SUMMARY

LIDYA SUSANTI. Analysis Of Base Raw Material Inventory Control In The Ceramic Industry At PT. XYZ. Supervised by MACHFUD and ROKHANI HASBULLAH.

Ceramic industry is one of the industries which is currently developing with diverse product variant which includes tile cermic, walltile, tableware, bath and sanitary. Base material inventory in a company is very important but it needs to be controlled to save cost. One of the ceramic industries in Indonesia is PT. XYZ. The tile production increased steadily in the last three years from 1.7 million sqm in 2012 to 2.3 million sqm in 2014. The problem faced by PT. XYZ is high inventory so it causes high cost of inventory. The total target of base material inventory sufficiency at the PT. XYZ is one month for local also two and a half months for the imported base material, but in fact the overall time for the base material inventory sufficiency is over four months. The purpose of the study was to analyze factors that cause the base material inventory excess at PT. XYZ and analyze how to control the base material inventory.

The methods used to analyze the factors that cause the base material inventory excess at PT. XYZ were by using a fish bone method and through interviews with internal respondents. The potential causes through questionnaire with internal respondents were then weighted by using pairwise comparison method assisted with the expert choice 2000 software to obtain the most dominant cause of the problem. The Economic Order Quantity (EOQ) model was used to answer the purpose of how to control the base material inventory. EOQ is a simple method to determine the optimum number of order. The standards order could be obtained using the EOQ model so the order quantity, order frequency, Re Order Point (ROP), Total Order Cost (TOC), Total Carrying Cost (TCC), and Total Inventory Cost (TIC) could be obtained. The order quantity could be obtained if we know the quantity demand, order cost and carrying cost. This research was conducted at PT. XYZ which is located in Gunung Puteri, Bogor. The data collection and data processing was carried out in April 2015. The data used is related to the inventory of base materials.

The result of this study shows that the cause of base materials inventory excess at PT. XYZ is there is no order standard applied. In the sub-factor of no order standard, which has the highest weight value is no quantity of order standard with a weight value of 0.650. The sub factor with the highest weight value became the main priority to be the focus of the company. The result of classification based on ABC analysis shows that the selected items which were going to be analyzed were the A category items. The clay category that are included in the A category are clay ex belitung jw , clay ja 1/ja b and sodium feldspar. Those three inventories give 81% contribution from the total use of base material inventory for 7 months. Based on the application of the EOQ model, the number of demands in seven months on clay ex jw belitung is 17 575.1 ton, clay ja 1/ja b is 12 128.9 ton and sodium feldspar is 24 656.7 ton. The quantity of each order on the three inventory item which give total cost of minimum inventory for clay ex belitung jw is 600 ton, clay ja 1/ja b is 500 ton and sodium feldspar is 400 ton with the

order frequency within seven months for each item is 29 times, 24 times and 62 times. The three item of base material will be ordered if the inventory in the warehouse is clay ex belitung jw 3 048.8 ton, clay ja 1/ja b 1 978.9 ton and sodium feldspar 3 873.5 ton. The amount already included the safety stock in anticipation of uncertainty needs during the waiting period. The safety stock of clay ex belitung jw is 538.1 ton, clay ja 1/ja b is 246.2 ton and sodium feldspar is 351.1 ton.

The base material inventory could be managed using the EOQ model, so the order quantity, order frequency, re order point, total order cost, total carrying cost, and total inventory cost could be obtained. The comparison of the total cost of inventory among the EOQ model and company policies showed that the EOQ model in seven months can save up to Rp311 612 769.

The EOQ model could be implemented if all of the departments involved are well cooperated. PT. XYZ should also be able to make inventory control standards which are order quantity, order frequency, and reorder point. PT.XYZ does not want out of stock and excess inventory condition, so it must implement an efficient safety stock. The recommendation for further research is PT. XYZ can continue controlling the inventory of the base materials using EOQ model with ABC analysis B classification so that all of the items can be analyzed in stages. If the company has plans to increase its production in 2016, the amount of supply needed must be predicted beforehand (forecasting).

Keywords : cost, EOQ, frequency, inventory, ROP