

ANALYSIS REPORT

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Data Analysis Report on User Behavior, Cooking Preferences, and Order Trends

Introduction

The objective of this assignment is to perform a comprehensive analysis of datasets related to user behavior, cooking preferences, and order trends. By examining these datasets—UserDetails, CookingSessions, and OrderDetails—the goal is to extract valuable insights that can help improve business strategies, enhance customer satisfaction, and increase overall operational efficiency. The analysis involves data cleaning, merging, exploration, and visualization to identify key patterns and trends. This report provides detailed findings, supported by visual representations, and concludes with actionable business recommendations.

Datasets Overview

Three datasets form the basis of this analysis:

1. UserDetails: Contains demographic information about users, including their age and unique IDs.
2. CookingSessions: Provides details about cooking session ratings, which reflect customer satisfaction with the sessions.
3. OrderDetails: Includes information about dishes ordered, their ratings, and other related metrics.

The datasets were merged and cleaned to ensure consistency and usability for analysis.

Data Cleaning and Merging

The data cleaning process involved handling missing values, ensuring consistency in column formats, and eliminating any duplicate entries. The datasets were then merged based on the common 'User ID' field. This process allowed for a unified dataset, enabling comprehensive analysis of relationships between user demographics, cooking session ratings, and order trends.

Analysis and Key Findings

1. ****Popular Dishes:**** The analysis identified "Spaghetti" as the most popular dish, followed closely by "Grilled Chicken."

Visualizations highlight the top 10 dishes based on order frequency, aiding in understanding customer preferences.

2. ****Demographic Insights:**** Age group analysis revealed that the 25-35 age group is the most active in terms of engagement

with cooking sessions and orders. This insight can help target personalized marketing efforts.

3. ****Relationship Between Session and Order Ratings:**** A positive correlation was observed between cooking session ratings

and order ratings, emphasizing the importance of enhancing cooking session quality.

4. ****Summary Metrics:**** The dataset contained 10 users, 16 cooking sessions, and 16 orders. The average session rating

was 4.52, while the average order rating was 4.29.

Visualizations

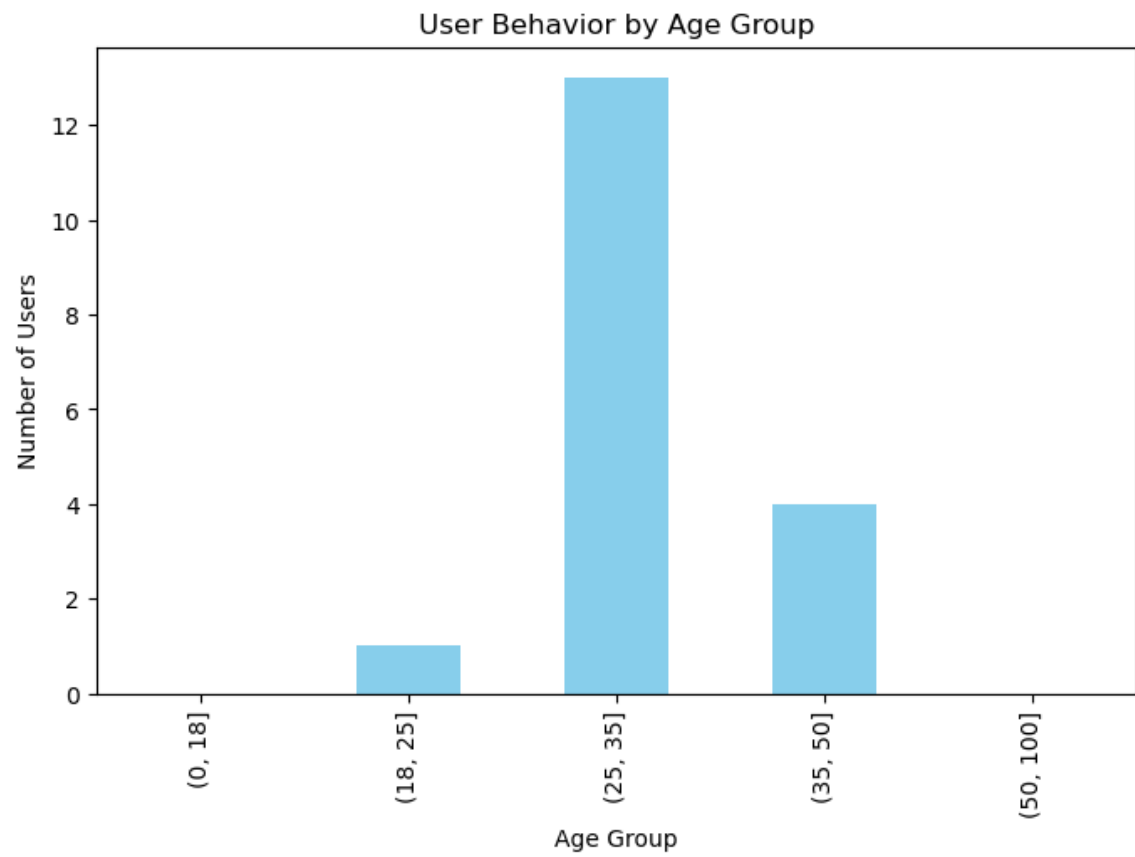
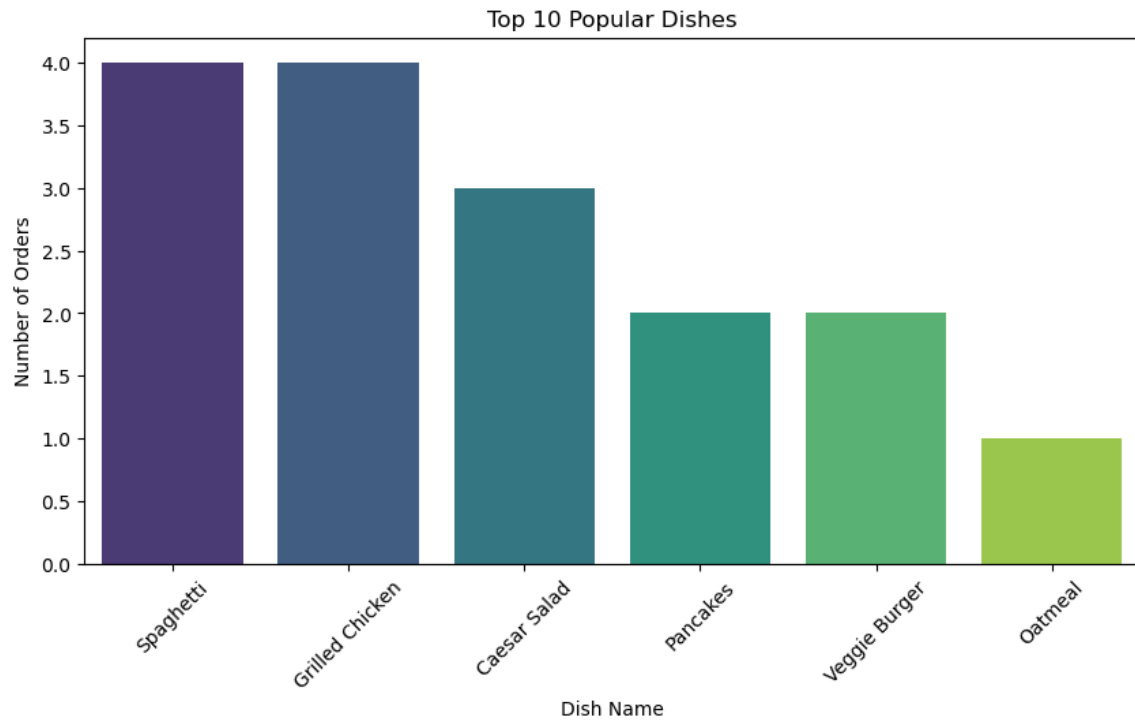
To better communicate the findings, the analysis includes several visualizations:

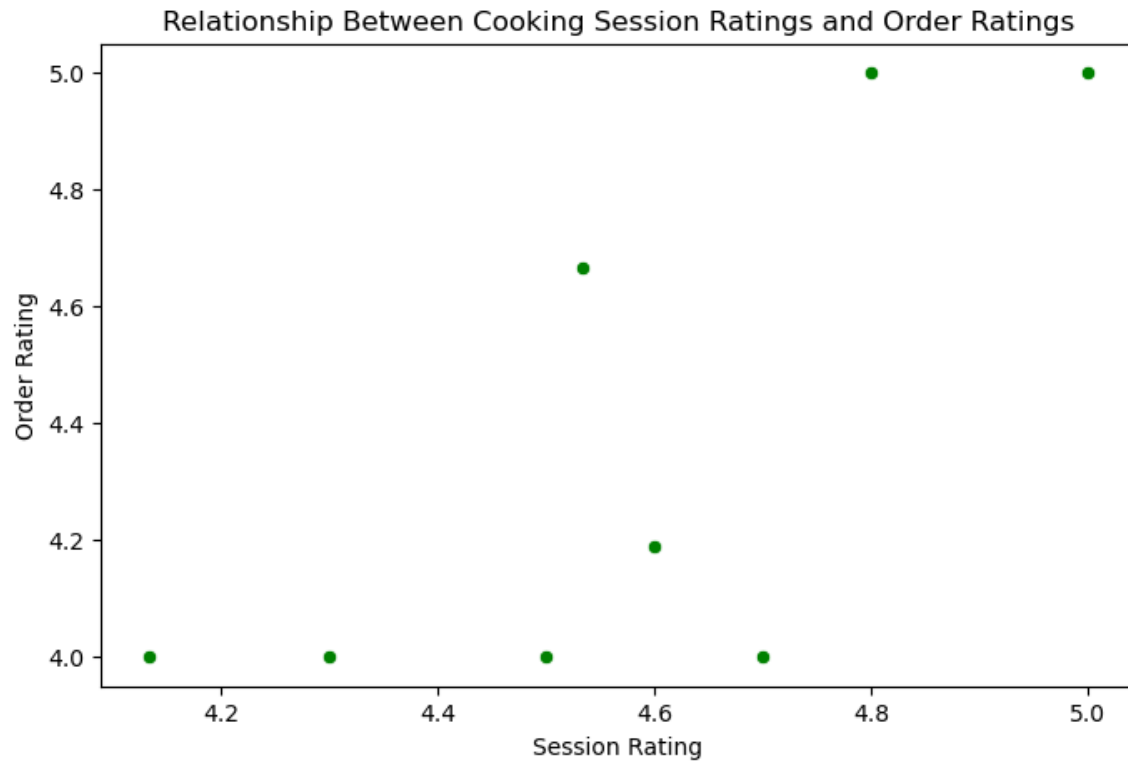
1. A bar chart showcasing the top 10 popular dishes.

2. A bar chart highlighting user activity across different age groups.

3. A scatter plot illustrating the relationship between cooking session ratings and order ratings.

These visualizations provide a clear and intuitive representation of the data, aiding stakeholders in decision-making.





Business Recommendations

Based on the findings, the following recommendations are proposed:

1. **Promote Popular Dishes:** Leverage the popularity of dishes like Spaghetti and Grilled Chicken in marketing campaigns to attract and retain customers.
2. **Targeted Promotions:** Focus on the highly active 25-35 age group with personalized offers and promotions to boost engagement and revenue.
3. **Enhance Cooking Sessions:** Invest in improving the quality of cooking sessions, as higher ratings in this area positively influence order ratings.

Conclusion

This report analyzed user behavior, cooking preferences, and order trends using data from multiple datasets. Key insights were derived, and actionable recommendations were made to improve business operations and customer satisfaction. By implementing the proposed strategies, the organization can enhance its service quality and strengthen customer loyalty.