

Pizza Sales Data Analysis Project Report

A Complete SQL-Based Business Analytics Case Study

1. Project Overview

This report presents an in-depth SQL-driven analysis of the pizza restaurant's sales data. Using four interconnected datasets, the project explores revenue performance, product demand, customer ordering patterns, and category-wise contributions. The insights derived provide actionable recommendations for optimizing menu strategy, pricing, and operational efficiency.

2. Business Objectives

- Analyze total revenue and order volume.
- Identify top-selling pizzas and top revenue-contributing products.
- Understand category-wise performance and pizza size demand.
- Study hourly and daily customer ordering behavior.
- Track cumulative revenue trends over time.
- Recommend improvements based on data-driven insights.

3. Dataset Description

The project uses four structured CSV datasets representing orders, order details, pizza types, and pizza pricing. The datasets contain fields for product category, size, ingredients, pricing, order date, time, and quantity. A relational model connects `orders → order_details → pizzas → pizza_types`, enabling detailed revenue and demand analysis.

4. Detailed Insights

Total Orders: 21,350

Total Revenue:

\$817,860.05

4.1 Best-Selling Pizzas

The most frequently ordered pizzas include The Classic Deluxe, Barbecue Chicken, Hawaiian, Pepperoni, and Thai Chicken. These consistently drive high customer demand.

4.2 Revenue Leaders

Top revenue-generating pizzas include The Barbecue Chicken Pizza, Classic Deluxe Pizza, and Thai Chicken Pizza—highlighting a strong correlation between price and demand.

4.3 Category Contribution

Classic pizzas contribute the highest share of revenue, followed by Chicken and Veggie categories. Seafood is the lowest performer and may be optimized or removed.

5. Key Business Findings

- Classic and Chicken pizzas dominate overall performance.
- Large-sized pizzas are the most purchased, indicating shared consumption.
- Order volume peaks during lunch and dinner hours.
- Daily average sales remain stable around 133 pizzas/day.
- Revenue trends show consistent business growth.

6. Conclusion

The analysis reveals strong demand patterns and clear product leaders. The restaurant can enhance profitability by promoting top sellers, optimizing low-performing categories, and aligning staff schedules with peak demand hours. Seasonal promotions and combo deals could further improve sales performance.