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Comparison Study of the Actual Method and the Economic Order Quantity (EOQ) Method in Controlling Food Raw Materials Inventories at Royal Tulip Gunung Geulis Resort & Golf

Sekti Rahardjo[1*], Aditya Sugih Setiawan[2], M. Ridwan Permana[3], Syaiful Anwar[4]
[1,2,3]Sekolah Tinggi Pariwisata Bogor
[4]Sekolah Tinggi Ilmu Ekonomi Dewantara
Corresponding Author: Sekti Rahardjo sektirahardjo@gmail.com

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A B S T R A C T

The aim of this study is to determine the effect of the Economic Order Quantity (EOQ) method in inventory control, in terms of inventory profitability and non-financial performance (production efficiency, timely delivery, product quality). The research is descriptive with a quantitative approach. This study calculates the optimal inventory raw materials of chicken, beef, and lamb. The EOQ is more optimal and efficient, showed by the ordering cost difference is Rp 702,000,-, the total storage cost difference is Rp 2,863,917, -, the difference between the total purchase cost is Rp 57,278,334, -, and the difference in the total cost of inventory is Rp. 3,565,917,-. By using the EOQ method, Royal Tulip can save a total cost of Rp 64,410,168,-.

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INTRODUCTION

Tourism has become an excellent business opportunity. This is due to tourism activities which require various types of services, transportations, travel tours, accommodation, and also other tourism businesses related to the needs of tourists. One of the accommodation provided is hotel, can be defined as industry related to hospitality and comfort services for the consumers. The main function of the hotel is as a temporary place to stay which is expected to provide comfortable, safe, and satisfying services. Food and beverage are the main services in a hotel, so inventory control is needed to support operational continuity.

Inventories can be in the form of raw materials, supporting materials, or finished goods. Raw material inventory generally requires a lot of costs, because the supply of raw materials often results in errors such as shortage of raw materials or excessive ordering of raw materials, which can lead to increased costs. To avoid this problem the company needs to plan, manage, and control its raw material inventory, under the responsibility of the Accounting Department, Purchasing Section. Purchasing can use various methods in inventory control, one of which is the EOQ (Economic Order Quantity) method. EOQ is one of the classic models introduced by FW Harris in 1915, this method is the best-known in inventory control techniques.

In theory, the EOQ concept is the simplest inventory model. The EOQ model is the traditional approach to inventory control. According to (Handoko, 2014) the concept of EOQ, also called the fixed order quantity model, EOQ is a simple model for determining the number of inventory orders, which minimizes direct and indirect storage costs and can minimize order costs, the EOQ model or so-called model fixed quantity. Economic Order Quantity. An inventory control model in which the quantity ordered is the same each time the inventory reaches the reorder point. According to Fahmi (2014), there are three forms of variables in EOQ that are visible, Total Cost (costs incurred during the period), Ordering Costs (costs incurred during the purchasing process), Carrying Cost (cost of storage). The costs included are housing costs (rent or depreciation of buildings, operational costs, taxes, insurance) of 3-10%.

The EOQ method can help hotels to determine important things in inventory management such as when the goods should be ordered and how frequently to order the goods. But in reality, many hotels and other businesses have not implemented the EOQ method in their joint system, including Royal Tulip Gunung Geulis Resort & Golf.

Based on the background that has been described, the EOQ method is applied to the subject of this study, to find out which method is better, the actual method used by the hotel or the Economic Order Quantity Method, compares this method from two aspects, namely profitability and non-profit performance. The non-financial performance in this study is reviewed in terms of production efficiency, on-time delivery, and product quality. This research was conducted to determine the effect of the Economic Order Quantity in inventory control at Royal Tulip Gunung Geulis Resort & Golf and compare it with the manual method to find out which method should be used by Royal

Tulip Gunung Geulis Resort & Golf in terms of inventory cost efficiency and non-financial performance (production efficiency, timely delivery, and product quality).

THEORETICAL REVIEW

EOQ is One of the Most Effective Inventory Control Techniques (Haizer, Jay, & Berry, 2015)

EOQ is the oldest and best known inventory control technique by answering the two most important questions: when to order and how much. By using the EOQ method in the process of procuring raw materials, the costs incurred are economical. Purchases of materials in large quantities lead to high storage costs, while purchases in small quantities but with frequent purchases lead to increased ordering costs. With EOQ, companies can also minimize the possibility of out of stock in a way that does not interfere with the process of selling goods and saves storage costs due to cost efficiency. The EOQ method strives for the lowest possible inventory, lower costs and better quality. The design of this method minimizes the occurrence of out of stock and does not affect the company's production process because of the efficiency of the company's raw material inventory.

Indriani & Slamet (2015) stated on their research that the calculation of TIC using the Economic Order Quantity method is more optimal than the traditional method, controlling the stock of raw materials using the EOQ method is more efficient than the traditional method used by the company. This is reflected in optimal purchasing and savings in total inventory costs (TIC). The results from Hutahaean (2021) showed that the application of the EOQ method in the company resulted in lower costs compared to the method used by the company, so there was a 42% difference in overall raw material cost savings.

Economic Order Quantity (EOQ) is a Way to Acquire a Number of Items with Minimum Cost and Supervision to the Ordering Cost and Carrying Costs (Manullang, 2005)

EOQ is a method decisive inventory management the number of orders/purchases that must be done and how much amount must be ordered so that the total cost (sum of order cost with storage costs) becomes minimum.

H1: The use of the Economic Order Quantity method has no significant results with the actual method of controlling the supply of chicken, beef, and lamb raw materials at the Royal Tulip Hotel Gunung Geulis Resort & Golf.
H2: The use of the Economic Order Quantity method has more significant results than the actual method of controlling the supply of chicken, beef, and lamb raw materials at the Royal Tulip Hotel Gunung Geulis Resort & Golf.

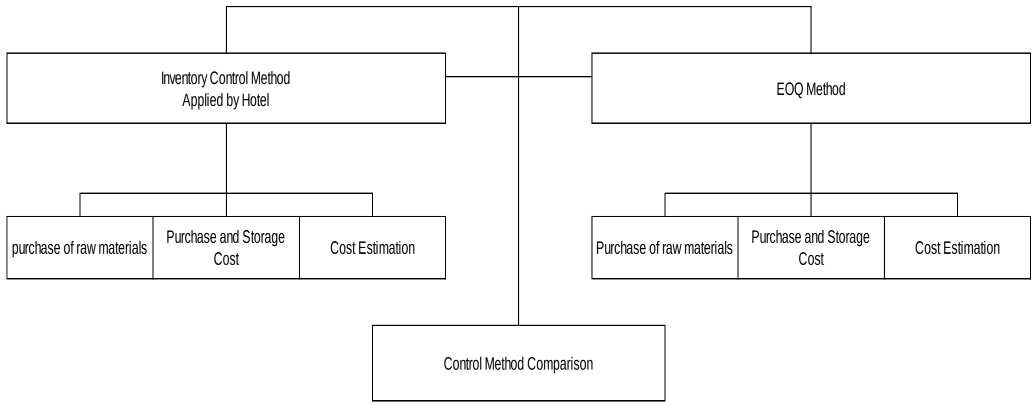

Figure 1. Conceptual Framework

METHODOLOGY

This study is a quantitative research, which is a research method based on the understanding of positivism, used to study a particular population or sample. The sampling technique is usually done randomly, data collection is done using research tools, and data analysis is quantitative or statistical to compare the proposed hypothesis (Sugiyono, 2017). There were two types of data, primary and secondary. Primary data is data collected directly from the object of research. There are several ways to get raw data, including observation for six months. Secondary data was collected from literature studies and documentation research from the latest data in the form of documents obtained from Royal Tulip Gunung Geulis Resort & Golf regarding data on the use and purchase of raw materials for chicken, beef, and lamb. This study is analytical techniques using the Economic Order Quantity (EOQ) method. The actual calculation method of Royal Tulip Gunung Geulis compared with the EOQ method to obtain lower raw material storage costs. The formula used in this study is as follows.

$$EOQ = \frac{\sqrt{2\ x\ D\ x\ S}}{H} \quad \ldots\ldots (1)$$

EOQ = Number of units per order
D = total demand in one year
S = Cost of one order
H = one year storage cost

RESULTS

Actual Cost Calculation

1. Actual Ordering Costs

These costs are incurred when ordering goods from suppliers, such as administrative costs for making a purchase requisition (PR) or daily market listing (DML), and Purchase Order (PO) and operational costs. Royal Tulip Gunung Geulis Resort & Golf sets an operational cost of Rp 6,500,- for each booking, this cost includes communication costs and stationery used of Rp 5,500,- and printing costs of Rp 1,000, - for each order. After knowing the cost of ordering raw materials for chicken, beef, and lamb, it is necessary to know the actual ordering frequency for the period September to December. The following are the results of the calculation of the ordering cost and the frequency of ordering raw materials for chicken, beef and goat at Royal Tulip Gunung Geulis Resort & Golf.

Table 1. Actual Ordering Cost Period September to December 2021

Item	Sum of BIAYA OPRASIONAL	Sum of BIAYA CETAK	Sum of BIAYA PEMESANAN	Sum of FREKUENSI AKTUAL
Beef Back Rib	5.500	1.000	6.500	17
Beef Short Plate Brisket	5.500	1.000	6.500	32
Beef Tenderloin Lokal	5.500	1.000	6.500	44
Beef Top Side	5.500	1.000	6.500	38
Chicken Breast Skinless	5.500	1.000	6.500	32
Chicken Leg Boneless	5.500	1.000	6.500	25
Chicken Leg Whole/Paha L	5.500	1.000	6.500	19
Chicken Whole	5.500	1.000	6.500	40
Chicken Wing	5.500	1.000	6.500	17
Lamb Chop Sliced 70gr	5.500	1.000	6.500	13
Lamb Leg Boneless	5.500	1.000	6.500	10
Grand Total	**60.500**	**11.000**	**71.500**	**287**

Furthermore, the actual total ordering cost of raw materials for chicken, beef and mutton is calculated using data on the frequency of orders and costs. The following is an example of calculating the cost of ordering a sample of Beef Short Plate Brisket raw materials.

Total Ordering Cost = Ordering Cost x Ordering Frequency
= Rp 6,500,- x 32 = Rp 208,000,-

Based on the above calculation, the total cost of ordering a sample of Beef Short Plate Brisket raw materials is Rp 208,000,- during the period September to December 2021. The following is the result of calculating the cost of ordering all samples of chicken, beef and goat raw materials.

Table 2. Total Actual Ordering Cost Period September to December 2021

Item	Sum of BIAYA PEMESANAN	Sum of FREKUENSI AKTUAL	Sum of TOTAL BIAYA PEMESANAN AKTUAL
Beef Back Rib	6,500	17	110,500
Beef Short Plate Brisket	6,500	32	208,000
Beef Tenderloin Lokal	6,500	44	286,000
Beef Top Side	6,500	38	247,000
Chicken Breast Skinless	6,500	32	208,000
Chicken Leg Boneless	6,500	25	162,500
Chicken Leg Whole/Paha	6,500	19	123,500
Chicken Whole	6,500	40	260,000
Chicken Wing	6,500	17	110,500
Lamb Chop Sliced 70gr	6,500	13	84,500
Lamb Leg Boneless	6,500	10	65,000
Grand Total	**71,500**	**287**	**1,865,500**

2. Actual Carrying Costs

Carrying costs are costs incurred due to inventory in the warehouse. These costs include the cost of physical storage, the cost of cooling, lighting, and maintenance of the warehouse. The following table is the initial stock data and inventory value calculated by multiplying the unit price of goods with the initial stock of samples of raw materials for chicken, beef and mutton at Royal Tulip Gunung Geulis Resort & Golf.

Table 3. Actual Carrying Costs Period September to December 2021

Item	Average Cost	Stock	Actual Carrying Cost
Beef Back Rib	93.667	537	50.302.747
Beef Short Plate Brisket	129.558	260	33.656.587
Beef Tenderloin Lokal	126.050	141	17.778.036
Beef Top Side	100.921	129	12.974.459
Chicken Breast Skinless	46.547	253	11.794.978
Chicken Leg Boneless	45.609	508	23.160.214
Chicken Leg Whole/Paha L	44.358	174	7.727.222
Chicken Whole	31.731	620	19.663.973
Chicken Wing	36.208	418	15.148.118
Lamb Chop Sliced 70gr	188.292	111	20.970.043
Lamb Leg Boneless	134.200	172	23.031.404
Grand Total	**977.141**	**3.323**	**236.207.780**

Based on the values above we can determine the carrying cost, which is range from 3 to 10%. Royal Tulip Gunung Geulis Resort & Golf's cost control determines a carrying cost of 5% per kg. The following is the result of calculating carrying costs per kg on a sample of Beef Short Plate Brisket raw materials.

Carrying Cost per kg = (Actual Storage Value x 5%) : Stock
= (Rp 33,656,587 x 5%) : 259,78
= Rp 1,682,829: 259,78 = Rp 6,478,-

3. Actual Purchasing Costs

Purchasing cost is the value obtained by multiplying the unit price by the total number of purchases in a period. Below is an example of calculating the purchase cost for a sample of Beef Short Plate Brisket raw material.

Purchasing Cost = Unit Price x Total Purchase
= Rp 129,558 x 2,198,12 kg
= Rp 284.784.109,-

Based on the above calculation, the total cost of purchasing samples of raw materials for the raw material samples of Beef Short Plate Brisket is Rp 284,784,109,- during the period September to December 2021. The following is the result of calculating the cost of purchasing all samples of raw material for chicken, beef, and lamb.

Table 4. Actual Purchasing Cost Period September to December 2021

Item	Average Cost	Actual Purchase	Total
Beef Back Rib	93.667	719	67.389.420
Beef Short Plate Brisket	129.558	2.198	284.784.109
Beef Tenderloin Lokal	126.050	1.280	161.330.887
Beef Top Side	100.921	1.020	102.939.857
Chicken Breast Skinless	46.547	930	43.288.594
Chicken Leg Boneless	45.609	610	27.821.446
Chicken Leg Whole/Paha L	44.358	469	20.781.879
Chicken Whole	31.731	4.700	149.137.765
Chicken Wing	36.208	440	15.928.046
Lamb Chop Sliced 70gr	188.292	302	56.839.605
Lamb Leg Boneless	134.200	221	29.625.992
Grand Total	**977.141**	**12.889**	**959.867.601**

4. Actual Inventory Costs

The total cost of inventory is obtained from the sum of ordering costs and the cost of storing raw materials for chicken, beef and goat which have been calculated previously. The following is an example of calculating the total inventory cost without using the EOQ method for a sample of Beef Short Plate Brisket raw materials.

Total Actual Inventory Cost = Ordering Cost + Storage Cost
= IDR 208,000 + IDR 14,239,205
= Rp. 14,447,205

The following is the result of calculating the total cost of inventory without the EOQ method for all samples of chicken, beef and goat raw materials.

Economic Order Quantity Calculation

1. Ordering Cost

This ordering cost includes all costs involved in purchasing an order for goods, including administrative and ordering costs, supplier selection costs, transportation costs, and loading and unloading costs. Receipt and control of goods. According to Indrajit & Djokopranoto (2011) the ideal calculation formula when calculating the cost of an order is as follows :

Ordering Cost = n x P ……. (2)
n (optimal frequency in the period)
P (ordering cost per order)

2. Inventory Cost

Inventory of goods is a major factor in making inventory costs. These costs arise when the company makes inventory, maintenance, or investment to maintain inventory. The ideal formula for calculating storage costs is as follows.

Inventory Cost = C x A ……. (3)
C (cost of holding goods for the period)
A (inventory cost for the period)

3. Lead Time

Anticipated Lead Time Demand is the grace period between the initial ordering of inventory items until the arrival of the ordered inventory items at the warehouse. While Anticipated Lead Time Demand is a projected demand for goods from consumers during the grace period for the supply of goods from suppliers. In determining the optimal waiting time, the company must bear the costs, namely *Extra Carrying Cost* (the cost charged if the arrival of raw materials before the specified time), and *Stock Out Cost* (the cost charged when raw materials take longer than the specified grace period to arrive). The formula for calculating Anticipated Lead Time demand as follows .

Anticipated Lead Time demand = Usage Rate x Lead Time ……. (4)
Usage Rate = Average usage rate
Lead Time = Grace time

4. Safety Stock

The value of Safety Stock is the amount needed if the delivery time of the purchase is longer than it should be. In addition, the Safety Stock serves to guard against uncertain demand and to cover the amount of inventory until the inventory that is in process arrives, so that there is no shortage of stock. Safety Stock can be calculated by multiplying the average use of raw materials by the waiting time. Average usage is obtained from the total usage during a period divided by the number of days in that period. The period in question is 4 months, with the number of days from September to December 2021 are 121 days. Meanwhile, the delivery time is 2 days for all samples of chicken, beef,

and lamb raw materials. The following is an example of a Safety Stock calculation for the raw material of Beef Short Plate Brisket :

Safety Stock = Average usage x Lead Time ……. (5)
= (1,965: 121 days) x 2
= 32,48 kg per day

Based on the results of the above calculations, the Safety Stock for the raw material sample of Beef Short Plate Brisket is 32,48 kg.

5. Anticipated Lead Time Demand

Lead Time is the waiting time starting from the goods ordered until the goods are received. The lead time for sampling raw chicken, beef, and lamb at Royal Tulip Gunung Geulis is 2 days. During this waiting period, inventory is required which is known as Anticipated Lead Time demand. Anticipated Lead Time Demand (ALTD) is the anticipation of inventory needs during the current grace period. The anticipated lead time can be determined by multiplying the usage rate by the lead time. The following is an example of calculating ALTD on a sample of Beef Short Plate Brisket raw material :

Anticipated Lead Time Demand = usage rate x delivery time
= (1,965 : 121 days) x 2
= 32,48 kg per day

The result of ALTD for all samples of raw materials is shown in table 1.

Table 6. Anticipated Lead Time Demand EOQ Method September to December 2021

Item	Usage (kg)	Days	Average Usage	Lead Time	Safety Stock
Beef Back Rib	781	121	6,46	2	12,92
Beef Short Plate Brisket	1.965	121	16,24	2	32,48
Beef Tenderloin Local	1.201	121	9,93	2	19,85
Beef Top Side	921	121	7,61	2	15,23
Chicken Breast Skinless	945	121	7,81	2	15,62
Chicken Leg Boneless	687	121	5,68	2	11,35
Chicken Leg Whole	482	121	3,98	2	7,97
Chicken Whole	4.488	121	37,09	2	74,18
Chicken Wing	504	121	4,17	2	8,34
Lamb Chop Sliced 70gr	240	121	1,99	2	3,97
Lamb Leg Boneless	397	121	3,28	2	6,56
Grand Total	**12.612**	**1.331**	**104**	**22**	**208**

Source: Data processed by the author

The table above shows the estimated value of the anticipated Lead Time demand that must be owned by the hotel to support its operations within a certain time waiting to avoid a shortage of raw materials in the warehouse.

6. Re-Order Point

The re-order point is the point at which the hotel must repurchase existing supplies. The re-order point can be calculated by multiplying the average usage by the lead time and then adding the result to the safety stock value. The following is an example of calculating the reorder point for a sample of Beef Short Plate Brisket raw material :

Re-Order Point = (Average Usage x Delivery Time) + Safety Stock
= (1,965/121) x 2) + 32,46 = 64,93 rounded up to 65 kg

Based on the above calculation, the reorder point for the raw material sample of Beef Short Plate Brisket is 65 kg. The following are the results of the calculation of the reorder point for all samples of raw materials for chicken, beef, and lamb.

Table 7. Re-Order Point EOQ Method September to December 2021

Item	Usage	Lead Time	Safety Stock	Re-Order Point
Beef Back Rib	6,46	2	12,92	25,83
Beef Short Plate Brisket	16,24	2	32,48	64,95
Beef Tenderloin Lokal	9,93	2	19,85	39,70
Beef Top Side	7,61	2	15,23	30,45
Chicken Breast Skinless	7,81	2	15,62	31,24
Chicken Leg Boneless	5,68	2	11,35	22,70
Chicken Leg Whole	3,98	2	7,97	15,93
Chicken Whole	37,09	2	74,18	148,35
Chicken Wing	4,17	2	8,34	16,68
Lamb Chop Sliced 70gr	1,99	2	3,97	7,95
Lamb Leg Boneless	3,28	2	6,56	13,13
Grand Total	**104,23**	**22,00**	**208,46**	**416,92**

Source: Data processed by the author

DISCUSSIONS

After determining the Safety Stock value, Lead Time, and Re-order Time, a comparison was made to find out how the Economic Order Quantity effect the inventory control at Royal Tulip Gunung Geulis Resort & Golf.

Table 8. Comparison of Actual and EOQ Frequency

Item	Actual Frequency	EOQ Frequency	Difference
Beef Back Rib	17	17	0
Beef Short Plate Brisket	32	31	1
Beef Tenderloin Lokal	44	24	20
Beef Top Side	38	19	19
Chicken Breast Skinless	32	13	19
Chicken Leg Boneless	25	11	14
Chicken Leg Whole/Paha	19	9	10
Chicken Whole	40	23	17
Chicken Wing	17	8	9
Lamb Chop Sliced 70gr	13	13	0
Lamb Leg Boneless	10	11	-1
Grand Total	**287**	**179**	**108**

Source: Data processed by the author

Based on the calculation results above, the frequency of orders with EOQ is shown, as well as the actual frequency. The results of the EOQ order frequency are obtained from the calculation results according to the formula described above, while the actual order frequency is obtained from the Purchase Requestion data for Royal Tulip Gunung Geulis Resort & Golf. For comparison of the frequency of orders, some differences are issued for the procurement of Purchasing. For example, the difference after using the EOQ method with the raw material sample of Beef Short Plate Brisket is 1-time ordering, this happens because it should be 32 times but the EOQ method says it is enough to order 31 times. Orders as many as 31 times can fulfilled them and are made within 16 weeks, so the order is made two times a week.

Comparison of Ordering Costs

This cost occurred when ordering goods from suppliers, such as administrative costs for making Purchase Requisitions (PR) or Daily Market listings (DML), Purchase Orders (PO), and Operational Costs. Royal Tulip Gunung Geulis Resort & Golf sets an operational cost of Rp 6,500,- for each booking, this cost includes communication costs and stationery used of Rp 5,500, - and printing costs of Rp 1.000, - for each order.

Table 9. Comparison of Ordering Costs

Item	Actual Order	EOQ Order	Difference
Beef Back Rib	110.500	110.500	-
Beef Short Plate Brisket	208.000	201.500	6.500
Beef Tenderloin Lokal	286.000	156.000	130.000
Beef Top Side	247.000	123.500	123.500
Chicken Breast Skinless	208.000	84.500	123.500
Chicken Leg Boneless	162.500	71.500	91.000
Chicken Leg Whole	123.500	58.500	65.000
Chicken Whole	260.000	149.500	110.500
Chicken Wing	110.500	52.000	58.500
Lamb Chop Sliced 70gr	84.500	84.500	-
Lamb Leg Boneless	65.000	71.500	- 6.500
Grand Total	**1.865.500**	**1.163.500**	**702.000**

Source: Data processed by the author

Based on the table above, the difference in ordering costs for all samples of raw material for chicken, beef, and lamb based on actual orders with EOQ is Rp 702,000,-. The high actual ordering cost is caused by the frequency of ordering too often. Orders that are too frequent are the result of a lack of purchasing planning so Purchasing sometimes makes an order based on the supply of raw materials that is considered insufficient to meet guest requests. After applying the EOQ method to the overall ordering cost calculation, it can be seen that the ordering cost using the EOQ method is more economical than the actual ordering cost.

Comparison of Carrying Costs

Carrying costs occurred due to inventory in the warehouse. These costs include physical inventory costs, cooling costs, lighting, and warehouse maintenance.

Table 10. Comparison of Carrying Costs

Item	Actual Carrying Cost	EOQ Carrying Cost	Difference
Beef Back Rib	3.369.471	3.741.983	- 372.512
Beef Short Plate Brisket	14.239.205	12.651.342	1.587.863
Beef Tenderloin Lokal	8.066.544	7.562.976	503.568
Beef Top Side	5.146.993	4.697.893	449.100
Chicken Breast Skinless	2.164.430	2.208.649	- 44.220
Chicken Leg Boneless	1.391.072	1.580.349	- 189.277
Chicken Leg Whole	1.039.094	1.057.946	- 18.852
Chicken Whole	7.456.888	7.006.302	450.586
Chicken Wing	796.402	869.000	- 72.598
Lamb Chop Sliced 70gr	2.841.980	2.203.013	638.968
Lamb Leg Boneless	1.481.300	1.550.010	- 68.710
Grand Total	**47.993.380**	**45.129.463**	**2.863.917**

Source: Data processed by the author

Based on the table above, the difference between the total actual and EOQ carrying cost is Rp 2,863,917,-. Actual carrying becomes higher because many purchases are not following with the needs, when it is over, there will be additional costs. While carrying costs are generally lower through the EOQ method, this is due to purchases made using the EOQ method according to usage. The calculation of the total carrying cost shows that the EOQ method is cheaper than the actual cost.

Comparison of Purchasing Costs

Table 11. Comparison of Purchasing Costs

Item	Actual Purchase	EOQ Purchase	Difference
Beef Back Rib	67.389.420	74.839.667	- 7.450.247
Beef Short Plate Brisket	284.784.109	253.026.844	31.757.266
Beef Tenderloin Lokal	161.330.887	151.259.524	10.071.363
Beef Top Side	102.939.857	93.957.850	8.982.007
Chicken Breast Skinless	43.288.594	44.172.984	- 884.391
Chicken Leg Boneless	27.821.446	31.606.988	- 3.785.541
Chicken Leg Whole	20.781.879	21.158.925	- 377.046
Chicken Whole	149.137.765	140.126.036	9.011.729
Chicken Wing	15.928.046	17.380.000	- 1.451.954
Lamb Chop Sliced 70gr	56.839.605	44.060.250	12.779.355
Lamb Leg Boneless	29.625.992	31.000.200	- 1.374.208
Grand Total	**959.867.601**	**902.589.267**	**57.278.334**

Source: Data processed by the author

From the table above, the difference between the total actual purchasing cost and EOQ is Rp. 57,278. 334. As explained above, the high volume of purchases of raw materials for chicken, beef, and lamb is caused by high purchases in certain months due to a large number of events. For the number of purchases in other months, Purchasing makes purchases by looking at the previous period's purchase data and also based on the calendar of events at the hotel. Therefore, applying the EOQ method when buying raw materials for chicken, beef, and lamb at Royal Tulip Gunung Geulis is more economical.

Table 12. Comparison of Inventory Costs

Item	Actual Inventory	EOQ INVENTORY	Difference
Beef Back Rib	3.479.971	3.852.483	- 372.512
Beef Short Plate Brisket	14.447.205	12.852.842	1.594.363
Beef Tenderloin Lokal	8.352.544	7.718.976	633.568
Beef Top Side	5.393.993	4.821.393	572.600
Chicken Breast Skinless	2.372.430	2.293.149	79.280
Chicken Leg Boneless	1.553.572	1.651.849	- 98.277
Chicken Leg Whole	1.162.594	1.116.446	46.148
Chicken Whole	7.716.888	7.155.802	561.086
Chicken Wing	906.902	921.000	- 14.098
Lamb Chop Sliced 70gr	2.926.480	2.287.513	638.968
Lamb Leg Boneless	1.546.300	1.621.510	- 75.210
Grand Total	**49.858.880**	**46.292.963**	**3.565.917**

Source: Data processed by the author

From the comparison table above, the difference between the actual total inventory cost and EOQ is Rp 3,565,917. This value indicates that storage costs with the EOQ method are cheaper and more efficient than those without the EOQ method. There is no Safety Stock in hotel calculations. Therefore, there is no comparison data in the calculation of Safety Stock. Calculation of Safety Stock is useful for alternative methods that can be used by hotels in the future. Lead time arises because not all orders can be fulfilled at the same time so it takes time or there is always a pause. When the grace period runs, Anticipate Lead Time is needed to maintain item availability at the time of ordering. The anticipated Lead Time will vary for each item because it depends on the average usage of the item itself. The Re-Order Point value is the ideal quantity for the need for follow-up orders for raw materials to replenish the stock in the warehouse so that operations can run smoothly without running out of stock or delays at the end of the period.

Based on the results of research and discussion, it can be concluded that the Economic Order Quantity (EOQ) method affects the supply of food raw materials. If Royal Tulip Gunung Geulis uses the EOQ method, it can save costs of Rp 64,410,167. The raw material inventory policy carried out by Royal Tulip Gunung Geulis Resort & Golf so far has not been optimal, meaning that the costs incurred so far are greater than using the Economic Order Quantity method in inventory control. Ordering cost difference between Actual Cost and EOQ Method is Rp 702,000,-. Storage cost difference is Rp 2,863,917,-. Purchasing cost difference is Rp 57,278,334,-. Inventory Cost Difference is Rp 3,565,917,-. And the total difference is Rp 64,410,167,-.

CONCLUSIONS AND RECOMMENDATIONS

By calculating the Economic Order Quantity (EOQ) method and comparing it with the actual method, it is proven that the EOQ method has better efficiency than the actual method. Therefore, Royal Tulip Gunung Geulis Resort & Golf may consider implementing the EOQ method in inventory control that will be carried out in the future. This EOQ method is more efficient, and helps hotels find the most economical and ideal amount, also the frequency of purchases.

FURTHER STUDY

For further research with a similar topic, the author should add other variables to be studied, multiply the sample and look for other sources to strengthen this research, and it is recommended to use data for a year, or use other methods in this study that might produce more efficient results.

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