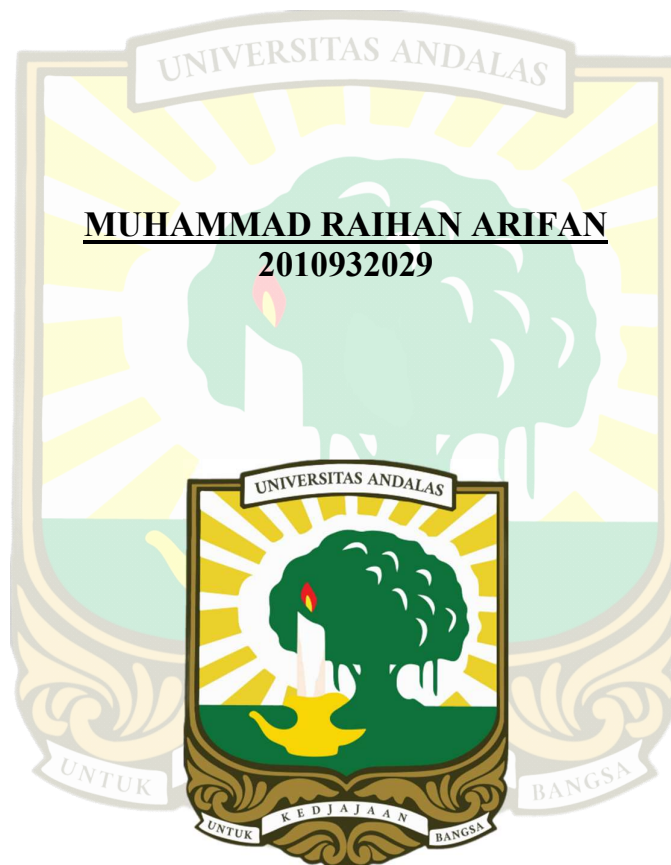# BUSINESS PROCESS IMPROVEMENT (BPI) IN WAREHOUSE ASSET MAINTENANCE PROCUREMENT (STUDY CASE: PT XYZ)

FINAL PROJECT

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FINAL PROJECT

A report submitted in fulfillment of the requirement for a bachelor of Industrial Engineering, Faculty of Engineering, Andalas University

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ABSTRACT

E-commerce is currently growing rapidly in Indonesia, and as a result, e-commerce platforms are required to meet customer needs to remain a preferred choice for various shopping needs. PT XYZ is one of the leading e-commerce platforms in Indonesia, equipped with warehouses to support its operational activities. These warehouses house assets such as hand pallets, chillers, and conveyors. To maintain the quality of these assets, it is essential to conduct asset maintenance procurement promptly to prevent any operational disruptions. Currently, the business process for asset maintenance procurement is not optimal due to lengthy lead times and a significant amount of manual work.

In light of these issues, this study aims to evaluate and analyze the current business process, improve it, and perform a time analysis on the current and recommended business processes. The methodology employed in this research is Business Process Improvement (BPI), with business process evaluation using the fishbone diagram and Failure Mode and Effect Analysis (FMEA).

The first step in this study is organizing for improvement, which involves identifying and decomposing the current business process. The second step is understanding the process, which includes modeling the current business process using Business Process Model and Notation (BPMN). The subsequent step is streamlining, which involves evaluating and analyzing the business process, and streamlining it through standardization and upgrading tools using Microsoft Power Automate and modeling business process recommendation using Business Process Model and Notation (BPMN).

The final step is measurement and controls, which entails simulating both the current and recommended business processes. The results of the time analysis indicate a time difference of 19.51% between the current and recommended business processes. Based on the time analysis results, it can be concluded that the recommended business process can complete asset maintenance procurement more quickly and with increased effectiveness.

Keywords: Business Process Improvement (BPI), Business Process Model and Notation (BPMN), Failure Mode and Effect Analysis (FMEA), Fishbone Diagram, Streamlining.

ABSTRAK

E-commerce saat ini berkembang secara pesat di Indonesia, oleh karna itu e- commerce dituntut dapat memenuhi kebutuhan pelanggan agar tetap menjadi pilihan dalam berbelanja berbagai kebutuhan. PT XYZ merupakan salah satu e-commerce terkemuka di Indonesia yang memiliki gudang untuk mendukung aktivitas operasionalnya. Terdapat aset yang mendukung pengoperasian gudang seperti hand pallet, chiller, dan konveyor. Hal yang dapat dilakukan untuk menjaga kualitas dari aset tersebut adalah dengan melakukan pengadaan pemeliharaan aset dalam waktu yang singkat agar tidak menghambat operasional gudang. Saat ini, proses bisnis untuk pengadaan pemeliharaan aset maintenance belum optimal dikarenakan lead time yang lama dan masih banyak pekerjaan yang dilakukan secara manual.

*Berdasarkan masalah tersebut, penelitian ini bertujuan untuk mengevaluasi dan menganalisis proses bisnis saat ini, memperbaiki proses bisnis saat ini, dan melakukan simulasi t*ime analysis *pada proses bisnis kondisi saat ini dan rekomendasi. Metode yang digunakan pada penelitian ini yaitu* Business Proses Improvement (BPI), *dengan evaluasi proses bisnis menggunakan metode* fishbone diagram *dan* Failure Mode *dan* Effect Analysis (FMEA).

Langkah pertama dalam penelitian ini adalah organizing for improvement *yaitu identifikasi dan melakukan dekomposisi proses bisnis saat ini, langkah kedua adalah* understanding the process *yaitu pemodelan bisnis proses saat ini menggunakan* Business Process Model and Notation (BPMN). *Kemudian langkah selanjutnya adalah* streamlining *yaitu evaluasi dan analisis bisnis proses, dan melakukan* streamlining *dengan* standarization *dan* upgrading tools *menggunakan* Microsoft Power Automate *serta memodelkan proses bisnis rekomendasi ini menggunakan* Business Process Model and Notation (BPMN).

Langkah terakhir adalah measurement and controls *yaitu melakukan simulasi proses bisnis saat ini dan rekomendasi. Hasil simulasi* time analysis *proses bisnis saat ini dan rekomendasi didapatkan perbedaan waktu bisnis proses sebesar 19,51%. Berdasarkan hasil simulasi dapat disimpulkan bahwa proses bisnis rekomendasi dapat menyelesaikan pengadaan pemeliharaan aset menjadi lebih singkat dan terjadi peningkatan efektivitas.*

Kata kunci: Business Process Improvement (BPI), Business Process Model and Notation (BPMN), Failure Mode and Effect Analysis (FMEA), Fishbone Diagram, Streamlining.