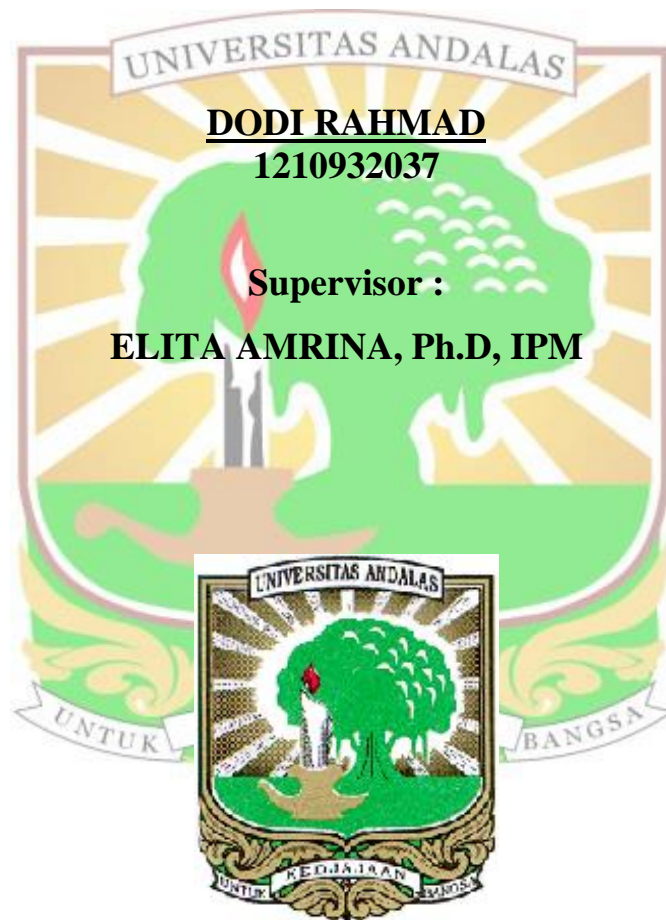


**IMPLEMENTATION OF LEAN METHOD IN RECEIVING  
PROCESS OF CONTAINER TERMINAL  
(CASE STUDY : PT PELINDO II TELUK BAYUR)**

**FINAL PROJECT REPORT**

*A report submitted in fulfillment of the requirements for the award of the degree  
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## ABSTRACT

*Geographically, Indonesia is an archipelagic state with two thirds of the oceans are greater than the mainland. This strength is a great potential to improve the economy of Indonesia. One of the factors of economic development in Indonesia is trading activity in all regions of Indonesia. Logistics costs in Indonesia are higher compared to other countries. The main trigger of the high cost of logistics in Indonesia is the lack of logistics system and inadequate of infrastructure. As an archipelago, improving the port infrastructure becomes an important to Indonesia. Currently, one of the main focus of the Indonesian government is to improve the performance of port. A good service at the port would support the objective of the logistics to deliver the goods in the right quantity and at the required time. Teluk Bayur Port has a role as one of the economic gates in Western of Indonesia. One of the important terminals in Teluk Bayur port is the container terminal. One of the activities in the Container Terminal is receiving process. The receiving process starts from the documents submission by forwarding agent until the open stack process. Problems occurred in the receiving process flow of container in PT Pelindo II Teluk Bayur are forwarding agent waiting in TPK Counter, financial counter and cashier. In addition, the truck also waiting at gate in, container yard and gate out. These activities do not provide value added and waste should be eliminated. One of methods can be used to improve the service process is lean method that applied to eliminate the non-value added activities of the process, therefore each activity in the whole process became adding value from the perspective of forwarding agent. This research using Value Added Assessment (VAA) questionnaires. VAA results show that from a total of 41 activities, there are 9 activities of non-value added (NVA) and 5 activities Necessary but non-value added (NNVA). Based on the seven wastes, NVA and NNVA activities are classified into waiting, transportation, and motion. This research is also using Failure Mode and Effect Analysis (FMEA) to determine the priority in solving the problem. Based on the calculation of the risk priority number (RPN) in the FMEA, the highest value of RPN is open stack process failed, machine trouble, failed to manage the documents of receiving card, and system crashes. The causes of problem are explored using the Fishbone Diagram. This research suggests PT Pelindo II Teluk Bayur to improve the quality of receiving process service by eliminating NVA and NNVA activity through improvements consist of TPK Counter Officer focused on doing only one job, serving the request of SIMOP TPK System or printing receiving cards, develop the alternative payments, and removing the setup of rich stacker.*

**Keywords :** *container terminal, FMEA, lean, VAA, waste*

## ABSTRAK

*Indonesia secara geografis merupakan sebuah negara kepulauan dengan dua pertiga luas lautan lebih besar daripada daratan. Kekuatan inilah yang merupakan potensi besar untuk memajukan perekonomian Indonesia. Salah satu faktor pertumbuhan ekonomi Indonesia adalah aktivitas perdagangan di seluruh wilayah Indonesia. Biaya logistik di Indonesia masih sangat tinggi dibandingkan negara lain. Pemicu utama tingginya biaya logistik di Indonesia adalah sistem logistik dan infrastruktur yang masih belum memadai. Sebagai negara kepulauan, meningkatkan infrastruktur pelabuhan menjadi salah satu hal penting oleh Indonesia. Salah satu fokus utama pemerintah Indonesia sekarang adalah meningkatkan kondisi pelabuhan. Pelayanan yang baik pada pelabuhan akan mendukung tujuan dari logistik untuk mendistribusikan barang pada jumlah dan waktu yang tepat. Pelabuhan Teluk Bayur memiliki peran sebagai salah satu pintu gerbang ekonomi di bagian barat Indonesia. Salah satu terminal penting di Teluk Bayur adalah Terminal Peti Kemas. Salah satu kegiatan di Terminal Peti Kemas adalah proses receiving. Proses ini dimulai dari pengajuan dokumen oleh ekspenditur sampai proses open stack. Permasalahan yang terjadi dalam proses receiving pada Terminal Peti Kemas PT Pelindo II Teluk Bayur meliputi, ekspenditur menunggu di loket TPK, loket keuangan dan kasir. Selain itu, truk juga menunggu di gate in, container yard, dan gate out. Aktivitas-aktivitas tersebut tidak memberikan nilai tambah dan pemborosan harus dihilangkan. Salah satu metode yang dapat digunakan untuk memperbaiki proses pelayanan adalah metode lean yang bertujuan untuk menghapus aktivitas non value added dari proses, sehingga setiap aktivitas dalam proses memberikan nilai tambah dari perspektif ekpenditur. Penelitian ini menggunakan metode Value Added Assessment (VAA) melalui kuesioner. Hasil VAA menunjukkan bahwa dari total 41 aktivitas, terdapat 9 aktivitas non value added (NVA) dan 5 aktivitas necessary but non value added (NNVA). Berdasarkan tujuh pemborosan, aktivitas NVA dan NNVA tersebut tergolong ke dalam menunggu, transportasi, dan gerakan. Penelitian ini juga menggunakan metode Failure Mode and Effect Analysis (FMEA) untuk menentukan prioritas dalam penyelesaian masalah. Berdasarkan perhitungan risk priority number (RPN) dalam FMEA, diperoleh nilai RPN tertinggi adalah kegagalan proses open stack, gangguan mesin, kegagalan dalam mengurus dokumen, dan gangguan sistem. Penyebab terjadinya kegagalan tersebut ditelusuri menggunakan fishbone diagram. Penelitian ini merekomendasikan pihak PT Pelindo II Teluk Bayur dalam upaya meningkatkan kualitas pelayanan proses receiving dengan menghilangkan aktivitas NVA dan NNVA diantaranya dengan cara petugas loket TPK fokus mengerjakan satu pekerjaan, melayani request sistem SIMOP TPK atau mencetak kartu receiving, membuat alternatif pembayaran, dan menghilangkan setup rich stacker.*

**Kata Kunci :** lean, FMEA, pemborosan, terminal peti kemas, VAA