CHAPTER 1
INTRODUCTION

1.1. Background

Warehousing today plays a more vital role than it has ever before in the success (or failure) of businesses (Frazelle, 2002). Warehouses play a critical intermediate role between supply chain members, affecting both supply chain costs and service (Kiefer and Novack, 1999). As a result of global competition and supply chain concepts, including a focus on integral inventory control, warehousing has become a critical activity in the supply chain to outperform competitors on customer service, lead-times, and costs (De Koster, 1998). Timely and accurate information about products, resources and processes are essential to operationalize a planning and control structure that effectively and efficiently achieves the high performance of warehousing operations required in today's marketplace (Faber, De Koster, and De Velde, 2002).

Many companies are facing problems in their warehousing activities that requires them to be more responsive. For example, one mistake in scheduling can lead into an even more serious problem, i.e. a company that has

forecasted to get materials on a specific date will eventually prepare the next activities to process the materials relative to the estimated time of arrival. If the vendor was late to deliver the materials, then the next activities of that company will be idle, hence no productivity that leads into no output and ultimately no revenue. Warehousing activity is one of many possible solutions to answer this problem. The activities in the warehouse, the equipment, the concepts and method used to support the process, such matters need to be analyzed and studied whether or not the ongoing process is already at its best capacity or there is still plenty of room that can be optimized.

The warehouse activities in PT. X are mainly focused on the sorting and loading the finished goods. Sorting of the finished goods is done to utilize the warehouse space and to do the FIFO (First In First Out) strategy as much as possible to maintain the product age and quality. Loading activity is done to fulfill the purchase order of the customer and also to move or deliver the finished goods to the delivery points of PT. X that are spread across the country. The equipment used to support those two main activities are forklifts, pallets, and loading docks. Forklifts are powered industrial trucks used to lift and move materials in short distances. Pallet is the structural foundation of a unit load which allows handling and storage

efficiencies. And loading dock is an area of a building where goods vehicles (usually road or rail) are loaded and unloaded. With the help of those equipment in the warehouse activities, the output of the activity process can still be highly deviated because of the manual process that is done by human labor.

PT. X has been struggling and had many complaints about the responsiveness of its business, especially in the case of its delivery process. The role of warehouse in the supply chain of PT. X plays an important role in this case because the goods that need to be delivered is loaded directly from the warehouse. The queuing of trucks that want to load the goods happens because of the loading process in the warehouse of PT. X is not standardized which means the duration for each truck to be fully loaded can be different.

The reason behind this problem is the manual loading process undertaken mainly by the workers. The difference in the remuneration system where each worker will get contrasting amounts with one another depends on the quantity and size of the goods to be loaded and the destination of the truck. Obviously, the workers will race towards the particular trucks that will provide for them more remuneration value. These trucks are the one that goes outside the Java island, and

also the one that will load a relatively smaller size and quantity of goods.

Based on the facts and statements about the important role of warehouse and the problem that is caused by the deviation in workers output, the question that appears is how to standardize the results from the manual loading process in PT. X, and how does that standardization will solve the deviation in workers output.

1.2. Research Scope

The research was based on the fact that PT. X wants to set a standard time needed for their manual loading process to solve the deviation in the output that is caused by the remuneration system for the workers. Based on the problem and the scope that is stated, the research questions that arise are:

a) How will the standard time for the manual loading process in PT. X be set?
b) What is the standard time for the manual loading process in PT. X?
c) What rewarding system should be implemented for the workers in PT. X?

This research study is done by using the time and motion study, an engineering approach to standardize a task that is repeated frequently by breaking it into several working elements using a time keeping device. The study will be specifically done on the loading activity of PT. X. There are 3 working elements that are done in the loading task that will be observed by doing the time and motion study, those are:

a. The queuing time for a truck from the warehouse entry gate to a loading dock.
b. The time for a forklift to get the first pallet and place it on the loading dock.
c. The time for the manual loading process finished.

The observation is done by using snapback method where each working element process duration is recorded from the start until the end directly in the field.

1.3. Research Objective

Based on the research scope and the research questions that are given, the research objectives that will be achieved through this research are as follows:

a) To determine the standard time by using the Time and Motion Study concept.

b) To come up with an exact result of standard time to be set on the warehouse of PT. X.

c) To understand further about remuneration system and get the best results that will benefit PT. X.

1.4. Research Significance

1.4.1. Academic significance

This research paper can enrich the readers with the knowledge about the actual implementation of a Time and Motion Study to warehousing process especially in the manual loading activity. Another important element is to understand the nature of remuneration system especially for blue-collar workers.

1.4.2. Practical significance

This research will give a contribution to PT. X regarding the standard time of the manual loading process in its warehouse and will offer solutions to PT. X regarding the problem that is caused by the workers that is resulting in a deviated output.

1.5. Chapter Outlines.

There are five chapters in this case paper, each contains specific information and are related to one another. The chapter outlines are as follows:

a) CHAPTER I : INTRODUCTION

This chapter will describe the background that will explain why this Case Paper has been be written, the scope of the research, the research question, the objective of the paper, and the significance of the paper.

b) CHAPTER II : LITERATURE REVIEW

In this chapter, the textbooks, journals, and all of the information related to the theoretical background supporting the Case Paper will be discussed. The theories are more focused about warehouse in general, the time and motion study literature and concept, and remuneration (rewarding) system in human resource perspective.

c) CHAPTER III : RESEARCH METHOD

This chapter describes the steps and instruments that are used to design the method of research. It also describes about the types of research, data that were collected, method of collecting those data, and technique used to analyze the data.

d) CHAPTER IV : ANALYSIS AND DISCUSSION

This part of the Case Paper describes completely about the results found from the observation and analyzes thoroughly what are the factors and findings that is related to the research that might affect the results, and to discuss about it by relating to the supporting theories.

e) CHAPTER V: CONCLUSION AND RECOMMENDATION

This chapter will highlight the main findings of the research, and state the significance of these findings for further research. This chapter will give possible recommendation that can benefit the PT. X related to the warehouse operation in the company.