

ABSTRACT

PT. XYZ, as one of the providers of Network Terminal Equipment (NTE), faces challenges in managing product demand, which often results in overstock. This condition not only increases storage costs but also reduces the efficiency of the company's supply chain. This study aims to design a demand forecasting proposal for NTE using the Moving Average and Single Exponential Smoothing methods. These methods were chosen for their ability to analyze historical data patterns and provide accurate estimates for future demand. Through this approach, the company is expected to minimize overstock risks while optimizing inventory management.

The research was conducted by collecting historical demand data for NTE from PT. XYZ over a specific period. The data was then analyzed using the Moving Average and Single Exponential Smoothing methods to generate forecast values. The forecasting results of both methods were compared based on forecasting errors measured using Mean Absolute Deviation (MAD), Mean Squared Error (MSE), and Mean Absolute Percentage Error (MAPE).

The results showed that both methods provided significant forecasting outcomes in reducing overstock risks. However, the superior method in this context was determined based on the lowest error analysis. By implementing this proposal, PT. XYZ is expected to manage its inventory more efficiently, reduce cost wastage, and enhance its market competitiveness.

Keywords – Demand Forecasting, Moving Average, Single Exponential Smoothing, Overstock, Network Terminal Equipment (NTE).