STUDY FOR INCREASING OPERATION EFECTIVITY AND EFICIENCY OF SOAP PRODUCTION UNIT BISNIS IN PT YUPHARIN PHARMACEUTICALS

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ABSTRACT

The purpose of this study was to identify the effective and efficient operation system, and reduce cost of soap production unit business with effective application of the concepts, tool, and techniques of operation management (demand forecasting, aggregate planning, material requirement planning). The data were analyzed from monthly sales production targets for demand forecasting by ARIMA model. Optimize production planning by minimize cost model of aggregate planning for 12 months time horizon (by software LINDO). Effective and efficient of raw material inventory management have been analyzed by material requirement planning (MRP) system.

The results of demand forecasting analyzes, showed that monthly forecasts from 34 periods with 95% limits there were significant differences from forecasts to upper forecasts. Differences of monthly demand forecasts and upper forecasts, as monthly end inventories constraints of minimize cost of aggregate planning model. Comparing to the existing operation management system, solution minimize cost of aggregate planning model reduce around 20 % cost of overtime and inventory. Furthermore, raw material inventory management by Material Requirement Planning system, reduce 68 % monthly average material stocks from around 31 200 KGs. to around 10 000 KGs.

The Results of this study, suggested to PT Yupharin Pharmaceuticals implement effective application operating management concepts, demand forecasting by ARIMA model, minimize cost of aggregate planning model, raw material inventory management by MRP system. Implementing of that models would be more effective and efficient.

Keywords : Demand forecasting, Aggregate Production Planning, Material Requirement Planning, Linear programming, Box and Jenkins Model (ARIMA).