

ABSTRACT

PT XYZ is a newly established MSME operating in the garment manufacturing industry, specializing in converting semi-finished materials or fabrics into sportswear. The production process includes screen printing and embroidery on selected items for manufacturing. PT XYZ experiences an irregular and unpredictable order cycle each month.

The company frequently faces production capacity shortages and failures in meeting customer demand. To address this issue, the company has been implementing employee overtime as a solution. A proper solution is needed to ensure the company can meet demand while minimizing costs associated with increasing production capacity. This study begins by forecasting future customer demand using the Exponential Smoothing method for the next 12 periods. Subsequently, the available and required production capacity is calculated to meet this demand. The next step involves identifying workstations experiencing production capacity shortages and implementing capacity expansion measures to ensure the company can fulfill customer orders. The findings of this study indicate that the company faces a production capacity shortage in the sewing workstation, preventing it from meeting customer demand.

Production capacity expansion can be achieved by either hiring additional workers or increasing overtime hours. A comparison of the total costs associated with each alternative is also provided, serving as a basis for selecting the most suitable capacity expansion strategy. The chosen alternative involves the recruitment of 7 additional workers, resulting in an increase in production capacity from 2,080 hours/month to 3,627 hours/month.

Keywords: Production Capacity, Forecasting, Customer Demand