# **Project Documentation: Pizza Sales Analysis Report**

# Problem Statement

The goal of this project is to analyze key indicators for pizza sales data and gain insights into business performance. We aim to calculate specific metrics and create visualizations based on the data. The metrics and chart requirements are as follows:

# Key Performance Indicators (KPIs)

**1. Total Revenue:** The sum of the total price of all pizza orders.

**2. Average Order Value:** The average amount spent per order, calculated by dividing the total revenue by the total number of orders.

**3. Total Pizzas Sold:** The sum of all quantities of pizzas sold.

**4. Average Pizzas per Order:** The average number of pizzas sold per order, calculated by dividing the total number of pizzas sold by the total number of orders.

# Chart Requirements

**1. Daily Trends for Total Orders:** Create a bar chart showing the daily trends of total orders over a specific time period.

**2. Monthly Trends for Total Orders:** Create a line chart illustrating the hourly trend of total orders throughout the day.

**3. Percentage of Sales by Pizza Category:** Create a pie chart displaying the distribution of sales across different pizza categories.

**4. Percentage of Sales by Pizza Size:** Generate a pie chart representing the percentage of sales attributed to different pizza sizes.

**5. Total Pizzas Sold by Pizza Category:** Create a funnel chart presenting the total number of pizzas sold for each pizza category.

**6. Top 5 Best Sellers by Revenue, Total Quantity, and Total Orders:** Create a bar chart highlighting the top 5 best-selling pizzas based on revenue, total quantity, and total orders.

**7. Bottom 5 Best Sellers by Revenue, Total Quantity, and Total Orders:** Create a bar chart highlighting the bottom 5 worst-selling pizzas based on revenue, total quantity, and total orders

# Data Analysis and Queries

1. Total Revenue:

SQL Query:

SELECT SUM(total\_price) AS Total\_Revenue

FROM pizza\_sales;

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DAX Query (Power BI):

```DAX

Total Revenue = sum(pizza\_sales[total\_price])

```

2. Average Order Value:

SQL Query:

SELECT SUM(total\_price) / COUNT(DISTINCT order\_id) AS Avg\_Order\_Value

FROM pizza\_sales;



DAX Query (Power BI):

```DAX

Avg Order Value = [Total Revenue]/ [Total Orders]

```

3. Total Pizzas Sold:

SQL Query:

SELECT SUM(quantity) AS Total\_Pizza\_Sold

FROM pizza\_sales;



DAX Query (Power BI):

```DAX

Total Pizza Sold = sum(pizza\_sales[quantity])

```

4. Average Pizzas per Order:

SQL Query:

SELECT

CAST(CAST(SUM(quantity) AS DECIMAL(10,2)) / CAST(COUNT(DISTINCT order\_id) AS DECIMAL(10,2)) AS DECIMAL(10,2)) AS Avg\_Pizzas\_Per\_Order

FROM pizza\_sales;



DAX Query (Power BI):

```DAX

Avg Pizza Per Order = [Total Pizza Sold]/ [Total Orders]

```

**Note:** I have used SQL to cross-verify the results obtained during the data visualization process. SQL queries were executed to calculate the same metrics to ensure the accuracy of the data. The results from SQL matched those obtained in Power BI, confirming the consistency of our analysis.

# Data Transformation Using Power Query Editor

I have used Power Query Editor to extract the following fields from the order date, which was originally in dd/mm/yy format:

**- Day\_Name:** Extracted the day of the week (e.g., Monday, Tuesday).

**- Day\_Number**: Extracted the numeric representation of the day of the week (e.g., 1 for Monday, 2 for Tuesday).

**- Month\_Name:** Extracted the name of the month (e.g., January, February).

**- Month\_Number**: Extracted the numeric representation of the month (e.g., 1 for January, 2 for February).

# Data Visualization

The data analysis results will be visualized in Power BI using the following charts:

**1. Daily Trends for Total Orders:** Bar chart showing daily trends.

**2. Monthly Trends for Total Orders:** Line chart illustrating hourly trends.

**3. Percentage of Sales by Pizza Category:** Pie chart displaying distribution.

**4. Percentage of Sales by Pizza Size:** Pie chart representing size preferences.

**5. Total Pizzas Sold by Pizza Category:** Funnel chart comparing categories.

**6. Top 5 Best Sellers:** Bar chart highlighting top sellers.

**7. Bottom 5 Best Sellers:** Bar chart highlighting bottom sellers.

# End Request

The project aims to provide a comprehensive analysis of pizza sales data, including key metrics and visual insights. The use of Power Query Editor for data transformation ensures enhanced data granularity. If you require any additional information or modifications, please feel free to ask.