# CHAPTER I INTRODUCTION

## I.1 Research Background

Competitive conditions of business in today's global marketplace cannot be predicted with a variety of changing needs and desires of consumers as well as the rapid development in supply chain. Business excellence competitors determined how the company is able to meet the needs of consumers with products that are appropriate and timely manner.

The company's ability to meet customer needs uncertainties can be minimized with the inventory in the warehouse. Warehouse is an important facility for the company in view of its function as a supporter of the production function that can affect the performance of the company because of the costs to be incurred by the company for the activities in it.

Warehouses play vital roles in the supply chain, raw material and component warehouses hold raw materials at or near the point of induction into a manufacturing or assembly process.

Good warehouse will improve supply chain performance, which means the flow of products into the hands of customers will be fulfilled, high throughput and high inventory accuracy. Because of the vital functions of warehouse so warehousing activities should be evaluated regularly and improved in order to always fulfill its function.

Nowadays, many companies with international standards which provide management services warehousing, distribution or packaging. One of them is PT XYZ. The company provides warehousing and inventory management services such as warehouse space management, assessment and inventory storage, packing and labeling. PT XYZ in charge of handle client products at the warehouse and distribute it to customers.

PT XYZ is a 3PL (Third Party Logistics) is a multinational company that acts as a provider of logistics services include warehousing, inventory management, transportation and distribution. PT XYZ act as a visionary company as the

connecting end to end supply chain, the company has activities such as Intribution, Intrabution, Retrologistic etc.

PT XYZ manages multiple warehouse include of MDC 2 which used a raw material storage.

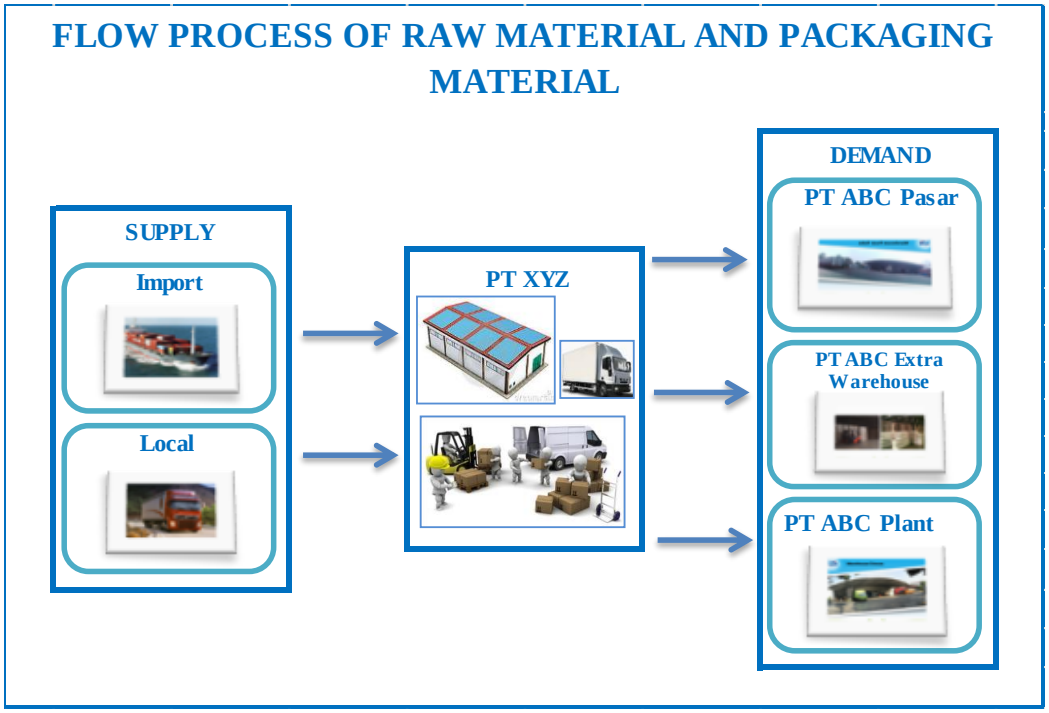


Figure I. 1 Flow Process of Raw and Packaging Material
( Source: MDC II PT XYZ, 2015)

Figure I.1 shows the process flow of inbound and outbound logistics at the MDC 2. PT XYZ received a supply of raw materials from import and local. From the local, PT XYZ receives from several major cities across Indonesia while imported supply came from foreign countries such as China, the Netherlands, New Zealand, etc. Supply of raw material received will be stored in a special warehouse to the customer. After that, the customer plant will send a request to the number of MDC 2. As for the plant to be supplied by PT XYZ is ABC Pasar Rebo, ABC Warehouse Extra, ABC Plant Ciracas.

At MDC 2, there are 2 types of investments made by PT ABC. Investments are differentiated on the type of material that is stored in the MDC 2. Here is a picture of the percentage of the value of existing investments in MDC 2.

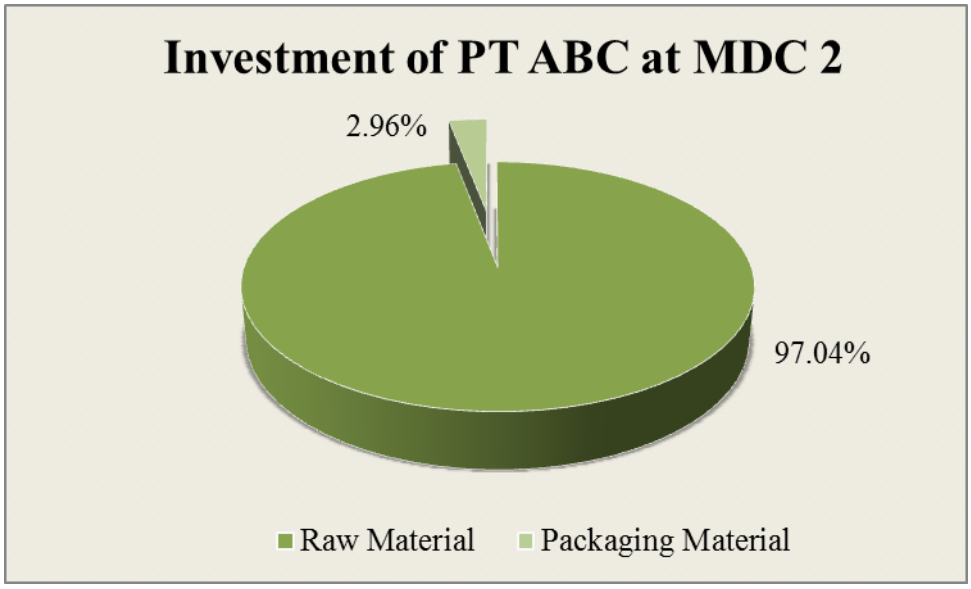


Figure I. 2 Investment of material at MDC II
(Source: MDC II PT XYZ, 2015)

Figure I.2 shows the investment value of the raw material and packaging material. Raw material has a value of 97.04% on MDC 2 while the packaging material has a total investment value of 2.96%. Raw material is the raw material used for production purposes, while the packaging material is a supporting component in the packaging of raw materials.

As a 3PL that promotes the interests of the customer, of course, PT XYZ must maintain the accuracy of the inventory stored in the MDC. Accuracy must be improved to minimize the amount of product that is experiencing shrinkage.

The goal of evaluation is to evaluate the stored product at MDC 2 owned by PT XYZ. Inventory checks carried out for any type of SKU that is in MDC 2. From the measurement results obtained in MDC 2 inventory accuracy by comparing the number of items counted when activities stock take of the existing system. Data inventory accuracy obtained are as follows:

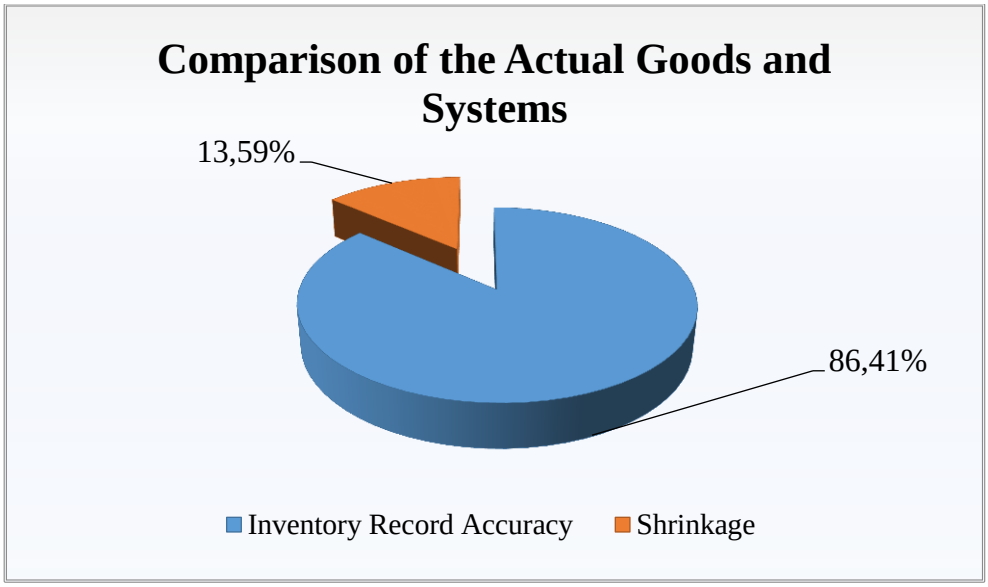


Figure I. 3 Inventory Record Accuracy (IRA)
(Source: MDC II PT XYZ, 2015)

Figure I.3 shows that there is a discrepancy of goods in the system with the actual conditions obtained through the calculation results. It was noted that the accuracy of which is owned by MDC 2 was 86.41% and by 13.59% there is a discrepancy between the system and the physical condition.

From the aggregate percentage of shrinkage, there are several categories that have contributed. The value of the percentage is as follows:

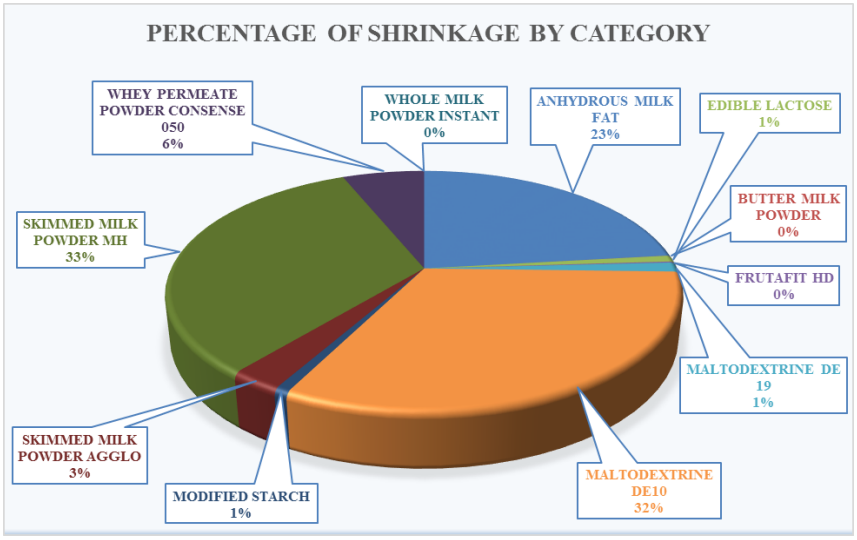


Figure I. 4 Contribution of Shrinkage per SKU
(Source: MDC II PT XYZ, 2015)

In the figure I.4 can be seen can be seen that some categories have a sizeable contribution towards shrinkage. For example, the largest contribution is owned by Skimmed Milk Powder MH amounted to 32.79%, Maltodextrine DE10 amounted to 32.05%, and Anhydrous Milk Fat amounted to 23.18% etc.
Lack of accuracy of MDC 2 would have a much deviation from the target set by the customer. Here is a picture that shows the achievements and targets set inventory accuracy.

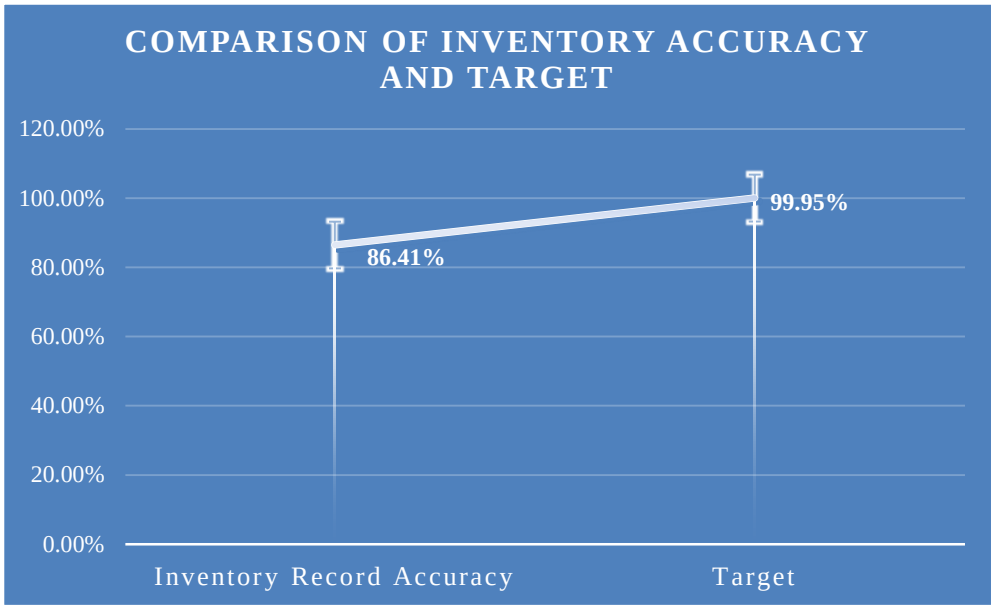


Figure I. 5 Comparison of Inventory Accuracy and Target
(Source: MDC II PT XYZ, 2015)

Targets set is 99.95% for inventory accuracy, but from the achievements have deviation of 13,54%. The low inventory accuracy is obtained certainly require more frequent checks.

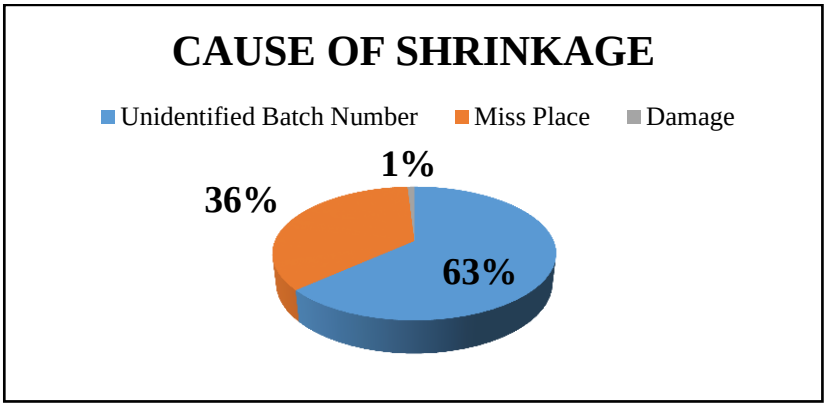


Figure I. 6 Cause of Shrinkage
(Source: MDC II PT XYZ, 2015)

The low value of inventory accuracy is caused by several types of shrinkage. There are three types of shrinkage that are, unidentified batch number, miss place and damage. The most substantial contribution caused by unidentified batch number, then miss the place and damage.

In the initial conditions of each SKU calculation is done with the same frequency that is one time. There is stocktake activity ever ongoing all SKUs counted in a long time span. The time spent while doing the activity stock take is about 14 hours of work.

Stock take activity that conduct at PT XYZ spend a relatively large cost. The cost includes are cost of man power, cost of equipment etc. The total cost of the activity issued stock take is as follows:

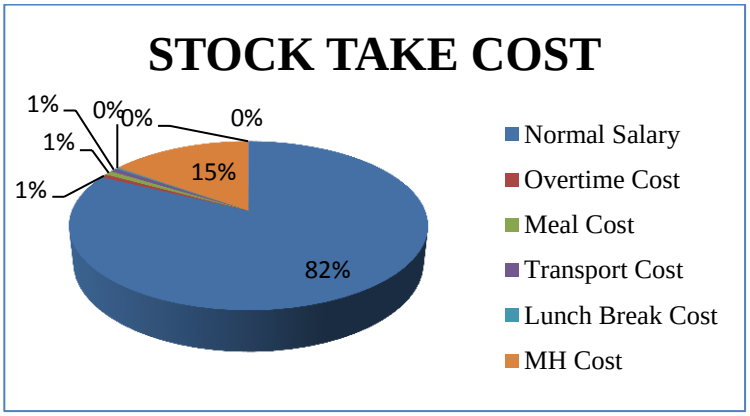


Figure I. 7 Stock Take Cost
(Source: MDC II PT XYZ, 2015)

Figure 1.6 shows the percentage of the costs incurred when conducting stock take activity. The total cost incurred when stocktake activity reached Rp. 35.566.500,-. Due to the high value of shrinkage that occurs in the warehouse PT XYZ and the costs are relatively expensive of stocktake activity. Hence, stock take policy needed to design for minimizing cost of stock take activity.

Cycle counting is an activity for the calculation of the goods in the warehouse by comparing the calculation results with the availability of physical goods in the system. Cycle counting is a method that is very dominant and became a best method to preserve the value of inventory record accuracy remains high. (Rosseti, Collins & Kurgund, 2001).

Cycle counting can improve the accuracy of inventory in the warehouse until more than 97%. Besides it also reduce costs for the stocktake activity. Moreover, cycle counting method also aims to divide the stock take a period of time so that a faster implementation time and periodically.

Dealing with the problems that exist in PT XYZ that does not achieve the value of inventory accuracy is designed to indicate the needs of stock take policy in order to maintain the accuracy of the warehouse and reducing cost.

## I.2 Problem Definition

Based on the problems contained in the background as well as data showing the existence of the problem. The formulation of the problem in this study are:

1. How to design stock take policy for reducing cost of stock take activity at MDC 2 PT XYZ regarding count of frequency, numbers of count per day, and stock take schedule ?
2. How to reduce the cycle time by designing stock take activity at PT.XYZ?
3. How to improve business process of stock take at MDC 2 PT XYZ ?

## I.3 Research Objectives

The purpose of this research is as follows:

1. Design stock take policy for reducing cost of stock take activity at MDC II PT XYZ regarding count of frequency, numbers of count per day, and stock take schedule.
2. Reducing of cycle time by designing stock take activity at PT.XYZ.
3. Improving the business process of stock take process at MDC PT XYZ

## I.4 Research Limitations

Limitations of this study are:

1. Warehouse to be studied is the storage of raw material that owned by PT. XYZ which located in Cibitung.
2. Historical data used start from from June 2015 until August 2015.
3. Proposed stock take policy doesn't conduct up to simulation and implementation stage.

## I.5 Benefits of Research

Benefits of this research is as follows :

1. PT XYZ able to reduce cost of stock take activity
2. PT XYZ able to increase business process efficiency
3. PT XYZ able to reduce stock take time activity
4. Give a new recommendation the business process of stock take activity

## I.6 Writing Systematics

This study will be described systematically as follows:

**Chapter I Introduction**

This section will explain the background of the research. Obtained from the background will be the formulation of the problem, research objectives, limitation of the study, the benefits of research and systematic writing. On the background described symptoms of a

problem. Formulation of the problem is the part that becomes the focus of this study

**Chapter II Literature Review**

This chapter will show a variety of literature that is used in accordance with the problems studied.

**Chaepter III Research Methodology**

In this chapter will be presented on a conceptual model of the problems studied. Additionally, will be discussed as well as to systematic problem solving that includes a preliminary stage, the stage of data collection and processing, analysis, and conclusions and suggestions.

**Chapter IV Collecting and Processing Data**

This chapter consists of two parts, namely the collection and processing of data. The collection of data is the appearance of the data obtained from actual data and company data through interviews, observation, etc. Furthermore, the data processing will be done for data processing to achieve results stocktake policy proposals.

**Chapter V Analysis**

In this chapter analyzing the results obtained from the processing of data at the previous stage. The analysis is done by comparing the condition of the existing and proposed.

**Bab VI Conclusions and Suggestions**

In this chapter given the conclusion of the research results as well as suggestions for companies and further research as input for improvement in the future.