



## The Influence of Service Quality, Distribution Channels, and Promotion on Sales Volume at PT Delta Agro Makmur Medan

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### ARTICLE INFO

### ABSTRACT

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This research was conducted at PT. Delta Agro Makmur Medan. The purpose of this study was to test and analyze the influence of Service Quality, Distribution Channels and Promotion on Sales at PT Delta Agro Makmur Medan. The population in this study amounted to 139 cases and a sample of 94. The results showed that partially Service Quality has a positive and significant effect simultaneously on Sales Volume. Partially Distribution Channels have a positive and significant effect simultaneously on Sales Volume. Partially Promotion has a positive and significant effect simultaneously on Sales Volume. Simultaneously, Service Quality, Distribution Channels, and Promotion have a positive and significant effect simultaneously on Sales Volume at PT. Delta Agro Makmur Medan.

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## 1. Introduction

PT. Delta Agro Makmur Medan is a company engaged in supplying oil palm plantation spare parts machines. PT. Delta Agro Makmur Medan was founded in 2014 and is located on Jalan Marelán Raya No. 288C Pasar 1 Ujung Marelán.

Good service quality can be used as an advantage in competing so that the company will have a positive value in the eyes of consumers and can indirectly affect the level of consumer satisfaction. In the marketing process, many companies are inaccurate in the selection of distribution channels as a result the company does not achieve the targeted sales targets.

Therefore the selection of an effective distribution channel has a very significant role because errors in the selection of distribution channels can slow down the distribution of goods to the final consumer. Furthermore, companies also need promotions to attract consumer interest. Not only by relying on good service and product distribution, consumers also need promotion to get to know and like the products offered.

This is very influential in achieving sales volume because even though the product has been offered well, if it is not accompanied by the right promotion, sales will not increase.

## 2. Research methods

### 2.1 Research Stages

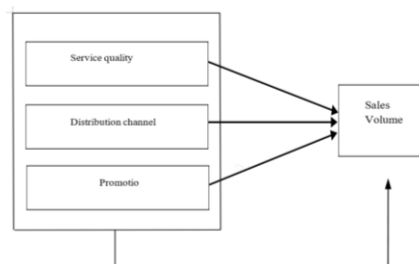


Fig 1. conceptual framework



**Table 1.**  
Descriptive Statistics

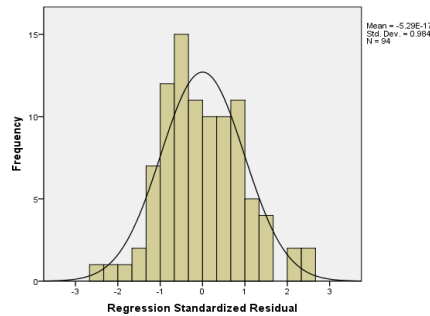
	N	Minimum	Maximum	Mean	Std. Deviation
Service quality	94	6	30	15.46	6,676
Distribution channel	94	10	50	28.91	13,853
Promotion	94	10	50	34.87	13,485
Sales Volume	94	10	50	26.29	12,033
Valid N (listwise)	94				

Source: SPSS 20, 2020

## 2.2. Classic assumption test

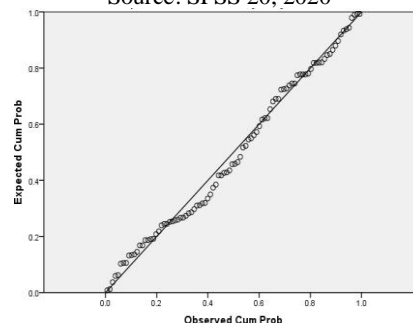
### a. Normality test

#### 1) Graph Test



**Fig 2.** Histogram Normality Test

Source: SPSS 20, 2020



**Fig 3** PP Plot Normality Test

Source: SPSS 20, 2020

#### 2) Statistic test

The statistical normality test used the Kolmogorov Smirnov.

**Table 2.**  
Kolmogorov Smirnov Normality Test  
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		94
Normal Parameters, b	Mean	.0000000
	Std. Deviation	8,93677469
Most Extreme Differences	Absolute	.077
	Positive	.077
	Negative	-.046
Kolmogorov-Smirnov Z		.746
Asymp. Sig. (2-tailed)		.634

a. Test distribution is Normal.

b. Calculated from data.

Source: SPSS 20, 2020

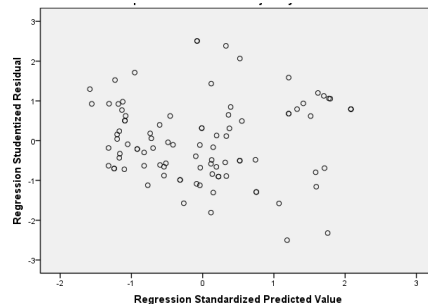
2.3. Multicollinearity Test

**Table 3**  
Multicollinearity Test  
Coefficientsa

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	.853	3,140		.272	.786		
Service quality	.414	.158	.230	2,620	.010	.796	1,256
Distribution channel	.292	.073	.336	3,991	.000	.865	1,156
Promotion	.304	.076	.340	4,007	.000	.849	1,177

a. Dependent Variable: VolumePenjualan  
Source: SPSS 20, 2020

2.4. Heteroscedasticity Test



**Fig 4** Heteroscedasticity Test  
Source: SPSS 20, 2020

From the scatterplot graph, it can be seen that the dots spread with an unclear pattern both above and below the zero (0) on the Y axis, not gathering in one place, so from the scatterplot graph it can be concluded that heteroscedasticity does not occur in the regression model.

**Table 4**  
Gletjer test  
Coefficientsa

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	2,495	1,723		1,448	.151
Service quality	.156	.087	.203	1,803	.075
Distribution channel	.032	.040	.087	.804	.423
Promotion	.041	.042	.107	.978	.331

a. Dependent Variable: ABSUT  
Source: SPSS 20, 2020.

3. Results of Research Data Analysis

a. Research Model

The regression model used is as follows:

**Table 5.**  
Results of Multiple Linear Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	.853	3,140		.272	.786
Service quality	.414	.158	.230	2,620	.010
Distribution channel	.292	.073	.336	3,991	.000
Promotion	.304	.076	.340	4,007	.000

Source: SPSS 20, 2020

**Sales Volume = 0.853 + 0.414 Quality of Service + 0.292 Distribution Channels + 0.304 Promotion**

The explanation of the multiple linear regression above is:

- 1) A constant of 0.853 states that if the independent variables of service quality, distribution channels, and promotions are non-existent or constant, the dependent variable is sales volume at 0.853 units.
- 2) The regression coefficient of the independent variable service quality is 0.414 and has a positive value,



- this means that if each increase in the independent variable of service quality 1 unit of work will increase the dependent variable sales volume by 0.414 units assuming the other variables are constant.
- 3) The distribution channel independent variable regression coefficient is 0.292 and is positive, this means that if each increase in the distribution channel independent variable 1 unit will increase the dependent variable sales volume by 0.292 units assuming the other variables are constant.
  - 4) The regression coefficient for the promotion-free variable is 0.304 and is positive, this means that if every increase in the promotion-free variable 1 unit will increase the dependent variable sales volume by 0.304 units, assuming the other variables are constant.

**b. Hypothesis Determination Coefficient**

**Table 6.**  
Determination Coefficient Test  
Model Summary b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.670a	.448	.430	9,08450

- a. Predictors: (Constant), Quality of Service, Channel of Distribution, Promotion
- b. Dependent Variable: Sales Volume

Source: SPSS 20, 2020

Table III.6. The results of the coefficient of determination test obtained an Adjusted R Square value of 0.430, this means that 43% of the variation in the dependent variable can be explained by the variation of the independent variable while the remaining 57% (100% - 43%) is explained by other variables not examined in this study. such as price, profit and so on.

**c. Simultaneous Hypothesis Testing (Test F)**

**Table 7.**  
Simultaneous Test (Test F)  
ANOVA b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6037,712	3	2012,571	24,386	.000a
	Residual	7427,533	90	82,528		
	Total	13465,245	93			

- a. Predictors: (Constant), Quality of Service, Channel of Distribution, Promotion
- b. Dependent Variable: Sales Volume

Source: SPSS 20, 2020

**d. Partial Hypothesis Testing (t test)**

**Table 8.**  
Partial Test (t test)  
Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.853	3,140		.272	.786
	Service quality	.414	.158	.230	2,620	.010
	Distribution channel	.292	.073	.336	3,991	.000
	Promotion	.304	.076	.340	4,007	.000

- a. Dependent Variable: Sales Volume

Source: SPSS 20, 2020

Value of tThe table for the probability of 0.05 in degrees of freedom (df) = 94-4 = 90 is 1.987. Thus the results of partial hypothesis testing can be explained as follows:

- a) The results of the calculation of hypothesis testing partially obtained t valuecount> ttable or 2,620> 1.987 and the significance obtained is 0.010 <0.05, meaning that partially Service Quality has a positive and significant effect on the Sales Volume of PT Delta Agro Makmur Medan.
- b) The results of the calculation of hypothesis testing partially obtained t valuecount> ttable or 3.991> 1.987 and the significance obtained is 0.000 <0.05, it means that partially the Distribution Channel has a positive and significant effect on the Sales Volume of PT Delta Agro Makmur Medan.
- c) The results of the calculation of hypothesis testing partially obtained t valuecount> ttable or 4.007> 1.987 and the significance obtained is 0.000 <0.05, it means that partially Promotion has a positive and significant effect on the Sales Volume of PT Delta Agro Makmur Medan.



#### 4. Conclusion

The conclusions from the results of this study are as follows:

- a) Partially Service Quality has a positive and significant effect simultaneously on Sales Volume at PT. Delta Agro Makmur Medan.
- b) Partially Distribution Channels have a positive and significant effect simultaneously on Sales Volume at PT. Delta Agro Makmur Medan.
- c) Partially Promotion has a positive and significant effect simultaneously on Sales Volume at PT. Delta Agro Makmur Medan.
- d) Simultaneously Service Quality, Distribution Channels and Promotion have a positive and significant effect simultaneously on Sales Volume at PT. Delta Agro Makmur Medan.

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