

Executive Summary

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Project Aim: This analysis delves into factors influencing customer visitation trends at Japanese restaurants. The aim is to understand these determinants, like seasonal variations and restaurant characteristics, to develop a robust predictive model.

Data: The project uses the “Recruit Restaurant Visitor Forecasting” dataset from Kaggle, encompassing data from Japanese websites HPG and AIR, similar to Yelp and Square. The dataset includes information about restaurant visits, reservations, and types, along with Japanese holiday data.

Key Findings:

1. Visitor Trends:

- Visitor counts peak at around 20 per day, with maximums near 100.
- Weekends attract the most visitors, while early weekdays are less popular.
- December and year-end show a significant increase in visitors.

2. Reservations vs. Visitors:

- A notable increase in visits was observed in mid-2016 due to the addition of new restaurants to the AIR database.
- The data shows a concentration of visits during typical dining hours, especially in the evenings.

3. Cuisine and Area Analysis:

- Traditional Japanese and international cuisines dominate, reflecting diverse culinary preferences.
- Specific areas, especially in urban centers like Tokyo, show higher visitor densities.

Modelling Insights: - Various models, including Linear, LOESS, GLM, and ARIMA, were used to analyze visitor trends. - The LOESS model accurately reflected weekly trends but was computationally intensive. - The GLM model, incorporating factors like weekdays, holidays, and location, provided useful predictions. - The ARIMA model, tailored for post-mid-2016 data, was effective in short-term forecasting.

Conclusions: - Location, particularly in urban areas like Tokyo, significantly impacts visitor trends. - Differentiation in cuisine type, such as traditional Japanese, Café/Sweets, and Izakaya, is crucial. - Weekday and seasonal patterns provide insights for operational decisions in restaurants.

Limitations and Improvements: - The analysis may not fully capture the effects of market saturation in areas like Tokyo. - Consumer behavior changes, economic shifts, and public health issues can impact the accuracy of models.

To improve our approach, we could incorporate real-time data analytics to respond to rapid market changes and integrate social listening tools to gauge consumer sentiment and emerging trends. Expanding the dataset to include visitor reviews and feedback could offer deeper insights into the reasons behind customer preferences. Moreover, advanced predictive models that account for a broader range of variables, including economic indicators and demographic shifts, could refine our forecasting abilities, ensuring that our operational strategies remain agile and responsive to the dynamic restaurant landscape in Japan.

Recommendations

- For new restaurant ventures in Japan, focusing on strategic location selection, offering diverse cuisine types, and understanding customer patterns are key factors for success.

This summary encapsulates the project’s scope, methodology, key findings, and implications, providing a clear and concise understanding of the restaurant visitation trends in Japan.