Business Requirements Document (BRD)

Project: Pizza Sales Analysis

Project Overview

The Pizza Sales Analysis project is designed to analyse transactional sales data from a pizza store. The goal is to identify key business insights, trends, and KPIs that will help management make informed decisions related to sales, marketing, and operations.

Business Objectives

- Identify overall revenue, total pizzas sold, and total number of orders.

- Determine sales distribution by pizza category, size, and type.

- Analyse time-based trends in sales (daily, monthly, and yearly).

- Highlight best-selling and least-selling pizzas by revenue and quantity.

- Understand customer purchasing behaviour through **Average Order Value (AOV)** and **Average Pizza per Order**.

- Provide visualization dashboards for effective decision-making.

Data Source & Description

Dataset: pizza_sales.csv

Key fields:

- **order_id** → Unique identifier for each order

- **pizza_id** → Unique identifier for each pizza

- **pizza_name** → Name of the pizza sold

- **quantity** → Number of pizzas sold per order

- **total_price** → Total revenue for each transaction

- **date, time** → Order timestamp for time-based analysis

- **pizza_category, pizza_size** → Attributes for pizza classification

Key Performance Indicators (KPIs)

- **Total Revenue** = Sum of total_price

- **Total Pizzas Sold** = Sum of quantity

- **Total Orders** = Count of unique order_id

- **Average Order Value (AOV)** = Total Revenue ÷ Total Orders

- **Average Pizza per Order** = Total Pizzas Sold ÷ Total Orders

Analysis & Visualizations

Ingredient Analysis

The pizza business aims to understand which ingredients are most frequently used across different pizza types. By identifying the most common ingredients, the store can

Daily Trend

A **line/bar chart** showing sales by day of the week.

- Useful for staffing and operations planning.

Hourly Trend

A **line/bar chart** showing sales by hour of the day.

Useful for staffing, ingredients, customer rush and operations planning

Monthly Trend

A **line chart** depicting monthly revenue and orders.

- Helps track seasonality and identify peak sales months.

- Summer months show higher sales due to promotional campaigns.

% of Sales by Category

A **bar chart** representing revenue and quantity sold for each pizza category (Classic, Supreme, Veggie, Chicken).

- Helps identify customer preferences.

- Classic pizzas dominate sales, while Veggie has lower demand.

% Sales by Pizza Size & Category

A **bar/ donut chart** comparing sales revenue and quantity by pizza size (S, M, L, XL).

- Highlights demand distribution by size and assist inventory planning.
- Large (L) pizzas contribute the highest revenue.

Total Pizzas Sold by Pizza Category

- Manage inventory by stocking ingredients used in the most popular categories.
- Evaluate if low-performing categories should be optimized, redesigned, or discontinued.

Top 5 Best-Selling Pizzas

A **horizontal bar chart** showing pizzas with the highest sales (by revenue, orders or quantity).

- Supports promotional and menu strategy.

Bottom 5 Least-Selling Pizzas

A **horizontal bar chart** of pizzas with the lowest sales.

- Identifies products for improvement or possible removal from the menu.

Business Questions Answered

- What is the total revenue generated?
- How many pizzas were sold in total?
- Which category and size of pizzas perform best?
- Which pizzas are the top and bottom performers?
- What is the average order value and average pizzas per order?
- What are the sales trends by day, month, and time of day?

Deliverables

- Jupyter Notebook with complete Python analysis.

- Visualizations (bar charts, line charts, trend charts).

- Business Requirements Document (BRD).

- Insights and recommendations for management.

Conclusion & Recommendations

The analysis provides a comprehensive view of pizza sales performance. Management can leverage these insights to:

- Focus marketing on high-performing categories.

- Optimize the menu by reconsidering least-selling pizzas.

- Plan inventory and staffing based on sales peaks.

- Monitor KPIs regularly through dashboards for continuous improvement.