THE EFFECT OF RAW MATERIAL COSTS AND PROMOTIONAL COSTS ON SALES VOLUME

Siti JAENAB, Yuldi MILE, Jurana, Jamaluddin, Mustamin

Department of Accounting, Faculty of Economics and Business, Tadulako University, Palu, Indonesia

Corresponding author: Jurana
Email: jurananuradin@gmail.com

Abstract:
This article describes how the cost of raw materials and promotional costs affect the sales volume generated by the company. This research aims to find out that the cost of raw materials and promotion costs can increase sales volume. This study uses secondary data, obtained from the annual reports of each company with the years published 2018, 2019 and 2020. The number of observations is 105 data determined by the purposive sampling method. Multiple linear regression is an analytical tool in this study. The results showed that the cost of raw materials partially affects sales volume, the promotion also costs partially affect sales volume. Simultaneously the cost of raw materials and promotion costs affect sales volume. The raw material costs incurred by the company are used to produce products that follow market demand both in terms of quality and quantity, and the company can use promotional costs appropriately.

Keywords: Raw material costs, promotion costs, sales volume

INTRODUCTION

The rapid development of the business that is happening today requires companies to compete always to get big profits. Companies must be able to face all business challenges in order to be able to maintain their companies in their respective fields amid today's competition. The purpose of each company, although one with another, is not necessarily the same, but in general, the goal is to get as much profit as possible to maintain the company's survival. One of the ways to achieve maximum profit is by increasing the sales volume of the products produced by the company. One of the efforts to increase a company's sales volume is by doing promotions. Companies must be able to introduce their products to the public, because consumers need information in advance about the product to know that the product is suitable for consumption. With the promotion, the product produced by the company will be known by the public; if the product can meet consumer desires and is following consumer expectations, consumers will entrust their choice to the product so that it will impact increasing the volume of sales produced. So companies need to spend their funds on promotion costs.

In addition to promotional costs, which can increase sales volume, namely the cost of raw materials. The problem that the company often faces is the problem of the smooth production process. Production activities require sacrifices to obtain economic resources, sacrifices of economic resources measured in units of money, or production costs. One of which is included in the cost of production is the cost of raw materials. Proper handling of raw material inventory so that there is no excess or shortage of raw materials, companies must be able to manage their inventory and possibly follow company management policies. Production activities cannot run perfectly without raw materials. Because raw materials are one of the most important parts of the production process, thus raw materials must be available. If the amount of raw material is too small, it can hamper the production process and indirectly will cause losses, because it causes other resources to be unemployed. If the amount of raw material is too large, it will result in hoarding, which will result in high costs incurred for maintenance and storage.
Raw materials are one of the important elements in the production process, because with the availability of raw materials in the right amount and time it will facilitate the production process within the company, so it is hoped that a smooth production process can produce products that follow consumer desires both in quantity and time, so that can increase consumer interest in these products and sales volume will increase. Conversely, if the production process is not smooth, it will produce less satisfying products and can cause consumers to switch to other producers. If this happens, the company will experience a decline in sales. Therefore, the cost of raw materials and promotional costs incurred by the company is expected to be used following the policy on the use of these costs so that the products produced are following what consumers want and can attract customer interest in these products so that the company's sales volume can increase.

This research was conducted differently from previous research conducted by Amanah (2017) regarding the effect of Raw Material Costs, Direct Labor Costs and Factory Overhead Costs on product sales at CV Surya librarians and also research conducted by Jaya (2015) regarding the Effect of Promotional Costs and Selling Price on Sales Volume of incense on Putra Mas in Bulian Village. If previous research was conducted at places such as CV Surya Pustaka and UD Putra Mas in Bulian Village, this research was conducted on the manufacturing industry in the consumer goods sector listed on the Indonesia Stock Exchange. The author chooses the consumer goods sector because the consumer goods sector is one of the manufacturing sector sectors that have an active role in the Indonesian capital market. In addition to this, the manufacturing industry in the consumer goods sector is a company that processes raw materials into finished products where processing raw materials into finished products will certainly require raw material costs, which then the finished product is marketed which also requires a promotion fee in order to attract buyers. Thereby creating sales volume. All of these things follow the variables that will be used in the study.

The consumer goods sector in Indonesia consists of five sub-sectors, namely the food and beverage sub-sector, the cigarette sub-sector, and the pharmaceutical sub-sector, the cosmetics and household goods sub-sector and the household appliances sub-sector. The consumer goods industry provides products that are the primary needs of society so that the demand for consumer goods industry products will always be needed. Indirectly, the consumer goods sector can represent the level of public consumption. Direct material, direct labor, and factory overhead costs make up production costs. According to Dinar, Ni Nyoman Yuliatini, and Gede Putu Agus Jana Susila (2016), with production and promotion that is carried out efficiently and regularly, it will create its own characteristics compared to products made by other companies which will encourage buyers to make purchases and will increase sales. A company. Based on this explanation, the hypothesis proposed in this study to retest the variables that have an effect simultaneously with the dependent variable is as follows:

H1. The cost of raw materials and promotion costs significantly affect sales volume.

The cost of raw materials is one of the costs incurred by the company to produce goods. The higher the cost of raw materials used for the production process, the more raw materials that can be used, the company can increase the volume of products produced. So that the product that can be sold increases, which means the sales volume will also increase. Based on this description, the research hypothesis can be formulated as follows:

H2. The cost of raw materials has a significant effect on sales volume.

The purpose of promotion is to influence consumers to spend money on these products to lead to increased demand for the products produced. The increasing demand will increase the sales volume of the products produced. Based on this description, the research hypothesis can be formulated as follows:

H3. Promotion costs have a significant effect on sales volume.
METHODS

The object of this research is the cost of raw materials, promotion costs and sales volume of consumer goods sector companies listed on the Indonesian stock exchange in 2018-2020. This research was conducted using verification research methods; verification research uses answers from temporary thinking results (hypotheses) using the help of statistical sequences relevant to the data. Data that explains the relationship between the variables in this study will also be analyzed using the verification method. This type of research data is quantitative data. The source of data used in this study is secondary data from the Indonesia Stock Exchange website to obtain the annual financial reports of companies in the Consumer Goods Sector. Comes from the Indonesia Stock Exchange website. To obtain the annual financial report of companies in the Consumer Goods Sector. The population in this study are consumer goods sector companies listed on the stock exchange in 2018-2020. The number of companies that make up the population is 57 companies. The selection of the research sample was based on purposive sampling. Intending to get samples according to predetermined criteria, and there are 38 companies as samples.

RESULTS AND DISCUSSION

Classic Assumption Test Results

Normality Test

The normality test is used to test whether, in a regression model, the residuals have a normal distribution. It is known that the t-test and f-test assume that the residual value follows a normal distribution. Therefore, the normality test can be done by looking at the normal probability plot and the one-sample Kolmogorov-Smirnov (K-S) test as shown in the following figure:

![Normal P-P Plot](image)

Figure 1. P Plot Result

Looking at the normal graph display of the plot, it can be concluded that the data is normally distributed because the observation line approaches or touches the diagonal line, which means the residual value is normally distributed. However, to be more convincing, we can look through the Kolmogorov-Smirnov test with the following results:

<table>
<thead>
<tr>
<th>Table 1. One-Sample Kolmogorov-Smirnov Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Parameters,a,b</td>
</tr>
<tr>
<td>Unstandardized Residual</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>Std Deviation</td>
</tr>
<tr>
<td>Absolute</td>
</tr>
<tr>
<td>Positive</td>
</tr>
<tr>
<td>Negative</td>
</tr>
<tr>
<td>Kolmogorov-Smirnov Z</td>
</tr>
<tr>
<td>Asymp.Sig. (2-tailed)</td>
</tr>
</tbody>
</table>

a. Test distribution is Normal
b. Calculated from data
Based on the normality test results using the Kolmogorov Smirnov (K-S) above, it shows the Asym sig value of 0.089 > 0.05, so it can be said that the residuals have been normally distributed.

**Multicollinearity test**

Multicollinearity testing is used to determine whether the independent variables correlate or not.

<table>
<thead>
<tr>
<th>Table 2. Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>Constant</td>
</tr>
<tr>
<td>LN_Cost_Raw_Material</td>
</tr>
<tr>
<td>LN_Cost_Material_Promotion</td>
</tr>
<tr>
<td>a. dependent variable: LN_Volume_Sales</td>
</tr>
</tbody>
</table>

Based on the test results, the tolerance value of all variables > 0.10 and the VIF value of all independent variables < 10. So it can be concluded that in this regression model, there is no multicollinearity.

**Heteroscedasticity Test**

The heteroscedasticity test aims to test whether there is an inequality of variance in the regression model from the residuals of one observation to another observation. A good regression model is one with homoscedasticity or no heteroscedasticity.

![Figure 2. Scatterplot](scatterplot.png)

The heteroscedasticity test shows that there is no clear pattern in the regression model and the points spread above and below the number 0 on the Y-axis. It indicates that in the regression model, there is no heteroscedasticity, and the model is feasible to use.

**Autocorrelation Test**

Autocorrelation test is used to test whether in a regression model there is a correlation between the confounding error in period t and the confounding error in period t-1 (previous) in the linear regression model. This study uses the Durbin Watson test; the results are as follows:

<table>
<thead>
<tr>
<th>Table 3. Autocorrelation Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>a. Predictors: (Constant), LNBi_Promosiotion_t, LNCost_raw_material_t</td>
</tr>
<tr>
<td>b. Dependent Variable: LN_volume_sales_t</td>
</tr>
</tbody>
</table>
The Durbin-Watson value (d) is 1.809 compared to the Durbin Watson table value with a significant value of 5%, the number of samples is 105 (N), and the number of independent variables is 2 (K=2). Therefore, the value of the Durbin Watson table has an upper limit (du) of 1.72. Because the Durbin Watson value of 1.809 is greater than the upper limit (du) and less than 4 - 1.72 (4-du), it can be concluded that there is no autocorrelation.

**Multiple Linear Regression Analysis Test**

This study uses multiple regression analysis. This analysis is used to measure the effect of two or more independent variables on one dependent variable. The test results using multiple linear regression analysis can be seen in the following table:

<table>
<thead>
<tr>
<th>No</th>
<th>Variables</th>
<th>Regression Coefficient (B)</th>
<th>T-test</th>
<th>Probability (Sig t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>constant</td>
<td>0.432</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Raw material cost</td>
<td>0.783</td>
<td>25.043</td>
<td>0.000</td>
</tr>
<tr>
<td>3</td>
<td>Promotion fee</td>
<td>0.231</td>
<td>9.011</td>
<td>0.000</td>
</tr>
<tr>
<td>Adj. R Square</td>
<td>= 0, 943</td>
<td>F-count  = 842.050</td>
<td>Sig F = 0,000</td>
<td></td>
</tr>
<tr>
<td>Multiple Regression</td>
<td>= 0, 971</td>
<td>Fable = 3.09</td>
<td>A = 0,05</td>
<td></td>
</tr>
</tbody>
</table>

The table above shows that the value of the coefficient of determination or Adjusted R Square is 0.943, which means that changes in the variable costs of raw materials and promotional costs can explain changes in Sales Volume in consumer goods sector companies listed on the Indonesia Stock Exchange by 94.3%, while the remaining 5.7 % is explained by other influences that are not included in the calculation of this regression model. The value of the correlation coefficient (Multype R) is a value that shows the relationship or correlation between the independent variables of raw material costs and promotion costs on the dependent variable of sales volume. The multiple R-value is 0.971 or 97.1%. It indicates that the level of closeness of influence between the independent variables on the sales volume variable is very strong. Based on the results shown in table 4, with a significance level of 5%, the following regression equation is obtained:

\[ Y = 0.432 + 0.783X1 + 0.231X2 + e \]

The constant value (a) of 0.432 states that if the independent variables, namely the cost of raw materials and promotion costs, are considered constant or unchanged (zero value), the sales volume value will increase by 0.432. The regression coefficient for the cost of raw materials (X1) is 0.783; if other variables are held constant, the company's sales volume will increase by 0.783 for every 1 percent increase in the cost of raw materials. Sig 0.000 <0.05 indicates that the variable cost of raw materials has a significant effect on the sales volume obtained by the company. The regression coefficient for promotion costs (X2) is 0.231; if other variables are considered constant, the company's sales volume will increase by 0.231 for every 1 percent increase in raw material costs. Sig 0.000 <0.05 means that promotion costs significantly affect the level of sales volume received by the company.

**Hypothesis test**

**F Test (Simultaneous Test)**

The F test is used to see the effect of all independent variables effect on the dependent variable. The results of the F test can be seen in Table 5 below:
Based on the results of the ANOVA test in Table 4.9, the Fcount value of 842,050 > Ftable of 3.09 with a significance value of 0.000 < 0.05, it can be concluded that the regression model made is a good or feasible regression model. Thus, this result means that the independent variable simultaneously affects the dependent variable. Therefore, based on these results, hypothesis one, namely the cost of raw materials, and promotion cost simultaneously affect the sales volume of consumer goods sector companies listed on the Stock Exchange in 2015-2017, is accepted.

Partial Test (t Test)

The t-test was conducted to test the significance of the constants on each independent variable or to perform a partial test (individual) to determine the effect of each independent variable on the dependent variable. This test partially shows that each independent variable contributes to the dependent variable. The t-test can be seen in Table 6 below:

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.432</td>
<td>.231</td>
<td>1.871</td>
<td>.064</td>
</tr>
<tr>
<td>Ln_Cost_raw_material_t</td>
<td>.783</td>
<td>.031</td>
<td>25.043</td>
<td>.000</td>
</tr>
<tr>
<td>Ln_Cost_Promotion_t</td>
<td>.231</td>
<td>.026</td>
<td>9.011</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Dependent Variable: LnVolume_sales

Discussion


The cost of raw materials used by companies in the consumer goods sector increases every year. This increase in raw material costs was due to increased raw material prices. In order to meet market needs, of course, the company must increase the cost of raw materials for its products so that sales volume can continue to increase. As a result, the sales volume of consumer goods sector companies listed on the Indonesia Stock Exchange in 2018-2020 the average value always increases every year. This increase in average is due to most companies experiencing an increase in sales volume every year. However, some companies experience fluctuations in sales volume.

Effect of Raw Material Costs and Promotional Costs on Sales Volume

The F test shows that the variable costs of raw materials and promotional costs significantly affect sales volume, so the first hypothesis in this study is accepted. This study indicates that the cost of raw materials and promotion costs affect the sales volume of companies in the consumer goods sector listed on the Indonesia Stock Exchange. The increase in the cost of raw materials and promotion costs of the consumer goods sector company is accompanied by an increase in the company's sales volume; this means that the company uses promotional costs appropriately so that it can attract potential buyers to their products and the company also uses raw material costs appropriately to meet the quantity demanded. Production to meet market demand. So that consumers feel satisfied with the products produced to increase consumer interest in these products, which impact sales volume. So it can be said that the raw material costs and promotion costs of consumer goods sector companies listed on the Indonesia
Stock Exchange in 2018-2020 by consumer goods sector companies are considered to be used properly to attract customer interest to increase sales volume.

Acceptance of the first hypothesis, the researcher can conclude that the variable costs of raw materials and promotional costs are factors that affect the high or low sales volume. The results of this study mean that any increase in the cost of raw materials and promotional costs contained in the consumer goods sector companies listed on the Indonesia Stock Exchange will increase the sales volume obtained by the company. According to Dinar, Ni Nyoman Yuliatini, and Gede Putu Agus Jana Susila (2016), with production and promotion that is carried out efficiently and regularly, it will create its own characteristics compared to products made by other companies which will encourage buyers to make purchases and will increase sales. A company. The cost of raw materials and promotional costs used by the company is considered to increase traffic volume. The results of this study are in line with research conducted by Malik et al. (2017), showing that the price of fried onions, production costs of fried onions, promotion costs, the number of raw materials and the number of workers affect increasing income. Therefore, it proves that the cost of raw materials and promotion costs affect sales volume.

**Effect of Raw Material Costs on Sales Volume**

The results of the t-test conducted indicate that the variable cost of raw materials has a significant effect on sales volume, so that the second hypothesis in this study is accepted. The results show that the cost of raw materials has a significant effect on the sales volume of the consumer goods sector companies listed on the Indonesia Stock Exchange (IDX), because the greater the cost of raw materials issued by the company, the greater the number of products produced by the company, which means the more products the company produces. Marketable so that the total sales volume will increase. Companies that experience an increase in the cost of raw materials tend to experience an increase in sales volume. It is in line with research results that show that consumer goods sector companies listed on the Indonesia Stock Exchange (IDX) that use high raw materials from 2018 to 2020 produce high sales volumes. High sales volume.

This study shows that the cost of raw materials for consumer goods sector companies is used properly to have an impact on increasing sales. Kurniawan (2014) said that "so that the cost of these raw materials will have a positive impact on the industry needs to think wisely regarding the purchase of quality raw materials. If the cost of raw materials increases but the processing is not optimal, it will not necessarily increase sales volume. According to Sujarwini (2018:12), the cost of raw materials and labor costs are costs whose amount varies, but the changes are proportional to changes in production or sales volumes. It is in line with what was said by Carter (2006:167). The addition of raw materials causes an increase in the total volume or the number of product units. This research is in line with research conducted by Amanah (2017), which states that research on raw material cost significantly affects sales. The same research was also conducted by Wulandari (2015), where the results showed that the cost of raw materials partially had a positive effect on sales volume.

**Effect of Promotional Costs on Sales Volume**

Based on the results of the t-test conducted, it shows that the variable cost of promotion has a significant effect on sales volume, so that the third hypothesis in this study is accepted. As stated by Assauri (Felicia and Robinhot Gultom, 2018) states that companies that carry out promotions and appropriate marketing strategies will increase sales. This statement is in line with what Simamora (Wardana, 2015) said that "promotional costs are several funds disbursed by the company into promotions to increase sales". Following the results of hypothesis testing. The results showed that promotion costs had a significant effect on sales volume. It can be seen from the research periods which show that the promotional costs used have increased as well as the sales volume generated by the company has also increased. The company's efforts to attract consumers' attention through promotions succeeded in increasing sales volume during this research period. It
means that consumer goods sector companies listed on the Indonesia Stock Exchange in 2018-2020 use appropriate promotions to convey the functions and advantages of products to consumers and potential consumers so that the promotions carried out increase the company's sales volume. The results of this study are in line with research conducted by Jaya (2015), which states that promotion costs partially affect sales volume. The same study was also conducted by Brian and Gemina (2017), which states that research on promotional costs affects sales volume.

CONCLUSION

This study aims to determine the effect of raw material costs and promotional costs on sales volume in consumer goods sector companies listed on the Indonesia Stock Exchange (IDX). Based on the results of research and discussion in previous chapters, the following conclusions can be drawn:

1. Simultaneously there is a significant effect between raw material costs and promotional costs on sales volume. It shows that in the regression model, all independent variables together have a significant effect on the dependent variable so that the hypothesis is accepted.

2. The cost of raw materials partially affects sales volume in consumer goods sector companies listed on the Indonesia Stock Exchange in 2018-2020. The raw material costs incurred by the company are used to produce products that follow market demand, both in terms of quality and quantity.

3. Promotional costs partially significantly affect sales volume in consumer goods sector companies listed on the Indonesia Stock Exchange in 2018-2020. It is because the use of appropriate promotional costs will be able to attract potential consumers to the company's products to increase the sales volume generated by the company.

REFERENCES


