FoodTrends: Understanding Customer Preferences in F&B

INFOSYS SPRINGBOARD VIRTUAL INTERNSHIP 6.0 – DATA VISUALIZATION DOMAIN

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GROUP-C

Problem Statement

•Rapid growth of the online food delivery ecosystem.
•Customers' expectations vary by delivery time, price, and cuisine.
•Businesses lack real-time understanding of customer satisfaction trends.

Project Overview

•The project aims to analyze customer preferences in the food and beverage (F&B) sector.

•Data was taken from an online food delivery dataset to uncover trends in meal choices, ratings, and customer satisfaction.

•Tools Used: Power BI, Power Query

•Objective: To visualize and interpret customer behavior to help improve business decisions in the F&B industry.

Objectives

- To understand customer meal preferences (Breakfast, Lunch, Dinner, Snacks).
- To analyze gender-based differences in food ordering patterns.
- To identify ratings and satisfaction trends.
- Visualize insights through **interactive Power BI dashboards**.
- Provide **data-driven recommendations** for improving food delivery services.

Methodology

- **Data Collection:** Online food delivery dataset (customer feedback & delivery records).
- **Data Cleaning:** Removed nulls, handled duplicates, standardized categories.
- **Data Transformation:** Used Power Query to structure data for modeling.
- **Dashboard Design:** Created Power BI visualizations and KPIs.
- **Insight Extraction:** Derived patterns & actionable conclusions.

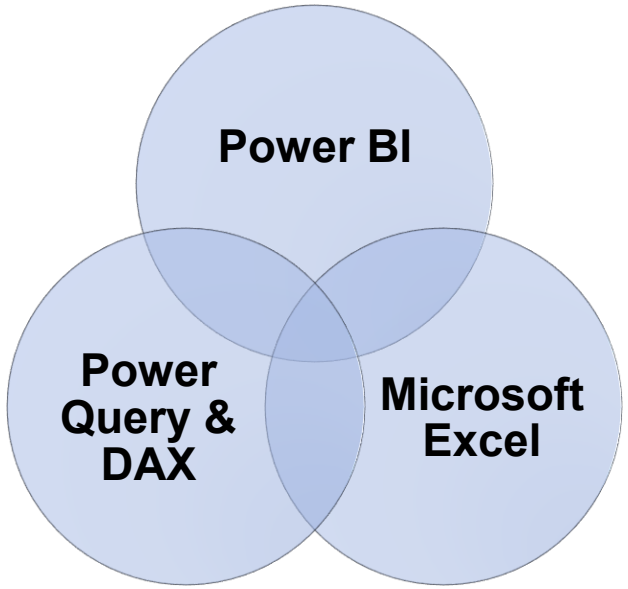
Dataset Description

- **Source:** Online Food Delivery Dataset
- **No. of Records:** This dataset contains **388 records (rows)** and **55 columns (features)**. That means **388 customers or survey responses**, with **55 attributes** such as demographics, preferences, ratings, and other details
- **Key Columns:** Gender, Age, Meal Preferences (P1, P2), Feedback, Ratings, Online Order Frequency, etc.
- **Data cleaning steps:**

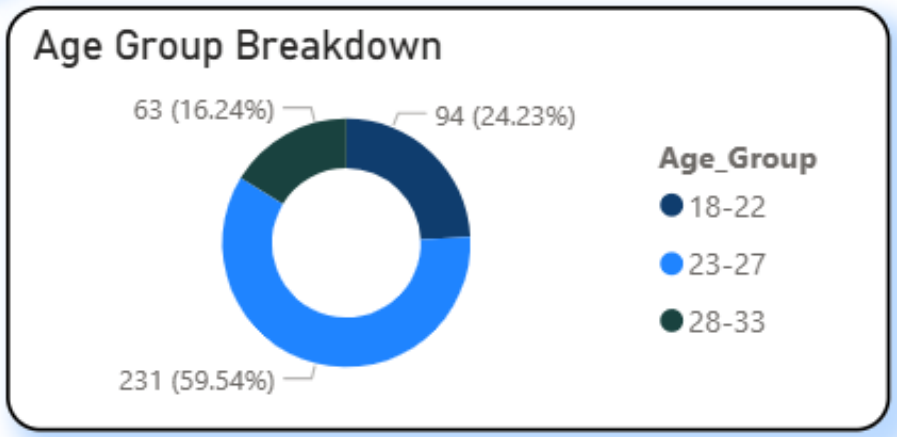
Removed duplicates
Handled missing values

Technology Stack

- **Power BI:** Dashboarding & data visualization
- **Microsoft Excel:** Data preprocessing
- **Power Query & DAX:** Data modeling and calculated measures

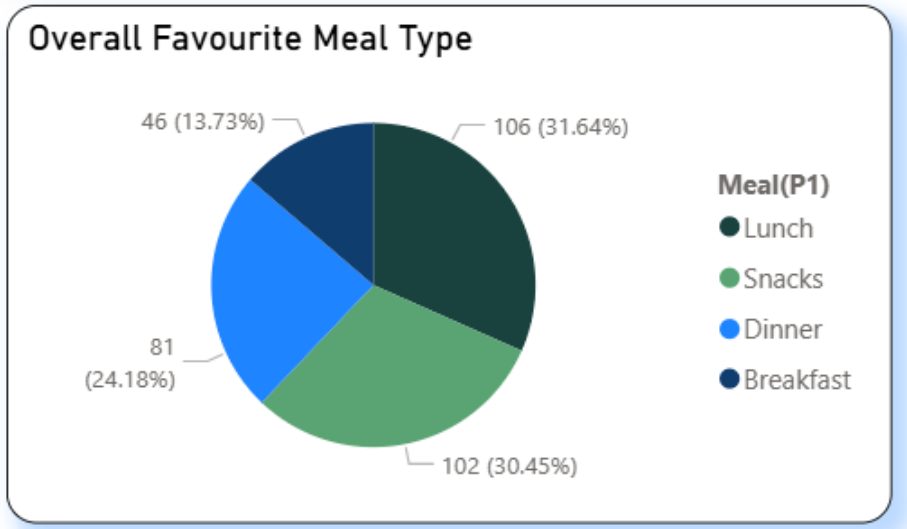


Key Visualisations

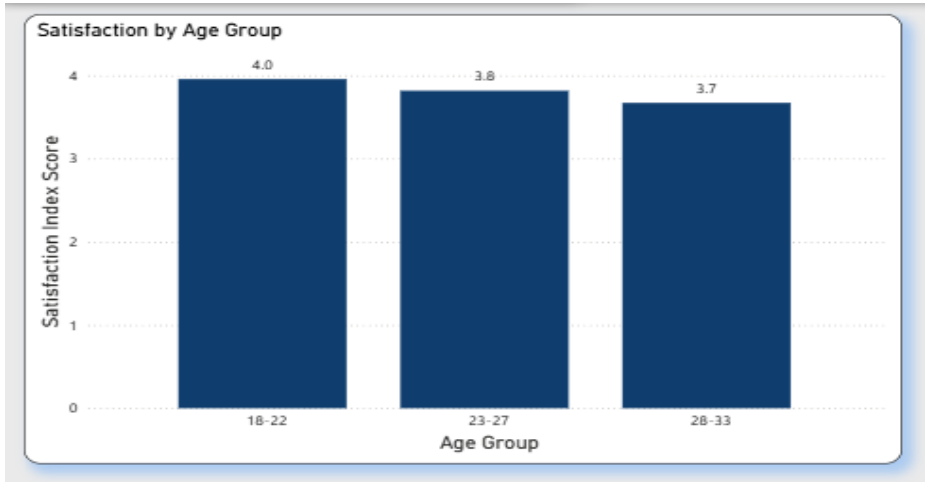


- The chart highlights that the **23–27 age group (59.54%)** forms the largest customer segment, followed by **18–22 (24.23%)** and **28–33 (16.24%)**.
- Young adults are the primary customers of online food services, indicating that marketing and menu design can target their preferences for convenience and quick meals.

- The pie chart shows that **Lunch (31.64%)** and **Snacks (30.45%)** are the most preferred meals among customers. Dinner follows with 24.18%, while Breakfast (13.73%) is the least preferred.
- This suggests customers mainly rely on online food orders during the afternoon and evening, reflecting work or college-related meal patterns.

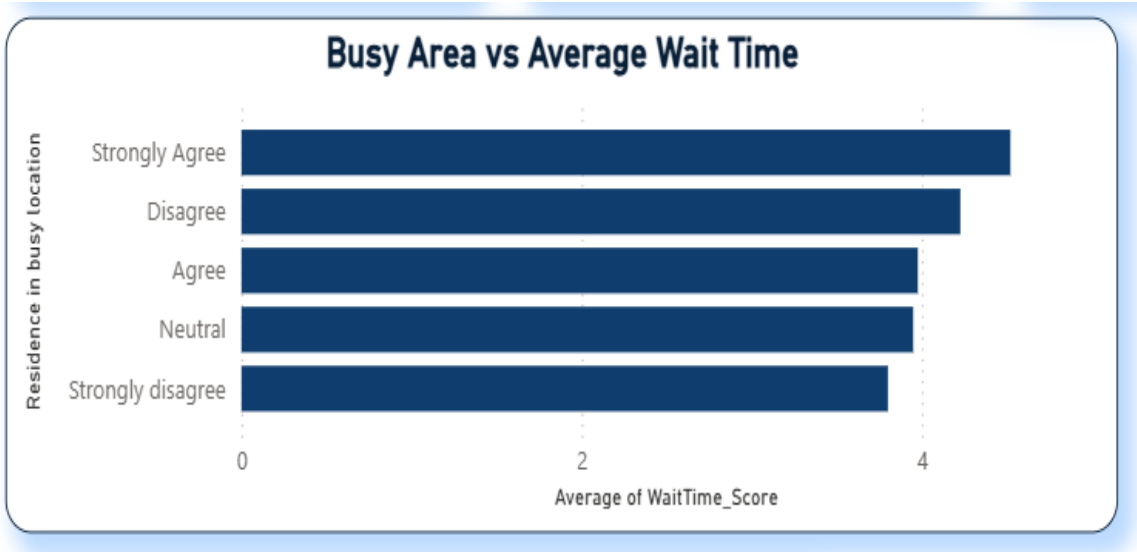


Key Visualisations



- Customers aged **18–22** have the highest satisfaction index (4.0), while satisfaction slightly decreases with age, reaching **3.7** for those aged **28–33**.
- Younger customers tend to rate their food and service experience higher, possibly due to lower expectations or greater acceptance of digital ordering platforms.

- Customers who **strongly agree** that they live in a busy area experience the **highest average wait times**, while those in less crowded zones have faster deliveries.
- Delivery delays are influenced by location density, suggesting that logistics optimization and route management in high-traffic zones could enhance satisfaction.



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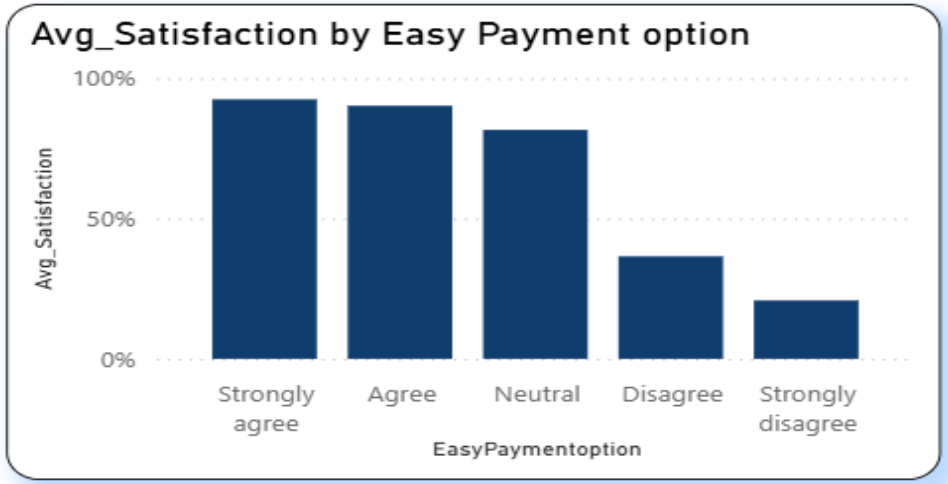
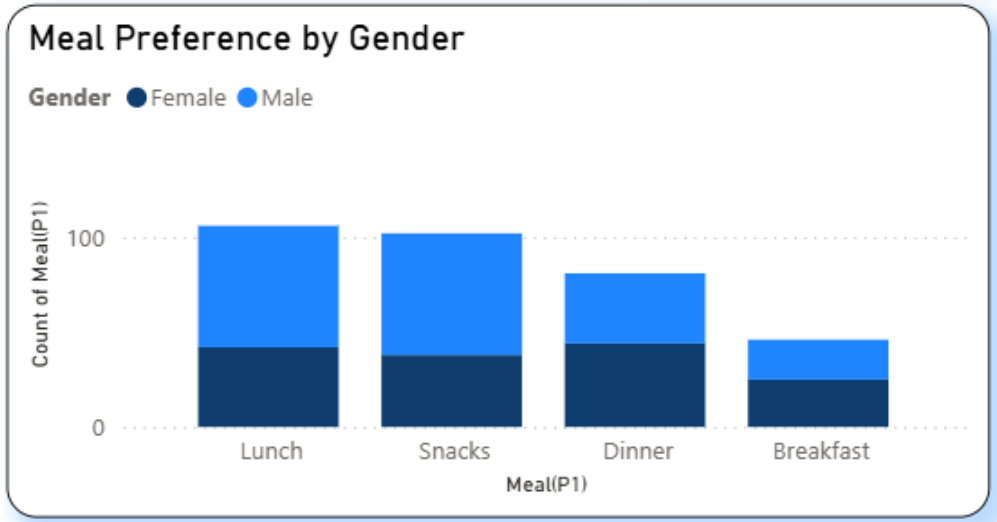


- The visual shows that customers who **strongly agree** or **agree** with the availability of easy payment options report the **highest satisfaction (close to 100%)**, while disagreement corresponds to a sharp satisfaction drop.
- Seamless payment methods are a crucial factor driving customer happiness and loyalty in online food services.

- The bar chart reveals that the **23–27 age group** shows the **highest preference for Lunch and Snacks**, followed by moderate interest in Dinner and limited preference for Breakfast.
- Young working professionals and college students between **23–27 years** are the most active online food consumers, primarily choosing lunch and snacks — indicating peak demand times and meal categories for business targeting.



Learnings from the project

•Gained **hands-on experience with Power BI**, including data cleaning, modeling, and dashboard design.
•Learned to **identify customer behavior patterns** from raw data using visual analytics.
•Developed a sense of **data-driven storytelling** to communicate insights clearly.
•Experienced the **end-to-end analytics process** — from dataset exploration to interactive visualization.

Key Insights

1.Lunch and Snacks are the most preferred meals across all demographics.
2.Majority of users fall under **23–27 age group**, mainly **students and employees**.
3.Satisfaction levels are strongly influenced by **food freshness and quantity**.
4.Busy locations lead to longer wait times and reduced satisfaction.
5.Easy payment options directly enhance overall satisfaction and customer loyalty.
6.Average satisfaction index is **3.83**, indicating **scope for improvement in delivery efficiency**.

Conclusion

The project successfully analyzed **Food and Beverage customer preferences** using data visualization techniques in Power BI.
It revealed how **age, gender, occupation, and satisfaction factors** influence meal choices and customer experiences.
The dashboards provide a **data-backed foundation** for improving service quality and marketing strategies in the F&B domain.

Future Recommendations

- Incorporate **real-time data** from online food delivery platforms for continuous trend tracking.
- Add **sentiment analysis** using text reviews to enhance customer preference understanding.
- Integrate **geo-mapping visuals** for regional food trends and delivery efficiency.
- Expand dashboard filters to include **income range, location, and cuisine type**.
- Implement a **predictive model** (in Power BI or Python) to forecast demand by meal type and time.

Thank You