Taming of Whip-Lash Effect in Forecasting for Automotive Spare Parts Industry using Minitab and Excel Spread Sheet

Abstract

This paper investigates the proliferation and exaggeration of order variances (i.e., Whip-Lash Effect) in supply chain. The supply chain engages manufacturer, distributor and retailer for goods transactions with (or) without sharing reliable information which leads to backorders (or) over orders. The paper analyses the orders placed by a distributor to manufacturer in a stationary demand scenario. The previous demand data of twenty four months is collected from the automotive spare parts industry and forecasted for the next two years using Triple exponential smoothing model namely Holts winters model. The smoothing parameters that influence the forecast data are analyzed. Finally the optimum smoothing parameter that minimizes the Whip-Lash Effect is predicted in Minitab software by considering various levels of alpha, beta and gamma values and the results are tabulated in excel spread sheets.

References


Index Terms

Computer Science

Information Sciences

Keywords

Supply chain Management, Whip-Lash Effect, Minitab,