User Requirements Doc: Pizza Sales Report Dashboard

Objective

To analyze and visualize pizza sales data to gain insights into business performance, identify trends, and optimize sales strategies for improved revenue and customer satisfaction in 2025.

Problems Identified

The Sales Manager (Emma) struggles to understand key performance indicators (KPIs) and trends in pizza sales due to scattered and unorganized data.

Manual analysis of sales data is time-consuming and prone to errors, limiting the ability to make data-driven decisions quickly.

The marketing team lacks clear insights into customer preferences for pizza categories and sizes, hindering targeted promotions.

The BI team is overburdened and unable to dedicate resources to creating a comprehensive sales dashboard.

Target Audience

Primary: Emma (Sales Manager), responsible for analyzing sales performance and making strategic decisions.

Secondary: Marketing team members, who will use insights to design promotional campaigns, and Operations team, who will optimize inventory based on sales trends.

Use Cases

Analyze Key Performance Indicators (KPIs) for Pizza Sales

User Story

As the Sales Manager, I want to calculate and view key metrics such as total revenue, average order value, total pizzas sold, total orders, and average pizzas per order, so that I can assess business performance and identify areas for improvement.

Acceptance Criteria

The dashboard should:

- Display the following KPIs:

  - Total Revenue: Sum of the total price of all pizza orders.
  - Average Order Value: Total revenue divided by the total number of orders.
  - Total Pizzas Sold: Sum of quantities of all pizzas sold.
  - Total Orders: Total number of orders placed.
  - Average Pizzas per Order: Total pizzas sold divided by total orders.

- Present KPIs in a clear, user-friendly format with real-time or recent data.
- Allow filtering by time period (e.g., daily, weekly, monthly).

Visualize Sales Trends and Customer Preferences

User Story

As the Sales Manager, I want to visualize sales trends, customer preferences by pizza category and size, and top/bottom-performing products, so that I can identify patterns, optimize inventory, and plan effective marketing campaigns.

Acceptance Criteria

The dashboard should:

- Include the following charts:

  - Daily Trend for Total Orders: Bar chart showing daily order volumes over a specified time period.
  - Hourly Trend for Total Orders: Line chart illustrating hourly order trends throughout the day.
  - Percentage of Sales by Pizza Category: Pie chart displaying the sales distribution across pizza categories (e.g., vegetarian, meat, vegan).
  - Percentage of Sales by Pizza Size: Pie chart showing the sales distribution by pizza size (e.g., small, medium, large).
  - Total Pizzas Sold by Pizza Category: Funnel chart comparing the total number of pizzas sold per category.
  - Top 5 Best Sellers: Bar chart highlighting the top 5 pizzas by revenue, total quantity sold, and total orders.
  - Bottom 5 Worst Sellers: Bar chart showcasing the bottom 5 pizzas by revenue, total quantity sold, and total orders.

- Allow sorting and filtering by time period, category, or size.
- Provide clear labels and tooltips for easy interpretation.

Success Criteria

Emma can:

- Easily access and understand key sales KPIs to monitor business performance.
- Identify daily and hourly sales trends to optimize staffing and inventory.
- Understand customer preferences for pizza categories and sizes to inform marketing and product development.
- Recognize top-performing and underperforming pizzas to adjust offerings and promotions.
- Make data-driven decisions that improve revenue, customer satisfaction, and operational efficiency, earning recognition within the company.

Information Needed

- Emma needs insights into pizza sales performance, with the following key metrics:

  - Total Revenue
  - Average Order Value
  - Total Pizzas Sold
  - Total Orders
  - Average Pizzas per Order
  - Sales distribution by pizza category
  - Sales distribution by pizza size
  - Top 5 and bottom 5 pizzas by revenue, quantity, and orders

Data Needed

- The dataset to produce the required insights should include the following fields:

  - Order ID (string): Unique identifier for each order.
  - Order Date (date): Date and time of the order.
  - Pizza Category (string): Category of the pizza (e.g., vegetarian, meat, vegan).
  - Pizza Size (string): Size of the pizza (e.g., small, medium, large).
  - Pizza Name (string): Name of the pizza product.
  - Quantity (integer): Number of pizzas sold in the order.
  - Unit Price (float): Price per pizza.
  - Total Price (float): Total price for the pizza order (quantity × unit price).

The dataset should cover all pizza sales for the specified time period (e.g., 2024–2025).

Data Quality Checks

- To ensure the dataset is reliable, the following quality checks should be conducted:

  - Row Count Check: Verify the total number of records matches expected sales data.
  - Column Count Check: Confirm all required fields (e.g., Order ID, Pizza Category) are present.

- Data Type Check: Ensure fields have correct data types (e.g., Order Date as date, Total Price as float).
- Duplicate Check: Identify and remove duplicate Order IDs.
- Null Value Check: Ensure no critical fields (e.g., Order ID, Total Price) have missing values.

Additional Requirements

- Documentation: Document the solution, including data sources, data transformation processes, and a walkthrough of KPI calculations and chart interpretations.
- Code Availability: Share source code and documentation on GitHub for transparency and collaboration.
- Reproducibility: Ensure the solution is reproducible and maintainable to support future updates (e.g., adding new sales data).
- User-Friendly Design: Design the dashboard with an intuitive interface, clear visuals, and interactive features (e.g., filters, drill-downs).
- Data Source: Use internal sales data from the company's point-of-sale (POS) system or a provided CSV/Excel file.