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# Influence Distribution Logistics to Smoothness Operational Ships at PT. Humpuss Transportasi Kimia

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**Abstract:** PT. Humpuss Transportasi Kimia is a company private sector engaged in shipping. Based on the data, the existing problems discuss the distribution of logistics for the smooth operation of the ship. The purpose of this study is to determine and analyze the extent to which the influence of distribution logistics to smooth operational ships at PT. Humpuss Transportasi Kimia. The research was conducted by processing data from the distribution status distribution goods logistics on ships and operational performance boat PT. Humpuss Transportasi Kimia. Type research used is method quantitative. Data collection is carried out with distributed questionnaire direct to 20 related respondents with procurement and delivery goods operational ships, namely the division of procurement, logistics, and operations. In looking for results calculated using the SPSS 24.0 program and some data analysis, namely: analysis statistics descriptive, instrument test, assumption test classic, coefficient test correlation, coefficient test determination, and hypothesis testing. Withdrawal conclusion in the study this conducted by comparing the data obtained from answer respondents. based on the acquisition of questionnaire data and data processing. Retrieved amazing results that variable distribution logistics take to effect positive by significant to smoothness operational boat with t count > t table or 3,739 > 2,100.

**Keywords:** Distribution Logistics, Operations Boat

## INTRODUCTION

PT. Humpuss Transportasi Kimia is a private company engaged in shipping and ships owned by PT. Humpuss Transportasi Kimia consists of 6 tankers, 2 LPG/C vessels, and 3 tug boats. In its operations, ships at PT. Humpuss Transportasi Kimia uses a charter system, the type of charter used is Time Charter or Voyage charter, and all ships are rented out to shippers as owners of goods or cargo. In operating the ship such as the crew, the use of fuel, supplies, salaries, and crew insurance is the responsibility of the ship owner.

To support the smooth operation of the ship, it is necessary to have good ship conditions with procurement and delivery on time and in accordance with the required

quantity. The procurement and delivery process is carried out by every company, both small and large companies. PT. Humpuss Transport Kimia has organized the procurement and delivery division into two divisions, namely, the procurement division and the logistics division. Basically, the procurement division has the task of receiving requests for goods and services from ships and determining which suppliers will be purchased with the approval of the board of directors, while the logistics division regulates the receipt of goods from suppliers and distributes them to the ship according to the specified time with effective and efficient delivery costs in order to create smooth ship operations expected by the company. To overcome the effectiveness and efficiency in shipping, PT. Humpuss Transportasi Kimia has designed a logistics distribution pattern for shipping onboard.

The smooth operation of the ship is one of the important factors for the company in creating the expected goals. However, in reality, the ship's operations experienced several obstacles, such as the delay in the delivery of ship operational goods. The following is the logistics distribution data for PT. Humpuss Transport Kimia:

**Table 1. Ship Operational Goods Distribution Data for the Period 2011-2020**

| No | Year | Ship Operational Goods Distribution |
|----|------|-------------------------------------|
| 1  | 2011 | 111 |
| 2  | 2012 | 114 |
| 3  | 2013 | 117 |
| 4  | 2014 | 122 |
| 5  | 2015 | 116 |
| 6  | 2016 | 119 |
| 7  | 2017 | 120 |
| 8  | 2018 | 125 |
| 9  | 2019 | 127 |
| 10 | 2020 | 109 |

Source: PT. Humpuss Transportasi Kimia Delivery Order, reprocessed 2021

Ideally, distribution is carried out 144 times a year from 12 vessels owned by the company, it can be said that every month at least one operational item is sent to each ship. If distribution goods are not met, then the distribution occurs in the following month. There are several obstacles such as delays in the distribution of operational goods due to the decreased frequency of ship visits due to the pandemic, lack of communication between the crew ships, employees and suppliers regarding the planning of delivery of goods. and the unavailability of the requested goods from the supplier due to the ship crew requesting the goods too suddenly and needed as soon as possible (urgent).

**Table 2. PT Humpuss Transportasi Kimia**
**Ship Operational Data**

| No | Year | Ship Operation |
|----|------|----------------|
| 1  | 2011 | 4.143 |
| 2  | 2012 | 4.146 |
| 3  | 2013 | 4.154 |
| 4  | 2014 | 4.162 |
| 5  | 2015 | 4.144 |
| 6  | 2016 | 4.147 |
| 7  | 2017 | 4.174 |
| 8  | 2018 | 4.187 |
| 9  | 2019 | 4.198 |
| 10 | 2020 | 3,833 |

Source: PT. Humpuss Transportasi Kimia Ship Operational Data

The above shows the operational data of ships each year, of the 12 vessels owned by the company, the maximum operating time for one vessel is 365 days and if 12 vessels it is 4,380 days. In 2020 there was a significant decline due to several internal factors from PT. Humpuss Transportasi Kimia, this was due to the disruption of waiting time at the port due to the length of time anchor ships waiting for operational goods needed in shipping resulting in decreased ship operational performance.

**Identification Problem**

Based on the background that has been described. The author identifies the problem, namely:
1) The delay in the distribution of operational goods due to the decreased frequency of ship visits due to the pandemic.
2) Unavailability of goods requested from suppliers due to too sudden and urgent goods.
3) Lack of communication between suppliers, ship crews and employees regarding the planning of shipping goods.
4) Disruption of waiting time for ships at the port which is a pattern for distribution areas.

**Purpose and Benefits Study**

1) Research purposes
   a) To find out, analyze and measure the effect of delays in logistics distribution on the smooth operation of ships at PT Humpuss Transport Kimia.
   b) To find out, analyze and measure the effect of decreasing the smooth operation of ships at PT. Humpuss Transport Kimia.
2) Benefits of research
   a) Theoretically, the results of this study are expected to be useful. Contribute to the development of theories, especially in the distribution flow of logistics and sea transportation and as a basis and reference for further research related to the performance of procurement, logistics distribution and ship operations.
   b) By Practical Helping the company to optimize the performance of the logistics division as feedback in order to achieve the expected smooth operation of the ship

**RESEARCH METHOD**
**Data Description**
**Distribution Logistics X**

According to Abubakar (2018: 60) states that the distribution channel is a marketing activity that seeks to facilitate and facilitate the delivery of goods and services from producers to consumers, so that their use is as needed. Whereas According to Hasan et al (2012:85) logistics is the process of procurement, beautification, and storage of materials, parts, spares, supplies goods so, and flow of information related, via organizations and channels its marketing. distribution channels can be measured from several indicators, namely: a) Availability of goods b) Order process c) Speed in delivery d) Ease of obtaining product

**Operational Y ship**

According to Wahyu Agung P (2014:22), what is meant by ship operation or operational boat is activity demolish load goods from boat to land or otherwise. The operational performance of the ship consists of: Waiting time is the time from the submission of the request for mooring after the ship arrives at the anchoring location until the ax is moved to the mooring. Or it can be defined as the delay time waiting for the pilot service in the harbor waters to dock to the dock; The scouting service time (Approach Time) is the

amount of time used for the ship to move from the anchoring location to tie the rope at the mooring or vice versa. It can also be defined as the time of guiding the ship from where the ship docks until it docks at the dock or vice versa; The mooring time (Berthing Time) is the time from the start until the rope is untied at the mooring.

## Research time

The author conducted the research while conducting the Real Work Practice onshore Practice (PRADA) for 12 months starting from July 23, 2019, to August 14, 2020. This research was conducted by the author at PT. Humpuss Transportasi Kimia has address at Jl. HR Rasuna Said Blok X-1 Kav. 8-9, Kuningan, loyal Budi, Jakarta, Indonesia.

## Approach Method

In this study, the author uses using a quantitative approach method. This quantitative method serves to understand the social context more broadly and deeply by using descriptive development, meaning that the author tries to describe a portrait of the problems that exist in the field and what PT. Humpuss Transportasi Kimia in increasing effectiveness distribution goods operational.

## Data collection technique

In discussing and researching a problem, it takes data related to the problem to be discussed, then compiled and analyzed, so that a clearer picture can be obtained and makes it easier for the author to solve the problem. In completing this research, the writer collects the data and information needed to complete this research material by using "Field Research" and "Library Research". Field research is research to obtain the necessary data through observation and asking questions primary data about the company PT. Humpuss Transportasi Kimia and Library Research is a research to obtain secondary data namely data obtained from reading literature books and articles related to distribution and fluency delivery goods. This is intended to obtain an overview of the problems to be discussed and to obtain the concepts needed in the discussion. In this field research uses the following techniques. : Observations are made to make direct observations to the object of research to see the daily activities carried out by employees regarding the process and flow of procedures starting from requests. goods until the delivery of goods to on ship. In this technique, the author uses research directly by visiting the place under study. In this observation, the researcher looked directly at the PT. Humpuss Transportasi Kimia. Where in the observation section, the author observes influence of distribution logistics on smoothness operational ship.The questionnaire is a data collection technique that is done by giving a set of written questions to respondents to answer (Sugiyono, 2013:199). Questionnaires are an efficient data collection technique if the researcher knows with certainty the variables to be measured and knows what to expect from the respondents. Questionnaires can be in the form of closed or open questions/statements, can be given to respondents directly or sent by post, internet, or directly face to face between researchers and respondents.

## Research subject

The population is a generalization area consisting of objects/subjects that have certain quantities and characteristics determined by researchers to be studied and then drawn conclusions (Sugiyono, 2011). 2016:135). population from the study is employees of the procurement division, logistics division, and operational division totaling 20 respondents. Whereas The sample is part of the number and characteristics possessed by the population (Sugiyono, 2016:81) for taking a sample, author uses the method of sample saturation.

Method fed up is technique determination when all member population used Becomes sample, thing this because at least amount respondents.

## FINDINGS AND DISCUSSION
### Respondent Data
### Respondent Characteristics

Characteristics of respondents are a variety of backgrounds back owned by the respondent himself. These characteristics are to see what kind of background respondents have in this study focused on age, last education, and length of work at PT Humpuss Transport Kimia. The results obtained are as follows:

### Age

**Table 3. Respondent data based on age**

| No | Age respondent | Amount | Percentage |
|----|----------------|--------|------------|
| 1 | <20 Years | 0 | 0% |
| 2 | 20-30 Years | 2 | 11.1% |
| 3 | 31-40 Years | 4 | 16.7% |
| 4 | 41-50 Years | 10 | 55.6% |
| 5 | >51 Years | 4 | 16.7% |
| 6 | Total | 20 | 100% |

Source: results of questionnaire processing (2021)

Based on the data above, it can be concluded that the respondent's data based on age are less than 20 years (0%), 20-30 years (11.1%), 30-40 years (16.7%), 40-50 years (55.6 %), over 50 years (16,7%).

### Based on Last Education

**Table 4. Respondent data based on education final**

| No | Last education respondent | Amount | Percentage |
|----|---------------------------|--------|------------|
| 1 | SENIOR HIGH SCHOOL | 0 | 0% |
| 2 | D3 | 0 | 0% |
| 3 | D4/S1 | 12 | 55.6% |
| 5 | S2 | 8 | 44.6% |
| 6 | S3 | 0 | 0% |
|  | Total | 30 | 100% |

Source: results of questionnaire processing (2021)

Based on the data above, it can be concluded that the respondents' data based on education are SMA/Equivalent (0%), Diploma (0%), Undergraduate S1/D4 (55.6%), Post Graduate S2 (44.4%), and Doctoral (0 %)

### Based on the length of work

**Table 5. Respondent data based on length of work**

| No | Length of work | Amount | Percentage % |
|----|----------------|--------|--------------|
| 1 | 1-2 years | 1 | 5.6% |
| 2 | 3-5 years | 3 | 11.1% |
| 3 | >5 years | 16 | 83.3% |

| | amount | 20 | 100% |
|---|---|---|---|

Source: results of questionnaire processing (2021)

Based on the data above, it can be concluded that the respondent's data based on the length of work at PT Humpuss Transpotasi Kimia are 1-2 years (5.6%), 3-5 (11.1%) and >5 years (83.3%).

**Instrument Test**
**Validity test**
The validity test was carried out with the help of the SPSS version 24.0 application program with the aim of knowing whether or not each question was asked to the respondent. The validity test that has been carried out in this study is shown in the following table

**Table 6. Item Validity**

| No | Variable | Number of Items | Valid Items | Note. |
|---|---|---|---|---|
| 1 | Distribution Logistics (X) | 7 | 7 | **Valid** |
| 2 | Smoothness Operational Boat (Y) | 9 | 9 | **Valid** |

How to find out whether a questionnaire is valid or not, by looking for r tables first. The formula for r table is df = N-2 so 20-2 = 18. In the predetermined chart we can see r table so that r table = 0.443. From the results of the calculation of the validity of the table above, it can be seen that r count > r table where all 16 questions are declared valid.

**Reliability Test**
In reliability testing, it is carried out to measure whether or not a questionnaire in the study is used to measure the influence or not of the influence of variable X with variable Y. The results of the reliability test in the research table are as follows:

**Table 7. Reliability Testing**

| No. | Variable | Reliability Value | Interpretation |
|---|---|---|---|
| 1 | X | 0.636 | STRONG |
| 2 | Y | 0.892 | VERY STRONG |

Source: Primary data processed

Based on the results in table 4.15 above, it is known that the alpha value of the logistics distribution variable is 0.636 and the smooth operation of the ship is 0.832. Then this value is compared with a value of 0.600 and it can be concluded that alpha X = 0.636 > 0.600, and alpha Y = 0.892 > 0.600, which means that the data questionnaire items in the study are declared reliable.

**Data Analysis**
**Regression Test**
**Regression of X against Y (simple)**
The regression equation model is obtained:

$$Y = 5.872 + 1.045X$$

From the coefficients of the simple linear regression equation above, it can be interpreted that the regression coefficient for a constant of 5.872 indicates that if the variable

has a fixed value, it will increase the smooth operation of the ship by 5.872 units or by 5.8%. The logistic distribution variable is 1.045 which shows that if the logistic distribution variable increases by 1 unit, it will increase the smooth operation of the ship by 1.4%, the regression coefficient is positive, so it can be said that the effect of the X variable on Y is positive.

**Hypothesis Test**
**T Uji test**
        The partial hypothesis testing in question is to find out how far the influence of 1 independent variable on the dependent variable. The results of the hypothesis in this test are h: that t count > t table (3.739 > 2.100) with a smaller sig (0.002 < 0.05) meaning Ho is rejected and H1 is accepted or the independent variable has a significant effect on the dependent variable.

**Discussion**
**Distribution Effect Logistics to Operations Boat**
        The results of the research that has been carried out by researchers produce a t test of 3,739 > t table 2,100 and sig value of 0.002 < 0.05. Based on the data above, that the variable distribution logistics in this study have a positive and significant effect on the operations ship PT. Humpuss Transportasi Kimia simple regression analysis, the value of (b) = 1.045 is obtained. This means that the logistic distribution variable affects employee performance by 1,045 or has a positive effect, which means that if the distribution variable increases by 1, it affects employee performance by 1,045. In addition, respondents' answers to each indicator question, the logistics distribution variable have indicators that greatly affect the ease of obtaining products with a percentage of 82%, followed by the availability of goods, which has a percentage of 80%. While in the operational variables of the ship there is a single indicator that dominates and influences the smooth operation of the ship, namely the berthing time indicator (mooring time) with a percentage score of 81%.
        Based on the discussion above, the hypothesis in this study is accepted, which means distribution variable logistics has a positive and significant effect on the smoothness of operational boats at PT. Humpuss Transportasi Kimia.

**CONCLUSION**
        The conclusion is based on the results of research that has been carried out, after going through the stages of data collection, data processing, data analysis, and discussion of the results of the analysis regarding the effect of logistics distribution on the smooth operation of ships at PT. Humpuss Transportasi Kimia, using normal distribution data, and there is no heteroscedasticity, then can be concluded as follows:
        From the results of data analysis in the relationship of logistics distribution (X) to the smooth operation of ships (Y) at PT Humpuss Transport Kimia has a t-count value of 3.739 with a significance value of 0.002, it can be said that the variable distribution of goods (X) has a significant relationship to smoothness. ship operations (Y) because t arithmetic > t table is 3,739 > 2,100 with a significant value < 0.05 (0.002 < 0.050) so that it can be concluded that the distribution of goods has a positive relationship to the smooth operation of ships which if the distribution of goods increases there will also be an increase to the smooth operation of the ship.
        In the results of the analysis using the method of determination or the determinant coefficient states that the distribution of logistics affects the smooth operation of 43.7% while 56.3% is influenced by other factors outside of this research model, namely transportation costs, mileage, and other variable factors.

In the results of the analysis using descriptive statistical methods, it is measured that from the logistics distribution variable there are indicators that greatly influence the ease of obtaining products with a percentage of 82%, followed by the availability of goods, which has a percentage of 80%. While in the operational variables of the ship there is a single indicator that dominates and affects the smooth operation of the ship, namely the berthing time indicator (mooring time) with a percentage score of 81%

## BIBLIOGRAPHY

Manahan P. Tampubolon. (2014). Manajemen Operasi & Rantai Pemasok (Operation and Supply-chain Management). (edisi pertama). Jakarta: Mitra Wacana Media.

Siahaya, Willem. 2016. Sukses Supply Chain Management Akses Demand Chain Management.Cetakan Keempat. Penerbit IN MEDIA Bogor

Sarinah., Mardalena. 2017. Pengantar Manajemen.Yogyakarta: CV Budi Utama

Yulianti, Evi dkk.2018. "Sistem Informasi Pengiriman Barang Pada PT. Vira Surya Utama Palembang" dalam jurnal ilmuah informatika global vol 09 NO. 01 JULI 2018. Palembang: JURNAL INFOTMATIKA GLOBAL.

Capt. R. P. Suyono, M. Mar, 2007, Shipping Pengangkutan Intermodal Ekspor Impor Melalui Laut Edisi IV, Jakarta.

Sugiyono. (2014). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung: Penerbit Alfabeta.

Sunyoto, Danang. (2011). Praktik SPSS Untuk Kasus, Yogyakarta: Penerbit Nuba Medika.

Li, X. (2014). Operations Management of Logistics and Supply Chain: Issues and Directions Review. Discrete Dynamics in Nature and Society, 1-7.

Larson, Paul D. and Halldorsson, Arni. 2004. Logistics versus supply chain management: an international survey. International Journal of Logistics Research and Applications, 7 (1), 17-31

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