RETAIL STORE STOCK INVENTOR ANALYTICS

ABSTRACT:

Retail sector handles stock in bulk quantities which brings in the need for a digitized system that can analyze and help managing the inventory effectively. Analytics in this sector has become a mandatory supporting component as the business actions and decisions are taken potently and quickly based on it. Here the proposed work uses SARIMA (Seasonal Autoregressive Integrated Moving Average) statistical analysis model for performing the analysis on the retail store data. Data sets used in this model are as the sales history of the store, inventory and demand history of the store. Unlike other data analytics model, SARIMA has seasonal component and uses parameters as p(auto-regressive order), d(degree of differencing), q(moving-average order), P(seasonal AR order), D(seasonal differencing) and Q(seasonal MA order) that help in handling seasonal time series data. Also, SARIMA model has smaller MAD (Mean Absolute Deviation) value when compared to widely used Holt Winter's Exponential Smoothing model which makes it outperform other time series analytics model. Overall, the SARIMA model efficiently performs retail store stock inventory analytics and calculates the inventory needed to fulfill the customer requirements over a period of time benefiting the retail store with maximum profit.