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# THE IMPLEMENTATION OF INVENTORY CONTROL USING ECONOMIC ORDER QUANTITY METHOD IN IMPROVING THE COST EFFICIENCY OF RAW MATERIALS AND INVENTORY TURNOVER OF THE COMPANY (CASE STUDY IN PT HERLINAH CIPTA PRATAMA)

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## ABSTRACT

Inventory has an important role in the smooth production process of the company. Inventory control becomes necessary to do so that the company's operations run according to plan and operational costs can be minimized. This study focuses on knowing the cost efficiency of raw material inventory and inventory turnover at PT HerlinahCiptaPratama by using the Economic Order Quantity (EOQ) method so that the optimal order quantity and the right time in the procurement of raw material inventory can be known. The type of research used is descriptive quantitative with case study method. Sources of data used are primary data obtained through interviews and observations, and secondary data obtained through documentation from archives, records, and company reports. The results of this study indicate that the application of the Economic Order Quantity method in inventory control can increase the cost efficiency of the company's raw material inventory in 2018-2020. This cost efficiency is reflected in the total cost of inventory using the Economic Order Quantity method, which is lower than the total cost of the conventional method of inventory, thus indicating a savings in inventory costs. However, the application of the Economic Order Quantity method does not fully increase the inventory turnover value of all PT HerlinahCiptaPratama raw materials in 2018-2020 because the accumulation of purchases according to the EOQ method in a certain period is greater than the conventional method so that the ending inventory is higher.

**Keywords:** Inventory Control, Economic Order Quantity (EOQ), Total Inventory Cost, Cost Efficiency, Inventory Turnover

## 1. INTRODUCTION

In carrying out the company's operations, the production process is one of the factors that can affect the smooth running of the company's business. Smooth production is important for the company because it influences the company's sales and profits. The smoothness of the company's production process is determined by the optimal supply of raw materials. So that if there is a problem with raw materials, it can impact the company's production and sales processes.

PT Herlinah Cipta Pratama is a company that produces food with a high production capacity. However, in carrying out its business activities, the company often experiences advantages and disadvantages of raw materials. Lack of raw materials can hamper the company's production process and the supply of raw materials in relatively small quantities will

lead to a greater frequency of purchasing raw materials, so that the ordering costs borne by the company will be even greater (Abdullah, et al 2019). In addition, excess raw materials can lead to higher storage costs and the risk of inventory obsolescence and greater capital tied to inventory.

With a large amount of risk and capital invested in inventory, it becomes necessary to track, measure, and control inventory so that companies can balance their inventory investment and customer service (Smith, 2015). Inventory-related risks can be significantly reduced within a strict scope in determining the optimal order quantity with the Economic Order Quantity method (Singh, 2017).

According to (Kumar, D., & Prajapati, 2015), the purpose of this Economic Order

Quantity is to find the right number of products to order, with a stable level of demand, costs associated with ordering and storing inventory, so that annual operating costs are minimized.

Previous studies have shown that the application of the EOQ method is a solution to problems related to excess and shortage of inventory and reduces total inventory costs so that inventory cost efficiency occurs in the company (Riza, M., Purba, HH, 2018; Antariksa, 2018; Umami, et al 2018; Kumar, D., & Prajapati, 2015). Because previous studies have investigated inventory costs, the researcher extends research on Inventory Turnover in the application of the EOQ method. In addition to the inventory value, Inventory Turnover is an indicator in measuring the efficiency of the company's raw material inventory.

Therefore, this study generally aims to analyze the inventory control of PT Herlinah Cipta Pratama related to the raw material inventory issues that have an impact on the costs that must be incurred by the company. Indicators to measure the efficiency of the company's costs can be seen from the company's Total Inventory Cost and Inventory Turnover. Thus, the application of the EOQ method is expected to reduce the Total Inventory Cost and increase the company's Inventory Turnover.

## 2. LITERATURE REVIEW

### Inventory

Statement of Financial Accounting Standards (PSAK) No. 14 defines inventories as assets available for sale in the ordinary course of business of the company, assets in the process of production or in transit, and or assets in the form of raw materials or equipment for use in the production process or providing services (Indonesian Institute of Accountants., 2018)

There are several types of inventories in the company according to (Heizer, et al 2017) namely raw material inventory, work in process inventory, maintenance, repair, and operating inventory, and finished goods inventory. The main purpose of inventory storage is to reduce costs associated with investing in inventory and maintain efficiency in production and sales operations (Riza, M., Purba, HH, 2018).

### Inventory Control

Inventory control is the techniques and activities of maintaining inventory of goods, both raw materials, work in process, and finished products in a certain level (Smith, 2015) The main purpose of inventory control, especially raw materials, is to carry out smooth, uninterrupted production activities, and the funds invested in the material inventory are not excessive by determining the most appropriate material inventor (Arifin, 2015)

### Economic Order Quantity

The Economic Order Quantity (EOQ) method is defined as an accounting formula that determines the point at which the combination of ordering costs and inventory costs is the smallest (Lyson, K., & Gillingham, 2015). Some assumptions in the EOQ method according to (Singh, 2017) are that there are repeated orders, constant demand for inventory that occurs at a known level, constant lead times, and continuous orders. The costs considered in the calculation of the EOQ method are ordering costs and storage costs (Jones, 2020).

The EOQ method also determines safety stock, namely additional inventory that is kept by the company as a guarantee for fluctuations in demand (Hansen, 2005). In addition, the reorder point is determined as the point in time when the company must place an order again or the point of order that must be made by the company in relation to the lead time and safety stock (Sampeallo, 2012). Maximum inventory is also determined as the limit of the largest amount of inventory that can be relied on by the company (Assauri, 2004:254).

### Cost Efficiency

Inventory cost efficiency refers to the comparison between the use of raw materials or the amount of raw materials needed with inventory costs (Suryanto, 2012).

In the implementation of inventory control using the EOQ method, cost efficiency can be seen from the difference between the total inventory costs incurred by the company using the conventional method and the costs that must be incurred using the EOQ method, so that it can be known by comparing the two cost values. Efficiency can occur when the purchase cost with the EOQ method is less than the purchase cost without the EOQ method (Arifin, 2015).

### Inventory Turnover

The inventory turnover ratio is a very common metric for evaluating the success of inventory management, and basically describes the number of times a company's inventory is sold and replaced during a period. Generally, a higher inventory turnover ratio is an indication of better performance and a lower ratio may be an indication of overstocking which can pose a risk of obsolescence and increased inventory holding costs (Damron, et al 2016:357).

According to Ardiprawiro (2016), there are several types of inventory turnover, namely Raw Material Turnover, Work in Process/WIP Turnover, and Finished Goods Turnover.

### 3. RESEARCH METHODS

The subject of this research is PT HerlinahCiptaPratama, a company engaged in the food and beverage industry. The object of this research is the method of Economic Order Quantity, cost efficiency of raw material inventory, and the level of inventory turnover. This study uses a descriptive type of research with a quantitative approach with a case study method. Descriptive research in this study is to provide a description of the conventional method of inventory control, namely the control method currently applied according to the policies of PT Herlinah Cipta Pratama and compared with the Economic Order Quantity method in order to know the efficiency of raw material inventory in terms of raw material inventory costs and levels company inventory turnover.

The unit of analysis of this research is the purchasing department, the warehouse department, the accounting department, and the production department. While the time horizon in this study is the time series. Sources of data used are primary data obtained through interviews and observations, and secondary data obtained through documentation from archives, records, and company reports.

The data analysis technique in this study consisted of several stages, namely:

- a. Calculating the current inventory control performance is determined from the total inventory cost and inventory turnover value with the type of raw material turnover. According to Ardiprawiro (2016), the turnover rate of raw material inventory can be determined by the following formula:

$$\text{Raw Material Turnover} = \frac{\text{Cost of raw material used}}{\text{Average raw material inventory}}$$

- b. Determine the economic order quantity EOQ method. According to Sartono, (2016 :447) EOQ is determined by the formula:

$$Q = \text{EOQ} = \sqrt{\frac{2SO}{C}}$$

Information:

- Q = Economic order quantity
- S = Inventory requirement per period
- O = Cost per order
- C = Holding cost per unit

- c. Determine the frequency of purchasing raw materials with the formula according to Carter, (2012):315) as follows:

$$\text{Frequency} = \frac{S}{\text{EOQ}}$$

Information:

- S = Inventory requirement per period
- EOQ = Economic order quantity

- d. Determining the value of safety stock according to Assauri (2004: 191) is calculated by the following formula:

$$SS = Z \times SD$$

- SD = Standard deviation
- Z = Normal standard deviation (standard level)

- e. Determining the reorder point according to Heizer, et al (2017:546) is calculated by the following formula:

$$\text{ROP} = (d \times L) + SS$$

Information:

- d = Needs per day
- L = Timewaits for new orders in days
- SS = safety stock

- f. Determining the company's maximum inventory according to Heizer, et al (2017:546) is calculated by the following formula:

$$MI = SS + \text{EOQ}$$

Information:

- MI = Maximum stock
- SS = Safety stock
- EOQ = Economic order quantity

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- g. Calculating the total cost of inventory (total inventory cost) and the value of inventory turnover (inventory turnover) with the type of raw material inventory turnover (raw material turnover) after the application of the EOQ method in order to compare the total inventory cost and raw material turnover before and after the application of the EOQ method.

Total inventory cost according to Sartono, (2016:447) it is calculated by the following formula:

$$TIC = \frac{CQ}{2} + \frac{SO}{Q}$$

Information:

- TIC = Total inventory cost  
C = Holding cost per unit  
S = Inventory requirement per period  
O = Cost per order  
Q = Quantity of stock ordered

#### 4. RESULTS AND DISCUSSION

##### Inventory Control Based on Company Policy

In maintaining the smooth production process and to meet consumer demand, the company implements a policy in controlling raw material inventory, namely conducting monthly stock taking. This is done to minimize the loss of raw materials in the warehouse and

ensure that the raw materials needed are available in the warehouse. However, the company does not control the ordering and procurement of raw materials, so there are often shortages of raw materials (stocks out) and excess stocks of raw materials (excess stocks).

Lack of raw materials causes companies to experience obstacles in the production process and hinder the fulfillment of consumer demand. In addition, excess raw material causes a lot of raw material inventory to accumulate in warehouses and storage costs are high and there is a risk of obsolete or expired inventory. Company that sometimes buy in too few quantities cause a high frequency of purchases so that the ordering cost becomes greater.

The method of determining the quantity of raw material inventory orders currently applied by the company is only based on estimates of the quantity of materials required and must be purchased to meet production needs and see the physical stock in the warehouse based on the results. The inventory taking what the company does once a month. The company does not perform certain calculations in purchasing raw materials and orders are made when the company experiences a shortage of raw materials.

The following are the company's inventory costs and raw material inventory turnover:

**Table 1 Total Cost of Raw Material Inventory Conventional Method**

Year	Raw Material	Unit	Total Ordering Cost	Total Carrying Cost	Total Inventory Cost	ITOR
2018	Glutinous Rice	Kg	Rp 6.825.000	Rp 4.356.795	Rp 11.181.795	19,83
	Granulated Sugar	Kg	Rp 13.300.000	Rp 7.488.250	Rp 20.788.250	16,64
	Coconut	Grain	Rp 13.750.000	Rp 596.640	Rp 14.346.640	92,21
	Total		Rp 33.875.000	Rp 12.441.685	Rp 46.316.685	-
2019	Glutinous Rice	Kg	Rp 6.300.000	Rp 4.970.998	Rp 11.270.998	21,38
	Granulated Sugar	Kg	Rp 13.300.000	Rp 10.183.250	Rp 23.483.250	21,88
	Coconut	Grain	Rp 16.000.000	Rp 633.671	Rp 16.633.671	103,80
	Total		Rp 35.600.000	Rp 15.787.919	Rp 51.387.919	-
2020	Glutinous Rice	Kg	Rp 4.200.000	Rp 5.200.912	Rp 9.400.912	11,59
	Granulated Sugar	Kg	Rp 11.780.000	Rp 7.034.677	Rp 18.814.677	19,22
	Coconut	Grain	Rp 10.500.000	Rp 632.729	Rp 11.132.729	77,64
	Total		Rp 26.480.000	Rp 12.868.319	Rp 39.348.319	-

In procuring raw materials, the company incurs ordering costs including information technology and telecommunications costs, printing costs and office supplies,

transportation costs, and loading and unloading costs. In addition, there are storage costs including depreciation costs, warehouse

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security costs, electricity costs, and inventory risk costs.

The company incurs large ordering costs and raw material storage costs every year. Raw material inventory costs increased from 2018-2019 and then decreased in 2020 in line with the total ordering costs and storage costs because in 2019 there was an increase in market demand, while in 2020 there was a decrease in raw material purchases due to the impact of the Covid-19 pandemic which resulted in market demand decrease. The company issued inventory costs with the highest value in 2019 of IDR 51,387,919.00 with a total ordering cost of IDR 35,600,000.00 and a total storage cost of IDR 15,787,919.00. Company has a fairly high turnover rate, especially coconut because the raw material is quickly processed and put into production so that the turnover rate is the highest. The company's inventory turnover rate

in the 2018-2020 period has an increasing pattern from 2018 to 2019 and then decreases in 2020 because it is influenced by the average inventory and the use of raw materials each period.

**Inventory Control Method Economic Order Quantity**

Procurement of raw material inventory by calculating the Economic Order Quantity (EOQ) method can determine the most optimal quantity of orders with the most economical inventory costs incurred. This study focuses on three types of raw materials, namely glutinous rice, granulated sugar, and coconut. The three raw materials meet the assumption of using EOQ including repeated orders, relatively constant demand for raw materials, constant lead times, and continuous orders. The following is the calculation of the EOQ method:

**Table 2 Calculation of Economic Order Quantity EOQ Method**

Year	Raw Material	Unit	Inventory Needs	Ordering Cost/Order	Carrying Cost/Unit	EOQ (unit)
			S	O	C	
2018	Glutinous Rice	Kg	257.241	Rp 175.000	Rp 660	11.680
	Granulated Sugar	Kg	382.000	Rp 380.000	Rp 674	20.758
	Coconut	Grain	361.002	Rp 125.000	Rp 182	22.299
2019	Glutinous Rice	Kg	262.714	Rp 175.000	Rp 684	11.593
	Granulated Sugar	Kg	533.172	Rp 380.000	Rp 674	24.524
	Coconut	Grain	421.422	Rp 125.000	Rp 193	23.394
2020	Glutinous Rice	Kg	164.979	Rp 175.000	Rp 733	8.875
	Granulated Sugar	Kg	327.298	Rp 380.000	Rp 688	19.021
	Coconut	Grain	277.242	Rp 125.000	Rp 193	18.975

The results of the EOQ calculation show that the EOQ value increased in 2019 and decreased in 2020, except for the raw material for glutinous rice which has a decreased EOQ value from 2018-2020. This happened due to an increase in carrying cost/unit of IDR 24.00 in 2019 and in 2020 there was an increase of IDR 49.00 from the previous year. The increase in costs is higher than the increase in inventory

requirements. The EOQ calculation value shows the optimal order quantity for each raw material ordered per period.

Based on the value of the Economic Order Quantity, the appropriate purchase frequency can be determined. The order cycle can also be known by comparing the number of working days in a year, which is 240 days with the frequency of purchases as in the following table:

**Table 3 Purchase Frequency EOQ Method**

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Year	Raw Material	Unit	Frequency	Order Cycle (Days)
2018	Glutinous Rice	Kg	22	11
	Granulated Sugar	Kg	18	13
	Coconut	Grain	16	15
2019	Glutinous Rice	Kg	23	11
	Granulated Sugar	Kg	22	11
	Coconut	Grain	18	13
2020	Glutinous Rice	Kg	19	13
	Granulated Sugar	Kg	17	14
	Coconut	Grain	15	16

The frequency of purchasing raw materials varies every year and has a pattern of increasing from 2018-2019 and then decreasing from 2019-2020 because it adjusts to the needs of raw materials during that period. The frequency of these purchases has a lower amount than the frequency of purchases using the conventional method.

After determine the economic order quantity, the company can then calculate the safety stock. Safety stock owned by the company aims to anticipate the occurrence of stock outs and demand uncertainty and in case of delays in receiving supplies ordered by the company.

Then the company can determine when the inventory reaches a certain point and must

do reorder. By determining the reorder point, the company can streamline inventory orders which will affect inventory costs.

In addition to determining the reorder point, the company also needs to determine the maximum inventory level that can be stored in the warehouse. Maximum inventory is the maximum amount of inventory that can be stored by the company in the warehouse. The maximum inventory calculation aims to minimize the occurrence of excess stock or excess inventory so that it can streamline the costs incurred by the company.

The following are the results of calculations in determining safety stock, reorder point and maximum inventory of raw materials:

**Table 4 Safety Stock, Reorder Point & Maximum Inventory**

Year	Raw Material	Unit	Safety Stock	Reorder Point	MI
2018	Glutinous Rice	Kg	3.330	5.474	15.010
	Granulated Sugar	Kg	6.430	12.797	27.188
	Coconut	Grain	4.288	8.800	26.587
2019	Glutinous Rice	Kg	3.674	5.864	15.267
	Granulated Sugar	Kg	7.465	16.351	31.989
	Coconut	Grain	4.488	9.756	27.882
2020	Glutinous Rice	Kg	2.729	4.104	11.604
	Granulated Sugar	Kg	3.952	9.407	22.974
	Coconut	Grain	3.402	6.867	22.377

The value of safety stock must be prepared by the company to anticipate stockouts and high demand fluctuations. The value of the safety stock increased from 2018-2019 and then decreased in 2020. This happened because the calculation of the safety stock adjusted to the use of inventory and the average use of inventory for that period.

In addition, the reorder point for the three raw materials is different for each period, with the value increasing in 2019 and then decreasing in 2020 because it adjusts to the daily inventory needs and safety stock each period which shows similar increases and decreases.

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The maximum inventory value also varies for each period with a value that increases in 2019 and decreases in 2020 because it is influenced by the value of the economic order quantity (EOQ) and safety stock which are related to the needs of each different period so that the maximum inventory value is different for each period.

#### Inventory Cost Efficiency Analysis

The Economic Order Quantity (EOQ) method is considered appropriate to be applied in the company if it can produce efficiency for the company related to inventory costs. This is reflected in the total inventory cost, which consists of minimal ordering costs and carrying costs with the most appropriate quantity of raw materials ordering, thereby minimizing excess stock and shortages raw materials (stockout).

Inventory cost efficiency can be determined by comparing the total cost of raw material inventory according to company policy/conventional method and the total cost of inventory according to the EOQ method. If the cost of inventory issued by the company according to the EOQ method is smaller than the cost of inventory according to company policy, then the difference between the two is cost saving or a number of costs that the company can save when using the EOQ method. These cost savings indicate the occurrence of cost efficiency of raw material inventory in the company.

The following is a comparison of the inventory costs of the conventional method and the EOQ method to find out which method is considered efficient in supporting the operations of PT Herlinah Cipta Pratama.

**Table 5 Comparison Total Inventory Cost EOQ and Conventional Methods**

Year	Raw Material	Unit	Total Inventory Cost		Cost Saving	%
			Conventional	EOQ		
2018	Glutinous Rice	Kg	Rp 11.181.795	Rp 7.708.610	Rp 3.473.185	31,1%
	Granulated Sugar	Kg	Rp 20.788.250	Rp 13.985.818	Rp 6.802.432	32,7%
	Coconut	Grain	Rp 14.346.640	Rp 4.047.279	Rp 10.299.361	71,8%
	Total		Rp 46.316.685	Rp 25.741.707	Rp 20.574.979	44,4%
2019	Glutinous Rice	Kg	Rp 11.270.998	Rp 7.931.716	Rp 3.339.282	29,6%
	Granulated Sugar	Kg	Rp 23.483.250	Rp 16.523.036	Rp 6.960.214	29,6%
	Coconut	Grain	Rp 16.633.671	Rp 4.503.436	Rp 12.130.235	72,9%
	Total		Rp 51.387.919	Rp 28.958.188	Rp 22.429.731	43,6%
2020	Glutinous Rice	Kg	Rp 9.400.912	Rp 6.506.216	Rp 2.894.696	30,8%
	Granulated Sugar	Kg	Rp 18.814.677	Rp 13.077.202	Rp 5.737.476	30,5%
	Coconut	Grain	Rp 11.132.729	Rp 3.652.707	Rp 7.480.022	67,2%
	Total		Rp 39.348.319	Rp 23.236.125	Rp 16.112.193	40,9%

From the comparison results above, it can be seen that the total cost of raw material inventory using the EOQ method is smaller than the inventory cost according to company policy. This shows the cost efficiency of raw material inventory if the company applies the EOQ method which is reflected in the amount of cost savings.

Overall in 2018, the implementation of the EOQ method resulted in more efficient inventory costs with cost savings of IDR 20,574,979.00 (44.4%), in 2019 indicating a cost savings of 43.6% or IDR 22,429,731.00, and 2020 indicates a cost savings of IDR 16,112,193.00 (40.9%). In line with this, each

of the raw materials, namely glutinous rice, granulated sugar, and coconut every year shows cost savings with the cost of raw material inventory using the EOQ method showing a smaller value than inventory costs according to company policy or conventional methods.

The efficiency level achieved by PT Herlinah Cipta Pratama related to the cost of raw materials by applying the EOQ method reached 180% in 2018, 177% in 2019, and 169% in 2020. This is in line with the results of previous studies which showed calculations using the EOQ method can result in a lower total inventory cost than company policy, thereby creating cost savings and enabling

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optimal inventory stock (Riza, M., Purba, HH, 2018; Dewi, et al 2019). So that the application of the EOQ method has a positive impact on PT HerlinahCiptaPratama in increasing the company's efficiency, especially in the cost efficiency of raw material inventory.

**Inventory Turnover Rate Analysis**

The value of inventory turnover can be an indicator of the effectiveness of a company in managing inventory and efficiency related to inventory costs. In general, a high inventory turnover value indicates a company's performance in managing inventory better. However, the company must also be careful if it has a high inventory turnover because the company can run out of inventory.

If a company has a low inventory turnover ratio, then there is a risk that the company is

holding obsolete inventory that is difficult to sell. This can erode company profits. However, a company may hold a lot of inventory for legitimate reasons, such as preparing for the holiday season. So that the value of high or low, good or bad inventory turnover depends on the company's industry.

In this study, the value of inventory turnover before using the EOQ method or according to company policy and after using the EOQ method will be compared to determine changes, both increase and decrease due to the application of the EOQ method. The following is a comparison of the inventory turnover value according to the conventional method and the EOQ method:

**Table 6 Comparison Inventory Turnover EOQ and Conventional Methods**

Year	Raw Material	Unit	Inventory Turnover		Gap
			Conventional	EOQ	
2018	Glutinous Rice	Kg	19,8	20,0	0,2
	Granulated Sugar	Kg	16,6	19,6	3,0
	Coconut	Grain	92,2	99,8	7,6
2019	Glutinous Rice	Kg	21,4	20,7	-0,6
	Granulated Sugar	Kg	21,9	27,7	5,8
	Coconut	Grain	103,8	39,4	-64,4
2020	Glutinous Rice	Kg	11,6	13,1	1,5
	Granulated Sugar	Kg	19,2	14,1	-5,1
	Coconut	Grain	77,6	14,3	-63,4

The EOQ method of ordering inventory is adjusted to the needs of the related period and adjusts to storage costs and ordering costs to produce minimal inventory costs, so that it affects the company's inventory turnover value. Some raw materials such as coconut in the conventional method have a high inventory turnover rate because the existing inventory level is too small compared to the level of demand from consumers. Based on the comparison table above, it can be seen that some raw materials in a certain period have a higher inventory turnover value after the EOQ method is applied. While some of them have lower values, including glutinous rice (2019), coconut (2019), granulated sugar (2020), and coconut (2020). This shows that the implementation of the EOQ method at PT HerlinahCiptaPratama is not fully in accordance with the theory described by

(Husnan, S., & Pudjiastuti, 2022). The average inventory turnover value of companies operating in the food and beverage industry is 12.35 times (Trisnayanti, et al 2020). However, after the Covid-19 pandemic, companies in the food and beverage industry had a decreased inventory turnover, namely the average inventory turnover was 0.36 times with the lowest value -22.08 times and the highest value 23.42 times (Pitaloka, et al 2022)

PT Herlinah Cipta Pratama has an inventory turnover value that exceeds the industry average both before the pandemic and during the Covid-19 pandemic. With the application of the EOQ method, the inventory turnover value of some raw materials increases, although some other raw materials are lower than conventional methods for a certain period, but the value is still above the industry average and is in a good range, in other words the inventory turnover



value is not low or not too high which can result in out of stock.

## 5. CONCLUSIONS AND SUGGESTION

### Conclusion

1. The control of raw material inventory carry out by PT Herlinah Cipta Pratama is currently considered to be still not efficient. This is reflected in the high total inventory cost for 2018-2020 according to calculations based on company policy, but the raw material inventory turnover value shows a good value and is above the industry average.
2. The application of the Economic Order Quantity method of inventory control at PT Herlinah Cipta Pratama produces an economic order quantity with minimal inventory costs. In addition, the frequency of purchases in the application of the EOQ method shows a smaller frequency than the conventional method related to ordering costs.
3. The Economic Order Quantity method at PT Herlinah Cipta Pratama results in cost efficiency of raw material inventory. This is reflected in the total inventory cost in the EOQ method which is much lower than the total inventory cost that must be incurred by the company according to company policy (conventional method).
4. The application of the Economic Order Quantity method resulted in an increase in the value of Inventory Turnover on some raw materials, but some raw materials in a certain period showed a lower value than the conventional method because the accumulation of raw material inventory purchases according to the EOQ method in that period was greater than the conventional method so that ending inventory is also higher.

### Suggestion

1. The management of PT Herlinah Cipta Pratama should review the current inventory control applied by the company to place orders and procure raw materials.

2. The CEO and company management should consider having a special section in planning and controlling inventory, such as Production Planning and Inventory Control (PPIC).
3. The management of PT Herlinah Cipta Pratama can consider applying the Economic Order Quantity (EOQ) method in controlling the company's raw material inventory. Because the EOQ method can produce cost efficiency of raw materials with optimal order quantity and minimal inventory costs as well as effective and efficient purchasing frequency.
4. The Economic Order Quantity method can also be applied to other types of inventories within the company such as work in process inventory and finished good inventory.
5. The company is expected to have a storage area with adequate facilities and carry out regular inventory checks to reduce obsolete or expired inventory. In addition, the company can purchase inventory at a certain level according to customer needs and control working capital in inventory so that it is expected to increase the company's inventory turnover value.
6. Future research is expected to be able to investigate further related to Inventory Turnover in the application of the Economic Order Quantity method and involve other types of inventories such as work in process inventory and finished good inventory and predict needs (forecasting) so that it can be known planning for further needs in the application of the Economic Order Quantity method.

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