

Project Title: Pizza Sales Analysis Dashboard

1. Objective:

To analyze and visualize key performance indicators (KPIs) for pizza sales, providing insights into sales trends, product performance, and customer behavior.

2. KPIs to Track:

- **Total Revenue:** The total amount of money generated from pizza sales.
- **Average Order Salary:** The average amount spent per order.
- **Total Pizzas Sold:** The total number of pizzas sold.
- **Total Orders:** The total number of customer orders placed.
- **Average Pizza Per Order:** The average number of pizzas per order.

3. Requirements for Data Analysis and Reporting:

3.1 Data Inputs:

- **Order Data:** Data detailing the order ID, time of order, pizzas ordered (quantity, category, size), and total order value.
- **Pizza Categories:** A classification of pizzas based on type (e.g., Margherita, Pepperoni, Veggie).
- **Pizza Sizes:** Size categories such as Small, Medium, Large, and Extra Large.
- **Time Stamps:** Order timestamps (date and hour) to analyze daily and hourly trends.
- **Order Value:** The total value of each order for revenue analysis.

4. Analysis and Calculations:

4.1 Daily Trend for Total Orders:

- **Description:** Analyze how the total number of orders fluctuates across different days of the week.
- **Output:** Line graph or bar chart showing the total orders per day.

4.2 Hourly Trend for Total Orders:

- **Description:** Track the number of orders placed during each hour of the day.
- **Output:** Hourly breakdown of orders, visualized in a line graph or bar chart.

4.3 Percentage of Sales by Pizza Category:

- **Description:** Calculate the percentage contribution of each pizza category (e.g., Margherita, Pepperoni) to the total sales.
- **Formula:** $(\text{Sales of Category} / \text{Total Sales}) * 100$
- **Output:** Pie chart or bar chart showing the percentage share by category.

4.4 Percentage of Sales by Pizza Size:

- **Description:** Calculate the sales distribution across different pizza sizes (e.g., Small, Medium, Large).
- **Formula:** $(\text{Sales of Size} / \text{Total Sales}) * 100$
- **Output:** Pie chart or bar chart visualizing sales percentages by pizza size.

4.5 Total Pizzas Sold by Pizza Category:

- **Description:** Track the total number of pizzas sold in each category.
- **Output:** Bar chart or table with total pizzas sold in each category.

4.6 Top 5 Best Sellers by Total Pizzas Sold:

- **Description:** Identify the top 5 pizza categories or specific pizzas that have sold the most.
- **Output:** List or table showing the top 5 best-selling pizzas by total quantity sold.

4.7 Bottom 5 Worst Sellers by Total Pizzas Sold:

- **Description:** Identify the bottom 5 pizza categories or specific pizzas with the least sales.
- **Output:** List or table showing the bottom 5 worst-selling pizzas.

5. Data Sources:

- **Point of Sale (POS) System:** Data source for order details, timestamps, and values.
- **Sales Database:** Data on pizza categories, sizes, and sold quantities.
- **External Tools:** Excel for visualization.

6. Tools and Technologies Used:

- **SQL:** For querying and extracting relevant data from the database.
- **Excel:** For data visualization and generating reports.

7. Workflow Steps:

7.1. Data Collection

- Extract order data, pizza categories, and sizes from the POS system.
- Ensure the data is complete and clean.

7.2. Data Aggregation

- Aggregate data by time (daily, hourly) and pizza category for analysis.
- Calculate the necessary KPIs, including revenue, average order value, total pizzas sold, etc.

7.3. Data Analysis

- Perform the required calculations for KPIs, such as:
 - Total revenue
 - Average order value
 - Total pizzas sold by category
 - Sales percentage by pizza category and size
 - Hourly and daily order trends

7.4. Data Visualization

- Create graphs/charts for the following:
 - The daily trend for total orders
 - Hourly trend for total orders
 - Percentage of sales by pizza size and pizza category
 - Sales by pizza category and size
 - Top 5 and bottom 5 best and worst-selling pizzas

8. Deliverables:

- **Analysis Report Document:** A comprehensive report summarizing the KPIs, trends, and insights.
- **Data Visualizations:** Graphs/charts representing the analysis (or as separate files).
- **Source Data:** The raw or processed data used for analysis.

9. Conclusion:

This project aims to provide actionable insights into pizza sales, helping improve decision-making around inventory management, marketing strategies, and customer preferences. Analyzing key metrics like daily/hourly trends and category-wise sales will aid in identifying opportunities for optimization.

