Pizza Sales Analysis and Report

GitHub Repo : https://github.com/PRAVEENKUMAR-V0811/Pizza-Sales-Data-Science-Project.git

Go Through My Portfolio : https://buildwithpraveen.vercel.app/

A. **Initial Analysis For Reporting Sales data for the year Jan 2015 – Dec 2015**
B. **Predicting Sales , Recommending Pizza based on initial data to predict for the year Jan 2016 – Dec 2016**

A. Initial Analysis For Reporting Sales data for the year Jan 2015 – Dec 2015 :

Data Set : pizza_sales.csv (Available in GitHub Repository)
Software Used : Power BI, Microsoft SQL Server (Data Source)
MS SQL Queries : requirementQueries.docs (Available in GitHub Repository)

KPI Requirement :

- Total Revenue – Overall sales revenue generated.
- Average Order Value – Average revenue per order.
- Total Pizzas Sold – Total quantity of pizzas sold.
- Total Orders – Number of orders placed.
- Average Pizzas Per Order – Average number of pizzas per order.

Daily Trend Analysis

- Visualizes the total number of orders each day.

Monthly Trend Analysis

- Displays the number of orders grouped by month.

Sales Distribution by Pizza Category

- Percentage of total sales coming from each pizza category.

Sales Distribution by Pizza Size

- Percentage of total sales by different pizza sizes.

Total Pizzas Sold by Pizza Category

- Breakdown of pizza quantities sold per category.

Top 5 Pizzas

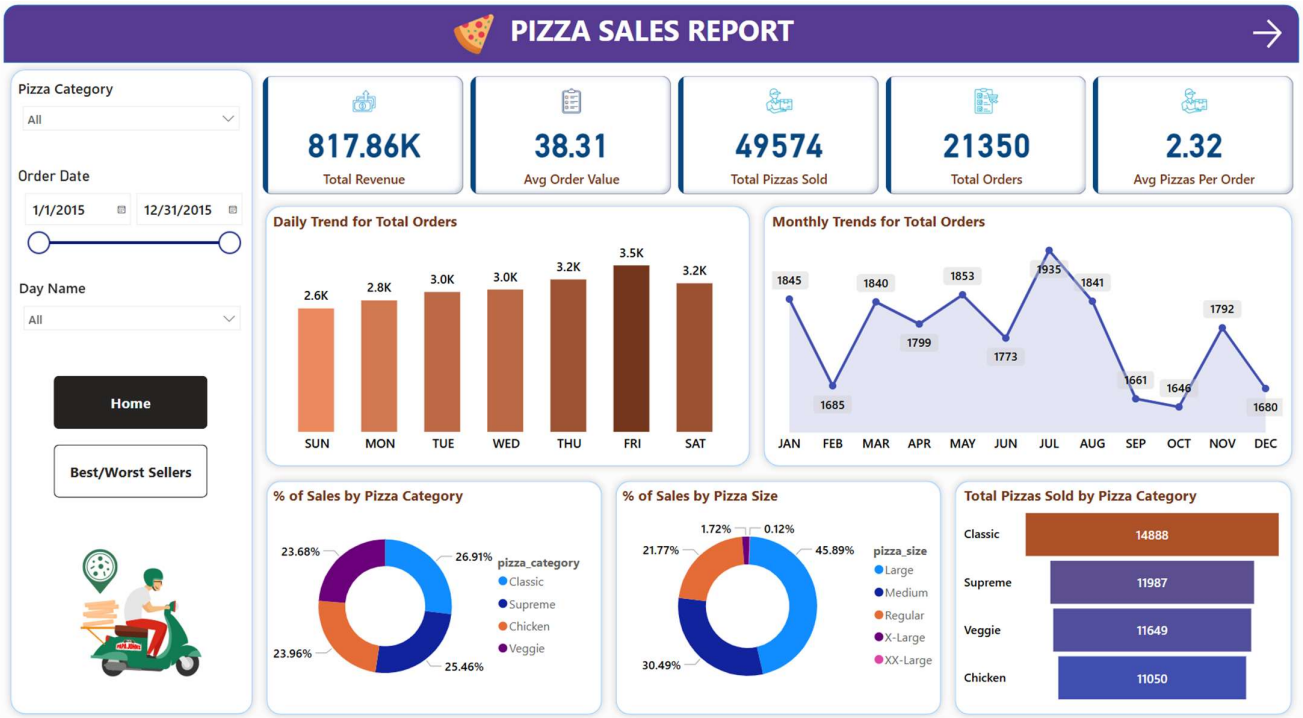
- Ranked by Revenue, Number of Orders, and Quantity sold.

Bottom 5 Pizzas

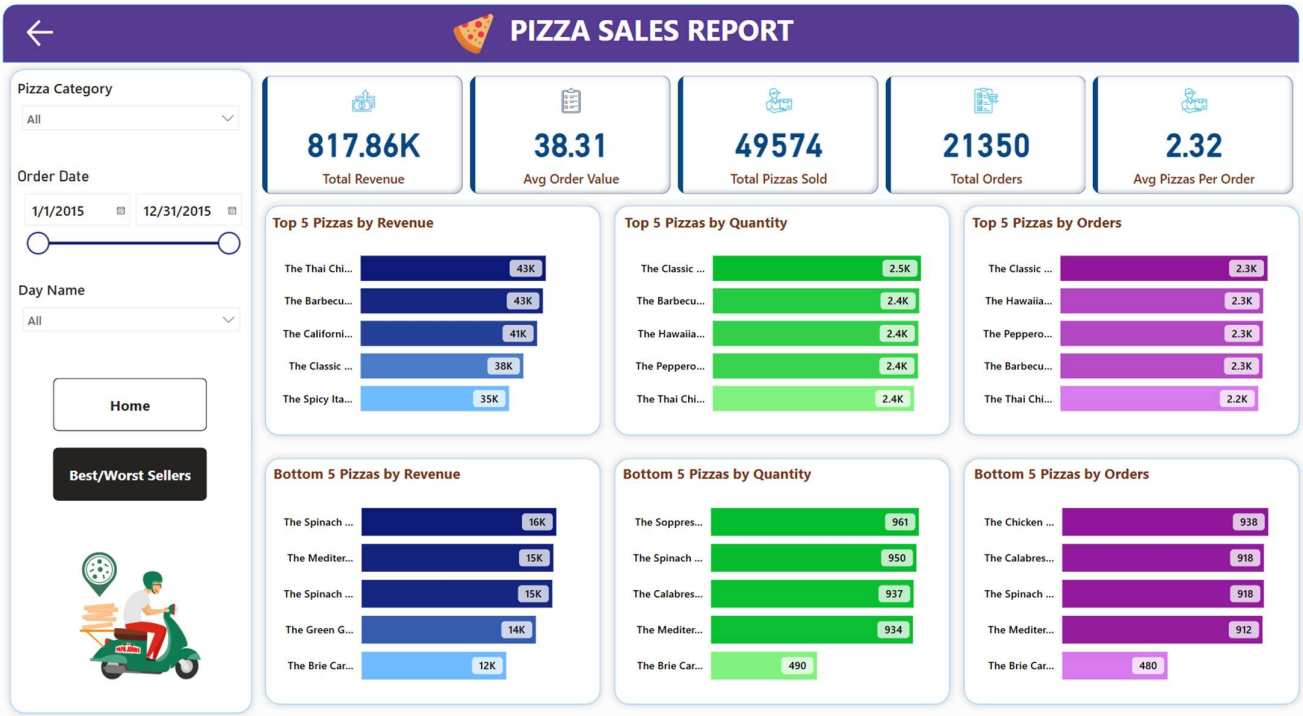
- Ranked by Revenue, Number of Orders, and Quantity sold.

Initial Report ScreenShot :

Home Page :



Sales Trends Page :



B. Predicting Sales , Recommending Pizza based on initial data to predict for the year Jan 2016 – Dec 2016 :

DataSet : pizza_sales.csv (Available in Repo)

Software Used : Python, VS Code,

❖ Monthly Sales Forecasting :

This feature predicts the total quantity of pizzas sold for each month based on historical sales data. Using time series forecasting techniques, it enables data-driven business decisions by anticipating future demand.

Technical Details

- **Libraries Used:** pandas for data manipulation, Prophet for time series forecasting.
- **Input Data:** *pizza_sales.csv*
- **Output Data:** *monthly_sales_forecast_2016.csv*
- **Script File:** *monthly_sales_forecasting.py*
- **Integration:** Forecast results can be imported into Power BI for further visualization and reporting.

What It Does

- Aggregates daily pizza sales into monthly totals.
- Trains a forecasting model (Facebook Prophet) on sales data from January 2015 to December 2015.
- Predicts monthly sales quantities for the next 12 months (January 2016 to December 2016).
- Provides upper and lower confidence intervals to understand the prediction uncertainty.

❖ Pizza Category Segmentation using RFM Analysis (Recency, Frequency, Monetary) :

Segment customers' buying patterns based on pizza categories (e.g., Classic, Veggie, Chicken) using RFM (Recency, Frequency, Monetary) analysis to identify high-value product categories.

Technical Details

- **Libraries Used:** pandas for data manipulation, datetime for date handling.
- **Input Data:** *pizza_sales.csv*
- **Output Data**: *pizza_category_rfm_segment.csv* (includes RFM scores and segment labels)
- **Script File:** *pizza_category_segmentation_rfm.py*
- **Integration:** Output data can be imported into Power BI to visualize

RFM Metric Logic

Metric	Description
Recency (R)	Days since last sale of a pizza category
Frequency (F)	Number of orders including that category
Monetary (M)	Total sales revenue generated by that category

Project Screenshot :