

■ Restaurant Performance Analysis Report

Objective

The goal of this project is to evaluate restaurant performance and customer dynamics by analyzing sales, payments, orders, and product data. The insights support menu planning, pricing, inventory management, and customer engagement strategies.

Methodology

- SQL (SQLite): Used for extracting and joining customer, order, payment, and product data.
- Python (Pandas, NumPy, SciPy, Seaborn, Matplotlib): Used for statistical analysis, hypothesis testing, and visualization.
- Exploratory Data Analysis (EDA): Identified sales patterns, customer behavior, and product-level performance.

Key Findings

- Top-selling items: Certain menu categories/products generate the majority of revenue.
- Customer segmentation: High-value repeat customers contribute disproportionately to sales.
- Payment preferences: Digital wallets/credit card payments dominate, influencing loyalty program design.
- Geographical insights: Certain locations/geographies show higher average order values.
- Profitability trends: Some items drive volume but not profit (low-margin bestsellers).

Actionable Suggestions to Increase Sales

1. Menu Optimization
 - Promote high-margin dishes through combos, upselling, and featured menu highlights.
 - Drop/replace consistently low-performing items.
2. Personalized Marketing
 - Use customer order history to provide personalized offers.
 - Create loyalty programs for repeat customers.
3. Dynamic Pricing
 - Adjust prices based on demand (e.g., peak hours, weekends).
 - Offer discounts on low-demand days/times to smooth sales.
4. Delivery & Location Insights
 - Focus delivery marketing on high-order-value geographies.
 - Partner with delivery apps for promotional boosts.
5. Improve Customer Retention
 - Introduce referral programs to bring in new customers.
 - Improve feedback collection to identify service or food quality issues.

Conclusion

This analysis provides data-driven insights into restaurant sales, customer behavior, and product performance. By focusing on menu engineering, personalized marketing, dynamic pricing, and customer loyalty programs, the restaurant can improve both sales volume and profit margins.