

ABSTRACT

PT XYZ is a company that provides development and management services for Indonesia's telecommunications network infrastructure. To support operational activities, the company procures inventory to meet demand for work materials. The company experienced a shortage of accessory materials in January- November 2021. Existing inventory conditions were only able to meet 70% of total demand during that period, which resulted in the service level performance target of 95% not being achieved.

In this final assignment, we will design a proposed inventory policy for accessory materials using the continuous review (s, Q) method to determine an inventory strategy that minimizes shortages and inventory costs at PT XYZ. This policy results in decision variables such as order lot size (Q) and reorder point (s), which are derived from calculations using the Hadley-Within model. Additionally, a decision support system is designed to facilitate easier calculations for the company.

The proposed inventory policy could result in an expected shortage of 2,068 units. This design leads to a significantly smaller shortage compared to the current condition, which has 77,697 units, representing a reduction of 97.34%. This improvement is reflected in the increase of the service level to 99.14%, surpassing the target service level of 95%. Additionally, the total inventory cost under the proposed condition is IDR 13,925,330,066.00, thereby reducing the total inventory cost of the current condition by 1%. The proposed inventory policy using the continuous review (s, Q) method is used as the basis for designing a Decision Support System in the form of an inventory policy calculation application. Validation results from the User Acceptance Test show a user acceptance level of 96%, which meets the criteria for a Very Good qualification.

Keywords: *Shortage, accessory materials, continuous review (s, Q), decision support system.*