

Restaurant Sales & Menu Performance Analysis

90-Day Operational & Revenue Performance Review

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Tools: SQL

Project Introduction

This project presents a 90-day performance analysis of a multi-segment restaurant to evaluate revenue drivers, menu efficiency, customer purchasing behavior, and time-based demand patterns. Using SQL-based transactional data analysis, the study identifies revenue concentration, pricing effectiveness, and operational pressure points to support data-driven decisions in menu optimization, capacity planning, and revenue growth.

Executive Summary

- \$159K revenue from 5,343 orders over 90 days
- 60% revenue concentrated in afternoon peak hours
- Premium-priced items contribute 58% of revenue
- Weekday demand is 2x higher than weekends
- Revenue heavily concentrated among top 10 dishes

Key Insights

1. Business Overview

Data scope

The analysis covers 90 days of operations, during which the restaurant generated \$159,218 in revenue from 5,343 orders, averaging 2.26 items per order across 32 dishes spanning four menu segments (American, Asian, Mexican, and Italian).

2. Sales & Revenue Performance

Revenue Concentration

Five core dishes — Korean Beef Bowl, Spaghetti & Meatballs, Tofu Pad Thai, Hamburger, and Cheeseburger — contribute nearly 28% of total revenue, indicating revenue concentration among a limited set of high-performing items.

Sales Concentration

The top 10 dishes (out of 32) account for 44.8% of total items sold (12,097 units), highlighting strong demand skew toward a small group of menu items.

Segment Performance

The Asian menu segment leads in order volume (3,470 orders), while the Italian segment generates the highest revenue (\$49,462.70), indicating revenue performance is influenced by both pricing strategy and demand patterns.

Average Order Value

The restaurant maintains an average order value (AOV) of \$29.80, reflecting moderate per-transaction revenue performance.

Day-Level Sales Volume

Monday records the highest sales volume (1,988 items sold), followed by Friday and Tuesday, while midweek and Saturday show comparatively lower activity, indicating early-week demand strength.

3. Menu Performance & Pricing

Low-Performing item

Chicken Tacos are the least ordered item (123 orders; ~\$1,470 revenue), indicating limited demand and potential for menu rationalization.

Pricing Structure by Segment

The Italian menu segment carries the highest average price (\$16.75), positioning it as premium, while American (\$10.07) and Mexican (\$11.80) serve as value-oriented offerings.

Premium Demand Strength

Despite premium pricing, Korean Beef Bowl and Spaghetti & Meatballs maintain strong demand and revenue performance, indicating high perceived value among customers.

Price Range Variability

The Asian segment demonstrates the widest price range, while the Italian segment operates within a consistently premium bracket, reinforcing differentiated pricing strategies across segments.

Revenue Mix by Price Tier

Higher-priced items generate \$92,288 (58% of total revenue), outperforming medium and low-priced tiers, indicating strong revenue contribution from premium offerings.

4. Customer Ordering Behaviour

Order Size Distribution

Small orders dominate with 3,612 transactions, significantly exceeding large orders, indicating primarily individual purchasing behavior and potential opportunities for upselling.

Weekday vs Weekend Demand

Weekdays account for 3,843 orders, more than double weekend orders (1,500), demonstrating strong weekday dependency and likely office-driven demand patterns.

5. Time-Based Performance

Peak Hours

Order volume peaks during 12–2 PM (lunch period), with a secondary surge between 5–8 PM, establishing these as primary operational pressure windows.

Day-Level Order Activity

Monday leads in order volume (881 orders), followed by Sunday and Friday, indicating strong demand concentration at the beginning and end of the week.

Revenue by Time Segment

Revenue is heavily concentrated in the afternoon (\$96,359; 60% of total revenue), followed by the evening (\$50,467), while daytime and nighttime collectively contribute only \$12,386, revealing significant temporal revenue imbalance.

6. Operational Insights

Workload Distribution

Kitchen workload is substantially lower during morning and late-night periods compared to peak afternoon and evening windows, indicating uneven operational demand.

Strategic Recommendations

1. Optimize Peak-Time Operations

Increase staffing and kitchen preparedness during 12–2 PM and 5–8 PM, particularly on Mondays and Fridays, to reduce service bottlenecks and maintain service quality during peak demand windows.

2. Strengthen Off-Peak Revenue

Introduce targeted promotions (happy hours, bundle deals, limited-time offers) during morning and late-night periods to stimulate demand and improve capacity utilization in underperforming time slots.

3. Leverage High-Performing Core Items

Prioritize inventory planning and preparation efficiency for top-performing dishes such as Korean Beef Bowl, Hamburger, Cheeseburger, Tofu Pad Thai, and Spaghetti & Meatballs, as these items drive a disproportionate share of revenue.

4. Optimize Menu Portfolio

Reassess low-performing items such as Chicken Tacos and other weak-demand dishes for potential removal, reformulation, or repositioning to simplify operations and improve menu efficiency.

5. Refine Pricing Strategy

- Test incremental price increases on high-demand premium items that show strong value perception.
- Evaluate potential price adjustments or bundling strategies for high-priced, low-demand items (e.g., Shrimp Scampi) to improve conversion rates.

6. Capitalize on Premium Revenue Strength

Since 58% of revenue comes from higher-priced items, maintain premium positioning while reinforcing perceived value through portion sizing, presentation, or strategic menu placement

7. Increase Weekend Demand

Develop weekend-focused campaigns (family combos, special menus, discounts) to reduce dependency on weekday traffic and stabilize revenue distribution across the week.

8. Increase Average Order Value (AOV)

Introduce upselling strategies such as combo meals, add-on prompts, and meal pairings to increase basket size, particularly given the dominance of small orders.

Conclusion

The restaurant demonstrates strong revenue concentration across specific time periods, premium-priced items, and a limited set of core dishes. Strategic optimization of pricing, menu design, and time-based promotions can improve revenue balance, operational efficiency, and long-term profitability.
