

# CHAPTER 1

## INTRODUCTION

This chapter includes research background, problem formulation, research objectives, research scopes, and outline of report.

### 1.1 Background



Geographically, Indonesia is an archipelagic state with two-thirds of the oceans are greater than the mainland. This can be seen from the shoreline on almost every island in Indonesia ( $\pm 81,000$  km), which makes Indonesia took the second place after Canada as a country that has the longest coastline in the world. This strength is a great potential to improve the economy of Indonesia (<http://www.perumperindo.co.id/>). Indonesia is a worthy candidate to be a member of the BRIC countries (Brazil, Russia, India and China) as its economy expands very fast compared to other members (<http://www.indonesia-investments.com/>).

One of the factors of economic development in Indonesia is trading activity in all regions of Indonesia. Trading activity includes export and import activities. Goods trading into and out of Indonesia would affect the country's foreign exchange. According to Indonesian Logistics Association (2011), Indonesia's trade flows are currently not balanced with the good quality of the national logistics system. The poor quality of Indonesia's national logistics system becomes an obstacle to trade activities Indonesia.

According to Indonesian Logistics Association (2011) logistics costs in Indonesia are higher compared to other countries. Logistics costs in Indonesia reached 26.4% of GDP rated higher than other countries like Malaysia which are only 15%, South Korea of 16.3%, Japan 10.6%, and the United States 9.9%. In

addition, in 2012 the World Bank announced the Logistics Performance Index (LPI) where Indonesia has a low ranked compared to Singapore, Malaysia, Thailand, and Vietnam. Indonesia's ranking climbed from 75 to 59, but still relatively low when compared to Malaysia which has 29<sup>th</sup> ranking (<http://www.ali.web.id>).

The main trigger of the high cost of logistics in Indonesia is the poorest logistics system and inadequate infrastructure. Infrastructure directly related to logistics of transportation sectors, especially infrastructure of ports, roads, and relationships between nodes. Logistics costs currently do not directly affect to economic growth in Indonesia, but if it is not well managed it would be resulted in a significant impact on the Indonesian economy, especially for the International trade sector (<http://www.ali.web.id>).

Infrastructure is one key success factor of a country. As an archipelago, improving the port infrastructure is needed by Indonesia, since it directly related to the flow of trading in the global sphere. Currently, one of the main focuses of the Indonesian government is to improve the condition performance of port (<http://marketeurs.com/>). Based on UU No. 17 year 2008 Republic of Indonesia about Sailing, port is a place that consists of land and water activities as a place of government activities and the activities performed on a ship leaning, up and down passengers, and the loading and unloading of goods, such as terminals and berths, equipped with safety and security facility of shipping, ports supporting activities as well as the displacement of intra and inter-modal transport.

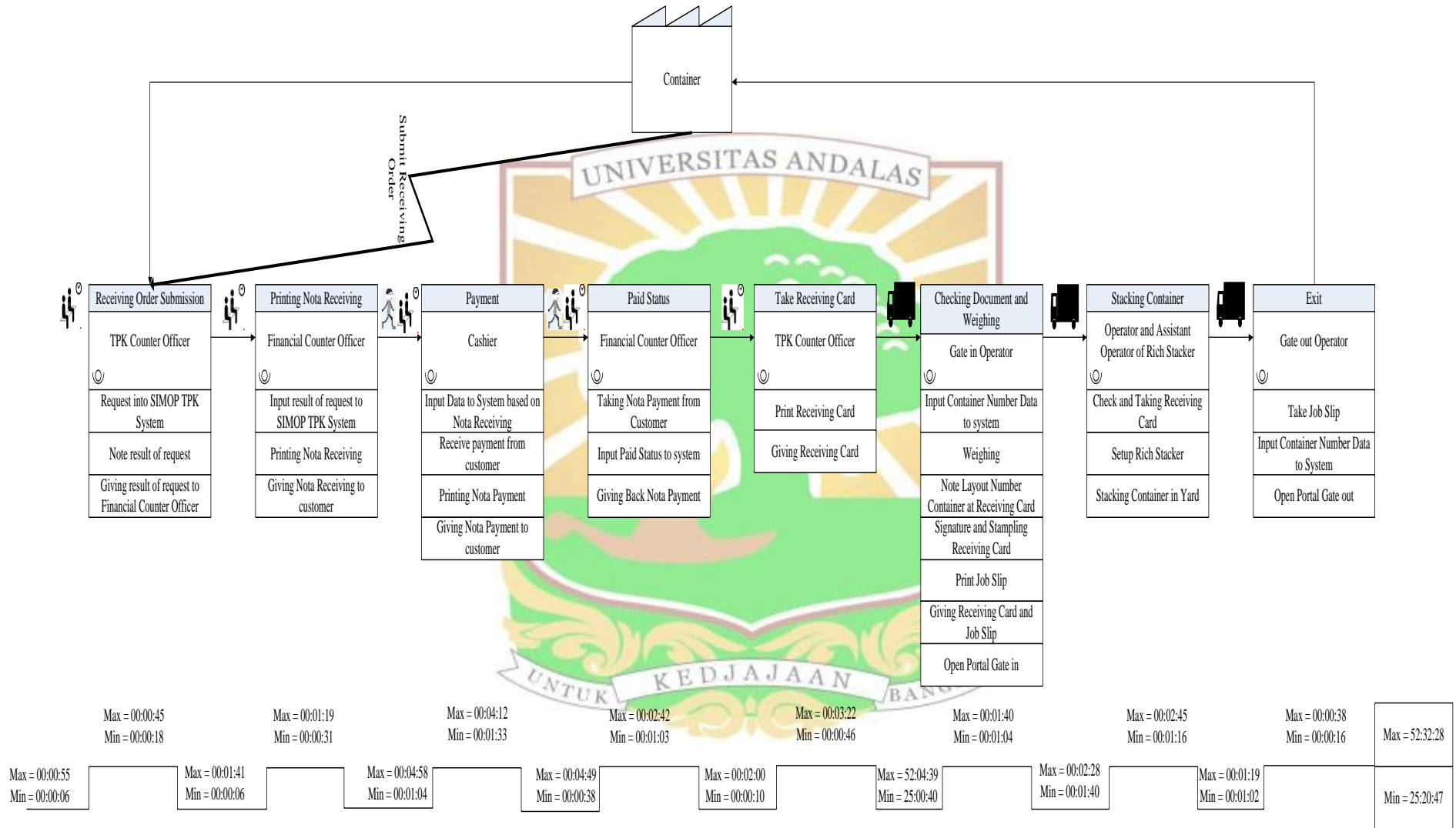
The ports became one of the facilities for logistics activities connecting land and the sea, therefore the logistics activities, including transport and storage can be done in the port. Good service at the port would support the objective of the logistics to deliver the goods in the right quantity at the required time. Operations at the port consist of ship servicing and unloading of goods. Ship servicing starts from ships entered the waters of the port until the vessel leaves

port while loading and unloading activities conducted after the ship docked at a mooring.

Ports in Indonesia are managed by the State Owned Enterprise, namely PT Pelabuhan Indonesia (Persero). The company has four operating regions, which is responsible to provide and commercialize the port services. PT Pelindo II (Persero) has been operated in 10 provinces and managed 12 ports in Indonesia. One of the ports managed by PT Pelindo II (Persero) is Teluk Bayur. Teluk Bayur Port has a role as one of the economic gates in the Western area of Indonesia and one of the busiest seaports as well as the largest port on the west coast of Sumatra Island. Teluk Bayur Port becomes the most important commercial port that can aid the economic development of West Sumatra Province and surrounding areas. (Indonesia Port Corporation II, 2015).

One of the important terminals in Teluk Bayur Port is the container terminal. The container terminal is a terminal which has a collection of containers to transport goods from hinterland port to the next destination. The container is an alternative widely used by economic actors to distribute the goods to the destination area. This is because the function of these containers plays an important role in the quality of distributed goods. (Indonesia Port Corporation II, 2015).

One of the activities in the Container Terminal is receiving process. The process starts from the documents submission by the forwarding agent until the open stack process. The activities of receiving process include the submission of receiving orders documents, payments, and printing receiving a card. Open stacks activities include checking documents, weighing, and stacking. The receiving process flow can be seen in Figure 1.1.



**Figure 1.1** Current State Map Receiving Process Flow of Container Terminal in PT Pelindo II Teluk Bayur

Based on preliminary study, there are some problems occurred in receiving process of Container Terminal of PT Pelindo II Teluk Bayur such as, forwarding agent waiting in TPK counter, and also waiting in Financial Counter to get nota receiving and paid status. Besides that, forwarding agent get to wait in cashier for payment. After forwarding agent get to receiving card, trucks carrying containers must wait during open stack process. Truck wait in the gate in of Container Terminal. Usually, there is one until three trucks get in line especially in a busy time like ahead of rest time. Waiting time affects service of receiving process. In addition, waiting is an activity that does not add value (non-value added) and must be eliminated due to increase satisfaction of forwarding agent.

According to Tumbol (2014) there are some wastes in the process of receiving Container Terminal. The dominant activities are excessive waste transportation, waiting, and excess motion. The lean method can be used to improve the performance of service process. The method can satisfy all operational scale, strategic, and tactical. Besides that, lean also reaches business units, manufacturing, and the core of the organization ([www.leanindonesia.com](http://www.leanindonesia.com)). Lean method prioritizes the process of the flow because the services can work well if the process flows smoothly. Therefore, things that obstruct the flow of the process should be eliminated because it is a waste that can disrupt service ([www.leanindonesia.com](http://www.leanindonesia.com)). The purpose of lean method is to remove activities that do not add value (non-value added) of the process, so each activity in the process adds value from the customer's perspective. In order to minimize waste, there should be the improvement in services by implementing lean methods so that service of receiving process in container terminal PT Pelindo II Teluk Bayur can be better and improve the satisfaction of forwarding agent.

## 1.2 Problem Formulation

The problems formulation in this research are :

1. What type of wastes occurred in receiving process of Container Terminal of PT Pelindo II Teluk Bayur ?
2. What the suggestions for waste reduction in receiving process of Container Terminal of PT Pelindo II Teluk Bayur ?

## 1.3 Research Objectives

The objectives of this research are :

1. To determine the waste occurred in receiving process of Container Terminal of PT Pelindo II Teluk Bayur
2. To propose the suggestions for waste reduction in receiving process of Container Terminal PT Pelindo II Teluk Bayur

## 1.4 Research Scopes

The scopes in this research are :

1. This research only focused on the receiving process in Container Terminal of PT Pelindo II Teluk Bayur.
2. The wastes are observed in this research according to the seven wastes of lean method.



## 1.5 Outline of the Report

This final project report consists of five chapters as follows :

Systematic of writing the final project is done systematically as follows:

### CHAPTER I INTRODUCTION

This chapter consists of background, problem formulation, research objectives, research scopes, and outline of the report.

### CHAPTER II LITERATURE REVIEW

This chapter contains theoretical basis that supports in this research. Literature review consists of the theories of lean, lean services, lean wastes, Failure Mode and Effect Analysis (FMEA), Value Stream Mapping (VSM), Non Value Added (NVA) analysis, Cause-and-Effect Diagrams, sample size determination, and overview of PT Pelabuhan Indonesia II (Persero).

### CHAPTER III RESEARCH METHODOLOGY

This chapter contains the steps of research consists of preliminary study, literature review, problem formulation, data collection, data processing, discussion, conclusion, and research methodology flowchart.

### CHAPTER IV RESULTS AND DISCUSSIONS

This chapter contains the results of research. Research starts with observe and discussions about receiving process flow of container in PT Pelindo II Teluk Bayur. Next, data is processed using Value Stream Mapping (VSM), Value Added Assesment (VAA), Failure Mode and Effect Analysis (FMEA), and Fishbone Diagram. Discussion of the research results is conducted proposed improvement Value Added Assesment (VAA), Failure Mode and Effect Analysis (FMEA), and Fishbone Diagram.

### CHAPTER V CONCLUSIONS

This chapter contains the conclusions of research results and the suggestions for further research.