Vol. 4, No. 1, October 2025, pp. 17-26
p-ISSN: 2963-8577
e-ISSN: 2964-3511
DOI: 10.57102/jescee.v4i1.105

JESCEE
Journal of Emerging Supply Chain, Clean Energy, and Process Engineering

# IMPROVEMENT OF FORECASTING AND INVENTORY CONTROL FOR OPTIMIZING INVENTORY AT PT UNITED TRACTORS SITE MUARA TIGA BESAR

**Muhammad Ridho Fabio[1*], Aditya T. Pratama[2], Gembong Baskoro[3]**
[1,2,3]Master of Mechanical Engineering, Swiss German University, Indonesia

***Abstract***
*PT United Tractors, Muara Tiga Besar site, is one of the company's sites in Indonesia, responsible for accurately meeting customer demands in terms of timeliness, quantity, and quality. Ineffective and inefficient inventory management leads to idle capital and increased inventory costs, such as storage expenses and other inventory-related risks. Currently, PT United Tractors Muara Tiga Besar site has not yet optimized its inventory management, as evidenced by the Days of Inventory (DOI) performance in 2024 showing an upward trend, with the performance in May 2024 reaching 81.9 days. Therefore, this study aims to improve the DOI performance to meet the established targets. The root cause of the problem was identified using the 5 Why Analysis method, followed by generating ideas and solutions for improvement. The chosen solutions include forecasting using the Simple Moving Average method and inventory control through the Periodic Review and Continuous Review Systems. The research results indicate that forecasting with this purpose method effectively reduces DOI performance to 72 days, while inventory control using the Continuous Review System significantly reduces storage costs by 49%, achieving a more efficient outcome..*



***Keywords:***
*DMAIC; 5 why analysis; forecasting; simple; moving average; periodic review system; continuous review system*

***Article History:***
*Received: September 25th, 2025*
*Revised: October 28th, 2025*
*Accepted: October 30th, 2025*
*Published: October 31st, 2025*

***Corresponding Author:***
*Muhammad Ridho Fabio*
*Master of Mechanical Engineering,*
*Swiss German University*
*Email:*
*ridho.fabio@student.sgu.ac.id[1]*
*aditya.pratama@sgu.ac.id[2]*
*gembong.baskoro@sgu.ac.id[3]*

## 1. Introduction

As business competition grows increasingly intense, companies must develop strong competitive advantages and deliver added value to their customers. This requires streamlined and effective operations to support long-term, sustainable growth. For companies involved in manufacturing and distribution, such as PT United Tractors Muara Tiga Besar, efficient product flow and inventory management play a vital role in achieving positive business outcomes. PT United Tractors Muara Tiga Besar handles the distribution of heavy machinery and spare parts from brands like Komatsu, Scania, UD Truck, and others. Poor inventory practices can lead to excess capital being tied up in stock, increased storage expenses, and additional inventory related risks. Currently, the site faces challenges in optimizing inventory—particularly in selecting the right items to stock, determining proper quantities, and setting appropriate safety and maximum stock levels—resulting in a misalignment with actual customer demand.

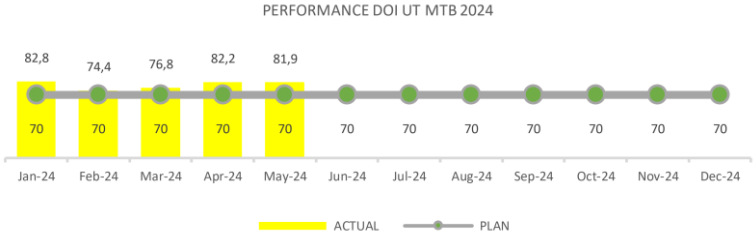


Figure 1. Performance DOI UT MTB 2024

This situation is illustrated by the KPI for Days of Inventory as depicted in Fig. 1, which remains below the targeted benchmark as of May 2024. To address this issue, the company must enhance its inventory control strategies by making more informed product selections and establishing precise inventory thresholds

## 2. Literature Review

### *A. Inventory Management*

Inventory management is the science of maintaining adequate stock levels to meet customer demand. It involves monitoring and controlling inventory to ensure efficient distribution. Poor inventory control can lead to stock shortages, reducing profits and customer satisfaction, while overstocking increases costs. The goal is not just to reduce or increase stock but to optimize profitability. Ukar et al. (2015) emphasize that effective inventory management balances stock levels with customer needs and serves key functions:

1. Decoupling – Ensures product availability without relying too heavily on suppliers.
2. Economic Lot Sizing – Achieves cost savings through bulk purchasing and reduced shipping expenses.
3. Anticipation – Prepares for sudden or seasonal demand with safety stock and planned shipments.

### *B. Classification of FSN*

Classifies inventory based on usage frequency and movement in the warehouse. It helps identify high-and low-value stock, aiding in better inventory control, especially for low-value items. The classification uses two key parameters:

1. Average Stay – How long items remain in stock before being used.
2. Consumption Rate – The speed at which items are used over time.
3. FSN Categories:
    a. Fast Moving (F): Used more than once a month.
    b. Slow Moving (S): Used less than once a month.
    c. Non-Moving (N): Not used for over two years.

### *C. Forecasting*

Forecasting is the process of predicting future requirements, encompassing quantity, quality, timing, and location to fulfill customer demands. Forecasting involves predicting future events by utilizing historical data, which aids companies in making informed decisions.

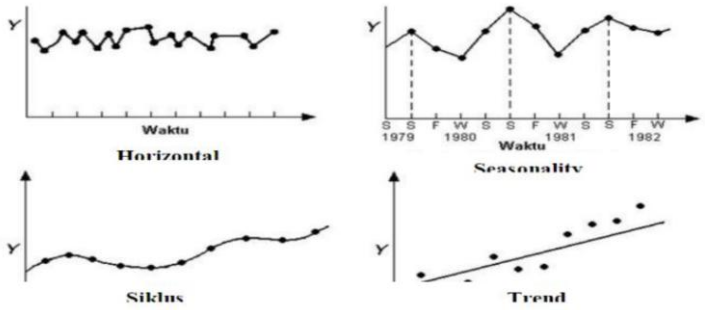


Figure 2 Supply Chain Stages

### *D. Periodic Review Method*

The Periodic Review Model is an inventory control approach where orders are placed at fixed time intervals. Unlike continuous review systems, inventory is not monitored constantly but reviewed periodically. At each review point, the order quantity (Q) is determined based on current inventory levels, causing the lot size to vary while the time between orders remains constant.

Demand is uncertain and varies between periods, so each order may be different in size. Although this model simplifies administration and reduces the number of ordering events, it often requires larger safety stock to avoid stockouts between review periods.

This system is useful when:

a. Inventory is checked at regular intervals.
b. Administrative simplicity is preferred.
c. Variable order quantities are acceptable.

Key Points:

a. Fixed review intervals, but variable order quantities.
b. Requires higher safety stock due to potential delays between reviews.
c. Reduces monitoring efforts and simplifies ordering processes.

*E. Continuous Review System Method*

The Continuous Review Model (Q Model) is an inventory control system where inventory levels are constantly monitored, and a fixed order quantity (Q) is placed whenever stock falls to a predetermined level, known as the Reorder Point (ROP).

Key Characteristics:

a. Orders are triggered immediately when inventory hits the ROP.
b. The order quantity (Q) is fixed, but the time between orders varies depending on demand.
c. Continuous monitoring helps minimize the risk of stockouts, as orders are placed in real time.

*F. DMAIC (Define, Measure, Analysis, Improve, and Control)*

DMAIC is a structured, data-driven process used for continuous improvement toward Six Sigma goals. It aims to eliminate inefficiencies and optimize performance by relying on facts and analysis. DMAIC consists of five key phases:

1. Define
   a. Set project goals and select Six Sigma projects.
   b. Identify key roles and responsibilities.
   c. Determine training needs.
   b. Define critical processes and customer requirements.
2. Measure
   a. Identify quality factors (Critical to Quality/CTQ) aligned with customer needs.
   b. Create a data collection plan using SIPOC (Supplier-Input-Process-Output-Customer).
   c. Measure current performance to set a baseline.
3. Analyze
   a. Assess process stability and capability.
   b. Set improvement targets for CTQs.
   c. Identify root causes of defects or failures.
   b. Translate defects into the Cost of Poor Quality (COPQ).

*G. Days Of Inventory (DOI)*

Days of Inventory is a key metric that measures how many days a company's current inventory can meet customer demand, serving as an indicator of inventory management efficiency within the supply chain. A shorter Days of Inventory reflects better performance, indicating that inventory moves quickly and assets are efficiently utilized. This metric is calculated by comparing the current inventory level with the average sales over a specific period, helping management make informed decisions regarding inventory value and control.

## 3. Research Methodology

Figure 3 shows the stages of the data processing procedure:

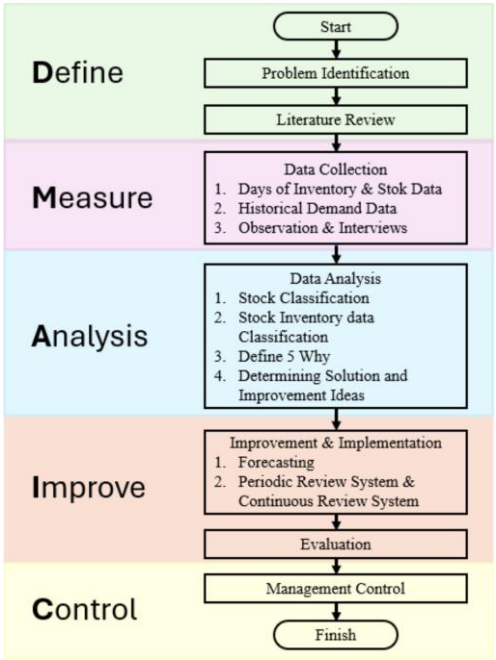


Figure 3 Research Framework

*A. Define*

The goal of the "Define" step in the DMAIC approach is to identify the stage where the problem statement, research objectives, and scope of the process are determined. In this phase, it is crucial to clearly formulate the main objectives and the issues to be addressed, ensuring the improvement efforts remain focused. A detailed explanation of the "Define" stage is divided into two parts, which can be outlined as follows:

1. Problem Identification
2. Literature Review

*B. Measure*

The "Measure" phase focuses on collecting accurate data related to the identified problem for further analysis. This step uses factual information to clearly describe the situation, ensuring the solution is relevant. Data is gathered through field studies, interviews, and discussions.

*C. Analyse*

The "Analyze" phase in the DMAIC methodology focuses on analyzing the data collected during the "Measure" phase to identify the root causes of problems or inefficiencies in the process. The following are the key steps taken during the Analyze phase:

1. Inventory Classification
2. Define 5 Why
3. Determining Solution and Improvement Ideas

*D. Improve*

The "Improve" phase in DMAIC focuses on designing and implementing solutions based on the analysis of the problem. Success relies on selecting the right solutions, thorough testing, and careful implementation. Continuous evaluation and monitoring are essential to ensure the improvements lead to long-term benefits and increased process efficiency. The following are the key steps taken during the Improve phase:

1. Forecasting
2. Periodic Review System & Continuous Review System
3. Evaluation

*E. Control*

The "Control" phase in DMAIC is the final step, focused on sustaining long-term improvements. It ensures the stability and consistency of processes after changes are implemented in the Improve phase. The main goal is to prevent issues from reoccurring and ensure that the improvements remain sustainable over time.

## 4. Result And Analysis

*A. Data Collection*

The Data Collection phase in thesis preparation is crucial for gathering relevant information that forms the basis for analysis and interpretation. The quality of the data collected directly influences the validity and reliability of the final results. For this research, the data collection process includes the following steps:

1. Days of inventory and stock amount data
2. Historical demand data
3. Observation & Interviews

*B. Data Analysis*

1. Stock inventory data classification.

The existing stock was classified using FSN Analysis, which identified the number of items, quantities of spare parts, stock percentages, and Days of Inventory (DOI) for each group. This classification allows for targeted analysis of issues and the development of tailored solutions and management strategies based on the unique characteristics of each group. The detailed classification results are shown in Table 1.

Table 1. Stock Inventory Data Classification

| Classification | Item | Qty | Amt Stock | Stock Percentage | DOI (Days) |
|---|---|---|---|---|---|
| Fast Moving | 2.627 | 90.420 | 59.350.115.433 | 67% | 75,1 |
| Slow Moving | 1.724 | 11.767 | 19.602.395.835 | 22% | 86,3 |
| Non Moving | 1.092 | 5.774 | 9.671.027.251 | 11% | 149,6 |
| **Grand Total** | **5.443** | **107.961** | **88.623.538.519** | **100%** | **81,9** |

2. Define 5 Why.

Using the 5 Whys method, the root causes of the problem were identified, with the fifth "Why" representing the core issue. The process of identifying these root causes is presented in Table 2.

Table 2. Why Analysis

| Problem | Why 1 | Why 2 | Why 3 | Why 4 | Why 5 |
|---|---|---|---|---|---|
| **DOI above target** | High inventory level | Fast moving stock | Ineffective stock management | Excess Stock | Process ordered error |
| | | Slow moving stock | Ineffective stock management | Excess Stock | Process ordered error |
| | | Non-moving stock | Stock has no transactions | Error ordered | Human error |

From the 5 Whys analysis table on Days of Inventory (DOI), the main issues identified involve several aspects, namely:

i. The order processing method for stock items.
ii. Human error in the ordering process for stock items.

3. Determining solution and improvement ideas

To develop effective improvement strategies, the next step is to create a Root Cause and Problem Solving table. This table serves to clearly connect each identified root cause with its corresponding solution, ensuring that all issues are addressed in a structured and targeted manner. Tabel 3 is the Root Cause & Problem Solving table:

Table 3. Root Cause & Problem Solving

| Problem | Identification | Corrective Action | Methods |
|---|---|---|---|
| The order **processing method (error)** for stock items. | Handling of order items and incorrect quantities (Excess & Shortage) | Improving forecasting accuracy and order quantities. | Forecasting & Periodic Review |
| **Human error** in the order processing for stock items. | Lack of accuracy in processing customer orders. | Preventing human errors and improving the order processing flow. | Fish bone diagram |

From the table above, table Root Cause & Problem Solving, several improvement activities are identified as follows:

i. Improvement of forecasting methods.
ii. Inventory control using Periodic Review System & Continuous Review System.
iii. Reducing human errors by improving the order processing flow.

*C. Improvement & Implementation*

1. Forecasting.

Forecasting is performed using the Simple Moving Average method by comparing three specific time periods: the last 3 months, the last 6 months, and the last 12 months. Additionally, error values for each forecast are calculated using the Mean Absolute Deviation (MAD) method. The forecasting calculations will cover both fast-moving and slow-moving classification.

Table 4. Summary Result Forecasting & Error

| PN: 600-319-4540 | | Actual Demand | Forecast Result | | | | Absolute Deviation | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Naïve | AVG MA12 | AVG MA6 | AVG MA3 | Naïve | AVG MA12 | AVG MA6 | AVG MA3 |
| 2024 | 01 | 830 | 961,0 | 1189,2 | 1056,7 | 932,0 | 131,0 | 359,2 | 226,7 | 102,0 |
| | 02 | 818 | 830,0 | 1163,7 | 1083,8 | 925,7 | 12,0 | 345,7 | 265,8 | 107,7 |
| | 03 | 1085 | 818,0 | 1162,3 | 1195,8 | 1036,7 | 267,0 | 77,3 | 110,8 | 48,3 |
| | 04 | 1171 | 1085,0 | 1183,9 | 1306,2 | 1181,3 | 86,0 | 12,9 | 135,2 | 10,3 |
| | 05 | 1312 | 1171,0 | 1188,4 | 1374,5 | 1242,0 | 141,0 | 123,6 | 62,5 | 70,0 |
| Sum Of Error | | | | | | | 637,00 | 918,67 | 801,00 | 338,33 |
| Mean Absolute Deviation | | | | | | | 127,40 | 183,73 | 160,20 | 67,67 |
| **PN: 6219-11-3100** | | **Actual Demand** | **Forecast Result** | | | | **Absolute Deviation** | | | |
| | | | **Naïve** | **AVG MA12** | **AVG MA6** | **AVG MA3** | **Naïve** | **AVG MA12** | **AVG MA6** | **AVG MA3** |
| 2024 | 01 | 108 | 204 | 114,8 | 60,8 | 60,3 | 96,0 | 6,8 | 47,2 | 47,7 |
| | 02 | 13 | 108 | 120,8 | 68,7 | 48,3 | 95,0 | 107,8 | 55,7 | 35,3 |
| | 03 | 149 | 13 | 109,8 | 48,5 | 52,0 | 136,0 | 39,2 | 100,5 | 97,0 |
| | 04 | 271 | 149 | 122,3 | 68,5 | 61,3 | 122,0 | 148,8 | 202,5 | 209,7 |
| | 05 | 109 | 271 | 144,8 | 73,5 | 89,0 | 162,0 | 35,8 | 35,5 | 20,0 |
| Sum Of Error | | | | | | | 611,00 | 338,42 | 441,33 | 409,67 |
| Mean Absolute Deviation | | | | | | | 122,20 | 67,68 | 88,27 | 81,93 |
| **PN: 17A-27-41761** | | **Actual Demand** | **Forecast Result** | | | | **Absolute Deviation** | | | |
| | | | **Naïve** | **AVG MA12** | **AVG MA6** | **AVG MA3** | **Naïve** | **AVG MA12** | **AVG MA6** | **AVG MA3** |
| 2024 | 01 | 2 | 3 | 0,6 | 0,0 | 0,0 | 1,0 | 1,4 | 2,0 | 2,0 |
| | 02 | 0 | 2 | 0,8 | 0,0 | 0,0 | 2,0 | 0,8 | 0,0 | 0,0 |
| | 03 | 0 | 0 | 0,8 | 0,0 | 0,0 | 0,0 | 0,8 | 0,0 | 0,0 |
| | 04 | 1 | 0 | 0,8 | 0,0 | 0,0 | 1,0 | 0,3 | 1,0 | 1,0 |
| | 05 | 0 | 1 | 0,8 | 0,7 | 0,0 | 1,0 | 0,8 | 0,7 | 0,0 |
| Sum Of Error | | | | | | | 5,00 | 4,00 | 3,67 | 3,00 |
| Mean Absolute Deviation | | | | | | | 1,00 | 0,80 | 0,73 | 0,60 |
| **PN: 6215-61-6700** | | **Actual Demand** | **Forecast Result** | | | | **Absolute Deviation** | | | |
| | | | **Naïve** | **AVG MA12** | **AVG MA6** | **AVG MA3** | **Naïve** | **AVG MA12** | **AVG MA6** | **AVG MA3** |
| 2024 | 01 | 0 | 0 | 0,7 | 0,0 | 0,0 | 0,0 | 0,7 | 0,0 | 0,0 |
| | 02 | 0 | 0 | 0,7 | 0,0 | 0,0 | 0,0 | 0,7 | 0,0 | 0,0 |
| | 03 | 0 | 0 | 0,7 | 0,0 | 0,0 | 0,0 | 0,7 | 0,0 | 0,0 |
| | 04 | 0 | 0 | 0,7 | 0,0 | 0,0 | 0,0 | 0,7 | 0,0 | 0,0 |
| | 05 | 1 | 0 | 0,7 | 0,5 | 0,0 | 1,0 | 0,3 | 0,5 | 1,0 |
| Sum Of Error | | | | | | | 1,00 | 3,00 | 0,50 | 1,00 |
| Mean Absolute Deviation | | | | | | | 0,20 | 0,60 | 0,10 | 0,20 |

Based on the forecasting results and the error calculation that have been performed, the demand for the year 2024 for the four sample materials is as follows:

Table 5. Final Forecast 2024

| NO | MATERIAL | DESCRIPTION | Forecasting Demand 2024 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 1 | 600-319-4540 | CARTRIDGE | 932,00 | 925,67 | 1.036,67 | 1.181,33 | 1.242,00 | 1.355,00 | 1.431,00 | 1.507,00 | 1.388,00 | 1.212,33 | 980,00 | 869,67 |
| 2 | 6219-11-3100 | INJECTOR | 114,83 | 120,83 | 109,83 | 122,25 | 144,83 | 140,92 | 148,15 | 151,31 | 158,46 | 158,65 | 12,46 | 133,96 |
| 3 | 17A-27-41761 | COVER | - | - | - | - | - | - | - | 1,33 | 1,33 | 2,33 | 1,67 | 1,67 |
| 4 | 6215-61-6700 | TENSION PULLEY | - | - | - | - | 0,50 | 1,33 | 1,33 | 1,33 | 1,33 | 1,33 | 0,83 | 0,17 |

2. Periodic Review System & Continuous Review System.

Inventory control needs to be implemented because it can reduce inventory costs, minimize stockouts, and make inventory management more efficient.

i. Calculation Without Using Periodic Review

Based on the inventory cost calculations for the four sample materials, the following is the recap of the total inventory costs incurred by the company for the sample materials using the without periodic review method:

Table 6. Summary Inventory Cost Without Periodic Review

| MATERIAL | INVENTORY COST |
|---|---|
| 600-319-4540 | 35.038.848.147 |
| 6219-11-3100 | 20.087.874.189 |
| 17A-27-41761 | 5.382.930.972 |
| 6215-61-6700 | 3.369.845.299 |
| **Total** | **63.879.498.608** |

It is known that the table 6, shows the inventory costs for all materials. The total inventory cost, including ordering costs, holding costs, and the material purchase price, amounts to Rp. 63.879.498.608.

ii. Calculation Using the Periodic Review System

Below is the recap of the inventory cost calculations for all materials using the Periodic Review System method.

Table 7. Summary Inventory Cost Periodic Review System

| MATERIAL | INVENTORY COST |
|---|---|
| 600-319-4540 | 21.808.362.767 |
| 6219-11-3100 | 10.310.656.302 |
| 17A-27-41761 | 238.656.849 |
| 6215-61-6700 | 616.085.080 |
| **Total** | **32.973.760.997** |

Based on the table 7, the inventory costs for all four materials can be seen. The total inventory cost when using the Periodic Review System method is Rp. 32.973.760.997.

iii. Calculation Using the Continuous Review System

Below is the recap of the inventory cost calculations for all materials using the Continuous Review System method.

Table 8. Summary Inventory Cost Continuous Review System

| MATERIAL | INVENTORY COST |
|---|---|
| 600-319-4540 | 21.801.730.827 |
| 6219-11-3100 | 10.274.429.250 |
| 17A-27-41761 | 217.969.318 |
| 6215-61-6700 | 563.359.806 |
| **Total** | **32.857.489.202** |

Based on the table 8, the inventory costs for all four materials can be seen. The total inventory cost when using the Continuous Review System method is Rp. 32.857.489.202.

3. Evaluation

I Forecasting (Days of Inventory) Evaluation.

After applying the forecasting method recommended by the authors, Figure 4 shows the achievements of Days of Inventory in 2024.


Figure. 4. Performance DOI UT MTB 2024

The figure 4 shows the progress in improving the days of inventory at PT United Tractors, Muara Tiga Besar site, throughout 2024. This improvement is attributed to enhancements in the forecasting process to better prepare inventory for the upcoming period.

II Periodic Review System & Continuous Review System Evaluation.

Here is a summary of the comparison of total inventory costs between the company's policy method, the continuous review system, and the periodic review system.

Table 9. Summary Cost of Inventory

| MATERIAL | Without PRS & CRS | Periodic Review System | Continuous Review System |
|---|---|---|---|
| 600-319-4540 | 35.038.848.147 | 21.808.362.767 | 21.801.730.827 |
| 6219-11-3100 | 20.087.874.189 | 10.310.656.302 | 10.274.429.250 |
| 17A-27-41761 | 5.382.930.972 | 238.656.849 | 217.969.318 |
| 6215-61-6700 | 3.369.845.299 | 616.085.080 | 563.359.806 |
| **Total** | **63.879.498.608** | **32.973.760.997** | **32.857.489.202** |
| Efficiency | - | 30.905.737.611 | 31.022.009.406 |
| Efficiency in % | - | 48% | 49% |

Based on the table beside, the calculations reveal that the continuous review system method incurs the lowest total inventory cost

The total inventory cost for the continuous review system amounts to Rp. 32,857,489,202, which is lower than the Rp. 32,973,760,997 incurred by the periodic review system and significantly less than the Rp. 63,879,498,608 observed when no method is applied.

D. Management Control

Management Control in this research is carried out in 5 ways, namely:

1. Monitoring
2. Reporting
3. Standard checklist inventory procedures
4. Regular Audit Inventory Management

5. Continuous Improvement

## 5. Conclution And Recommendation

### *A. Conclusions*

The research identified high Days of Inventory (DOI) at PT United Tractors, Muara Tiga Besar site, with performance metrics showing a steady increase from January to May 2024. This issue was mainly caused by "Order Process Errors" and "Human Errors," disrupting inventory management efficiency. To address this, the company decided to enhance its ordering process by adopting reliable forecasting and inventory control methods. After careful evaluation, the Simple Moving Average method was chosen for forecasting due to its simplicity and ability to smooth out demand fluctuations. The Continuous Review Control method was selected for inventory control, improving efficiency by 49%, significantly enhancing inventory operations. As a result, by December 2024, the company achieved a substantial reduction in DOI, marking a milestone in operational efficiency. To ensure long-term sustainability, the company focused on standardizing inventory procedures with comprehensive checklists and regular audits, aiming to maintain inventory performance and uphold operational excellence.

### *B. Recommendations for Further Research*

To ensure future development and align performance with established targets, the following recommendations are made. First, implementing a forecasting and inventory control system using artificial intelligence and data analytics will reduce human errors, enhancing demand prediction accuracy and streamlining inventory management. Second, adopting a system that can accommodate unplanned customer needs will improve flexibility and responsiveness. Lastly, improving supply chain synchronization is essential to enhance inventory turnover, reduce lead times, and minimize storage costs, contributing to more efficient and cost-effective operations, ultimately supporting optimal performance and long-term sustainability.

## REFERENCES

[1] Amran, T. G. & Lesmono, D. S. (2012) ‘Backorder and lost sales continuous review raw material inventory control system with lead time and ordering cost reduction’, Jurnal Ilmiah Teknik Industri, 11(1).
[2] Beneke, J., Hayworth, C., Hobson, R. & Mia, Z. (2012) ‘Examining the effect of retail service quality dimensions on customer satisfaction & loyalty: The case of the supermarket shopper’, Acta Commercii, 12(1), pp. 27–43.
[3] Chen, S.C. & Teng, J.T. (2014) ‘Retailer’s optimal ordering policy for deteriorating items with maximum lifetime under supplier’s trade credit financing’, Applied Mathematical Modelling, 38.
[4] Chopra, S. & Meindl, P. (2007) Supply chain management: Strategy, planning, and operation. 3rd edn. New Jersey: Pearson Education.
[5] Chopra, S. (2007) Supply chain management: Strategy, planning, and operation. 3rd edn. New Jersey: Pearson Education.
[6] Croston, J. D. (1972) ‘Forecasting and stock control for intermittent demands’, Operational Research Quarterly, 23, pp. 289-303.
[7] Fadilah, M. F. & Aryanny, E. (2021) ‘Pengendalian persediaan bahan baku minyak sawit dengan menggunakan metode continuous (Q) dan periodic (P) review di PT XYZ’, Jurnal Manajemen Industri dan Teknologi, 2.
[8] Gardner, E.S. (2006) ‘How to set performance targets in inventory control’, BAUER College of Business, University of Houston.
[9] Handoko, T. H. (2015) Dasar-dasar manajemen produksi dan operasi. Edisi Pertama. Cetakan Kesembilanbelas. Yogyakarta: BPFE.
[10] Heizer, J., Render, B. & Munson, C. (2017) Operations management. Harlow: Pearson Education Limited. Jainuri, V. & Sukmono, T. (2021) ‘Optimization of inventory costs using the continuous review system (CRS) method in controlling the need for raw materials for the Crimean industry’, Academia Open, 5, pp. 1–14.
[11] Krajewski, L. J., Malhotra, M. K. & Ritzman, L. P. (2015) Operations management: Processes and supply chains. 11th edn. Pearson Education.
[12] Madhusudhana Rao, C. & Prahlada Rao, K. (2009) ‘Inventory turnover ratio as a supply chain performance measure’, Serbian Journal of Management, 4(1), pp. 41-50.

[13] McKendall, A. R., Shang, J. & Kuppusamy, S. (2006) 'Simulated annealing heuristics for the dynamic facility layout problem', Computers & Operations Research, 33(8).
[14] Muller, M. (2003) Essentials of inventory management. New York: AMACOM.
[15] Nenni, M. E. & Schiraldi, M. M. (2013) 'Optimizing spare parts inventory in shipping industry', International Journal of Engineering and Technology (IJET), pp. 3152 3157.
[16] Nuffus, N. Z. & Waluyowati, N. P. (2021) 'Perencanaan persediaan bahan baku kain dengan sistem Q (Continuous Review System) dan sistem P (Periodic Review System)', Jurnal Ilmiah Mahasiswa FEB Universitas Brawijaya, 9(2), pp. 1–18.
[17] Pratiwi, A. I., Fariza, A. N. & Yusup, R. A. (2020) 'Evaluasi persediaan bahan baku dengan menggunakan pendekatan metode continuous review system dan periodic review system'.
[18] Resky, A., Rangkuti, A. & Tinungki, G. M. (2022) 'Optimization of raw material inventory control CV. Dirga Eggtray Pinrang using probabilistic model with backorder and lostsales condition', Jurnal Matematika, Statistika dan Komputasi.
[19] Schultz, C. R. (1987) 'Forecasting and inventory control for sporadic demand under periodic review', Operational Research Society Ltd, pp. 453-458.
[20] Sekaran, U. & Bougie, R. (2016) Research methods for business: A skill building approach. Chichester: John Wiley & Sons.
[21] Sukhia, K. N., Khan, A. A. & Bano, M. (2014) 'Introducing economic order quantity model for inventory control in web-based point of sale applications and comparative analysis of techniques for demand forecasting in inventory management', International Journal of Computer Applications, 107(19).
[22] Syamil, R. A., Ridwan, A. Y. & Santosa, B. (2018) 'Penentuan kebijakan persediaan produk kategori food dan non-food dengan menggunakan metode continuous review (s,S) system dan (s,Q) system di PT XYZ untuk optimasi biaya persediaan'.
[23] Waters, D. (2003) Inventory control and management. Chichester: Wiley.
[24] Waters, D. (2003) Logistics: An introduction to supply chain management. Hampshire: Palgrave Macmillan.
[25] Wild, T. (2002) Best practice in inventory management. Hoboken: John Wiley & Sons.
[26] Wongmongkolrit, S. & Rassameethes, B. (2011) 'The modification of EOQ model under the spare parts discrete demand: A case study of slow moving items', Proceedings of the World Congress on Engineering and Computer Science 2011 Vol II.
[27] Yovanka (2015) Modul pengendalian dan perencanaan produksi "Forecasting". FT UMB.