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**ORDER & DEMAND FORECASTING THROUGH CUSTOMER BEHAVIOR AND SEASONAL PATTERN**

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Demand forecasting is essential for businesses to make informed decisions about inventory management, production planning, and resource allocation. Accurate forecasting helps companies avoid overstocking or understocking, which can lead to financial losses and missed sales opportunities. It also enables businesses to plan ahead for peak demand periods, allocate resources effectively, and optimize their pricing strategies. Additionally it helps businesses to remain competitive by identifying emerging trends and consumer preferences in the market.

A supply chain phenomenon called the Bullwhip effect states that even slight changes in consumer demand at the store level will have an impact on all other supply chain participants. This frequently results in production and inventory imbalances as well as other issues that can harm the supply chain's effectiveness and profitability. combination of such factors in game may result in which may result in overproduction, underproduction, or other inefficiencies. If the retailer's estimates were incorrect, it would have a significant negative impact on having too much inventory, raising the expense of maintaining it and lowering its profit of the firm. In order to solve the aforementioned issues and boost the company's profitability, an efficient forecasting technique must be used. The studies and references suggests a Time Series Analysis model (RNN-LSTM) that uses data from the previous years to predict product demand by examining a variety of variables and factors, To anticipate the product demand sparked at the retailer level by the end customer.