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Research paper

Analysis of effect of production costs and employment on sale of kurma salak

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Abstract

The results of data analysis of research conducted obtained that the regression coefficient variable production costs of 0,505, meaning that if the variable value of production costs added by one unit then the sales will increase by 0,505. The value of variable labour regression coefficient of 1,214, meaning that if the variable value of labour plus one unit then the sales will increase by 1.214. The value of t-count > t-table, (4,516 > 2,262) for the variable cost of production this shows there is a positive and significant influence between the cost of production to sales results or it can be concluded that the initial hypothesis in this study is acceptable. the value of t-count > t-table, (4,115 > 2,262) for the labour variable this shows there is a positive and significant influence between the workforce to the sales results or it can be concluded that the initial hypothesis in this study is acceptable. Value F-count > F-table, (51.837 > 4.26). This shows there is a positive and significant influence between the variable cost of production and labour together to the sales results. The magnitude of the effect of variable cost of production and labour on sales results is 0.902 or 90.2%. This shows that the variable of produc-tion cost and labour can explain the dependent variable of the sales result at 90.2% while the rest that is equal to 9.8% is explained by other variable μ (error term) which is not included in the estimation model.

Keywords: *Production Cost; Manpower; Sales Results*

1. Introduction

Small and medium-sized enterprises [1]–[7] to develop must be through struggle and supported by careful planning in dealing with various problems and obstacles that arise. Existing small business enterprises, usually experience various barriers in generating production volume, so that income from existing small and medium businesses also to be low. In addition, small and medium enterprises must compete with other large-scale industries [8].

Production costs [9] represent costs incurred to process raw materials into ready-made production for sale, production costs such as raw material costs, auxiliary materials, employee salaries and others. Therefore, in running a business, this cost is very important for the company [10]–[12]. The use of production costs must be in accordance with existing needs, with the aim that the company can be as efficient as possible in using existing resources. The use of production costs is essential for the smoothness of the production process. If the production process smoothly, then the resulting production will be in line with expectations.

Production costs in the narrow sense is the sacrifice of economic resources to acquire assets, whereas in the broad sense of production costs is the sacrifice of economic resources measured in units of money, which is done for a particular purpose [13] [14]. Production costs are also the costs used to assess the inventories listed in the financial statements and their numbers are comparatively greater than the other types of costs that are repeated over and over in the same pattern on a regular basis [15] [16]. The cost of production according to [17] are costs as compensation received by owners of factors of production, or expenses incurred by entrepreneurs in the production process, whether or not they are looters. While [18] [19] said that the cost of production is a sacrifice that should be predicted in advance and unavoidable, which can be calculated with the value of money and associated with the production of goods and services. Based on the above description, the direct production cost in question is the overall cost that is directly sacrificed to obtain production factors such as the purchase of raw materials of food, distribution, and direct labor used in carrying out its production activities.

2. Methods

In choosing the methodology used in all research, it is also necessary to be accurate so that later results will be obtained in accordance with the expected results [20]–[22]. In order to obtain the purpose of the study in accordance with the expected use of the research methodology must also be precise, and lead to the objectives of the study and also must be scientifically accountable according to the rules applicable. The type of research used in this study is descriptive quantitative. Descriptive research aims to describe the systematic and accurate facts and characteristics about the population or about the field certain [23] [24].

While the research approach using quantitative research with emphasis on the analysis of data or numerical processed with statistical methods. Using a quantitative descriptive research approach will provide an easier understanding of the phenomenon that occurs between the cost of production and labor to the sales of Trad-

ing Business (UD) Salacca Sub District of West Angkola. The use of this approach can explain the problem accurately in quantitative terms and can be measured the magnitude of the influence of these variables.

According to arikunto[25] and hasen[26] population is the whole of the research subject. Population is a collection of measurements or observational data made on people, objects or places. The population will be subject to generalization. Generalization is a way of making inferences to a wider group of individuals based on data obtained from a small group of individuals. The population in this research is data of production cost, labor, and sales result used by UD Salacca of West Angkola District for 12 (twelve) months i.e. from January to December in 2016.

The sample is part or representative of the population under study. If the subject is less than 100, it is better to take all but if the subject is large or more than 100 it can be taken between 10-15% or 20-25% or more. In general, the larger the sample the more representative [25]. In this study because the data used only for 12 (twelve) months then the entire population used as sample research, or research is often called population research.

The method of data processing is done by analyzing the effect of production costs and the amount of labor on the sale of Saldca Salakca Salakca West Angkola District. The data obtained is tabulated and analyzed by calculating the data using the formula that already exist. In answer to this research problem used regression analysis[27] method linear multiple linear regression analysis. This multiple linear regression analysis is used to analyze the effect of production and labor costs on the sales of salak dates UD. Salacca District of West Angkola. The multiple regression equation in general according to [28] is as follows:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + e$$

Information:

Y = Business Results

β =: Constants

a = The coefficient of the constant

X1 = Production cost

X2 = Amount of Labor

e = Error term

Hypothesis testing

Test F (Simultaneously)

The test of this estimator model is used to find out whether the predicted model is correct in predicting parameters and functions[29]. Then do multiple testing (simultaneously) by doing F-*hitung* test, by finding the amount of F-*hitung* which will be compared with F-table. F-test is used to determine the quality of regression significance between each independent variable (X) simultaneously there is influence or not to the dependent variable (Y), the test formula F arithmetic is as follows:

$$\text{F-arithmetic} = \frac{R2/(k-1)}{(1-R2)/n-k}$$

Where:

R^2 = Coefficient of determination

K = Number of independent variables

N = Number of samples.

The hypothesis is done with the steps as follows:

Ho: $\beta_1, \beta_{2\ldots} = 0$ (simultaneously does not affect the independent variable (X1, X2) against the dependent variable (Y)

Ha :$\beta_1,\beta_{2,} \neq 0$ (simultaneously affect the independent variables (X1, X2,) against the independent variables.

With the test criteria used are:

- If F-count > F-table (k-1, n-k) then reject Ho
- If F-count < F-Table (k-1, n-k) then accept Ho

If Ho is rejected then it means that at least one independent variable (X) is used to relate significantly to the dependent variable, so the model used can be used to estimate the dependent variable (Y). In contrast, if Ho is accepted, then there is no independent variable is used to correlate to the dependent variable significantly and the model used can not be used to estimate the dependent variable (Y). To see if there is an individual relationship between independent variables with the dependent variable then do t test. The partial test for each regression coefficient is tested to determine the partial relationship between independent variables and dependent variable, by looking at the significance level of t value at 5% of formula used [30]:

$$\text{th} = \frac{\beta_1}{S_e(\beta_1)}$$

Where:

th = t count.

I = estimated parameters

Se = standard error.

The test of each regression coefficient is said to be significant when the absolute value of t count > t table or probability value of significance is less than 0.05 (the selected confidence level) then the null hypothesis (Ho) is accepted and the alternative hypothesis (Ha) is rejected, otherwise it is not significant if the t count value <t tabel or probability value of significance greater than 0.05 (confidence level selected) then the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted.

In looking at the extent to which variation of the dependent variable (Y) is explained by the independent variable (X) can be seen from the value of coefficient of determination (R2). Mathematically, the coefficient of determination can be formulated as follows:

$$R^2 = 1 - \frac{SSE}{SST}$$

$$R^2 = \frac{SSE}{SST}$$

Where:

SST = the sum of the total squares

SSE = the sum of the squares of error/error

3. Results and discussion

The data analysis used in this study is multiple regression. Multiple regression analysis is an analysis used to determine the influence between production cost (X1), labor (X2) to other sales result (Y) UD Salacca District of West Angkola with the form of equation as follows:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + e$$

Based on the regression equation above, then to know the extent of influence of production cost and labor to the sale of UD Salacca Sub District West Angkola thus it uses the assistance program SPSS version 17. The results obtained can be seen in the following table:

Table.1: Results of Multiple Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	5.392	1.716		3.142	.012
Production Cost	.505	.112	.552	4.516	.001
Manpower	1.214	.292	.508	4.155	.002

The dependent variable in this regression is Y while the independent variables are X1 and X2. The regression model based on the above result analysis is:

$Y = 5.392 + 0.505X_1 + 1.214X_2 + e$

The above equation shows the significant number of X1 and X2 variables. The interpretation of the equation is:

$\alpha = 5.392$

This constant value indicates that if there is no variable cost of production and labor (X1 and X2 = 0), then the sale of UD Salacca Subdistrict of West Angkola is worth as much as 5.392. In the sense of the sale of UD Salacca Sub district Angkola Barat is equal to 5.392 before or without the existence of variable Us cost of production and labor (X1 and X2 = 0).

$\beta_1 = 0.505$

The value of the parameter or regression coefficient 1 shows that each variable cost of production increased by 1 unit, then the sale of UD Salacca Angkola Barat Sub-district increased by 0.505 or in other words every increase of UD Salacca income of West Angkola Sub district required a production cost increase of 0.505 with assumption the other independent variable remains (X2 = 0)

$\beta_2 = 1.214$

The value of the parameter or regression coefficient 2 shows that each variable of labor is increased by 1 unit, then the sales of UD Salacca Sub-district of West Angkola will increase by 1.214 or in other words every increase of UD Salacca income of West Angkola Sub-district required an increase of labor variable of 1,214 assuming that the other independent variable remains (X1 = 0).

The hypothesis to be tested in this study there are 2 (two), this hypothesis testing using multipression regression. The goal is to know whether the variable cost of production and labor influence on the sales of UD Salacca Sub district Angkola Barat. Here is described the results of calculation of this hypothesis test.

Test t (Partial) is used to determine the magnitude of the significance of the independent variables to the dependent variable individually (partial), assuming other variables are constants. The acceptance criterion of this test is if t count> t table then Ho is rejected, it means independent variable have significant effect to dependent variable, whereas if t count <t table then Ho is accepted, it means independent variable has no significant effect on dependent variable. The t table value can be searched in table t with a benchmark of 5% significance and degrees of freedom (df = n - k), then t table = (9) = 2,262 where n is the number of samples and k is the number of independent and bound variables. The following table presents the partial test results in this study:

Table.2: Presents the Partial Test Results in This Study

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	5.392	1.716		3.142	.012
Production Cost	.505	.112	.552	4.516	.001
Manpower	1.214	.292	.508	4.155	.002

Variable Production Cost (X1)

Hypothesis Formulation:

Ho: There is no positive and significant influence between production cost on the sale of UD Salacca Subdistrict of West Angkola

Ha: There is a positive and significant influence between the cost of production on the sale of UD Salacca Subdistrict of West Angkola.

Based on the results of statistical calculations for production cost variables obtained t count > t table, that is 4.516 > 2.262 it shows there is a positive and significant influence between the production cost of sales UD Salacca District of West Angkola. Bu using two-way test then Ho is rejected and Ha accepted, so the hypothesis that states Production costs have a positive and significant effect on sale dates salak Salacca UD West Angkola District is acceptable. The result of significance equal to 0.001 <0.05 represents significant influence between production cost to sales result.

Variable Labor (X2)

Hypothesis Formulation:

Ho: There is no positive and significant influence between the workforces on the sale of UD Salacca Subdistrict of West Angkola.'

Ha: There is a positive and significant influence between the workforce on the sales of UD Salacca Subdistrict of West Angkola.

Based on the results of statistical calculations for labor variables obtained t count> t table, that is 4.115> 2.262 it shows there is a positive and significant influence between the workforce on the sale of UD Salacca Sub District of West Angkola. By using two-way test then Ho is rejected and Ha accepted, so the hypothesis which states Labor has a positive and significant effect on the sales of salak dates Salacca UD Angkola Barat District is acceptable. The result of significance of 0.002 <0.05 illustrates the significant effect of labor on sales results.

Coefficient of Determination (R2)

The coefficient of determination essentially measures how far the ability of independent variables in explaining the dependent variable or how much influence the independent variable to the dependent variable expressed in percent. The following table presents the results of the coefficient of determination (R2):

Table.3: Presents the Results of the Coefficient of Determination (R2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	959a	920	902	13444

Based on the above table obtained that the coefficient of determination (R2) of the above model is 0.902 or 90.2%. This shows that independent variables such as X1 (production cost) and X2 (labor) can explain the influence of dependent variable Y (sales proceeds) in Salacca UD of West Angkola sub district by 90.2% while the rest is 9.8% explained by variable another μ (error term) not included in the estimation model. The value of standard error of estimate obtained by 0.1344 it shows that the estimation of regression in predicting this research is quite appropriate.

Test F is used to calculate the amount of change the value of the dependent variable which can be explained by the change in the value of all the independent variables. This test is done by comparing the value of F count with F table. If value F count> F table then Ho rejected, meaning independent variables significantly affect the dependent variable, value F count <F table then Ho accepted, meaning free variable does not have a significant effect on the dependent variable. The F table value can be found in table F with a 5% significance level and degrees of freedom (df1 = k - 1); (df2 = n - k), then F table (9) = 4.26, where n is the number of samples and k is the number of independent and bound variables. The following table presents the results of simultaneous tests in this study:

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1.874	2	.937	51.837	.000[a]
Residual	163	9	.018		
Total	2.037	11			

Based on the results of statistical calculations obtained above obtained that the value of F count> F table, that is 51.837 > 4.26 it shows there is a significant and positive influence between variable production costs and labor together to the sales of UD Salacca District of West Angkola. Thus, Ho is rejected and Ha accepted. The result of significance of 0.000 < 0.05 illustrates the significant influence between production cost and labor to sales result.

From the results of regression coefficient testing, shows that the effect of production costs on the sales revenue Salacca District of West Angkola is positive, so that production costs have the effect to improve revenue results. It can be seen from regression coefficient of production cost variable equal to 0,505, meaning if UD Salacca Subdistrict of West Angkola increase its production cost by one unit will result in increase of sale result equal to 0,505 with assumption other independent variable remain (X2 = 0). The value of t-table of variable of production cost is 2,262 at significance level 5% and t count 4,26 so that t-count> t-table thus Ho rejected and Ha accepted meaning hypothesis stating Production cost have positive and significant effect to salve date UD Salacca District of West Angkola is acceptable. The result of significance equal to 0,001 <0,05 represents significant influence between production cost to sales result. Labor has a positive and significant impact on the sales of UD Salacca Subdistrict of West Angkola. It can be seen from the regression coefficient of this variable equal to 1,214, meaning that if the variable of labor plus one unit, then the sale result of UD Salacca Subdistrict of West Angkola will increase equal to 1,214 or in other words every increase of earnings UD Salacca Sub District of West Angkola required increase of variable power work of 1,214 assuming other independent variables remain (X1 = 0). The value of t-table of labor variable is obtained at 2.262 on the degree of significance of 5% and t-count of 4.115 so that t-count> t-table thus Ho rejected and Ha accepted means the hypothesis which states Labor has a positive and significant effect on the sales of dates salak UD Salacca District of West Angkola is acceptable. The result of significance of 0.000 <0.05 illustrates the significant effect of labor on sales results. Together variable of production cost and labor variable have positive and significant effect to the variable of sale of Salacca District of West Angkola. This is evidenced by the value obtained F count> F table, which is 51.837> 4.26. Thus, Ho is rejected and Ha accepted. The result of significance of 0.000 <0, 05 illustrates the significant influence between production cost and labor to sales result. The magnitude of the effect of variable cost of production and labor to the sales of UD Salacca Sub District of West Angkola is 0.902 or 90.2%. This shows that the variable of production cost and labor can explain the dependent variable of sales result at UD Salacca Sub District of West Angkola 90,2% while the rest that is equal to 9.8% explained by other variable μ (error term) which is not put into model estimation.

4. Conclusion

Regression coefficient value of variable of production cost equal to 0.505, meaning that if variable value of production cost added by one unit then result of sale of UD Salacca Subdistrict of West Angkola will increase equal to 0.505. The coefficient value of labor variable regersion is 1.214, meaning that if the variable value of labor is added by one unit then the sales of UD Salacca Subdistrict of West Angkola will increase by 1.214.

Result of calculation of partial test for production cost variable is obtained t count > t table, that is 4.26 > 2.262 it shows there is positive and significant influence between production cost to sales result of UD Salacca Sub District of West Angkola or it can be concluded that the initial hypothesis in this research can be accepted. The result of statistical calculation for the variable of labor obtained by t count > t-table, that is 4.26 > 2.262 this show there is positive and significant influence between labor to result of sale of UD Salacca Subdistrict of West Angkola or it can be concluded that the initial hypothesis in this research is acceptable.

The result of statistical calculation above obtained that the value F count > F table, that is 51.837 > 4.26. This shows there is a positive and significant influence between the variable cost of production and labor together on the sales of UD Salacca Subdistrict of West Angkola. The magnitude of the effect of variable cost of production and labor to the sales of UD Salacca Sub District of West Angkola is 0.902 or 90.2%. This shows that the variable of production cost and labor can explain the dependent variable of sales result at UD Salacca Sub District of West Angkola 90.2% while the rest that is equal to 9.8% explained by other variable μ (error term) which is not put into model estimation.

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