

**A STUDY ON IMPORT CONTAINER MOVEMENT AT THE JOHOR PORT CONTAINER TERMINAL**

**Aida Zulkifli<sup>1</sup>, Rozelin Abdullah<sup>2\*</sup>, Muhammad Zani Muhammad<sup>3</sup>, Donnavan Tan<sup>4</sup>**

<sup>1,2,3,4</sup>Industrial Logistics, Malaysian Institute of Technology, Universiti Kuala Lumpur

Email: <sup>1</sup>[freelyzeely2@gmail.com](mailto:freelyzeely2@gmail.com), <sup>2</sup>[rozelin@unikl.edu.my](mailto:rozelin@unikl.edu.my), <sup>3</sup>[mzani@unikl.edu.my](mailto:mzani@unikl.edu.my), <sup>4</sup>[donn@unikl.edu.my](mailto:donn@unikl.edu.my)

Received: 25.03.2020

Revised: 23.04.2020

Accepted: 01.06.2020

**Abstract**

Import container is a container that arrives at container terminals from abroad and transits to their destination via land transport, feeder or waiting to be taken by the consignee. Sometimes, the trucks assigned by the receivers are sent more or less at random to take a certain container. The purpose of this study was to understand the current process of import container movement at Johor Port Import Block and make a recommendation to reduce the slow container throughput at the port. Hence, the researcher will come out with the problem that involve through the container movement and also analyzed the Standard Operation Procedure at Johor Port Container Terminal.

**Index Terms**-- Delay, Port Congestion, Container Terminal

© 2020 by Advance Scientific Research. This is an open-access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>)  
DOI: <http://dx.doi.org/10.31838/jcr.07.08.08>

**INTRODUCTION**

This article focus on the import container movement at Johor Port Container Terminal. The process of import container movement also has been studied by researcher. Import container movement is about the movement of the import container arrived at the berthing area and quay crane will unloaded the container to the chassis and will be hauled by the utility truck terminal holder to send at the container yard. This is the part of the process of the import container movement at the Johor Port Container Terminal.

Nowadays, maritime transportation is one of mode of transportation that has major part in logistic industry. The transportation described the movement of the cargo or passenger or both to satisfy the demand and supply of customers. Maritime transportation is also a vital component of economic trade between nationwide countries. It enhances the economic growth and increase market share of port. [1]

**LITERATURE REVIEW**

Nowadays, maritime transportation is one of mode of transportation that has major part in logistic industry. The transportation described the movement of the cargo or passenger or both to satisfy the demand and supply of customers. Maritime transportation is also a vital component of economic trade between nationwide countries. It enhances the economic growth and increase market share of port. [1]

The delays had forced manufacturers in PasirGudang to truck their imports of raw materials from Singapore to avoid stoppage on production, increasing outflow of the country foreign exchange. [2]

Johor Port is a largest palm oil terminal port in Malaysia which located at the southern-most tip of Peninsula Malaysia and it is strategically positioned in the center of the sprawling 8,000-acre PasirGudang Industrial Estate which linked to important commercial and industrial centers in Malaysia as well as other ports and neighboring countries such as Singapore. Besides, Johor Port has grown since 1979 handling between 750,000 and 800,000 TEUs (twenty-foot equivalent units) and handling import and export shipment to satisfy the demand of clients and customers. [1]

Severe delays in ship berthing at the terminal of Johor Port had caused vessel operators to suffer tremendous losses in high running costs in charter-hire, schedule integrity and

misconnections. For example, haulage companies were detained longer by the exporters, staging of containers at undesignated storage areas and security risks such as theft. [2]

The documentation of import containers should be complete and accurate information by the importers before given to the customs brokers to ensure the smooth flow at custom [3]. The procedures at customs should be follows by the importers in order to ensure the container and cargo safely arrives to the importers. The incorrect documentation will make the customs authorities to check the cargo and make the process at customs became longer.

There will be up and down in port terminal especially when it comes in shipping industry. The challenges were including the traffic congestions at ports and waiting time of trucks in port terminal.

According to (Carlo et. al, 2014), traffic increases demand for storage space at harbor ports. Users and port operators sometimes have some problems when it comes to traffic. Serious and complicated operation challenges for port operators in providing efficient services have been created with a combination of container throughput improvements and lack of storage capacity. [3]

Traffic Congestion is causing the delay in operation at port. The traffic situation affected the ship berthing at Lagos Port whereby Lagos Port is near to the commercial city, Apapa. Ships berth if it comes into ports to discharge the import goods and load export goods.

The city itself had a worse road condition which is traffic grid-lock so it made the trucks took a longer time at the city before enter the port and affected the ships to queue up and stay longer at the port. Next, the discharge goods would be taken away by the trucks and when the trucks unable to get in the port, the ships would remain at the port to discharge the goods. This can be proven that the traffic congestion would lead to delay in the shipment and effect negatively in many things. [4]

The objective of the paper is to study the process of import container movement at Johor Port Container Terminal. Next, the objective is to identify the problem faced during the operation of container movement at Johor Port Container Terminal. Last but not least, to analyze the standard operation procedure (SOP) of Johor Port.

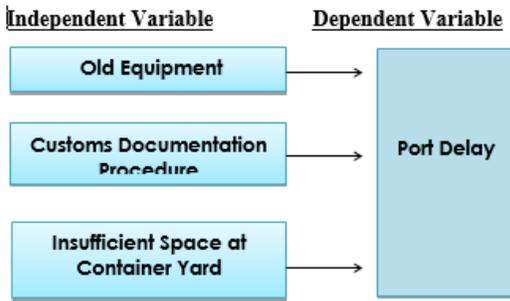


Figure 1. Conceptual Framework

**METHODOLOGY**

The paper is using the qualitative case study where the study is focus to study on import container movement at Johor Port Container Terminal. To carry out this method, an interview will be done with four interviewees such as Senior Manager of Johor Port Container Terminal, freight forwarder from freight forwarding company, Executive Manpower of Johor Port Container Terminal and academic expert that have wide experience in logistics industry. The study was focused to study the process of import container movement at Johor Port Container Terminal and to identify the problem faced in the operation at Johor Port Container Terminal. The study the implement conduct qualitative case study as the best approach in this study. Data is transferred from verbal into transcription module and the coding process was applied. Then, the data is analyzed using the fishbone analysis.

In this chapter we discussed about the research method, which is qualitative method. It also covers the framework where the research will structurally be organized and prepared. Furthermore, how the procedures are organized are being implemented in this study. In this chapter has been discussed on the data collection approached and steps on how the analysis process has been carried out for the gathered data. In this chapter, the method used to gather information or data is using interviews session. The procedure or step taken analyzing the data had also been explained in the study.



Figure 2. Interview Process Diagram

**RESULT AND DISCUSSION**

The researcher had interview four people that had different background that related with the study. The researcher chooses to interview Mr. Tom from Netherlands Maritime Institute of Technology (NMIT) represents academic expert, Mr. Victor from Panda Global Logistics (M) Sdn. Bhd. represents freight forwarder company, Mrs. Malina Binti Muhammad Ali Jinah from Johor Port Berhad represents Senior Manager Container Terminal and Mr. Nazri from Johor Port Berhad represents executive manpower unit Container Terminal. The result of interview then will explain detail in the table and all the interviewee had answered the questions very well and help the researcher to achieve the objective.

Based on the interview question, the main problem faced by Johor Port Container Terminal is old equipment. Johor Port has been operating in many years. Some of their equipment are not being replaced. The performance of old equipment caused the delay in operation of import container movement at Johor Port. The second problem faced by Johor Port Container Terminal is the insufficient space. The space is limited especially at container yard at Johor Port Container Terminal. This is because of geographical limitation. All interviewee agreed that Johor Port has the most problem on the insufficient space at container yard. They had given best points and views regarding the problems of insufficient space. Next, the problem faced by Johor Port Container Terminal is custom documentation procedure. From the interview, the researcher obtained the result whereby the custom documentation procedure is the least problem faced by Johor Port Container Terminal. It remained the least problem at Johor Port based on the data analysis whereby interviewee given least opinion based on the problem and they think the problem of documentation process is rarely happened.

Based on the finding, it can be concluded that researcher had study on the process of import container movement from starting until the end. Besides that, the researcher identified the problem faced during the operation such as congestion, old equipment, documentation process and insufficient space at container yard that contribute to the delay of import container movement at Johor Port Container Terminal. The interviewee stated that Johor Port Container Terminal have problems in insufficient space at container yard, old equipment and documentation process. All of these problems contribute to the delay of import container movement with effect the whole operation such as late delivery of goods. Next, the researcher also had been given the Standard Operation Procedure (SOP) of Johor Port Container Terminal to be analyzed.

The researcher had interview industry experts including Puan Malina as Senior Manager represents Johor Port Container Terminal, Mr. Nazri as Executive Manpower Unit Container Terminal represents Johor Port Berhad, Mr. Victor Beins as General Manager represents Panda Global Logistic (M) Sdn. Bhd and last but not least Mr. Tom represents Head of Academic from Netherland Maritime Institute of Technology (NMIT). By doing this study, the researcher can study the process of import container movement at Johor Port Container Terminal. All of the interviewees had explained the process of import container movement at Johor Port Container Terminal from starting until the end. The researcher also had obtained the Standard Operation Procedure (SOP) of Johor Port Container Terminal with including the procedure of import of containers. The objective has been achieved.

The objective has been achieved. All the interviewees agreed that the problems faced during the operation can cause delay of import container movement. This can be proven as the interviewee agreed that the equipment at the Johor Port are very old and has operating for many years. Besides, Johor Port Container Terminal has insufficient space at container yard and cause delay in the import container movement. Moreover, custom documentation procedure was also affect the import container movement for instance for custom inspection at inspection bay, the container need to inspect first if the import containers had some issues such as incorrect documentation or the goods are not compatible with the documentation. These process takes times as the import container might have delay because of some certain issues occurred during custom inspection. The objective has been achieved.

The researcher had obtained the Standard Operation Procedure (SOP) of Johor Port Container Terminal to be reviewed and analyzed the SOP. The interviewees also had provided

recommendation regarding the import container movement at Johor Port Container Terminal. The objective has been achieved.

#### IMPROVEMENT AS PER REVIEWER COMMENT

##### A. Open-up the new container terminal

Based on the study, all the interviewee agreed that Johor Port Container Terminal has limited space especially at container yard due to geographical limitation. Besides, the strength of yard cannot accommodate the 6 high of container stacking. So, the yard really has insufficient space. The plan is to open-up a dry terminal at Pasir Putih. Some activities at Johor Port will divert to the terminal. (Mr. Victor) By opening-up the dry terminal, the operation of import container movement can reduce the delay in Johor Port.

##### B. Upgrade and Developing New System

Besides, the system should do improvement in order to reduce the delay in operation at the terminal. The port must have a good system at port to control the yard operation. The system will be used to know the container location to make the job of haulage become easier and the yard planning become more systematic. This new system will monitor the movement of container.

##### C. New Technology and Equipment

The study finds that Johor Port Container Terminal has lack of equipment and several equipment are old enough and slow operate in handling containers. The researcher feels that the port authority needs to upgrade and apply new technology and equipment at Johor Port Container Terminal. Johor Port can take other ports such as Port of Singapore and Port of Shanghai as a benchmark in order to upgrade the technology at their container terminal. The new technology such as automated guided vehicle (AGV) can be apply at Johor Port and it will reduce delay at port. Besides that, this new technology and equipment will boost the productivity at the port and can reduce the delay during the operation at port.

#### CONCLUSION

As a conclusion, the study has successfully achieved its objectives by providing answer to three importance research questions. The current process of import container movement and the problem faced during the operation at the port has been revealed and need a lot of improvement at the port. The researcher also analyzed the Standard Operation Procedure (SOP) to relate with the process of import container movement at Johor port Container Terminal.

#### ACKNOWLEDGMENT

The researcher conveys her gratitude to the Johor Port Authority for the support given during the data collection process of this research. A special thank you to Industrial Logistics colleague especially those in the Shipping and Maritime background willing to share experience and knowledge for this study.

#### REFERENCES

1. Rahman, N. S. F. A., Muridan, M., & Najib, A. F. A. (2015). A Maritime Forecasting Method for Analysing the Total Cargo Handling at Johor Port Berhad from 2013 to 2020. *International Journal of Business Management and Economic Research IJBMER*, 6(3), 187-93.
2. The Star(2010). Shippers add surcharge at JohorPort. <https://www.thestar.com.my/story/?file=%2F2010%2F11%2F15%2Fmaritime%2F7386696>
3. Canan Unal (2014). Most common situations/problems importers face with their shipments. <https://www.morethanshipping.com/most-common-situations-problems-importers-face-with-their-shipments/>
4. Carlo, H. J., Vis, I. F., & Roodbergen, K. J. (2014). Storage yard operations in container terminals: Literature overview, trends, and research directions. *European journal of operational research*, 235(2), 412-430.

5. Gidado, U. (2015). Consequences of port congestion on logistics and supply chain in African ports. *Developing Country Studies*, 5(6), 160-167.

#### AUTHORS

**First Author** – Aida Zulkifli, Bachelor of Industrial Logistics, Universiti Kuala Lumpur, Malaysian Institute of Technology (MITEC) and [freelyzeely2@gmail.com](mailto:freelyzeely2@gmail.com)

**Second & Correspondence Author** – Rozelin Abdullah, Master's in Business Administration (MBA), Universiti Kuala Lumpur, Malaysian Institute of Technology (MITEC) and [rozelin@unikl.edu.my](mailto:rozelin@unikl.edu.my)

**Third Author** – Muhammad Zani Muhammad, Universiti Kuala Lumpur, Malaysian Institute of Technology (MITEC) and [mzani@unikl.edu.my](mailto:mzani@unikl.edu.my)

**Fourth Author** – Donnavan Tan, Master in Transportation and Planning, Universiti Kuala Lumpur, Malaysian Institute of Technology (MITEC) and [donn@unikl.edu.my](mailto:donn@unikl.edu.my)