MATERIAL INVENTORY ANALYSIS OF TRADITIONAL MARKET COMPLEX AND PLASA LAMONGAN DEVELOPMENT PROJECTS

Student Name : Arinda Yudhit Bandripta
NRP : 3107.100.551
Major : Civil Engineering FTSP -ITS
Counsellor Lecturer : Ir. Retno Indryani, M.S.

ABSTRACT
One of the factor that affect the fluency implementation of a construction project is the implementation of material flow. The delay in the arrival of construction materials caused the material inventory stockout when will be used makes work delayed. This can indirectly affect the total implementation time and total cost of the project. This final project aims to analyze the material inventory in the Traditional Market Complex and Plaza Lamongan Project.

Analysis of material inventory in this final task performed by the MRP method. In MRP method the analysis process through phase of gross material requirements plan (plan dirty needs), netting (net needs analysis), lotting (analysis of the number of orders), and the explosion. At lotting phase is used 4 technique that is Lot for Lot, Economic Order Quantity, Period Order Quantity, and Part Period Balancing to obtain the optimum order quantities and form a minimum inventory costs.

From the results of MRP analysis obtained that lotsizing techniques that form minimum inventory costs for The Pile, Concrete K-300, Batako, Besi D16, and D19 that is Lot For Lot, Period Order Quantity, and Part Period Balancing technique. Lotsizing techniques with the minimum cost for Portland Cement and Besi Ø10 that is Lot For Lot technique, whereas lotsizing techniques with the minimum cost for Tide Sand that is Period Order Quantity, and Part Period Balancing technique. The minimum total cost of material inventory for the Pile is Rp.
Concrete K-300 is Rp. 55,384,200.00; Batako is Rp. 16,174,800.00; Portland Cement is Rp. 43,227,400.00; Tide Sand is Rp. 26,985,600.00; Besi Ø10 is Rp. 34,337,800.00; Besi D16 is Rp. 100,508,670.00; and Besi D19 is Rp. 71,811,450.00.

Keywords: inventory, lotsizing, MRP method.