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THE EFFECTIVENESS OF TRUCK LOSSING CONTROL ON THE CONTAINER DELIVERY ONTIME PERFORMANCE TO REDUCE THE LEAD TIME OF DELIVERY ACTIVITIES AT NILAM TERMINAL TANJUNG PERAK PORT, SURABAYA

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Abstract: Nilam Terminal is managed by BUMN, namely Pelindo Terminal Petikemas, overseeing several companies that manage port services, both services for passengers and cargo in the form of loading and unloading Queues and receiving/delivery operations. In addition, Nilam Terminal also experienced technical and non-technical problems in carrying out its duties and responsibilities as a loading and unloading company. Departing from that issue, this study is an endevour to examine the effectiveness ofTruck Lossing Control and On Time Performance of Container Delivery to Reduce Lead Time of Delivery Activities at Nilam Terminal, Tanjung Perak Port, Surabaya. so if the external fleet is late in carrying out activities truck loss, then it has a big influence on truck loss activities, making the level of discrepancy on time performance large. As for how to control if the lead time in container unloading activities is not in accordance with what has been planned, it is to implement stack activities in the stacking field so as not to interfere with the planning that has been planned at the wharf.
The abstract is a one-paragraph, self-contained summary of the most important elements of the paper.

Keywords: *Lead Time, System Dynamic, Truck Lossing Effectiveness*

Introduction (Include Literature Review)

The development of the port will be largely determined by the development of commercial activities, the greater the commercial activity in the port, the larger the port will be. Moreover, the development of port infrastructure is one of the important factors to increase Indonesia's competitiveness. One way to increase competitiveness is to provide an infrastructure system and container handling services. Containers are an important method of transporting goods from one place to another using shipping services. Containers develop depending on the progress of the Times. Therefore, currently containers in Indonesia are at the forefront of sea transportation. Currently, there are many container terminals in Indonesia

devoted to container handling because the containers themselves require special handling and facilities during the loading and unloading process. Differences in shipping staff and facilities owned by each terminal container also makes the loading and unloading capacity of each container terminal different. The terminal is at least equipped with facilities such as docks, berths, and container parking lots as well as appropriate equipment to serve container handlers. (Suyono, 2007)

According to (Suntoro, 2020), Logistics is an art or science,used to proceed activities such as demand for goods, management, storage of goods, sales, delivery of goods and communication between suppliers and consumers. Therefore, logistics is a slice of management science where almost all interrelated activities are carried out slowly. All companies must carry out logistics activities, for example manufacturing companies and service product companies. According to (Hasibuan et al., 2021), Logistics is a service for delivery of finished goods or semi-finished goods in a certain amount, on time to the destination location and at an affordable cost.

Truck Lossing is a term used for the process of unloading containers from the dock directly to the depot. The important thing that needs to be considered is whether the number of existing fleets is sufficient to carry cargo (Suyono, 2005). In customer service, related to the implementation of loading and unloading of goods from and to outside the ship, the Unloading Company (PBM) is an Indonesian legal entity in the form of a limited liability company that carries out activities related to activities in the field of transportation, especially for cargo handling. Loading and unloading activities at ports include loading and unloading activities and receiving/delivery of goods, loading and unloading activities of goods are carried out by port workers. All loading and unloading workers must be on the basis of the government's policy, especially Peraturan Menteri Perhubungan Republik Indonesia tentang Penyelenggaraan dan {engushaan Bongkar Muat dari dan ke Kapal (2016). (PERATURAN MENTERI PERHUBUNGAN REPUBLIK INDONESIA TENTANG PENYELENGGARAAN DAN PENGUSAHAAN BONGKAR MUATDARI DAN KE KAPAL, 2016) .

From the statements as mentioned above, this study i san attempt to examine the effectiveness of truck losing control on the container delivery ontime performance to reduce the lead time of delivery activities.(Hikmah et al., 2021)

Method

This research is focused on container unloading operations that only use the truck losing method at Nilam Terminal, Tanjung Perak Port, Surabaya. The focus of the research is to make a conclusion as to what kind of control if there is a delay in container unloading activities. Therefore, this study intends to analyze how effective the control of truck losing is in supporting accuracy in container delivery activities at Nilam Tanjung Perak Terminal, Surabaya. In completing this research, it has been obtained in the data collection stage using the dynamic system analysis tool. In this study, the dynamic system model is a model that has complex system characteristics that change from time to time. One approach to graphically represent a dynamic system model is dynamic system modeling. Specifically, the Causal Loop Diagram (CLD) model as a model that is widely used in problem solving with a systems approach that considers the dynamic complexity of the system or to support a dynamic system approach is chosen in this study. This model emphasizes its attention to causal relationships between system components which are depicted in a diagram in the form of curved lines ending in arrows that connect system components to one another.

Discussion and Result

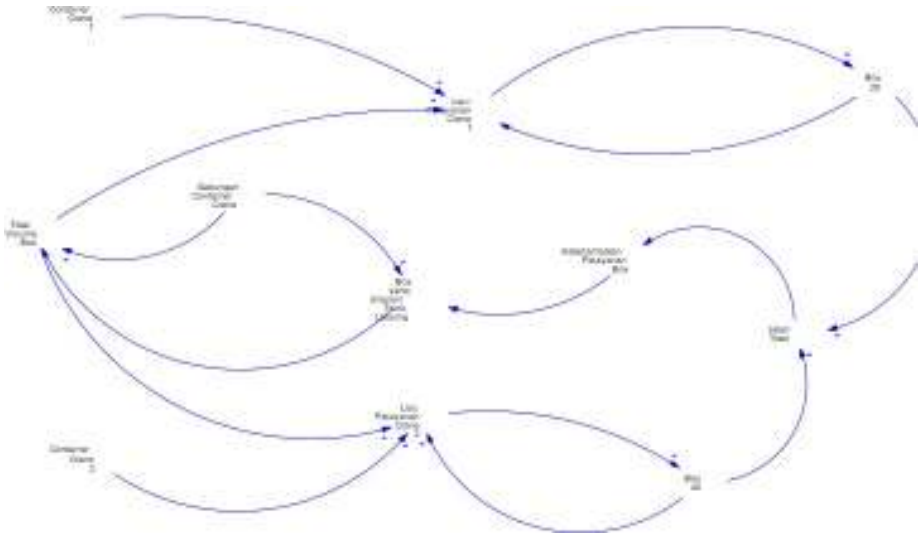

Figure 1. Causal Loop Diagram

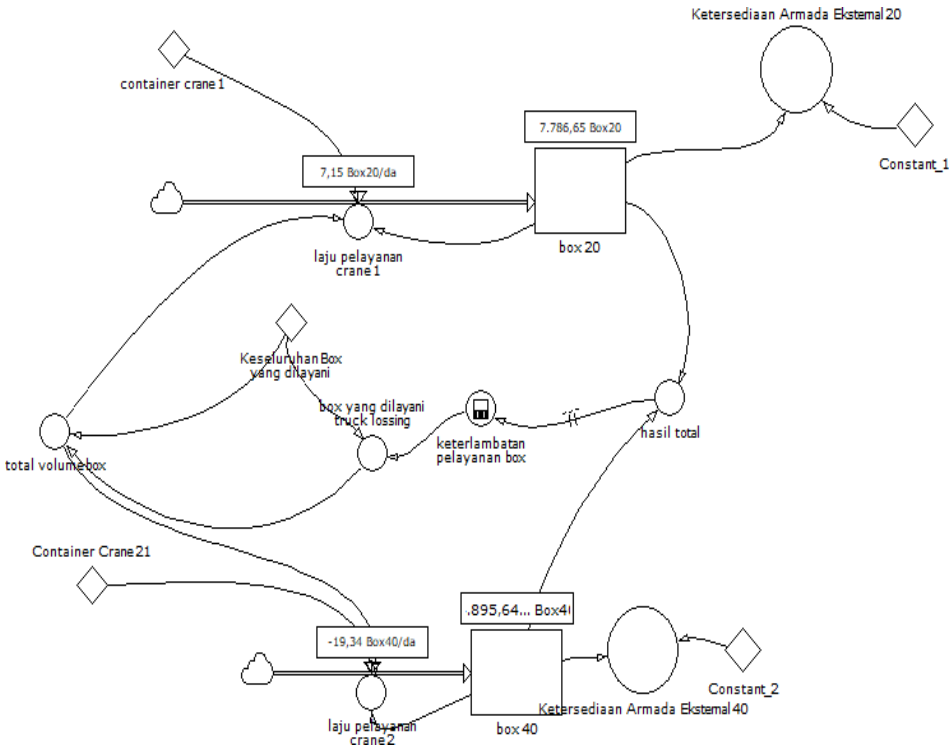

Figure 2. Stock Flow Diagram

As depicted in the data above, it is shown that Figure 1 describes a simulation of truck lossing activities within a period of 3 months with a simulation of the variables made in this study, namely the service of truck lossing activities per month, the tables and graphs will explain a detail time result. For a truck loss activity.

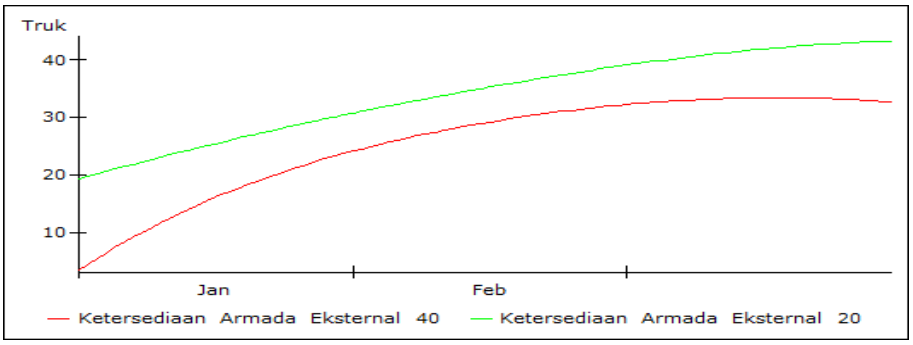

Figure 3. External Fleet Availability Chart 40 & 20

When it is simulated in Figure 3, it can be shown that the level of availability of external trucks carrying 40 boxes is more than the number of external trucks of 20 boxes which affects the increase in the number of containers that will come out.However if an external truck of 20 boxes arrives first, it will hamper the expenditure of containers, and if it is taken at random, it can also hinder the release of containers.

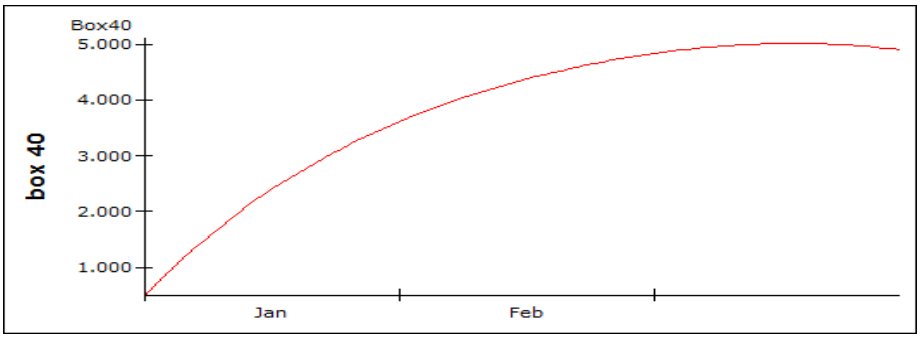

Figure 4. Chart Box 40

Moreover, it is explained in figure 4 that that the Box 40 service has increased in January to March or for three months. Although it is seen that there is a

dcrease during March- April, this study solely discusses activities for three months from January to March.

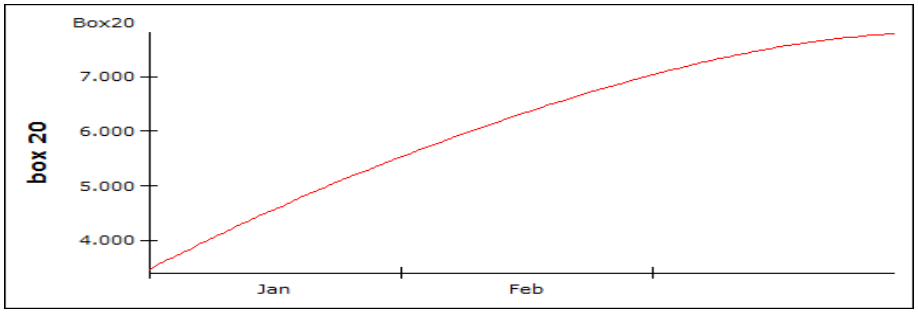

Figure 5. Chart Box 20

So in this simulation, Figure 5 depicts that Box 20 service has increased very rapidly for three months since January to March and from March to April it has decreased slightly but is still relatively stable. Hence, the core of this study only discusses activities for three months from January to March.

Time	box 40 (Box40)	Ketersediaan Armada Eksternal 40 (Truk)
01 Jan	502	3
01 Feb	3.616	24
01 Mar	4.834	32

Figure 6. Table Box 40

Figure 6 shows that the demand for box 40 with a total of 502 boxes in January is divided by 30 days which will get the results of 17 boxes / day with 3 carriers, and so on until March.

Time	box 20 (Box20)	Ketersediaan Armada Eksternal 20 (Truk)
01 Jan	3.466	19
01 Feb	5.532	31
01 Mar	7.037	39

Figure 7. Table Box 20

Based on Figure 7, it is shown that the demand for box 20 with a total of 3,466 in January divided by 30 days will get 116 results with the availability

of 19 carriers.

Conclusion

As mentioned in the introduction part, this study is an attempt to examine the effectiveness of Truck Lossing Control and On Time Performance of Container Delivery to Reduce Lead Time of Delivery Activities at Nilam Terminal, Tanjung Perak Port, Surabaya,.As the conclusion, the truck losing control has an influence on the container delivery ontime performance.

Peculiarly, the delay factor of delivery container named delay in the external fleet causes the late activities on the container delivery. It means that if there is an external fleet causing lateness in carrying out the truck lossing activities, it will affect on the mismatch level of delivery ontime performance. Not only that, another inference is that the delivery could not be controlled effectively if the the lead time in container activities is not in accordance with what has been planned and estimated. . During container unloading activities with the application of truck lossing, there are still frequent discrepancies in the predetermined time due to the lack of an external fleet to pick up containers in the port which results in lead time at Nilam Terminal, Tanjung Perak Port Surabaya, As the last conclusion, having unloading activities with truck loss is not sufficient. Hence, it is recommended to apply a stack for existing containers to be unloaded , aimingnot to hinder other activities so that dthe elivery activities at Nilam Terminal could run on time or properly.

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