

Optimization Strategy For Inventory to Reduce Storage Costs of PT. Kelapa Sari, Batu City

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INDEXING	ABSTRACT
Keywords: Keyword 1; Strategy Keyword 2; Optimization Keyword 3; Storage Costs Keyword 4; Inventory Keyword 5; PT. Kelapa Sari	Inventory is a matter that plays a vital role for a company, especially in the manufacturing industry. Reasonable inventory control is necessary to manage inventory effectively and efficiently. This research was conducted at PT. Kelapa Sari. Primary data was obtained through observations in the warehouse, and interviews with relevant departments, and secondary data was obtained from company documents. The EOQ method aims to achieve minimal inventory levels, low costs, and better quality. Planning the EOQ method in the company can reduce the occurrence of stockouts, thereby not disrupting processes within the company and saving raw material inventory costs through the inventory efficiency implemented within the company. In addition, applying the EOQ method can reduce storage costs and save space, both for the warehouse and workspace. This method can also address issues arising from excessive inventory accumulation, thereby reducing the risks from stored inventory in the warehouse, such as soybeans that are susceptible to humidity or water. This EOQ analysis is easy and practical for planning how often a material should be purchased and in what quantities.

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INTRODUCTION

Inventory is a current asset in the form of goods supporting the company's operational activities and items sold to consumers (Ogbo and Ukpere, 2014; Pramudito *et al.*, 2023). Without inventory, business owners risk being unable to meet consumer demand for goods at any time (Akinlabi, 2021).

The EOQ method aims to achieve minimal inventory levels, low costs, and better quality (Dewi *et al.*, 2020). Planning the EOQ method in a company can reduce stockout occurrences, thereby not disrupting the company's processes and saving raw material inventory costs through the inventory efficiency implemented within the company. Furthermore, applying the EOQ method can reduce storage costs and save space, both for the warehouse and workspace. This method can also resolve issues arising from excessive inventory accumulation, thus reducing the risks that may occur from stored inventory in the warehouse. This EOQ analysis is easy and practical for planning how often a material should be purchased and in what quantities (Nnamdi, 2018; Marselo *et al.*, 2023; Verawati *et al.*, 2023; Bharadwaj, 2024).

The results of previous research by Amrillah *et al.* (2016) were conducted to understand the control of auxiliary raw material inventory at PG. Ngadirejo Kediri and understanding the control of auxiliary raw material inventory using the Economic Order Quantity method. This research focuses on supervising goods and raw material inventory at PT. Kelapa Sari by calculating the raw material inventory using the Economic Order Quantity (EOQ) method and the quantity of raw materials, including

the calculation of raw material needs, raw material storage systems, and raw material stock control systems, subsequently comparing the results of the calculations to determine which is more effective and efficient in supervising raw material inventory based on the amount of costs incurred.

This research aims to enhance researchers' insights and knowledge, particularly regarding optimizing inventory storage using the EOQ method. It aims to contribute to the development of science with the hope that it will benefit future researchers conducting similar studies, and can serve as a reference for other students conducting research or writing their thesis. Furthermore, this research also aims to provide input to companies regarding the importance of inventory storage within the company it can be used as a consideration for company management and other interested parties in effectively and efficiently planning and controlling raw material inventory.

LITERATURE REVIEW

Controlling the Inventory with Economic Order Quantity

Sarjan and Assiddiq (2018) stated that inventory management involves organizing and overseeing the availability of raw materials, semi-finished goods, and finished products to ensure their consistent presence in both stable and volatile market conditions. Companies utilize inventory management strategies to optimize the costs associated with raw material stocks. One widely recognized approach is the Economic Order Quantity (EOQ) Model—a fundamental inventory decision tool that calculates the minimum costs of storing and ordering inventory. The model's primary goal is to identify the most economical order quantity. EOQ is a well-established formula that determines the optimal economic efficiency order amount. EOQ implementation uses the following formula, as well as explained by FoEH and Ali (2021), Furtyfatimah and Istiningrum (2023), and also Putra *et al.* (2023) :

$$Q^* = \sqrt{\frac{2DS}{H}}$$

Description:

Q : EOQ order quantity. This is the variable we want to optimize. The other variables are fixed quantities.

D : Annual demand for the product in quantity per unit of time, also known as the rate.

S : Product order cost. This fixed cost incurred to make any order is independent of Q.

C : Unit cost.

H : Holding cost per unit as a fraction of the product cost.

Robby and Shah (2016) implemented the Economic Order Quantity (EOQ) method, which allows companies to minimize stockouts, ensuring the continuity of production processes while optimizing inventory costs. By managing raw material inventory efficiently, companies can maintain smooth operations and reduce expenses with three steps below:

1. Calculate the optimal economic order quantity (EOQ) for raw materials.
2. Establish safety stock levels.
3. Ensure timely ordering or purchasing of raw materials to avoid delays in the production process.

RESEARCH METHOD

The type of data used in this research is a quantitative descriptive approach. Quantitative data refers to numerical data that can be calculated or data that provides

explanations related to the issues being studied. The data source used in this research is primary data obtained from direct observations and direct interviews. This research's data collection methods are observation, interviews, and documentation.

RESULT AND DISCUSSION

Result Research

a. Factory location

The source of PT. Kelapa Sari is located at Jl. Pendem, Kec. Junrejo, Batu City, East Java 65233.

b. Data Analysis

Raw Material Demand for the Year 2021

Table 1. Raw Material Demand for the Year

No	Month	Soybean Raw Material Kg
1	June	152
2	July	130
3	August	141
4	September	141
5	October	154
6	November	127
Total Usage		845
Average		140,84

Data Source, 2024

Cost of Ordering

Table 2. Cost of Ordering

Types of Costs	Monthly	Yearly
Telephone costs	96.153,84	576.923,08
Unloading costs	54.750	328.500
Shipping and transportation costs	178.333,34	1.070.000
Total	329.237,18	1.975.423,08

Data Source, 2024

Storage Costs for the Year 2021

The storage costs have been applied by the factory PT. Kelapa Sari, amounting to 96,203.91 kg of the raw material purchase value. The value of raw material storage is considerable. This is because the raw materials are stored in a closed place, thus incurring electricity costs and other expenses. These costs represent the storage expenses incurred over one month. To calculate the EOQ, the storage costs for one period will be used; therefore, the storage value is multiplied by 6 months to obtain the storage costs for one period of raw materials. The storage costs set by PT. Kelapa Sari will be multiplied by the price of raw materials over 6 months.

$$\begin{aligned} \text{Storage Cost} &= 96.203,91 \times 6 \\ &= 577.235,47 \text{ kg} \end{aligned}$$

The Use of the Economic Order Quantity (EOQ) Method in 2021

According to the tofu factory PT. Kelapa Sari, the frequency monthly raw material purchases is once. The amount of raw material needed is 845 kg.

- a. Ordering cost: Rp 1,975,423.08 per Year
- b. Storage cost: Rp 577,235.47 per Year

Calculation of TIC (Total Inventory Cost) for the year 2021

To calculate TIC (Total Inventory Cost), it can be expressed in the following equation:

Formula:

$$TIC = \frac{Q}{2}H + \frac{D}{Q} \times S$$

It is known that:

- D = Demand for the Year (845)
EOQ = Optimal order quantity (135.5)
S = Cost per order (= Rp 1,975,423.08/kg)
H = Storage cost per unit per Year (Rp 577,235.47/kg)

$$TIC = \frac{140,84}{2} \times 577.235,47 + \frac{845}{140,84} \times 1.975.423,08$$
$$TIC = 40.687.076,92 + 11.852.538,48$$
$$TIC = 52.539.615,4$$

Annual EOQ (Economic Order Quantity) Calculation Using the EOQ Method 2021

$$EOQ = \frac{\sqrt{2DS}}{H}$$

It is known that:

- D : 845 kg (annual demand)
S : Rp 1,975,423.08 (cost per order)
H : Rp 577,235.47/kg (holding cost per unit per year)

$$EOQ = \frac{\sqrt{2 \times 845 \times 1.975.423,08}}{577.235,47}$$

$$EOQ = \frac{\sqrt{3.337.155.303,2}}{577.235,47}$$
$$EOQ = 5.786,93 \text{ kg}$$

Calculation of TIC (Total Inventory Cost) using the EOQ Method for the year 2021

Formula :

$$TIC = \frac{D}{Q} \times S + \frac{Q}{2} \times H$$

It is known:

- D = Demand per year (845)
EOQ = Optimal order quantity (5,786.93)
S = Cost per order (= Rp 1,975,423.08 / kg)
H = Holding cost per unit / per year (Rp 577,235.47 / kg)
Total inventory cost according to EOQ:

$$\text{TIC} = \frac{845}{5.786,93} \times 577.235,47 + \frac{5.786,93}{2} \times 1.975.423,08$$

$$\text{TIC} = 84.310,82 + 5.717.778,72$$

$$\text{TIC} = 5.802.089,54$$

Calculation of Safety Stock for the Year 2021

Formula:

$$\begin{aligned} \text{Safety stock} &= (\text{Maximum usage} - \text{Average usage}) \times \text{Lead time} \\ &= (154 - 140.84) \times 1 \text{ day} \\ &= 13.16 \text{ kg/year} \end{aligned}$$

Calculation of Re-Order Point for the year 2021

$$U = \frac{D}{t}$$

$$U = \frac{845}{6}$$

$$U = 140,83 \text{ kg}$$

ROP : Re-Order Point

U : (140.83) Annual Demand

L : (1) *Lead time*

SS : (13,16 kg) *Safety Stock*

$$\begin{aligned} \text{ROP} &= U \times L + \text{SS} \\ &= 845 \times 1 + 13,16 \\ &= 858,16 \text{ kg} \end{aligned}$$

Comparison of Data for the Year 2021

Table 3. Comparison of Data for the Year 2021

No	Description	Company Policy	EOQ Method
1	Order Quantity	140,47	5.786,93 kg
2	Total Cost Per Period (Rp)	52.539.615,4	5.802.089,54
3	Ordering Frequency (times)	12 kali	6 kali
4	Safety Stock (kg)	-	13,16 kg
5	ROP (Kg)	-	858,16 kg

Data Source, 2024

Request for Raw Materials Year 2022

Table 4. Request for Raw Materials Year 2022

No	Month	Raw Material Soybean Kg
1	January	200
2	February	168
3	March	166
4	April	172
5	May	142
6	June	190

7	July	200
8	August	103
9	September	133
10	October	140
11	November	151
Total Usage		1.771
Average		161

Data Source, 2024

Order Frequency in 2022

Table 5. Order Frequency in 2022

Purchase	Frequency of Soybean Raw Material Purchases
1 month	2 purchases
1 year	22 purchases

Data Source, 2024

Booking Fees in 2022

Table 6. Booking Fees in 2022

Types of Costs	Monthly	Yearly
Telephone Costs	1,418	16,08
Loading and Unloading Costs	37,0757	407,923
Shipping and Transportation Costs	136.364	1.500.000
Total	136.402,49	1.907.923,08

Data Source, 2024

Storage Costs in 2022

PT. Kelapa Sari has applied the storage costs for 886,771.18 kg of raw material purchase value. The value of raw material storage is significant. This is because the raw materials are stored in a closed place, which requires electricity and other employee salary costs. These costs represent the storage expenses PT. Kelapa Sari incurred over one month. To calculate the EOQ, the storage costs for one year will be used; therefore, the storage value is multiplied by 11 months to obtain the annual raw material storage costs.

$$\begin{aligned} \text{Storage Costs} &= 886.771,18 \times 11 \text{ months} \\ &= 9.754.482,98 \end{aligned}$$

The calculation of TIC (Total Inventory Cost) for the year 2022

To calculate TIC (Total Inventory Cost), it can be expressed in the following equation:

Formula:

$$\text{TIC} = \frac{Q}{2}H + \frac{D}{Q}XS$$

It is known that:

D = Demand for the year (1,771)

EOQ = Optimal order quantity (161)

S = Cost per order (= Rp 1,909,923.08/kg)

H = Storage cost per unit per year (Rp 9,754,482.98/kg)

$$\begin{aligned} \text{TIC} &= \frac{161}{2} \times 9.754.482,98 + \frac{1.771}{161} \times 1.909.923,08 \\ &= 785.235.89 + 20.999.153,88 \\ &= 806.489.615,4 \end{aligned}$$

Annual EOQ (Economic Order Quantity) calculation using the EOQ method 2022.

$$\text{EOQ} = \frac{\sqrt{2DS}}{H}$$

It is known that:

D: 161 kg (annual demand)

S: Rp. 1,909,923.08 (cost per order)

H: Rp. 9,754,482.98/kg (holding cost per unit per year)

$$\begin{aligned} \text{EOQ} &= \frac{\sqrt{2 \times 161 \times 1.909.923,08}}{9.754.482,98} \\ &= \frac{614.995.231,76}{9.754.482,98} \\ \text{EOQ} &= 63,04 \text{ kg} \end{aligned}$$

TIC (Total Inventory Cost) was calculated using the EOQ method in the year 2022.

Formula:

$$\text{TIC} = \frac{D}{Q} \times S + \frac{Q}{2} \times H$$

It is known:

D = Demand per year (1,771)

EOQ = Optimal order quantity (63.04)

S = Cost per order (= Rp 1,909,923.08/kg)

H = Storage cost per unit/per year (Rp 9,754,482.98/kg)

Total inventory cost according to EOQ

$$\begin{aligned} \text{TIC} &= \frac{1.771}{63,04} \times 1.909.923,08 + \frac{63,04}{2} \times 9.754.482,98 \\ \text{TIC} &= 53.655.992,61 + 60.208.078 \\ \text{TIC} &= 113.864.070,61. \end{aligned}$$

Calculation of Safety Stock for the Year 2022

Formula:

$$\begin{aligned} \text{Safety stock} &= (\text{Maximum usage} - \text{Average usage}) \times \text{Lead time} \\ &= (200 - 161) \times 1 \text{ day} \\ &= 39 \text{ kg/year} \end{aligned}$$

Calculation of the Reorder Point (ROP) for the year 2022

ROP: Reorder Point

U : (161) Monthly Demand

L : (1) Lead Time
 SS : (39 kg) Safety Stock

$$\begin{aligned} \text{ROP} &= U \times L + \text{SS} \\ &= 161 \times 1 + 39 \\ &= 200 \text{ kg} \end{aligned}$$

Comparison for the year 2022

Table 7. Comparison for the Year 2022

No	Description	Company Policy	EOQ Method
1	Order Quantity	161 kg	63,04 kg
2	Total Cost Per Period (Rp)	806..489.615,4	113.864.070,61
3	Ordering Frequency (times)	2	22
4	Safety Stock (kg)	-	39 kg
5	ROP (Kg)	-	200 kg

Data Source, 2024

Request for Raw Material for Tofu Factory Year 2023

Table 8. Request for Raw Material for Tofu Factory Year 2023

No	Month	Raw Material Soybean Kg
1	January	190
2	February	181
4	April	173
5	May	181
6	June	162
7	July	150
8	August	195
9	September	107
10	October	193
11	November	141
	Total Usage	1.873
	Average	170,27

Data Source, 2024

Booking Fees in 2023

Table 9. Booking Fees

Types of Costs	Monthly	Yearly
Telephone Costs	1,418	16,08
Loading and Unloading Costs	37,0757	407,923
Shipping and Transportation Costs	136.364	1.500.000
Total	136.402,49	1.907.923,08

Data Source, 2024

Storage Costs for the Year 2023

PT Kelapa Sari has applied the storage costs for 909,090.91 kg of raw material purchase value. The value of raw material storage is significant. This is because the raw materials are stored in a closed place, thus requiring electricity costs and other employee salary expenses. These costs represent the storage expenses PT Kelapa Sari incurred over one month. To calculate the EOQ, the storage costs for one year will be used; therefore, the storage value is multiplied by 11 months to obtain the

annual raw material storage costs.

$$\begin{aligned}\text{Storage Costs} &= 909,090.91 \times 11 \text{ months} \\ &= 10,000,000\end{aligned}$$

The calculation of TIC (Total Inventory Cost) for the year 2023

To calculate TIC (Total Inventory Cost), it can be expressed in the following equation:

Formula:

$$\text{TIC} = \frac{Q}{2}H + \frac{D}{Q} \times S$$

Known:

D = Year Request (1,873)

EOQ = Optimal order number (170.27)

S = Cost per order (= IDR 2,157,923.08/ kg)

H = Storage cost per unit per year (IDR 10,000,000/ kg)

$$\begin{aligned}\text{TIC} &= \\ &= 851.350.000 + 23.737.153.88 \\ &= 853.639.615.4\end{aligned}$$

The EOQ (Economic Order Quantity) calculation using the EOQ method for the year 2023.

$$\text{EOQ} = \frac{\sqrt{2DS}}{H}$$

It is known that:

D: 1.873 kg (annual demand)

S: Rp 2,157,923.08 (cost per order)

H: Rp 10,000,000/kg (holding cost per unit per year)

$$\text{EOQ} = \frac{\sqrt{2 \times 1.873 \times 2.157.923,08}}{10.000.000}$$

$$\text{EOQ} = \frac{8.083.579,68}{10.000.000}$$

$$\text{EOQ} = 8,18 \text{ kg}$$

Calculation of TIC (Total Inventory Cost) using the EOQ method for the year 2023

Formula :

$$\text{TIC} = \frac{D}{Q} \times S + \frac{Q}{2} \times H$$

Known:

D = Year demand(1,873)

EOQ = Optimal order quantity (8.18 kg)

S = Cost per order (= IDR 2,157,923.08/ kg)

H = Storage fee per unit / per year (IDR 10,000,000/ kg)

Total inventory costs by EOQ:

$$\text{TIC} = \frac{1.873}{8,18} \times 2.157.923,08 + \frac{8,18}{2} \times 10.000.000$$

$$\text{TIC} = 494.106.348.26 + 40.900.000$$

$$\text{TIC} = 534.006.348.26$$

Calculation of Safety Stock for the Year 2023

Formula:

$$\begin{aligned} \text{Safety stock} &= (\text{Maximum usage} - \text{Average usage}) \times \text{Lead time} \\ &= (200 - 11.873) \times 1 \text{ day} \\ &= 1.673 \text{ kg/year} \end{aligned}$$

The Calculation of the Re Order Point (ROP) for the Year 2023

Formula :

ROP: Reorder Point

U : (170.27) Monthly demand

L : (1) Lead time

SS : (1.673 kg) Safety Stock

$$\begin{aligned} \text{ROP} &= U \times L + \text{SS} \\ &= 170.27 \times 1 + 1.673 \\ &= 284.861.71 \text{ kg} \end{aligned}$$

Comparison of Data for the Year 2023

Table 10. Comparison of Data for the Year 2023

No	Description	Company Policy	EOQ Method
1	Order Quantity	170,27	8,18 kg
2	Total Cost Per Period (Rp)	853.639.615,4	534.006.348,26
3	Ordering Frequency (times)	22	22
4	Safety Stock (kg)	-	1.673
5	ROP (Kg)	-	284.861,71

Data Source, 2024

Request for Raw Material for Tofu Factory Year 2024

Table 11. Request for Raw Material for Tofu Factory Year 2024

No	Month	Raw Material Soybean Kg
1	January	200
2	February	197
3	March	173
4	April	192
5	May	181
6	June	200
7	July	160
8	August	144
9	September	172
10	October	172

11	November	160
12	December	168
Total Usage		2.132
Average		177,7

Data Source, 2024

Booking Fees in 2024

Table 12. Booking Fees

Types of Costs	Monthly	Yearly
Telephone Costs	83.333,34	1.000.000
Loading and Unloading Costs	83.333,34	1.000.000
Shipping and Transportation Costs	98.961,54	197.923,08
Total	265.628,22	2.197.923,08

Data Source, 2024

Storage Fees in 2024

PT Kelapa Sari has applied storage fees of 83,333.34 kg of the purchase value of raw materials. The storage value of raw materials is significant. Because raw materials are stored in a closed place, electricity and other employee salary costs are required. This fee is a storage fee incurred by PT. Kelapa Sari in one month. To calculate EOQ, the storage cost will be used within one year, therefore the storage value is multiplied by 12 months to obtain the storage cost of raw materials for one year.

$$\begin{aligned} \text{Storage charges} &= 83,333.34 \times 12 \text{ months} \\ &= 1,000,000 \end{aligned}$$

TIC (Total Inventory Cost) Calculation in 2024

To calculate TIC (Total Inventory Cost) can be written in the following equation:

Formula:

$$\text{TIC} = \frac{Q}{2}H + \frac{D}{Q}XS$$

Known:

D = Year Request (2,132)

EOQ = Optimal order number (177.7)

S = Cost per order (= IDR 2,197,923.08/ kg)

H = Storage cost per unit per year (Rp 1,000,000/ kg)

$$\text{TIC} = \frac{177,7}{2} \times 1.000.000 + \frac{2.132}{177,7} \times 2.197.923,08$$

$$= 88.850.000 + 26.374.076.96$$

$$= 1,279,200,000$$

The EOQ (Economic Order Quantity) calculation using the EOQ method for the year 2023.

$$EOQ = \frac{\sqrt{2DS}}{H}$$

It is known that:

D: 2.132 kg (annual demand)

S: Rp 2.197.923,08 (cost per order)

H: Rp 10,000,000/kg (holding cost per unit per year)

$$EOQ = \frac{2 \times 2.132 \times 2.197.923,08}{1.000.000}$$

$$EOQ = \frac{9.371.944.013,12}{1.000.000}$$

$$EOQ = 9.371,94$$

$$EOQ = 8,18 \text{ kg}$$

Calculation of TIC (Total Inventory Cost) using the EOQ method for the year 2024

Formula :

$$TIC = \frac{D}{Q} \times S + \frac{Q}{2} \times H$$

Known:

D = Year demand(2.132)

EOQ = Optimal order quantity (9.371,94 kg)

S = Cost per order (= IDR 2.197.923,08/ kg)

H = Storage fee per unit / per year (IDR 1000,000/ kg)

Total inventory costs by EOQ:

$$TIC = \frac{2.132}{9.371,94} \times 2.197.923,08 + \frac{9.371,94}{2} \times 1.000.000$$

$$TIC = 29.042.280,80 + 54.627.000$$

$$TIC = 313.926.280,8$$

Calculation of Safety Stock for the Year 2024

Formula:

$$\begin{aligned} \text{Safety stock} &= (\text{Maximum usage} - \text{Average usage}) \times \text{Lead time} \\ &= (200 - 177,7) \times 6 \text{ day} \\ &= 866,2 \text{ kg/year} \end{aligned}$$

The Calculation of the Re Order Point (ROP) for the Year 2024

Formula :

ROP: Re order Point

U : (177,7) Monthly demand

L : (6) Lead time

SS : (866,2 kg) Safety Stock

$$\begin{aligned} ROP &= U \times L + SS \\ &= 177,7 \times 6 + 866,2 \\ &= 1.932,4 \text{ kg} \end{aligned}$$

Comparison of Data for the Year 2024

Table 13. Comparison

No	Description	Company Policy	EOQ Method
1	Order Quantity	177,7 kg	9.371,94 kg
2	Total Cost Per Period (Rp)	1.279.200.000	313.926.280,8
3	Ordering Frequency (times)	2	24
4	Safety Stock (kg)	-	866,2
5	ROP (Kg)	-	1,932,4

Data Source, 2024

Table 14. Recapitulation of Company Policy Comparison and EOQ Method for the Years 2020-2024

NO	Description	Company Policy	EOQ Method
		2020	2020
1	Order Quantity	138,5	142,5
2	Total Cost Per Period (Rp)	260.289.615,4	125.358.08
3	Ordering Frequency (times)	12	6
4	Safety Stock (kg)	-	670
5	ROP (Kg)	-	138,5

No	Description	Company Policy	EOQ Method
		2021	2021
1	Order Quantity	140,47	5.786,93
2	Total Cost Per Period (Rp)	52.539.615,4	5.802.089,54
3	Ordering Frequency (times)	12	6
4	Safety Stock (kg)	-	13,16
5	ROP (Kg)	-	858.16

No	Description	Company Policy	EOQ Method
		2022	2022
1	Order Quantity	161	63,04
2	Total Cost Per Period (Rp)	806.489.615,4	113.864.070,61
3	Ordering Frequency (times)	2	22
4	Safety Stock (kg)	-	39 kg
5	ROP (Kg)	-	200 kg

No	Description	Company Policy	EOQ Method
		2023	2023
1	Order Quantity	170,27	8,18
2	Total Cost Per Period (Rp)	853.639.615,4	534.006.348,26
3	Ordering Frequency (times)	2	22
4	Safety Stock (kg)	-	1,673
5	ROP (Kg)	-	284.861,71

No	Description	Company Policy	EOQ Method
		2024	2024

1	Order Quantity	177,7	9.371,94
2	Total Cost Per Period (Rp)	1.279.200.000	313.926.280,8
3	Ordering Frequency (times)	2	24
4	Safety Stock (kg)	-	866,2
5	ROP (Kg)	-	1.932,4

Data Source, 2024

CONCLUSION

Based on the research conducted, it can be concluded that:

1. The optimal amount of raw material purchases at PT Kelapa Sari for the years 2020-2024 is in 2021, where the most efficient raw material purchase, according to company policy, is 52,539,615.4 Kg per order with a frequency of 12 times at a total cost of Rp. 140.47. If using the EOQ Method in 2021, the amount is 5,802,089.54 Kg with a purchase amounting to Rp. 5,786.93 per Kg.
2. The supervision of raw material inventory at PT. kelapa Sari has a significant impact on production efficiency and business sustainability. With proper oversight, the factory can optimize production. Maintaining raw material inventory at an optimal level helps prevent shortages or excess inventory, which can optimize the production process and product quality. Well-managed inventory can help ensure consistent quality in the production of Tahu Tempe at PT. Kelapa Sari, as the right raw materials can be used according to standards.
3. The implementation of inventory strategies at Tahu Tempe PT. Kelapa Sari in Malang City involves recording the arrival of raw materials. Each time new raw materials arrive at the factory, they must be recorded with their quantity and type. This can be done through manual or automated recording systems using inventory management software and quality inspection.

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