

The Effect Of Quay Quality And Captain Competence On Shipping Efficiency Of Ferry Boat

Maria Magdalena^{1*}

¹Institut Transportasi dan Logistik Trisakti, Jakarta, Indonesia

*Corresponding Author: m4rch38@gmail.com

Abstract

This research aimed to investigate of the effect of quay quality and captain competence on shipping efficiency of ferry boat at Merak Port, 2018. The research method used is a survey. The number of research samples was 50 captain. Data analysis using descriptive and inferential statistical analysis by using regression. The results show: there is a positive and significant effect of quay quality on shipping efficiency, there is a positive and significant effect of captain competence on shipping efficiency, and there is a positive and significant effect of quay quality and captain competence simultaneously on shipping efficiency. The conclusions of the research: there is a positive and significant effect of quay quality and captain competence on shipping efficiency, both partial and simultaneously, so that shipping efficiency can be increased through improvement of quay quality and captain competence.

Keywords: quay quality, captain competence, shipping efficiency

Introduction

Transportation needs are derived demand due to economic, social activities and so on. Within the macro-economic framework, transportation is the backbone of national, regional and local economies, both in urban and rural areas, so that the development of transportation is important. It means, in supporting and driving the dynamics of transportation development, it functions as a support for economic growth and regional development, including sea transportation through ferry shipping activities. But in reality not all shipping companies can carry out shipping activities efficiently.

Efficiency is needed in an organization to achieve its goals. According to Wirapati (in Syamsi, 2007), efficiency is an effort to achieve maximum performance by using the available possibilities (material, machine and human) in the shortest

possible time in a real state without disturbing the balance between goal, tool, energy, and time factors. While Ghiselli and Brown (in Syamsi, 2007) said that efficiency shows a comparison between output and input. Meanwhile Drucker (in Stoner, Freeman and Gillbert, 2008) suggests that efficiency is the ability to minimize the use of power in achieving organizational goals. Efficiency is also relevant to shipping activities. According to Setiawan, Jinca and Muhammad (2012: 2), shipping safety and security is the hope of sea transportation users connecting a port with other ports.

Shipping efficiency can be affected by the quality of the dock. The results of Purwanto's research (2011) indicate that service quality influences efficiency. Quality is a dynamic condition that is related to products, people / labor, processes, tasks and the environment that meets or exceeds the expectations of customers or consumers (Garvin & Davis, in Nasution, 2010). Quality is also a conformity with the needs of the market or consumers (Abubakar & Siregar, 2010: 2), including the quality of the quay in the context of shipping. The quay is a port building that is used to berth and fast the ship that carry out loading and unloading of goods and places to ride passengers. The quay dimension is based on the type and size of the ship that is berth and fast to the dock. In considering the size of the quay, it must be based on minimal measures so that the vessel can tie or leave the dock or carry out loading and unloading of goods can be carried out safely, quickly and smoothly (Triadmodjo, 2010).

Thus it can be hypothesized:

H₁: the quality of the quay affects the efficiency of shipping.

In addition, shipping efficiency can also be addressed by the master's competence. The results of Mu'minin, Alfani, and Sulastin (2015) and Berg, Storgård and Lappalainen (2013) research show that the competence of ship crews influences shipping efficiency. Competence is the capacity that exists in someone who can make the person able to meet what is required by the work in an organization so that the organization is able to achieve the expected results (Boyatzis, in Drina, et

al., 2014). Hellriegel and Slocum (2011: 8) say that competence is a group that is interrelated with the knowledge, skills, and abilities needed by an individual, team, or organization for effective performance. Aspects of competency can be identified as follows: ability, knowledge, understanding, value, attitude, and interest (Gordon, in Sutrisno, 2012: 204).

Thus it can be hypothesized:

H₂: the master's competency affects the efficiency of shipping.

From the description above, it can be seen that partially the quay quality and the master's competency have an effect on shipping efficiency, so that it can be hypothesized:

H₃: the quality of the quay and the master's competency together influence the efficiency of shipping.

Method

This study used a survey method. The population is 50 Master of ferry in Merak Harbor that mooring. While the sample is the same as the population (50 Master), so this study uses saturated samples using census techniques. The collections of data are using questionnaire instruments in the form of Likert scale. The results of the validity and reliability test of the questionnaire instrument showed: 6 valid and reliable quay quality questionnaire items, 14 valid and reliable master's competence questionnaire items, and 10 valid and reliable shipping efficiency questionnaire items. Data obtained from these instruments were analyzed by regression analysis.

Discussion and Results

The influence of quay quality on shipping efficiency as indicated by the regression equation $\hat{Y} = 8,218 + 1,218X_1$ is very significant. This can be seen from the value of $F_{\text{count}} (45,030) > F_{\text{table}}$ at $\alpha = 0,01 (7,17)$. For the regression linearity

test, the F_{count} value is 1,247, while the F_{table} value at $\alpha = 0,01$ with the dk numerator 12 and the dk denominator 36 is 2,66. Therefore, the value of $F_{\text{count}} < F_{\text{table}}$, the shipping efficiency regression equation for quay quality is linear. This means that the regression equation $\hat{Y} = 8,218 + 1,218X_1$ is very significant and linear. The constant value in the regression equation shows that when the quay quality variable has a score of 1,218, the shipping efficiency has a score of 8,218. The regression coefficient means that every increase in a quay quality score will be followed by an increase in shipping efficiency score of 1,218 at a constant of 8,218. The correlation coefficient is 0,696. This shows a strong influence. Correlation significance test was obtained $t_{\text{count}} = 6,710 > t_{\text{table}} = 2.704$ at $\alpha = 0,01$, indicating that there was an influence of the quality of the quay on shipping efficiency, so that the better the quality of the quay, the higher the efficiency of shipping. The result of the determination coefficient $(r_{y1}^2) = 0,484$, which means 48,4% variation in shipping efficiency can be explained by the variation of quay quality through the regression equation $\hat{Y} = 8,218 + 1,218X_1$.

The influence of competence on shipping efficiency as indicated by the regression equation $\hat{Y} = 5,818 + 0,661X_2$ is very significant. This can be seen from the calculated F_{count} value (49,739) $> F_{\text{table}}$ value at $\alpha = 0,01$ (7,17). For the regression linearity test, the F_{count} value is 0,974, while the F_{table} value at $\alpha = 0,05$ with the dk numerator 18 and the dk denominator 30 is 1,96. The value $F_{\text{count}} < F_{\text{table}}$, so that the regression efficiency of the shipping efficiency for competence is linear. This means that the regression equation $\hat{Y} = 5,818 + 0,661X_2$ is very significant and linear. The constant value in the regression equation shows that when the competency variable has a score of 0,661 then the shipping efficiency has a score of 5,818. The regression coefficient means that every increase in one competency score will be followed by an increase in shipping efficiency score of 0,661 at a constant of 5,818. The correlation coefficient is 0,702. This shows a strong influence. Significance test obtained $t_{\text{count}} = 6,837 > t_{\text{table}} = 2,704$ at $\alpha = 0,01$, indicating that there is an influence of competence on shipping efficiency, so that

the better competence, the higher efficiency of shipping. The results of the determination coefficient (r_{y2^2}) = 0,493, which means 49,3% variation in shipping efficiency can be explained by variations in shipping efficiency through the regression equation $\hat{Y} = 5,818 + 0,661X_2$.

The influence of quay quality and competency together on shipping efficiency is obtained constant (a) of -4,758, regression direction coefficient for quay quality (b_1) = 0,856 and regression direction coefficient for competence (b_2) = 0,471. Thus the influence of quay quality and competency together on the shipping efficiency obtained by the regression equation $\hat{Y} = -4,758 + 0,856X_1 + 0,471X_2$. The significance test of the regression equation is very significant with an indication of the F_{hitung} value (52,706) > F_{table} value (5.06) at $\alpha = 0,01$ so that. The quay quality correlation coefficient and competency together with shipping efficiency is 0,832. The correlation coefficient shows a very strong and positive influence, so that the better quay quality and competency, the higher efficiency of shipping. The significance test of multiple correlation coefficients obtained the value of $F_{count} = 52,706 > \text{nilai } F_{table} = 7,17$ at $\alpha = 0,01$, so that the correlation coefficient of quay quality and competence together with shipping efficiency which has a correlation coefficient (0,832) is very significant. The determination coefficient is 0,692 or the variation of the coefficient of determination is 69.2%. This means that 69,2% variation in shipping efficiency can be explained by the quality of the quay and competence through the regression equation $\hat{Y} = -4,758 + 0,856X_1 + 0,471X_2$. While the remaining 30,8% (100-69,2) is explained by other variables not included in this study.

The results of this study prove that the quality of the quay has a positive and very significant effect on shipping efficiency. This shows that the quality of the quay is very important and vital for shipping efficiency. The quality of the quay is a building that meet the requirements in the port area as a place for loading and unloading of goods, raising passengers for ships that are moored, with indicators:

the type and size of the ship berth to moor. If the quality of the quay is used for the mooring of ships according to the needs of the vessel to moor, then it will encourage the efficiency of ferry shipping, namely the activity of achieving the destination correctly by using resources, time, minimum power and cost with maximum results, by looking at the time allocation and technical safety. Purwanto (2011: 143) also shows that quality through its aspects has a significant effect on efficiency. Thus the findings of this study are appropriate and support previous research that the quality of the quay has a positive and significant effect on shipping efficiency, with the research setting is the ferry company.

The results of this study also prove that competence has a positive and very significant effect on shipping efficiency. This shows that competence is very important for shipping efficiency. Competence is a set of someone's mastery that comes from their skills, training and experience so that they can carry out their duties professionally in order to achieve their intended goals, which are reflected in the indicators: understanding, abilities, interests, and skills. When the competence of the Chief Officer in the form of understanding, ability, interest, and skills in good / high conditions can stimulate an increase in the efficiency of ferry shipping, namely the activity of achieving the goal correctly by using resources, time, energy and minimum costs with maximum results, by looking at the time allocation, and safety techniques. The results of Mu'minin, Alfani, and Sulastin's research (2015: 11) also show that competence influences shipping efficiency. This means that the findings of this study are appropriate and support previous research that competency has a positive and significant effect on shipping efficiency, with the setting or research setting of the ferry company.

In addition, the results of this study also prove that dock quality and competence together have a positive and very significant effect on shipping efficiency. This shows that dock quality and competency are very important and vital for shipping efficiency, especially ferry shipping. As described above that the quality of the dock is a building that is in accordance with its requirements in the port area as a

place of loading and unloading of goods, ascending passengers for moored ships, which is reflected in the type and size of the docked vessel to tie, while the skipper is a set of someone who sourcing from their expertise / skills, training, and experience so that they can carry out their duties professionally in order to achieve predetermined goals, which are seen in their understanding, abilities, interests, and skills. When simultaneously the existence of dock quality in accordance with the vessel's need for mooring and the skipper's competence in good / high conditions, it can stimulate an increase in the efficiency of ferry shipping. This is in accordance with the results of Purwanto's research (2011: 143) and Mu'minin, Alfani, and Sulastin (2015: 11) that quality and competency affect efficiency, so the findings of this study are appropriate and support previous research that quality and competency have a positive and significant to shipping efficiency, with the research setting is the ferry company.

Conclusion

The conclusion of the study is that there is a significant influence of quay quality and Master's competence on the efficiency of ferry shipping, both partial and simultaneous, so that the efficiency of ferry shipping can be improved through improvement of quay quality and Master's competence.

References

- Abubakar dan Amelia N. Siregar, 2010. "Kualitas Pelayanan Penyuluh Pertanian dan Kepuasan Petani dalam Penanganan dan Pengolahan Hasil Ubi Jalar," *Jurnal Penyuluhan Pertanian*, Vol. 5, No. 1.
- Berg, Nora, Jenni Storgård and Jouni Lappalainen, "The Impact of Ship Crews on Maritime Safety," *Urun Yliopisto/University of Turku Merenkulkualan Koulutus-Ja Tutkimuskeskus Centre For Maritime Studies*, ISBN 978-951-29-5307-3 (Paperback) ISBN 978-951-29-5308-0 (PDF) ISSN 1456-1816, 2013, pp. 1-44.
- Drina S, Ria Mustikah, Susi sulandari, Rihandoyo, 2014. "Pengaruh Kompetensi Sumber Daya Manusia dan Budaya Organisasi Terhadap Kinerja Badan

- Perencanaan Pembangunan Daerah Kabupaten Batang,” *Journal of Public Policy and Management Review*, Universitas Diponegoro, Vol. 3 No. 3.
- Hellriegel, Don and John W. Slocum, Jr, 2011. *Organizational Behavior*, 13th Edition. Mason: South-Western, Cengage Learning.
- Mu'minin, Abdul, Muhammad Alfani dan Sulastin, 2015. “Pengaruh Kompetensi Sdm, Budaya Organisasi dan Gaya Kepemimpinan Terhadap Kinerja Karyawan Pada Perusahaan Pelayaran Pengangkut Batu Bara Kota Banjarmasin,” *Jurnal AL-KALAM, (Jurnal Komunikasi, Bisnis dan Manajemen) UNISKA Banjarmasin*, Volume 2, No. 1, pp. 11-21.
- Nasution, M Nur, 2008. *Manajemen Transportasi*, Edisi Ketiga. Bogor: Ghalia Indonesia.
- Purwanto, F. X. Adi, 2011. “Analisis Kualitas Pelayanan dan Perilaku Pelanggan Perusahaan Pelayaran Internasional,” *Jurnal Aplikasi Pelayaran dan Kepelabuhanan*, Vol. 1, No. 2, hh. 143-155.
- Setiawan, Hadi, M. Y. Jinca, dan A. Haris Muhammad, 2012. “Kebutuhan Marine Inspector Pada Pelayanan Kunjungan Kapal di Pelabuhan Sukarno-Hatta Makassar Marine Inspector to Service The Needs of Shipping Call of The Port Sukarno-Hatta Makassar,” *J. Sains & Teknologi*, Vol. 1, No. 2, pp. 166-173.
- Sutrisno, Edy, 2012. *Manajemen Sumber Daya Manusia*. Jakarta: Kencana Prenada Media Group.
- Stoner, James A. F., Freeman, Gilbert, 2008. *Manajemen*, Alih Bahasa Alexander Sindoro. Jakarta: PT. Prenhallindo.
- Syamsi, Ibnu, 2007. *Efisiensi, Sistem, dan Prosedur Kerja*. Jakarta: PT. Bumi Aksara.
- Triatmojo, Bambang, 2010. *Perencanaan Pelabuhan*. Yogyakarta: Beta Offset.