

## Conference Paper

# The Impact of Supplier Selection Criteria and Supplier Involvement Towards Supplier Performance at CV Teguh Jaya

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## Abstract

The aim of this study is to determine the impact of supplier selection criteria and supplier involvement on supplier performance in CV Teguh Jaya. The variables studied were supplier selection criteria (X1) and supplier involvement (X2). There are five indicators in supplier selection criteria, namely cost, quality, delivery, flexibility, and reliability. Whereas Supplier Involvement can be inferred from indicators such as how active the supplier is in updating goods and data, providing responses to customers, and minimizing problems in business processes. The analytical tool used in this study was multiple linear regression analysis. The population in this study was resellers who have become regular customers in CV Teguh Jaya with a sample size of 98 respondents, determined through purposive sampling technique with the criterion of being a fixed customer for at least 2 years. From the data analysis results we can infer that both supplier selection criteria and supplier involvement have impact on supplier performance. Based on the analysis results, CV Teguh Jaya needs to maintain the elements that were deemed satisfactory by the customers and need to improve on elements deemed lacking. Future research can consider adding other variables used in the previous studies.

**Keywords:** Supplier selection criteria; Supplier involvement; and Supplier performance

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## 1. Introduction

Clothing is one of the primary needs for human beings. Therefore, this also means that clothing is a primary need for people of all ages. Data from Health Department (2018) indicated that in Central Java Province, from year 2016 to 2017, the number of children aged below five years increased by 36%. The increase in number of children aged below five years and the rapid growth for children could be seen as a market opportunity for entrepreneurs.

Seeing that opportunity, CV Teguh Jaya was founded on 2006 in Central Java. As time goes by, the company started to face many competitors. This suggested that the company had to be more able to compete with its competitors in fulfilling the needs and



wants of children apparel resellers because fundamentally the more competitors means that customers will have more options when selecting products that fit their needs.

The study conducted by [9] stated that selecting a supplier with certain set of criteria is an important activity especially if said supplier will supply a critical item for the business and will be used for a long term. Whereas in a study by [6] supplier selection criteria was divided into several categories which were delivery, flexibility, reliability, cost, and quality. Those five categories were undoubtedly main factors impacting supplier performance. This finding was also supported by several other studies such as study by [11] and [7].

Aside from supplier selection criteria, both studies mentioned that supplier involvement also played a huge role in measuring supplier's performance. Supplier involvement is a form of relationship or empathetic action done by the supplier for business object(s) based on their needs, values, and interests in a business. This involvement reflects a supplier's interest level in searching or making complex decisions about a product. Thus, this study suggests the hypotheses below:

- H1. Supplier selection criteria significantly affect supplier performance
- H2. Supplier involvement significantly affect supplier performance

## 2. Method

To test hypotheses above, the study used quantitative method. According to [8], quantitative method study is a method whereby numbers were used to measure the variables in the study. The population in this study was 130 children apparel stores in Central Java that has become CV Teguh Jaya fixed resellers. The sample used purposive sampling with the criterion of fixed customers that have worked together with CV Teguh Jaya for at least 2 years and using Slovin formula, 98 samples were obtained.

According to [3] research instrument is a tool that is used to make research process systematic. In this study, Likert scale was used to measure the statements in the questionnaire. Variables used in the study were supplier selection criteria (X1), supplier involvement (X2), and supplier performance (Y). Next, there were 2 steps conducted in this study. First step was validity and reliability test, as well as hypothesis testing on each indicator and variable used. Validity test was conducted using Pearson Correlation and reliability test was conducted using Cronbach Alpha. After the two tests were conducted, hypothesis testing was conducted using multiple linear regression. If the significance value is less than 5% then it can be concluded that the independent variables in this study have significant influence on the dependent variable.

After the first step was conducted, the examination proceeded to the second step which was classical assumption test. The study used 5 classical assumption tests which consisted of normality test, multicollinearity test, heteroschedasticity test, linearity test and autocorrelation test.

### 3. Results

TABLE 1: Respondent Data Description.

Time Period	Number of Respondents	Percentage
2.1-4 years	23	23.4%
4.1 -- 6 years	59	60.2%
>6.1 years	16	16.4%
Total	98	100.0%

Based on the questionnaire distributed, it could be inferred that majority of the respondents (60.2%) have worked with CV Teguh Jaya for the duration of 4.1- 6 years. In addition 23.4% respondents have worked with CV Teguh Jaya for 2.1- 4 years and the remaining 16.4% respondents have worked with CV Teguh Jaya for more than 6.1 years.

#### 3.1. Validity and Reliability Test

All the statements in supplier selection criteria, supplier involvement, and supplier performance criteria have significance value of less than 0.05, therefore all the statements in all the variables in this study can be deemed valid.

The Cronbach Alpha of each variable has the value of more than 0.6. This implied that all statements in supplier selection criteria, supplier involvement and supplier performance are deemed reliable.

#### 3.2. Multiple Linear Regression Test

Based on Table 2 it could be known that the coefficient value from the regression model to form a multiple linear regression equation could be illustrated by the following mathematical equation:  $Y = 1.374 + 0.422x_1 + 0.265x_2$

TABLE 2: Multiple Linear Regression Test.

Model	Unstandardized Coefficients		Standardized Coefficients	Sig.
	B	Std. Error	Beta	
(Constant)	1.374	0.425		0.002
X1	0.422	0.212	0.360	0.049
X2	0.265	0.131	0.365	0.046

The regression equation model above has positive values, which means without supplier selection criteria and supplier involvement, the value of supplier performance that is affected by other variables not studied in this research is 1.374.

The positive value of supplier selection criteria indicated that for the increase in value of each statement in supplier selection criteria (X1) there would be an increase of 0.422 on the variable supplier performance (Y) assuming variable X2 stayed constant. From the statement above it could be concluded that supplier selection criteria positively impact CV Teguh Jaya supplier performance.

Next, it could be seen from the equation that the coefficient value of X2 variable or supplier involvement is 0.265. From there it could be inferred that for increase in the value of supplier involvement variable will result in 0.265 increase for supplier performance of CV Teguh Jaya assuming X1 variable stayed constant. From this statement, it could be concluded that supplier involvement positively affect supplier performance of CV Teguh Jaya.

According to Table 2, the significance value of supplier selection criteria variable is 0.049 or  $< \alpha$  (0.05). From this it could be concluded that supplier selection criteria (X1) in CV Teguh Jaya had a significant impact on supplier performance and therefore hypothesis 1 could be accepted.

Next, according to Table 2 it could also be inferred that the significance value for supplier involvement variable is 0.046 or  $< \alpha$  (0.05). Hence, from this it could be concluded that supplier involvement (X2) in CV Teguh Jaya had a significant impact on supplier performance. Thus, it could be concluded that hypothesis 2 is accepted.

### 3.3. Goodness of Fit Test (F-test)

TABLE 3: F-test Result.

Model	F	Sig
Regression	48.272	.000

F-test conducted in this study was done with the aim to determine the goodness of fit of the regression equation in the table. From the F-test result in Table 3 the significance value obtained was  $<0.05$  therefore it could be concluded that the test model was fit to be used in the study.

TABLE 4: Correlation Coefficient and Determination Coefficient Test.

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.710	.504	.494	.4464	2.095

Based on Table 4, it could be seen that the R-value is 0.710 or close to 1. This indicated that the relationship between the variables was tighter. In addition, the value of  $R^2$  is 0.504 or 50.4%. This implied that the percentage of contribution of the independent variables' effect on the dependent variable was 50.4% whereas the remaining of 49.6% was affected by other variables not studied in the model.

On the next stage, the researcher conducted classical assumption tests which were normality test, multicollinearity test, heteroscedasticity test, linearity test, and autocorrelation test [3]. The result of the normality test showed asymptotic significance level of 0.162 (asyp. Sig  $> 0.05$ ). This suggested that the residual was normally distributed. As for the multicollinearity test, the VIF value obtained from variables X1 and X2 were 6.244 (VIF  $< 10$ ) and tolerance value of 0.160 (tolerance  $> 0.1$ ). This indicated that there was no multicollinearity. The significance level from the heteroscedasticity test in this study was 0.334 for variable X1 and 0.075 for variable X2 thus it could be inferred that there was no heteroscedasticity in the regression model of this study. In addition, significance level of less than 5% was obtained from the linearity test which indicated that the independent and dependent variables in this study were linearly correlated. In the autocorrelation test, the Durbin Watson value obtained was 2.095 and therefore it could be concluded that there was no autocorrelation.

## 4. Discussion

### 4.1. Impact of supplier selection criteria on supplier performance

Based on the t-test result in Table 2, it could be concluded that supplier selection criteria (X1) significantly affect supplier performance variable with significance value of 0.049 or  $<0.05$ . This suggested that hypothesis 1 could be accepted. Researcher did further study on CV Teguh Jaya as a point of evaluation for the company in the future. As previously mentioned in other studies by [10] and [9], company defined

*cost, quality, delivery, reliability, and flexibility* as an interconnecting series of variables. Starting from the price given by the company to its customers could be inferred from the typical products that certainly have various specifications that will affect the cost of goods for each type of product [2]. After the prices are set then the company will communicate it to the customers. Study conducted by [4] also mentioned that part of the business process is to encounter several stores that would negotiate price or delivery schedule. After an agreement is reached between both parties then business can be conducted. If adequate attention was not put into this, then the cost spent would also be inefficient. Next are the delivery system that was created by the company to fulfill customers' needs all the way to detailed invoice creation process for the customer. In these aspects CV Teguh Jaya strived to always fulfil the number of product requested by the customer and to always give detailed invoice. This measures helped prevent redelivery for products that were not fulfilled and invoice with missing detail could cause unexpected costs such as transportation cost and other costs. After the products has arrived to the customers' place, the aftersales service given by the company will also become customers' consideration when selecting supplier for their stores. This relates directly to the warranty given by the store and would certainly been agreed upon at the beginning of the agreement. If the products arrived in damaged condition just as it was delivered from the manufacturer then the store is entitled to exchange the product with other items. But to prevent that from happening, CV Teguh Jaya made sure to control the process of when the products first arrived at the warehouse, thus the possibility of customers receiving damaged product was minimal.

#### **4.2. Impact of supplier involvement on supplier performance**

Based on the t-test results on Table 2, it could be concluded that supplier involvement (X2) variable significantly impact supplier performance variable with sig. value of 0.046 or  $< 0.05$ . This suggested that hypothesis 2 could be accepted. Researcher also conducted a direct study on the company as to the involvement showed so far by CV Teguh Jaya on the stores that has become its customers. As mentioned in studies by [1], [7] and [5], CV Teguh Jaya showed its involvement by actively giving updated information on products newly released by the manufacturer. The information given was certainly adjusted according to the needs of each individual stores such as complete specifications of the products they wanted. CV Teguh Jaya would ensure that they would update the information even more according to the customers' needs. Information will

be provided through a pre-arranged system so that it will ease the customer in accessing information on specifications of the products they ordered.

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