Pizza Retail Sales Performance Analysis

Business Analyst Case Study Report

(Self-initiated portfolio case study)

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1. Executive Summary

This case study presents a Business Analyst–led analysis of a pizza retail business with the objective of improving sales performance, menu optimization, staffing efficiency, and inventory planning. The initiative translated business problems into structured requirements, defined retail KPIs, and delivered decision-oriented dashboards. The outcome enables management to understand customer purchasing behavior, identify top and bottom performers, and optimize operational and marketing strategies.

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2. Business Context & Stakeholders

Business Context

The pizza business operates in a competitive quick-service restaurant (QSR) environment where profitability depends on effective menu design, demand forecasting, and operational efficiency. Management lacked consolidated visibility into sales trends, product performance, and time-based demand patterns, limiting data-driven decision-making.

Key Stakeholders

- Store Owner / Senior Management
- Marketing Team
- Operations & Inventory Team
- Store Managers
- IT / BI Support

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3. Business Objectives

The project was designed to address the following business objectives:

1. **Improve revenue visibility** through consolidated sales and order metrics.
2. **Optimize menu performance** by identifying top- and bottom-selling pizzas.
3. **Enhance staffing and operations planning** using time-based sales trends.
4. **Support inventory optimization** through category- and size-level demand analysis.

5. **Understand customer purchasing behavior** using order-level KPIs.

These objectives guided all requirement definitions and dashboard designs.

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4. Business Requirements (BRD)

High-Level Business Requirements

- **BR-01:** Management requires a consolidated view of overall sales performance and revenue trends.
- **BR-02:** Marketing teams require identification of best- and least-performing pizzas to design promotions and pricing strategies.
- **BR-03:** Operations teams require hourly and daily sales insights to optimize staffing and store operations.
- **BR-04:** Inventory teams require demand insights by pizza category and size to plan ingredient procurement.
- **BR-05:** Management requires customer-level KPIs to understand purchasing behavior and order patterns.

Assumptions & Constraints

- Sales transaction data is assumed to be accurate and complete.
- Analysis is based solely on in-store transactional data.
- External factors such as weather, competition, and pricing changes are not included.

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5. KPI Definition & Business Rationale

KPI	Business Purpose
Total Revenue	Measure overall business performance
Total Orders	Assess demand volume
Total Pizzas Sold	Measure product throughput
Average Order Value (AOV)	Understand customer spending behavior
Average Pizzas per Order	Identify bundling and upsell potential
Sales by Category	Support menu and marketing strategy
Sales by Size	Assist pricing and inventory decisions

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6. BRD-to-Dashboard Traceability

This section explicitly links business requirements to dashboard outputs.

Business Requirement	KPI(s)	Dashboard / Visual	Decision Supported
BR-01 Sales Visibility	Revenue, Orders	KPI Cards / Trends	Performance tracking
BR-02 Menu Optimization	Top & Bottom Pizzas	Bar Charts	Promotion & menu redesign
BR-03 Staffing Planning	Hourly & Daily Sales	Line / Bar Charts	Shift scheduling
BR-04 Inventory Planning	Category & Size Sales	Donut / Bar Charts	Ingredient procurement
BR-05 Customer Behavior	AOV, Avg Pizzas/Order	KPI Cards	Pricing & bundling

This traceability ensures alignment between stakeholder needs and delivered analytics.

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7. Dashboard & Solution Design Overview

Tools & Methods

- Power BI for dashboard development
- Python (Jupyter Notebook) for data analysis and validation
- Structured BRD-to-dashboard workflow

Dashboard Structure

1. **Executive Summary & Sales Overview**

- High-level KPIs including total revenue, total pizzas sold, peak sales hour, best sales day, and peak time of day
- Daily and hourly sales trends to support staffing and operational planning
- High-level product indicators such as most ordered and top-selling pizzas

2. **Product & Category Performance Analysis**

- Pizza-level revenue and quantity performance to identify top and bottom sellers
- Category-wise and size-wise sales contribution to support menu and inventory decisions
- Time-of-day sales distribution to understand customer ordering behaviour

Each dashboard is aligned to specific business decisions and stakeholder needs.

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8. Key Insights & Business Impact

Observations

- Sales peak during specific hours and days, indicating clear staffing optimization opportunities.
- Classic and Large-size pizzas contribute the highest share of revenue.
- A small set of pizzas drive a disproportionate share of total sales, while several items underperform consistently.

Business Impact

- Enables data-driven staffing and shift planning.
- Supports targeted promotions and menu rationalization.
- Improves inventory planning and reduces ingredient wastage.

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9. Recommendations & Improvement Suggestions

Business Recommendations

- Focus marketing campaigns on top-performing categories and sizes.
- Introduce bundle offers or limited-time promotions for underperforming pizzas.
- Align staffing levels with identified peak sales hours.

Analytical Enhancements

- Incorporate pricing and discount data to measure promotion effectiveness.
- Add customer segmentation if customer identifiers become available.
- Implement automated daily and weekly sales reporting.

IT / Process Enhancements

- Embed dashboards into regular management review meetings.
- Establish KPI thresholds and alerts for sales dips.

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10. Limitations & Future Scope

Limitations

- Analysis limited to transactional sales data.
- Customer demographics and loyalty data not available.

Future Scope

- Demand forecasting and sales prediction
- Profitability analysis at pizza and ingredient level

- Integration with POS and inventory management systems

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11. Conclusion

This case study demonstrates a complete lifecycle—from business problem identification and requirement definition to KPI design and dashboard delivery. By explicitly documenting the BRD-to-dashboard workflow, this analysis aligns with the retail, QSR, and consulting-oriented environment.
