The Study of Efficiency and Discipline on Shipment From Warehouse to Tanjung Priok Port

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ABSTRACT

Optimizing the use of land transport with the management of logistics and supply chain management of the warehouse to the port of Tanjung Priok can minimize cost, time, and quantity. It is hoped that the delivery of goods is faster, more focused and more precise. This research used descriptive quantitative and data is collected from secondary and primary data using SPSS software 27.00 version. Based on the three proposed research hypotheses, it is proven that the efficiency variable (X_1) and discipline variable (X_2) --- either individually or together --- have an influence to the shipment of goods from the warehouse in Tangerang to the Port of Tanjung Priok (Y).

Keywords: efficiency, shipment discipline, logistics management, port.

Introduction

Logistics management is part of the supply chain process management functions to plan, implement and control the efficiency of the flow and storage of goods, services and related information from the point of origin to the point of consumption in its aim to satisfy customers. Supply chain management serves to integrate suppliers, entrepreneurs, warehouses and other storage areas efficiently to produce and distribute the product in the right quantities and the right time to reduce costs and satisfy customer needs.

Efficiency distribution is the one that is based on the use of appropriate methods of transportation in the delivery of goods to ensure fast, economical and safe delivery. Efficiency use of vehicles is the purpose of determining vehicle operating standards. This is key for an operation at minimum cost. There are five areas in which the study of the working methods that can be used to provide a basis of comparison. The fifth field is the preparation of vehicles, setting the cargo in the vehicle, when the vehicle operates and delivery of goods and cargo assessment

To optimize the use of land transport through the management of logistics and supply chain management of the warehouse to the port of Tanjung Priok, researchers hope to minimize the cost and time as well as the right quantity in the delivery of the origin place of delivery of goods to the port of Tanjung Priok in order to ship goods faster, directed and precise.

With the efficiency delivery of goods, it makes the product price low which is a major contribution to the selling price of an item so that it can cover more customers.

This study is descriptive with primary and secondary data collected and analyzed by SPSS version 27.00. Meanwhile, the sample used was the users of shipment service. The number of samples in each study site is as many as 100 people, which is considered to represent the number of users in the efficiency of transport services up to 1000 people. The sampling technique is random sampling.

In this case, the data obtained analyzed using descriptive statistics to analyze the level of efficiency in the delivery of the warehouse to the port of Tanjung Priok. Meanwhile, the t-test method used to analyze differences in the level of efficiency of delivery and the resulting time and cost. Regression method used to analyze the effect of the increase in the remuneration of efficiency assessment in the delivery of the warehouse to the port in Tanjung Priok

In addition, the measurement instrument validity study using Pearson Product Moment from Karl Pearson (in Supranto, 2011: 243). Computation to measure the validity of the instrument is assisted by the program Statistical Package For Social Science (SPSS) For Windows version 27.00

The formula is as follows:

$$r = \frac{n.(\sum XY) - (\sum x.\sum y)}{\sqrt{n\sum x^2 - (\sum x)^2}.\sqrt{n\sum y^2 - (\sum y)^2}}$$

Given : coefficiency

r = Correlation

n = number of samples

X = Independent variable

Y = Dependent variable

Furthermore, the results are compared with the table *r* Product Moment in X = 0,050; df = n-2 with the following provisions:

a. If value of $r_{count} \geq r_{table}$: Instrument is valid.

b. If value of $r_{count} \leq r_{table}$: Instrument is not valid.

In this case, to estimate the level of reliability of the instrument variables X1 and X¬2 with variable Y, Cronbach Alpha formula is used. According to Surapranata (2005: 114), in fact there is not a definitive measure of how high coefficient of reliability generally moving from one hundred to zero percent, or from one to zero. Reliability is good or satisfactory depending on the purpose or usability tests. The reliability coefficient of 0.50 has been demonstrated that the test has a poor reliability. According to Remmers et al. in Surapranata (2005: 114), stated that the reliability coefficient of 0.70 can be used. Therefore, reliability testing

variable instruments of efficiency (X1) and discipline (X2) for shipment (Y) was performed using Cronbach Aplha formula. Based on descriptrive anaysis it is found that description scale for variable Efficiency empirical score ranges from 46-75, a total score of 3538 and an average of 62. As for variable its empirical score range is 48-71, total score of 3569, and an average of 62. For variable Shipment it is obtained empirical score of 40-75, a total score of 3356, and an average of 62.

Table 1 Correlation

Variables	*r*	R^2	Std Deviation	DW
$X^1 \to Y$	0.693	0.480	5.304	-
$X^2 \to Y$	0.675	0.455	5.430	-
X^1 and $X^2 \to Y$	0.770	0.593	4.736	1.870

Table 1 shows the correlation between Efficiency (X) variables t with the Shipment (Y) variables that has a strong positive relationship with the level indicated by the *r* value of 0.693. The correlation coefficiency significance level α = 0.05 indicated by the value $t_{-test} = 7.011 > t_{-table}$ t = 0.025; 57 = 2.021 and the significance probability of 0.000 > 0.05 indicate a positive correlation between the two variables. Meanwhile, the variable Discipline (X_2) and Shipment (Y) have a strong positive relationship with *r*

value of 0.675 with α = 0.05 $_{t\text{-test}}$ = 6.784> $_{t\text{-table}}$ t = 0.025; 15 = 2.021 and with significance probability of 0.000> 0.05 also shows a positive and significant relationship between Discipline and Shipment. For both variables analysis indicated in Table 1 between variable efficiency (X_1) and discipline (X_2) towards the shipment (Y), the result shows there is a strong positive relationship as shown by *r* value of 0.770. This means that the relationship between efficiency (X_1) and discipline (X_2) positive or unidirectional, which means an increase in efficiency (X_1) and discipline (X_2) will improve shipment (Y).

Table 2 Regression

Variables	*a* *(const.)*	*b* *(slope)*	t	sig
$X^1 \rightarrow Y$	19.096	0.697	7.124	0.000
$X^2 \rightarrow Y$	10.549	0.828	6.777	0.000
X^1 and $X^2 \rightarrow Y$	2.307	0.458	4.278	0.000
		3.874	3.874	0.000

Table 2 shows the regression test variable efficiency with a constant of 19.096 indicating shipment (Y) amounted to 19.096 if the value X_1 is assumed constant. The regression coefficient (slope) of 0.697 showed the influence of efficiency to shipment is positive, if the value of efficiency increases 1 unit that results in the increase of shipment by 0.697. The same applies also to variable X_2 (discipline) with a constant slope of 10.549 and slope 0.828. For regression testing jointly between the variable efficiency and discipline to shipment, it has been obtained a constant (*a*) of 2.307, the regression coefficient X_1 at 0.458 and coefficient X_2 amounted to 0.506, wherein if one of the variables held constant, the shipment performance will increase by each regression coefficient variable obtained.

Results and Discussions

The efficiency variable has a significant positive effect on shipment from warehouse to the Port of Tanjung Priok. Based on the calculation results obtained that the relationship is indicated by a correlation coefficient of 0.693, while the coefficient of determination discipline on the efficiency of the delivery of goods from warehouses to Port of Tanjung Priok is 0.480. This means that efficiency contributes operating performance in shipment from the warehouse to the Port of Tanjung Priok to 48%. The regression equation for the relationship (Y) above (X1) obtained Y = 19.096 + 0693X1

this equation means that any increase or decrease in the scores on the efficiency unit would be followed by an increase or decrease in potential score of shipment from the warehouse to the Port of Tanjung Priok. The amount of the increasing or decreasing average of variable is 0,693 in constant value 19.096. This result shows that the higher discipline performance given affect the operating performance delivery of goods higher from the warehouse to the Port of Tanjung Priok. This is also supported by the research hypothesis, that "there is a significant positive effect on the discipline of the potential delivery of goods from the warehouse to the Port of Tanjung Priok, so the research hypothesis H1 accepted or t> t table (7.124> 1.701)".

The discipline variable has a high positive impact on the shipment potential from the warehouse to the Port of Tanjung Priok. Based on the calculation results obtained that the relationship is indicated by the correlation coefficient of 0.675, while the coefficient of determination of discipline to shipment from the warehouse to the Port of Tanjung Priok is equal to 0.455. This value means that the contribution to the increase and decrease of the potential shipment from the warehouse to the Port of Tanjung Priok is at 45. 8%. The regression equation for the relationship (Y) over (X2) obtained Y = 10.549 + 0.828 X2, this equation means that any increase or decrease in one unit of the score on the variable of the delivery will be followed by an increase or decrease in potential score shipment of goods from the warehouse to the Port of Tanjung Priok. The amount of the increase or decrease an average of 0,828 at 10.549 constants, then the efficiency of a given tiered with the higher potential for the delivery of goods from the warehouse to the Port of Tanjung Priok. This is also supported by the research hypothesis, that "there is a significant positive effect on the potential efficiency of the delivery of goods from the warehouse to the Port of Tanjung Priok, so the research hypothesis is accepted or thitung H2> t table (6.777> 1.701)"

Variable of discipline and efficiency of the shipment of goods together have a significant positive effect on the performance of the operational of goods shipment from the warehouse to the Port of Tanjung Priok. Based on the results obtained, the relationship is indicated by a correlation coefficient of 0.743, while the determination coefficient of discipline of goods shipment operating performance from the warehouse to the Port of Tanjung Priok is 0.538. This value means that discipline and efficiency of the delivery contribute to the increase and decrease of potential in the shipment of goods from warehouse to Tanjung Priok Port is at 53.8%. Multiple regression equation for the relationship (Y) above (X1) and (X2) obtained Y = 2.307 + 0,458X1 + 0,506X2 this means that any increase or decrease in one unit scores on and efficiency discipline by an increase or decrease in performance scores of shipment operation of goods from the warehouse to the Port of Tanjung Priok. The amount of the increase or decrease

in the average of 0.458 for efficiency and amounted to 0.506 for the shipping with constant at 2.307. Therefore, if efficiency and discipline increase, it results in the increase shipment from the warehouse to the Port of Tanjung Priok. This is also supported by the research hypothesis, that "there are significant influence of efficiency and discipline towards the potential of shipment operation from warehouse to Tanjung Priok Port, thus the research hypothesis H3 is accepted or F count> F table or 15.731> 3.354"

Conclusion

The hypothesis has shown that the variable efficiency and variable discipline either individually or together, have an influence on the shipment from the warehouse to the Port of Tanjung Priok. This implies that efficiency is strongly needed in high-pace business like shipment since the activity involves strong commitment and well-structured business process.

Bibliography

Danang, Sunyoto. 2009. *Analisis Regresi dan Uji Hipotesis.* Yogyakarta: Medpress.

J. Supranto, 2011, *Statistik Teori dan Aplikasi*. Jakarta: Erlangga.

Sugiyono. 2009. *Statistika untuk Penelitian,* Cetakan keempat belas. Bandung: Alfabeta.

Sugiyono. 2012. *Metode Penelitian Bisnis,* Cetakan 12. Bandung: Alfabeta.

Surapranata, Sumarna. 2005. *Analisis, Validitas, Reliabilitas, dan Interpretasi Hasil Tes*. Bandung: PT Remaja Rosdakarya.