

CHAPTER 1 - INTRODUCTION

1.1 Background

In the business of selling heavy equipment that functions as a production tool for product support, such as the availability and speed of supply of spare parts, it is an added value for the customer or customer in determining the product to be purchased. So that every distributor or company engaged in the sale of heavy equipment pays close attention to this and becomes a priority as added value for the brand that will be sold.

PT. UT is a company whose business pillar is engaged in heavy equipment trading. To become a world-class company in the fields of heavy equipment, mining, and energy, which is the vision of the company. With one of its missions is to help customers achieve success through comprehensive business understanding and continuous interaction.

UT Sumbawa is one of UT's sites to support spare parts needs for customers' heavy equipment in Sumbawa Barat District, Nusa Tenggara Barat Province. UT Sumbawa works in the Batu Hijau Site area where the mining concession owner is PT. AMNT which is the main customer for UT Sumbawa.

PT AMNT is a mining company that operates a 25,000-hectare copper and gold mine located on Sumbawa Island, Nusa Tenggara, Indonesia. AMNT as the owner of the mine and carries out its own mining activities with a production target of 320 million tons of material removed from the mine in 2023. AMNT's mining activities are carried out using the Open Pit method, thus requiring sufficient heavy equipment and mining support equipment in quantity and reliability.

One of the mining support tools used by AMNT is the KOMATSU and SCANIA brands. The demand for spare parts for heavy equipment, particularly those designed for KOMATSU and SCANIA, is essential for AMNT to facilitate the maintenance procedures of its heavy machinery. The maintenance process is carried out in several types, such as Periodical maintenance, Scheduled maintenance, and Unscheduled maintenance. AMNT has demands on UT Sumbawa as a vendor to

provide high service level parts and fast lead time supply for every spare part request or transaction. AMNT really needs this because the availability and speed of supply of spare parts greatly affects the speed of the maintenance process and of course will affect AMNT performance.

To meet the demand for spare parts from AMNT, UT Site Sumbawa has warehouse facilities and spare parts inventory. With the increasing demand for spare parts, UT Sumbawa is preparing by increasing the stock volume. This has the impact of increasing the stock inventory of spare parts which has an impact on the inefficiency of working capital. PT. UT has a standard for assessing Inventory performance by measuring Inventory Days (DOI). DOI is the calculation of the length of days in which inventory can meet demand.

The author conducted a study entitled " IMPROVEMENT DAYS OF INVENTORY HEAVY EQUIPMENT PARTS IN PT. UNITED TRACTORS SITE SUMBAWA THROUGH DEMAND FORECASTING & INVENTORY MANAGEMENT" to provide analysis and improvement planning at UT Sumbawa in the pattern of fulfilling demand for spare parts in AMNT while still considering stock effectiveness.

1.2 Research Problems

From the company's operational performance in providing spare parts for AMNT, UT Sumbawa experienced problems with the performance day of inventory of UT Sumbawa not being achieved for the past 12 months, which can be seen in Figure 1.1.

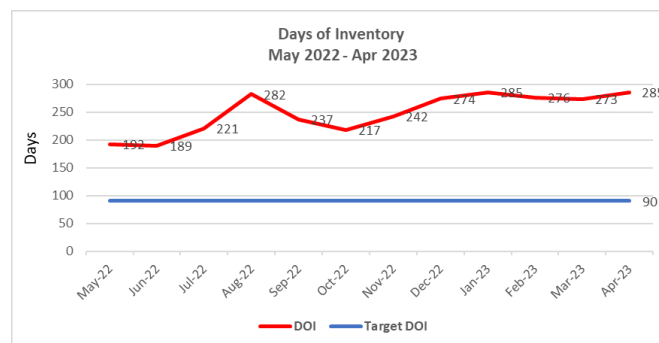


Figure. 1.1 UT Sumbawa DOI Performance Graph

1.3 Research Objectives

The purpose of this research is to reduce Days of Inventory and increase spare parts service levels.

1.4 Significance of Study

The benefits or significance of this research are:

1.4.1 For the Company

By improving forecast and inventory management, it can make spare parts stock efficient so that it can reduce company costs and increase profits for the company.

1.4.2 For the Authors

1. As the application of academic knowledge in solving problems encountered in companies.
2. As one of the educational graduation requirements.

1.5 Research Questions

Some of questions used in thesis research include the following:

- How is the performance Days of Inventory at UT Sumbawa?
- How is the condition of spare part service level for the demand from customer?

1.6 Hypothesis

The use of optimal statistical forecast and deterministic methods can reduce the value of Days of Inventory and increase spare parts service level to customer.