Business Requirements Document (BRD)

Project Title: Pizza Sales Analysis

1. Introduction

The purpose of this Business Requirements Document (BRD) is to define the business objectives, scope, functional and non-functional requirements, and KPIs for the Pizza Sales Analysis System. This system helps analyze sales performance, understand customer preferences, and support data-driven decision-making for a pizza business.

2. Business Objectives

- Improve visibility of daily, and monthly pizza sales.
- Identify top-selling and least-selling pizzas.
- Monitor store performance across time periods.
- Measure customer purchasing behavior and product trends.
- Support decision-making for menu optimization and marketing campaigns.

3. Project Scope

- Processing and analyzing pizza order data.
- Generating dashboards on sales, orders, and trends.
- KPI tracking (orders, and product performance).
- Report generation.

4. Key Stakeholders

- Business Owner / Management
- Data Analyst / BI Team
- Sales & Operations Team

5. Functional Requirements

5.1 Data Requirements

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

5.2 Dashboard & Reporting

- Daily/ monthly sales trends
- Total revenue and orders
- Top and bottom pizzas
- Breakdown by category, size
- Average order value
- Average Pizza per order

5.2.1 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.

5.3 User Interactions

- Filters for date, pizza category
- Buttons for Homepage and Best sellers and worst sellers page
- Export reports in PDF/Excel

6. Non-Functional Requirements

- Performance: Dashboard must load within 3 seconds
- Usability: Intuitive interface
- Security: Role-based access
- Availability: 99% uptime

7. 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

Order KPIs:

- Total Orders
- Orders by Time Slot
- AOV

Product KPIs:

- Top 5 Pizzas
- Bottom 5 Pizzas
- Revenue Contribution
- Sales by Size

9. Constraints

- Limited historical data.
- Data quality depends on POS.

10. 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 of day?

Deliverables

- 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.