Upliance.ai Analysis Report

Business Objective-

Analyze the datatsets related to orders, users and cooking sessions to uncover key insights to make business recommendations for an AI cooking assistant system. The analysis aims at exploring factors influencing user's preferences, popular dishes and reveal trends based on cooking patterns. The findings will inform strategies to improve decision-making through data-driven visualizations and actionable recommendations.

Summary

1. Data Cleaning

List of Columns Cleaned in each Worksheet	
OrderDetails.csv	• **Rating** - N/A values were replaced by Mode - Reason- Mode represents the dominant trend. Although, both mode and median have same value (4) in this case, but logical reason for not using median was that it would ignore the strong consensus of the ratings. Mean (4.2) was not used because it would not align with the nature of the data, i.e., the whole numbers and additionally, it gets affected by the outliers.
CookingSessions.csv	• **Session Start** - Separated into 'Session Start Date' (ShortDate) and 'Session Start Time'(Time). • **Session End** - Separated into 'Session End Date' (ShortDate) and 'Session End Time' (Time).
UserDetails.csv	• **Age Group** **-** Added a new column based on 'age' column to analyze the distribution of data.

2. Data Merging-

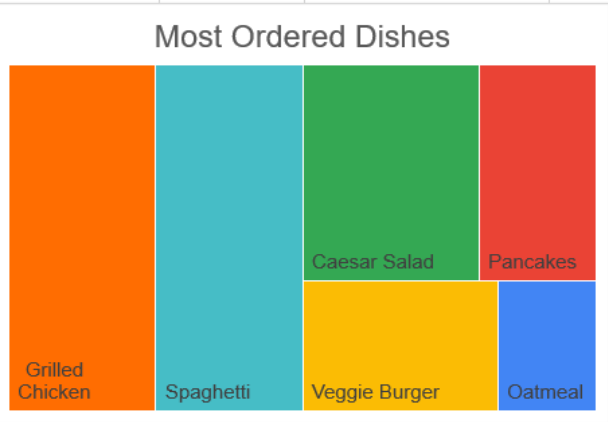
- The data was merged from 'UserDetails.csv' and 'CookingSessions.csv' into 'OrderDetails.csv' because order is the primary focus of the analysis. The following columns were merged into the orders worksheet-

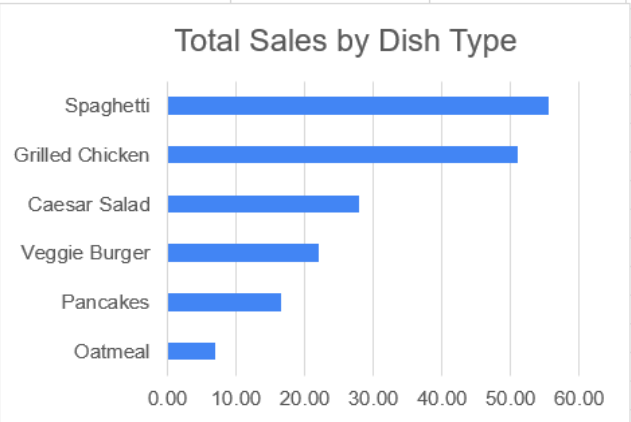
Columns merged from-	
CookingSessions.csv-	• Age Group, Location, Favourite Meal.
UserDetails.csv-	• Session Duration (mins), Session Rating.

3. **Analysis-**
    a. For enabling seamless updates of the dataset into its pivot table, convert the Orders data into a table and name it ‘Orders’.
    b. Insert pivot table on top of the ‘Orders’ table, name the new worksheet created as ‘OrdersPivot’.
4. **Visualizations-**

Key Insights-

- **Most Ordered and Highest Sales by Dish Type-**
    - The most ordered dishes as well as contributed to most of the sales- ‘Grilled Chicken’, ‘Spaghetti’.
    - The least ordered and contributed the least in the total sales- ‘Oatmeal’, ‘Pancakes’.

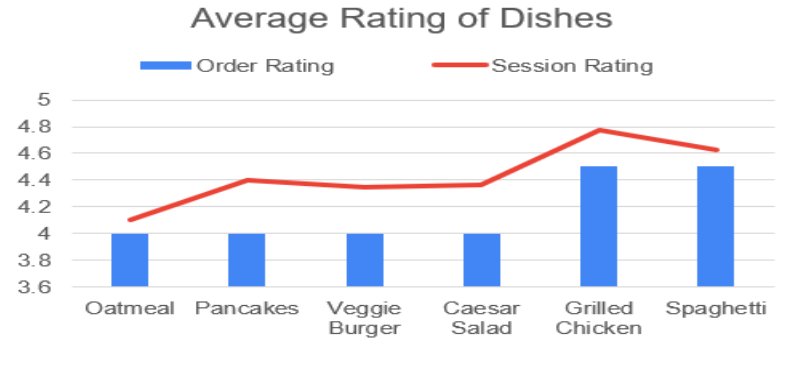




- **Order Rating and Session Ratings by Dish Type-**

***Session Ratings- User’s experience while making the dish. Order Ratings-Overall rating of the order and how it turned out. ***

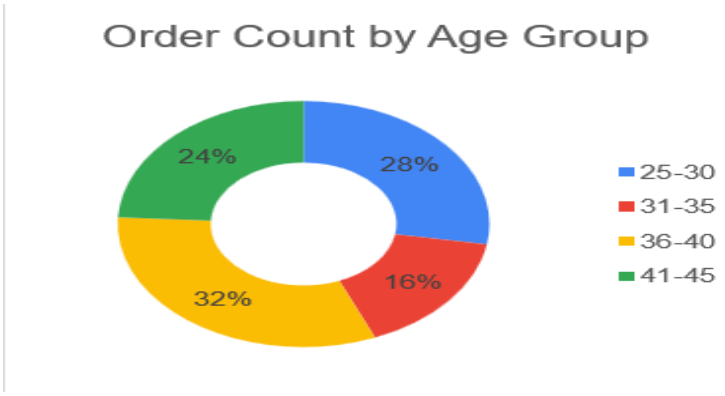
- Best Session Rating and Order Ratings- ‘Spaghetti’ and ‘Grilled Chicken’
- Worst Session and Order Ratings- ‘Oatmeal’ and ‘Pancakes’.



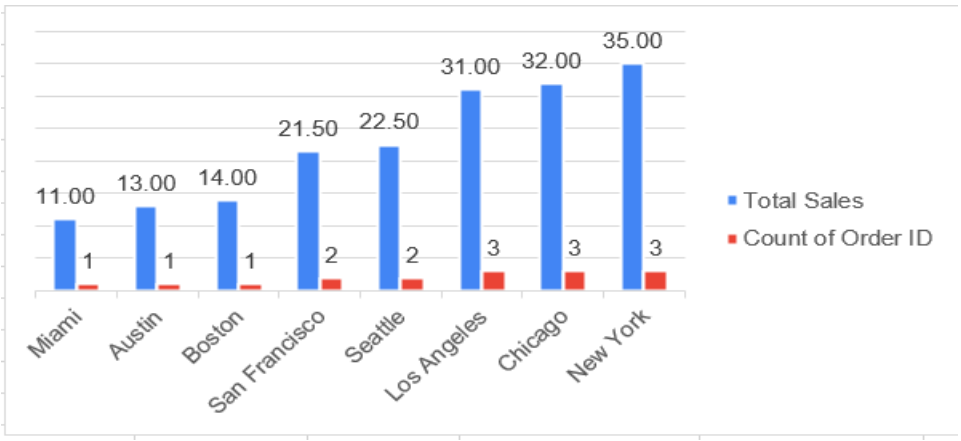
Overall, the above graphs depict that 'Oatmeal' and 'Pancakes' are the dishes were least rated which could explain why they were also least ordered and contributed the least to Sales.

User Demographics-

- **Age Demographics.**
  - Lowest Order Count- the oldest age group [41,45] followed by the youngest age group [25-30].
  - Highest Order Count- [31-35]



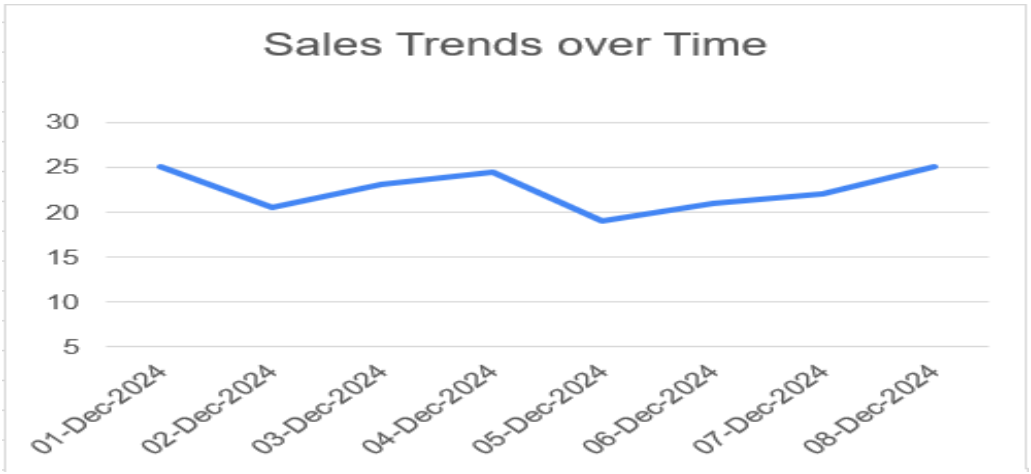
- **Location Demographics**
  - Least Sales and Orders – Miami, Austin
  - Highest Sales and Orders- New York



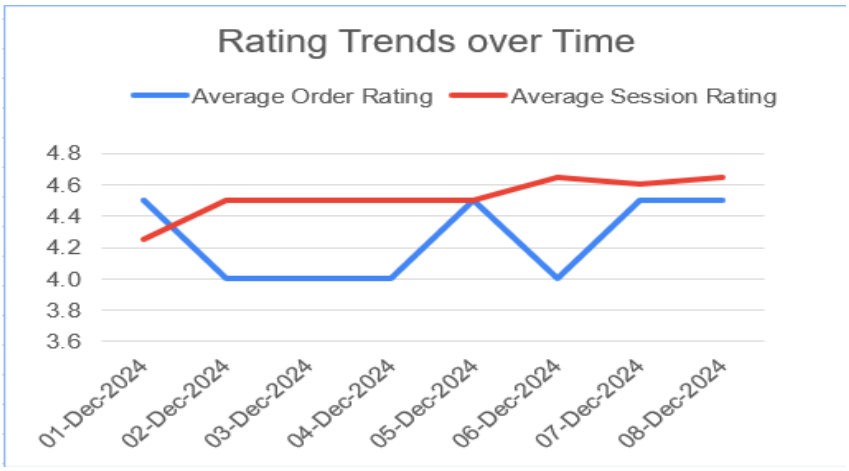
Overall, the charts above depict that the oldest age group and the youngest age group in the dataset request the least number of orders. This might be because the oldest age group usually find it difficult to use technology and the youngest group might prefer to cook the least or rather cook more simpler dishes.

Trends

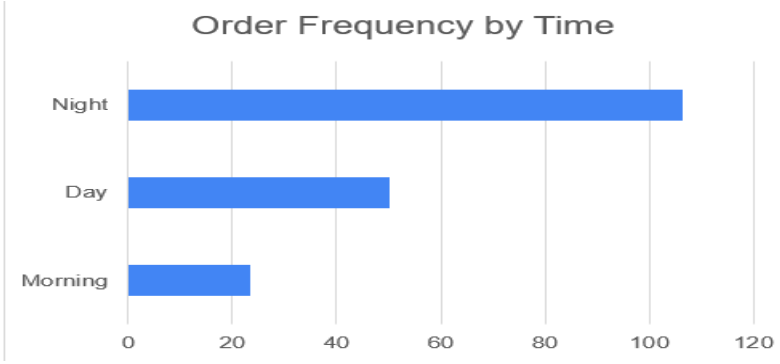
- **Sales trends Time-** The overall trend remained the same.



- **Rating Trends over Time-** Overall, average ratings remained stable and close to 4.5.



- **Order Frequency by time of the day**- Most orders were requested at Night time and the least in the morning.



Overall, the graphs depict that even though, sales trend for order ratings and total sales remained steady but did not improve. Also, most users rely on the AI assistant for food at night. This might be because of the time constraints during the day or more complex meals at night.

5. Business Recommendations-

- Promote low-performing dishes like Oatmeal and Pancakes-
    - Revamp the recipes and making them more appealing by adding toppings or subcategories.
    - Highlight health benefits and marketing them as healthy and quick breakfasts.
    - Promote them at breakfast hours when people usually like quick meals and add attractive visuals for such dishes.
- Leverage high performing dishes like Grilled Chicken and Spaghetti-
    - Recommending them at dinner hours.
    - Use appealing prompts such as ‘most Loved Dishes’.
- Personalize Order recommendations based on the age group such as-
    - For oldest, suggest health-oriented dishes.
    - For youngest, more trendy dishes that are budget-friendly as well.
- Simplify the interface for oldest age group by adding large texts and step-by-step guidance.
- Collect more comprehensive feedbacks from users such as ease of use, order satisfaction etc.
- Leverage ‘Night-time’ sales by adding recommendations such as “Late-night specials”.
- Introduce more quick-cooking options and recommend them during the day.
- Introduce a mobile application that connects to AI assistant to increase user engagement. It would enable to send push notifications as well.
- Conduct surveys to gather more information about Day-time barriers.