordance with current trends	0,794	0,278	Valid
7	Swallow sandals are only suitable for light daily activities	0,665	0,278	Valid
8	Swallow sandal products have strong durability, are not quickly damaged and are comfortable.	0,778	0,278	Valid

Source: Data Processed by the Author SPSS (2023)

Based on the table above, it can be seen that $df = n-k (50-2 =48)$, the data r_{table} obtained from the statistical table is 0.278. In this case the r_{count} value of all statement items is greater than r_{table} . Thus it can be concluded that all items are valid.

Table of Product Distribution Variable Validity Test Results (X2)

No.	Statement Item	r-count	r-table	Ket
1	Employees always check the availability of goods for all types of sandals	0,798	0,278	Valid
2	Employees always provide information about the availability of goods to consumers	0,855	0,278	Valid
3	Employees serve orders from retailers and consumers	0,740	0,278	Valid
4	Consumers can order products through available distributors, stores, and <i>e-commerce</i> .	0,801	0,278	Valid
5	Employees always check the delivery time of goods	0,802	0,278	Valid
6	Employees always prepare and deliver ordered goods quickly	0,814	0,278	Valid
7	The product ordering process can be done online through e-commerce	0,733	0,278	Valid
8	Products are easy to find	0,468	0,278	Valid

Source: Data Processed by the Author SPSS (2023)

Based on the table above, it can be seen that $df = n-k (50-2 =48)$, the data r_{table} obtained from the statistical table is 0.278. In this case the r_{count} value of all statement items is greater than r_{table} . Thus it can be concluded that all items are valid.

Table of Sales Volume Variable Validity Test Results (Y)

No.	Statement Item	r-count	r-table	Ket
1	The price of the products offered is very affordable so that it can compete with similar manufacturers	0,808	0,278	Valid
2	The price of the product offered is in accordance with the benefits obtained by consumers	0,866	0,278	Valid
3	Employees always provide interesting product information	0,793	0,278	Valid
4	Product promotion can not only increase sales but	0,820	0,278	Valid

	also stabilize production.			
5	Product quality is in accordance with the price offered	0,786	0,278	Valid
6	PT. GMP always provides quality products so that they meet consumer expectations	0,814	0,278	Valid
7	PT GMP has distribution channels that are spread across various regions	0,834	0,278	Valid
8	Smooth distribution is the most important factor to increase sales volume.	0,844	0,278	Valid

Source: Author Processed Data SPSS (2023)

Based on the table above, it can be seen that $df = n - k$ ($50 - 2 = 48$), the data r_{tabel} obtained from the statistical table is 0.278. In this case the r_{count} value of all statement items is greater than r_{tabel} . Thus it can be concluded that all items are valid.

Reliability Test Results Table

Variables	Reliability Value	Reliability Testing Value	Description
Market Segmentation	0,857	0,600	Reliable
Product Distribution	0,894	0,600	Reliable
Sales Volume	0,928	0,600	Reliable

Source: SPSS Processed Data (2023)

Based on the table above, it is known that the coefficient value (*Cronbach's Alpha*) for the market segmentation variable (X1) is $0.857 > 0.600$. The product distribution variable (X2) is $0.894 > 0.600$ and the sales volume variable (Y) is $0.928 > 0.60$. Thus, from this explanation, it can be concluded that all variables are *reliable* (feasible).

Multiple Regression Analysis Test

Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Market Segmentation	50	25	40	34,96	4,165
Product Distribution	50	17	40	34,34	4,809
Sales Volume	50	26	40	34,86	4,189
Valid N (listwise)	50				

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	7,115	3,831		1,857	,070
Market Segmentation	,446	,114	,444	3,915	,000
Product Distribution	,354	,099	,406	3,580	,001

a. Dependent Variable: Sales Volume

Then it can be seen that the regression equation in this study is :

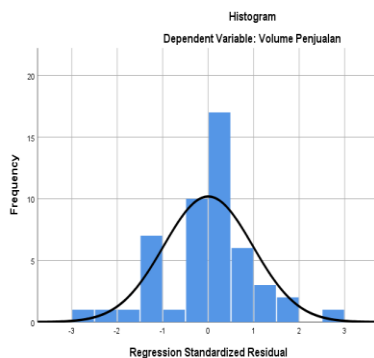
$$Y = 7.115 + 0.446.X1 + 0.354.X2 + e$$

Normality Test

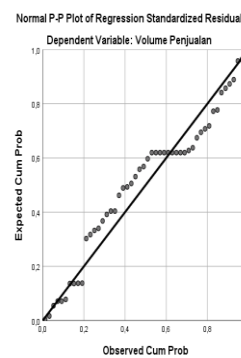
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		50
Normal Parameters ^{a,b}	Mean	,0000000
	Std. Deviation	2,86228171
Most Extreme Differences	Absolute	,109
	Positive	,100
	Negative	-,109
Test Statistic		,109
Asymp. Sig. (2-tailed)		,192 ^c
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		

Based on the table above, it can be seen that the Asymp. Sig. (-2 tailed) is more than 0.05, which is 0.192, which means that the data is normally distributed. So it can be concluded that the regression model has passed the normality test.



Histogram Image



Normal P-Plot Picture

The figure above shows that the regression model has fulfilled the assumptions previously stated, so the data in this regression model tends to be normal.

Multicollinearity Test

Coefficients ^a			
Model		Collinearity Statistics	
		Tolerance	VIF
1	Market Segmentation	,773	1,294
	Product Distribution	,773	1,294

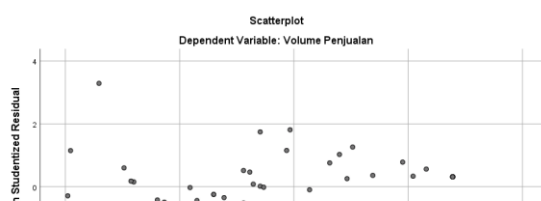
a. Dependent Variable: Sales Volume

Based on the table shows that market segmentation with a Tolerance value of 0.773 and a VIF value of 1.294. Product distribution Tolerance value 0.773 and VIF value 1.294. So it can be concluded that the overall variable does not occur multicollinearity because each variable has a Tolerance value > 0.1 and a VIF value < 10.00.

Heteroscedasticity Test

From the scatterplot graph above, it is clear that there is no particular pattern because the points spread irregularly above and below the 0 axis on the y axis. So it can be concluded that there are no symptoms of heteroscedasticity

Parallel Test Image



Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7,115	3,831		1,857	,070
	Market Segmentation	,446	,114	,444	3,915	,000
	Product Distribution	,354	,099	,406	3,580	,001
a. Dependent Variable: Sales Volume						

Based on the test results that can be seen from the table above, the t_{count} for the market segmentation variable is 3.915 for an error of 5% for a 2-party test and $df = n - k$ ($50 - 2 = 48$), obtained $t_{table} = 2.010$. In this case $t_{count} = 3.915 > t_{table} = 2.010$. Based on the test results that can be seen from the table above, the t_{count} for the product quality variable is 3.580 for an error of 5%, 2 party test and $df = n - k$ ($50 - 2 = 48$), obtained $t_{table} = 2.010$. In this case $t_{hitung} = 3.580 > t_{tabel} = 2.010$.

F Statistical Test

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	458,580	2	229,290	26,845	,000 ^b
	Residuals	401,440	47	8,541		
	Total	860,020	49			
a. Dependent Variable: Sales Volume						
b. Predictors: (Constant), Product Distribution, Market Segmentation						

Based on the table, it can be seen with a significance level of 5% and the number $k = 2$, and $df (n-1) = 50 (n-k-1)$ or $50-2-1 = 47$. So that the F table is obtained at 3.190. From the test results obtained F_{count} of 26.845 with a sig value of 0.000, it means that $F_{table} < F_{count}$ and sig value < 0.05 . So it can be concluded that market segmentation and product distribution have a joint (simultaneous) and significant effect on sales volume.

Coefficient of Determination (R^2)

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,730 ^a	,533	,513	2,923
a. Predictors: (Constant), Product Distribution, Market Segmentation				
b. Dependent Variable: Sales Volume				

Based on the results of the table, the R Square value (R^2) is 0.533, meaning that the relationship between the independent variables, namely market segmentation and product distribution with the dependent variable, namely sales volume, is 53.3%. While the remaining 46.7% is explained by other variables not included in this research model.

V. CONCLUSION

The results of this study are in accordance with the first hypothesis, that market segmentation affects sales volume. This can be seen from the test results which show that the value of t_{hitung} 3.915 is greater than t_{tabel} 2.010 with a significance value of 0.000 less than 0.05. So it means that market segmentation has an effect on sales volume.

1. The results of this study are in accordance with the second hypothesis, that product distribution affects sales volume. This can be seen from the test results which show that the value of t_{hitung} 3.580 is greater than t_{tabel} 2,010 with a significance value of 0.000 less than 0.05. So it means that product distribution has an effect on sales volume.
2. The results of the study are in accordance with the third hypothesis, that market segmentation and product distribution simultaneously affect sales volume. This can be seen from the F test which shows a significance value smaller than 0.05, which is 0.000. Then $F_{count} > F_{table}$ (26.845 > 3.190).

REFERENCES

- Amiruddin, Eky Endriana. 2023. *Consumer Behavior*. Bali: Intellectual Manifest Media
- Andrian, DKK. 2022. *Consumer Behavior*. Malang: Rena Cipta Mandiri
- Agustina, Eka Santi, DKK. 2023. *Distribution Management*. First Printing. Batam: Yayasan Cendekia Mulia Mandiri
- Ambarwati, Rita & Supardi. 2021. *Operational Management and Implementation in Industry*. Magelang: C1nta Home Library
- Hidayati, Noor & Huriyah. 2021. *Indonesian People, Nature & History*. Yogyakarta: K-Media Publisher
- Mujito. 2020. *Marketing Management. An Introduction for Beginners*. West Java: EDU Publisher

- Qomariyah, Siti Nur. 2021. Identification of distribution channels for flower cabbage (*Brassica Oleracea*) at the Ngoro Agribusiness Sub terminal, Jombang Regency. Publisher: Faculty of Agriculture, KH. A. Wahab Hasbullah University
- Rangkuti, Freddy. 2013. Creative Promotion Strategy and Integared Marketing Communication Case Analysis. Jakarta: PT Gramedia Pustaka Utama
- Rivai, Dian Rahmayanti et al. 2023. Managerial Economics & Business Strategy. Banten: Sada Kurnia Library and Author
- Saputra, Nur Dani, et al. 2022. Textbook of Research Methodology. Publisher: CV. Feniks Muda Sejahtera.
- Seto, Agung Anggoro, DKK. 2023. Financial and Business Management (Theory and Implementation). Publisher: Sonpedia Publishing Indonesia