



The Influence of The Use of SAP Applications (System Application and Product in Data Processing) on The Smoothness of Logistics At PT. Mitrabahtera Segara Sejati Samarinda

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Abstract

Competition in the business world is increasing, and companies are trying to improve the quality of their companies by providing fast services and low costs compared to their competitors, one of which is in the logistics sector. To accelerate logistic activities, companies generally use application systems that are widely used today, called SAP (System Application and Product in Data Processing), which can integrate data. One of the companies that uses SAP is PT. Mitrabahtera Segara Sejati Samarinda. Therefore, the researchers analyzed the effect of using SAP on the smooth running of logistics at PT. Mitrabahtera Segara Sejati Samarinda. The method used in this research is the descriptive quantitative method, called simple linear regression analysis using SPSS, by distributing questionnaires with a total of 52 respondents who are employees of PT. Mitrabahtera Segara Sejati Samarinda. The result obtained from the test, called t-test with the result t-count > t-table (7.651 > 2.00), it can be said that the variable using the SAP application has a positive effect on logistics. The study results show a positive and significant influence related to the effect of using the SAP application on logistics at PT. Mitrabahtera Segara Sejati Samarinda.

Keywords *SAP Application, Logistic, SPSS (Statistical Program for Social Science)*

INTRODUCTION

Competition in the business world is increasingly complex, and companies are trying to improve the quality of their companies by providing fast service and low costs compared to their competitors. One of the ways to realize this success can be done by integrating data systems increasing efficiency in business processes. However, in reality, until now, many industries have not integrated information systems. The process is only supported by individual activities at their respective work sites. This situation causes misunderstandings in information communication between one workplace and another, thus requiring more time for coordination in the provision of information compared to industries that have integrated their functions.

Over the past few years, system applications and data processing (SAP) products have been presented in several different models or approaches. Each new model develops because of the weaknesses and limitations of the previous model. One of the data system models that is widely used today is the application and product in data processing (SAP) system, which is a data system model that enables an organization to automate and integrate its key business processes. System applications and products in data processing (SAP) break down two traditional functional barriers by facilitating data sharing, data flow, and introducing universal practices among all users. System application and product in data processing (SAP) capabilities to integrate processes and information. It is also expected to bring improvements to the company's business processes. This expectation has encouraged many companies to implement system applications and products in data processing (SAP).

PT. Mitrabahtera Segara Sejati is a shipping industry that provides safe, comfortable, integrated sea logistics and transportation solutions. PT. Mitrabahtera Segara Sejati serves the transportation of bulk cargoes, especially coal.

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PT. Mitrabahtera Segara Sejati is a shipping industry that uses a database server system; when storing information, it will automatically be stored on a central database server, as an example of its application in the use of system application systems and products in data processing (SAP) to monitor ship logistics activities so that there is no misinformation in shipping or requesting goods. The use of application systems and products in data processing (SAP) is very helpful because it can reduce the use of existing paper. We only need to enter the purchase order number for the goods requested from the ship using a PC (Personal Computer) or laptop. After that, it is stored, no longer requiring thick paper to store documents. It saves paper and office space because the information is already stored on the database server and does not generate piles of paper like before. Of course, there are many utilities and other impacts from using this system application and product in data processing (SAP).

Based on the description above, it encourages researchers to examine it in more detail through research with the title. "The Effect of Using SAP Applications (System Application and Product in Data Processing) on Logistics Smoothness at PT. Mitrabahtera Segara Sejati Samarinda". Based on the explanation that has been shown above, the researcher raised several identifications in this study as follows:

1. Obstruction of smooth logistics at PT. Mitrabahtera Segara Sejati Samarinda
2. SAP application usage less than optimal due to limited competence

LITERATURE REVIEW

Theory description is a systematic description of the theory and research results that are relevant to the variables studied and becomes a reference in solving problems to facilitate understanding and discussion of the effect of using the SAP application (system application and product in data processing) on the smooth running of logistics at PT. Mitrabahtera Segara Sejati Samarinda.

1. Definition of Influence

According to the Big Indonesian Dictionary (KBBI) Third Edition, influence is the power that exists or arises from something that contributes to the formation of one's personality, beliefs, or actions. From this understanding, it can be concluded that influence is a force that arises from something, it can be a person or thing and everything that exists in nature, and therefore affects everything around it.

2. Definition of Use

Based on the V edition of the Big Indonesian Dictionary (KBBI), the meaning of the word usage is the power that exists or arises from something that contributes to shaping one's character, beliefs, or actions.

3. Definition of Application

Applications are ready-to-use programs that allow many commands to be executed by the application's users themselves. To get more accurate results and in accordance with the purpose of the application. The application also has the meaning of a problem solver that uses one of the application data processing techniques related to the desired computer or smartphone. "Application" comes from the English word "Application" which means the form of the verb "application", or in Indonesian means "to process". Computer applications are computer programs that use computer capabilities to directly perform tasks desired by the user (Habibi, 2020).

4. Definition of SAP (System Application Product in Data Processing)

SAP is an ERP (Enterprise Resources Planning) based software that is used to carry out the daily activity management of an organization or company, the purpose of this system is to make all data management, monitoring and processing functions more effective and efficient.

At the beginning of its creation, the SAP system could only manage the company's Benefits.

5. Understanding Logistics

Logistics is a strategic management process for the movement and storage of goods, spare parts and finished goods from suppliers, between company facilities and customers (Lisnawati, 2021). Logistics plays a central role in industrial systems. To create a competitive advantage, companies no longer rely on traditional product sales methods, but scientific developments and innovation in sales management provide opportunities for companies to create efficiencies that are very important for customers.

RESEARCH METHOD

Quantitative research is a research method based on the philosophy of positivism (relying on empiricism) that is used to examine certain populations or samples. The sampling techniques are generally carried out randomly, data collection uses objective research instruments, and data analysis is quantitative or large. Quantitative or statistics have the aim to test the hypothesis that has been set (Sugiyono, 2018).

1. Individually (Partial)

H1: The significant influence of the use of the SAP application (System Application and Product in Data Processing) on the smooth running of logistics at PT. Mitrabahtera Segara Sejati Samarinda.

Significance ($\alpha = 0.05$).

Conclusion:

Accept H1 if Sig. $< \alpha 0.05$ or the use of the SAP application affects the smooth running of logistics.

2. Simultan

Ho: The independent variable has no effect on the dependent variable.

H1: The independent variable has an effect on the dependent variable.

Significance ($\alpha = 0.05$).

Conclusion:

Accept H1 if Sig. $< \alpha 0.05$ or the independent variable affects the dependent variable.

3. Validity test

Validity test is used to measure the level of validity of an instrument. The process carried out by translators or instrument users to collect data empirically to support conclusions that arise from instrument scores. In the validity test, each question is measured by connecting the number of each question to the total number of responses to the questions used in each variable (Darma, 2021). In addition, as a basis for decision making, it can be seen from the value of r, if r-count is greater than r-table (r-count $>$ r-table), it shows a significant value to the total amount, which means it is declared valid. Meanwhile, if r-count is smaller than r-table (r-count $<$ r-table), then the question is not valid. The r-table value is obtained by determining the df (degree of freedom), namely the degree of freedom obtained from the number of samples or respondents minus the construct value (df = N-2).

4. Reliability Test

This test is used to measure the reliability value of the results of the questionnaire for each variable or indicator question. Instrument reliability testing can be carried out externally or internally, externally testing can be carried out by test-retest (stability), equivalent, and combining the two. Internally the reliability of the instrument can be tested by analyzing the consistency of the items in the instrument with certain techniques (Sugiyono, 2022, p. 209). The results of data processing can be said to be reliable if the Cronbach alpha value is ≥ 0.60 (As'ad, 2018).

5. Classic assumption test

As a basis for making decisions in hypothesis testing, regression analysis requires that research data must first pass the classical acceptance test (Ghozali, 2018).

a. Normality test

This test serves to get whether the data is normally distributed or not contained in the independent variable and the dependent variable. The normality test is to decide that the data is normally distributed and the homogeneity test is to decide that the data is homogeneous. The data normality test uses the Kolmogorov-Smirnov Normality test in the SPSS program (Statistical Program for Social Science) version 27.

The normality test aims to test whether in the regression model, the variables are normal or not. A good regression model is a regression that has a normal distribution or is close to normal by showing that from the Kolmogorov-Smirnov test results, if the results are > 0.05 , then the assumption of normality is fulfilled (Ghozali, 2018, p. 167).

b. Heteroscedasticity Test

One way to see whether there is heteroscedasticity is to look at the plot graphs between the values of the dependent variable (SRESID) and the residual (ZPRED). X is the residual. The basis of the analysis is:

1. If it forms a certain pattern, such as the existing dots form certain regular pattern (wavy, widened) then it shows that heteroscedasticity has occurred.
2. If there is no clear pattern, as well as the dots spread across on and below, the 0's in saxis Y, then it does not happen heteroscedasticity.

The purpose of this test is to find out whether there is an inequality of variance in the regression from one residual observation to another residual observation. A good regression model is one that has homoscedasticity or does not have heteroscedasticity. If the correlation results are significant < 0.05 , then the regression equation contains heteroscedasticity, and conversely if the correlation results are significant > 0.05 , then the equation is homoscedasticity or not heteroscedasticity (Ghozali, 2018, pp. 137-144).

c. Correlation and Determination Test

Calculation and testing of β_1 in the simple linear regression model shows the form of the relationship and whether the estimated variable affects the dependent variable. If the value of β_1 is positive, the relationship is directly proportional, if β_1 is negative, it shows an inverse relationship, whereas if β_1 is zero, there is no relationship between the two variables. The magnitude of the influence and the relationship between the predictor variable and the dependent variable is expressed in the form of the value of the coefficient of determination and the correlation coefficient.

FINDINGS AND DISCUSSION

This research chapter will explain and describe the results of data analysis that has been carried out in previous chapters. The description of the research results in this study is used to determine the inhibiting factors in the smooth running of logistics, the identity of respondents in general. The researcher will begin to explain the demographics of the respondents. Respondents in this study consisted of 52 respondents consisting of 40 men and 12 women. Then in this study will explain related to data processing and analysis, and finally closed with conclusions and suggestions.

1. Factors Inhibiting the Use of SAP Against Logistical Smoothness

From the results of observations made by researchers during land practice and operating the SAP application (System Application and Product in Data Processing) it was found that several factors inhibited the use of the SAP application for smooth logistics, namely:

a. Internet connection

Interference with internet connection greatly affects the use of SAP applications because the SAP application for its use requires an internet connection, can be seen in the figure below.

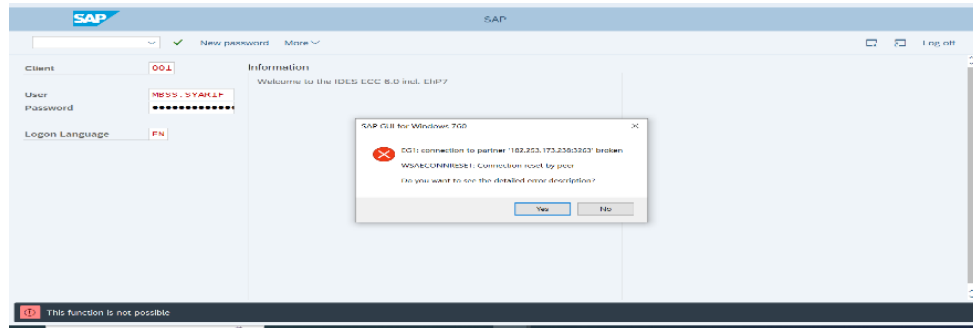


Figure 1. Error Connection

(Source: Personal Documentation)

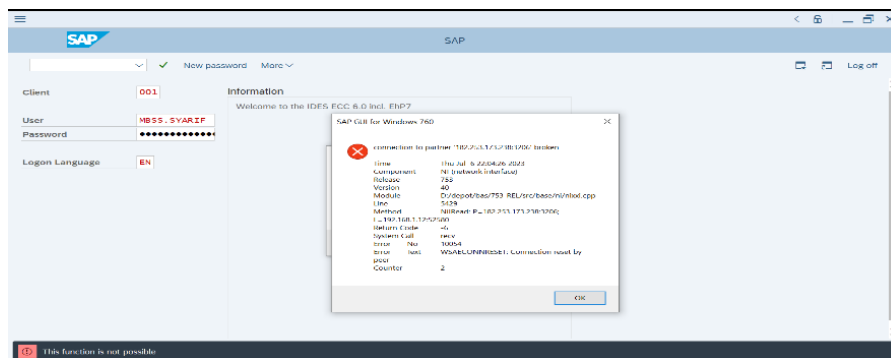


Figure 2. Connection Error

(Source: Personal Documentation)

b. Human Error

Human error often occurs when using SAP applications due to intentional or unintentional errors. Human error occurs due to skill-based errors, i.e. lack of knowledge, skills or experience. An example of human error when operating an SAP application can be seen in the figure below.

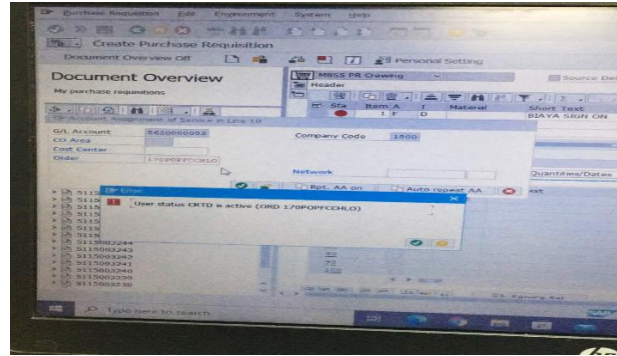


Figure 3. SAP Error

(Source: Personal Documentation)

When performing a simple linear regression analysis, several assumptions need to be fulfilled, for example the classical assumption which consists of a normality test, heteroscedasticity test, simple linear regression test, correlation test and determination. The following is an analysis of the classic assumption test:

a. Normality test

The normality test is a test used to find out whether the resulting data is normally distributed or not. This test can be done by looking at the significance value of the Kolmogorov-Smirnov test. If the significance value obtained in the Kolmogorov Smirnov test is greater than 5% (0.05) then this value can be said to be normally distributed and vice versa if the resulting data is less than 5% (0.05) then the data is not normally distributed. The following are the normality test results presented in the table.

Table 1. Normality Test Result

One-Sampel Kolmogorov-Smirnov Test			
			Unstandardized Residual
N			52
Normal Parameters ^{a,b}	Mean	,0000000	
	Std. Deviation	1,78141832	
Most Extreme Differences	Absolute	,110	
	Positive	,090	
	Negative	-,110	
Test Statistic			,110
Monte Carlo Sig. (2-tailed)	Sig.	,114	
	99% Confidence Interval	Low Bound	,105
		Upper Bound	,122
		Bound	
a. Test distribution is Normal.			
b. Calculated from data.			

Based on Table 1 above, it can be seen that the significance results are > 0.05 , this indicates that the data is normally distributed with the result ($0.114 > 0.05$).

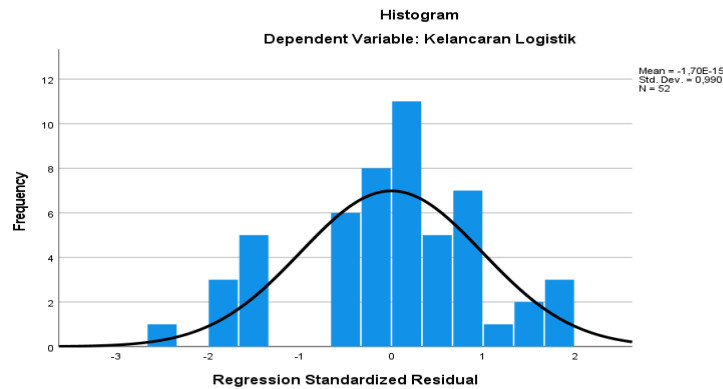


Figure 4. Normality Test Diagram

Based on the Figure 4 above, the result of significance value is 0.11, which is greater than 5% (0.05), meaning that the data can be said to be normally distributed.

b. Heteroscedasticity Test

Heteroscedasticity test was carried out to show the spread of disturbance variance. The test results via SPSS from the heteroscedasticity test are shown in the figure below.

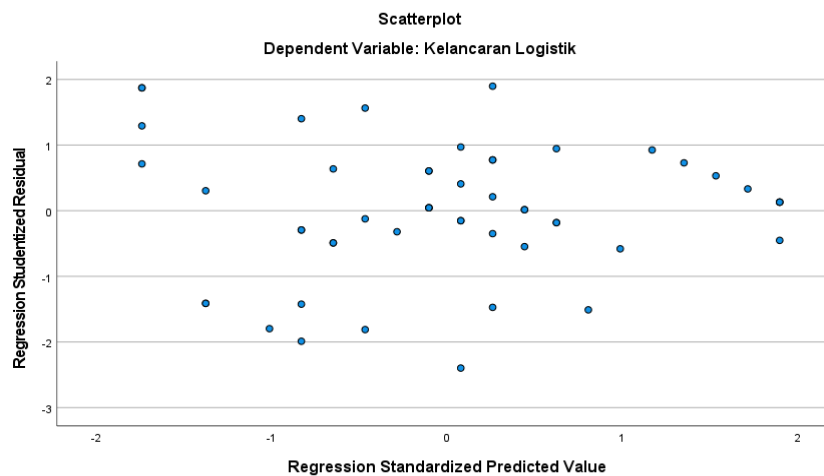


Figure 5. Scatter Plot

(Source: SPSS)

From figure above it can be seen that the points contained in the scatterplot graph spread randomly and are spread both above and below the number 0 on the Y axis. It can be concluded that there is no heteroscedasticity in the regression model, so the regression model is feasible to use to predict the dependent variable based on enter the independent variable.

c. Simple Linear Regression Test

After going through the validity and reliability tests, as well as normally distributed, the data was analyzed using a simple linear regression method to analyze the effect of using the

SAP application on smooth logistics. The results of testing through the SPSS simple linear regression test from this study are presented in the table below:

Table 2. Simple Linear Regression Test Results

Model	Unstandardized		standardized	Q	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Betas		
(Constant) SAP	3,492	2,958		1.177	,245
usage	,350	.046	,734	7,651	<.001

Source: Data processed by SPSS

In the table above it can be seen that a constant value is 3.492, this number is a constant number which means that if there is no use of the SAP application, the value of smooth logistics is 3.492, in the use of the SAP application it has a value of 0.350 which is the regression coefficient for the variable use of the SAP application. This figure implies that for every 1% additional use of the SAP application, the smooth running of logistics will increase by 0.350, because the value is positive, it can be said that the use of the SAP application has a positive effect on smooth logistics.

d. Correlation and Determination Test

The results of correlation and determination show the magnitude of the relationship and influence of each variable, the results of the SPSS test for correlation and determination are presented in the table below.

Table 3. Correlation and Determination Test Results

Model	R	R Square	Adjusted R Square	std. Error of the Estimate
1	,734a	,539	,530	1,799

1. Correlation coefficient

From the table above, a correlation coefficient of 0.734 is obtained, where this value indicates that there is a relationship between the independent variable and the dependent variable of 73.4%.

2. Coefficient of Determination

The coefficient of determination is obtained with a value of 0.539, this indicates that 53.9% of changes in the dependent variable (logistics smoothness) can be explained by changes in the SAP application usage variable, while the remaining 46.1% is influenced by factors other than the variables used as indicators of research variables.

CONCLUSIONS

Based on the results of the problem formulation, research results and discussion on the effect of using SAP (System Application and Product in Data Processing) on the smooth running of

logistics at PT. Mitrahahtera Segara Sejati Samarinda by using the SPSS data processing application version 27, it can be concluded as follows:

1. Based on the results obtained by researchers, several factors become obstacles to the use of the SAP application (System Application and Product in Data Processing) for the smooth running of logistics at PT. Mitrahahtera Segara Sejati Samarinda. These factors include: Internet connection and human error which are obstacles to smooth logistics at PT. Mitrahahtera Segara Sejati Samarinda.
2. From the results that have been described, it can be concluded that the results of the research show that the variable using the SAP application (X) affects the smooth running of logistics (Y) at PT. Mitrahahtera Segara Sejati Samarinda is proven from the results of $t_{count} > t_{table}$ ($7.651 > 2.00$). where every increase in the use of the SAP application (System Application and Product in Data Processing) is followed by an increase in the smooth running of logistics.

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