GOKULA KRISHNAN G

Final Project

PROJECT TITLE

INVENTORY DEMAND FORECASTING

AGENDA

Inventory forecasting is a method used to predict inventory levels for a future time period. It also helps keep track of sales and demand so you can better manage your purchase orders. It is a great inventory management tool can increase your company's revenue and decrease unnecessary costs.

Introduction to Inventory Demand Forecasting
Fundamental Concepts
Data Collection and Preprocessing Forecasting Models
Evaluation Metrics
Forecasting Horizon and Aggregation Levels
Collaboration and Communication
Technology and Tools
Case Studies and Best Practices

PROBLEM STATEMENT

In the realm of inventory management, accurate demand forecasting plays a pivotal role in ensuring optimal inventory levels, minimizing stockouts, and maximizing customer satisfaction. However, forecasting demand accurately remains a challenge due to the complex interplay of various factors such as market trends, seasonal variations, and consumer behavior.

Problem Description: The problem at hand is to develop a robust demand forecasting model that can accurately predict future demand for a given set of products over a defined time horizon. This model should account for the inherent uncertainty in demand patterns and provide actionable insights to guide inventory planning and replenishment decisions.

Key Challenges:
Demand Variability
Seasonality
New Product Introductions
External Factors
Data Quality and Availability

PROJECT OVERVIEW

A technique for anticipating future demand for a product is demand forecasting. However, the strength of the projection is significantly influenced by the quantity and quality of the data, the methods used to calculate it, and the user's level of competence.

Demand forecasting is crucial because it helps organisations to foresee client wants and make plans appropriately. Furthermore, demand forecasting planning helps businesses plan production and inventory levels, set pricing, and adjust marketing and sales efforts.

An analytical procedure called long-term demand forecasting is used to foretell future demand for a good or service over a protracted period of time. It is used to plan and allocate resources to meet future demand, and to identify potential opportunities and risks.

Businesses utilise the internal demand forecasting method to forecast future consumer demand for their goods and services. This forecasting process is based on a variety of factors such as past sales, industry trends, economic conditions, and customer feedback.

Macro demand forecasting involves predicting the demand for a product or service in the overall economy, while micro demand forecasting involves predicting the demand for a specific product or service in a given market.

WHO ARE THE END USERS?

End-use method develops demand projects by examining the number of devices in households and businesses that use the utility service. For example, an energy demand forecast would consider the number of household appliances that use energy and the amount of energy that each appliance is expected to use

In an inventory demand forecasting project, the end users can vary depending on the organizational structure and the specific objectives of the forecasting initiative. Here are some potential end users

Finance and Accounting Departments
Inventory Managers
Supply Chain Managers
Sales and Marketing Teams
Production PlannersFinance and Accounting Departments

Effective collaboration and communication among these stakeholders are essential to maximize the value of demand forecasting efforts and drive business success

YOUR SOLUTION AND ITS VALUE PROPOSITION

As an AI language model, I don't offer a specific solution for inventory demand forecasting, but I can outline a hypothetical solution and its value proposition

AI-Driven Inventory Demand Forecasting System

Advanced Forecasting Algorithms

Data Integration and Preprocessing

Demand Segmentation

Real-Time Updates

Scenario Analysis

Value Proposition

Improved Forecast Accuracy

Enhanced Agility and Adaptability

Optimized Inventory Levels

Overall, the AI-driven inventory demand forecasting solution offers a comprehensive approach to inventory management, leveraging advanced analytics and automation to drive efficiency

THE WOW IN YOUR SOLUTION

In our inventory demand forecasting solution, we introduce a groundbreaking feature that revolutionizes the way organizations approach demand forecasting: **Predictive Demand Sensing**.

What is Predictive Demand Sensing?
Predictive Demand Sensing combines real-time data analytics with advanced machine learning algorithms to forecast demand with unparalleled accuracy and agility. Unlike traditional demand forecasting methods that rely solely on historical sales data, Predictive Demand Sensing continuously monitors a wide array of data sources, including

In summary, Predictive Demand Sensing redefines the possibilities of demand forecasting, offering unprecedented accuracy, agility, and strategic insights that empower organizations to thrive in today's dynamic and competitive marketplace.

MODELLING

Teams cam add wireframes

Inventory demand forecasting modeling involves developing mathematical or computational models to predict future demand for products or services. Here's an overview of the key steps involved in modeling inventory demand forecasting

Data Collection and Preprocessing
Exploratory Data Analysis (EDA)
Model Selection
Model Development
Forecast Generation
Model Evaluation

By following these steps, organizations can develop robust inventory demand forecasting models that provide accurate predictions and support informed decision-making in inventory management.

RESULTS

Inventory forecasting is a method used to predict inventory levels for a future time period. It also helps keep track of sales and demand so you can better manage your purchase orders. It is a great inventory management tool that can increase your company's revenue and decrease unnecessary costs

results of inventory demand forecasting typically include the forecasted demand values for the specified products or product categories over a defined time horizon. Here's an overview of the key components of inventory demand forecasting results

Forecasted Demand Values
Prediction Intervals
Accuracy Metrics
Visualizations and Reports
Insights and Recommendations
Insights and Recommendations

Overall, inventory demand forecasting results provide decision-makers with actionable insights and recommendations to support informed decision-making in inventory management, optimize inventory levels, and enhance supply chain efficiency

Demo Link