Swiggy Analysis

**Business recommendations:**

* Focus on increasing the menu options for the most popular food types in each city to meet customer preferences and increase order volume.
* Run targeted promotions and discounts for the most popular food types to attract more customers and increase repeat orders.
* Promote top rated restaurants prominently on the Swiggy app to build trust and attract more customers.
* Provide incentives to restaurants that maintain high ratings to encourage consistent quality.
* Analyze and adjust pricing strategies to find the optimal price points that correlate with higher ratings.
* Focus on reducing delivery times, as quicker deliveries are likely to improve customer satisfaction and ratings.
* Consider competitive pricing for high rated restaurants to attract more budget conscious customers without compromising on quality.
* For higher priced restaurants with high ratings, emphasize premium service and quality to justify the price point.
* Identify cities with lower restaurant counts and consider expanding operations in those areas to capture untapped markets.
* Allocate marketing and operational resources based on the concentration of restaurants in each city.
* Ensure a diverse range of price points to cater to different customer segments, from budget friendly to premium.
* Create pricing based promotions to attract different segments, such as discounts on high priced items or combo deals for budget items.
* Implement measures to improve delivery efficiency, such as optimizing delivery routes and increasing delivery personnel.
* Enhance the real time tracking feature to provide customers with accurate delivery times and improve overall satisfaction.
* Introduce new and diverse cuisines to cater to a wider audience and keep the offerings fresh and exciting.
* Conduct surveys or analyze order data to understand customer preferences and introduce popular cuisines accordingly.
* Balance pricing, quality, and delivery time to optimize customer satisfaction and ratings.
* Use the correlation insights to make data driven decisions for menu pricing, delivery operations, and customer service improvements.
* Optimize delivery zones and allocate resources efficiently based on geographical data to improve delivery times and coverage.

**Summary of Business Recommendations**

* CustomerCentric Approach: Continuously analyze customer preferences and feedback to tailor offerings and services.
* Operational Efficiency: Invest in technology and processes to streamline operations, reduce delivery times, and enhance service quality.
* Marketing and Promotions: Implement targeted marketing campaigns and promotions based on data insights to attract and retain customers.
* Continuous Improvement: Regularly review and refine business strategies based on ongoing analysis and market trends to stay competitive and meet customer expectations.

**Source code and scripts:**

* Remove rows and duplicate values
* Transform > Replace values
* Change data types
* Pricebin Column:
  + PriceBin = Number.RoundDown([Price] / 50) \* 50
* Rating Category:

RatingCategory = if [Avg ratings] <= 2 then "12"

else if [Avg ratings] <= 3 then "23"

else if [Avg ratings] <= 4 then "34"

else if [Avg ratings] <= 5 then "45"

else "Unknown"

* DAX:
  + Top Rated Restaurants:
    - TopRated = IF('Sheet1'[Avg ratings] > 4.5, 1, 0)
  + Measure for Top Rated Restaurants:
    - TopRatedPercentage = DIVIDE(SUM('Sheet1'[TopRated]), COUNT('Sheet1'[ID]), 0) \* 100
  + Measure for Correlation Coefficient:

CorrelationCoefficient =

VAR MeanX = AVERAGE('Sheet1'[Price])

VAR MeanY = AVERAGE('Sheet1'[Avg ratings])

VAR Numerator = SUMX('Sheet1', ('Sheet1'[Price] MeanX) \* ('Sheet1'[Avg ratings] MeanY))

VAR Denominator = SQRT(SUMX('Sheet1', ('Sheet1'[Price] MeanX) \* ('Sheet1'[Price] MeanX)) \* SUMX('Sheet1', ('Sheet1'[Avg ratings] MeanY) \* ('Sheet1'[Avg ratings] MeanY)))

RETURN

Numerator / Denominator

***Project Documentation:***

***Swiggy Restaurant Analysis***

**Introduction:**

The objective of this project is to analyze Swiggy restaurant data to provide actionable business insights. The analysis covers various aspects such as popular food types, toprated restaurants, correlation between different factors, price distribution, delivery time, and geographical distribution of restaurants.

**Data Overview:**

The dataset provided contains the following key columns:

* **ID:** Unique identifier for each restaurant.
* **Area:** Specific area where the restaurant is located.
* **City:** City where the restaurant operates.
* **Restaurant:** Name of the restaurant.
* **Price:** Average price of items offered by the restaurant.
* **Avg ratings:** Average rating given by customers.
* **Total ratings:** Total number of ratings received.
* **Cuisine:** Types of cuisine offered.
* **Address:** Address of the restaurant.
* **Delivery time:** Average delivery time.
* **Price Range:** Categorized price range (Low, Medium, High).
* **Rating Category:** Category based on average ratings (e.g., Excellent, Good, Average).

**Approach and Methodologies**

**Data Loading and Preprocessing**

* **Data Loading:** Imported the data from an Excel file into Power BI.
* **Data Cleaning:** Removed duplicates, handled missing values, and ensured correct data types.
* **Data Transformation:** Created new columns for better analysis, such as price bins and rating categories.

**TaskSpecific Analyses**

* Task 1 & 2: Top 10 Areas with most Restaurants & Most Popular Food Types by City
  + Objective: Top 10 Areas with most Restaurants & Determine the most popular food types served in each city.
  + Methodology: Created bar charts and matrix visualizations to display the count of each food type by city.
* Task 3: Top Rated Restaurants
  + Objective: Calculate the percentage of top rated restaurants (average rating above 4.5).
  + Methodology: Added calculated columns and measures in Power BI to identify top rated restaurants and calculate their percentage.
* Task 4: Correlation of Factors Affecting Ratings
  + Objective: Identify correlations between factors like price, total ratings, and delivery time.
  + Methodology: Created scatter plots and calculated correlation coefficients using DAX
* Task 5: Price vs. Average Rating
  + Objective: Analyze the relationship between restaurant price and average rating.
  + Methodology: Created scatter plots and calculated correlation coefficients to visualize and quantify the relationship.
* Task 6: Citywise Restaurant Count
  + Objective: Determine the number of restaurants in each city.
  + Methodology: Created bar chart to display the count of restaurants by city.
* Task 7: Price Distribution Analysis
  + Objective: Analyze the price distribution of restaurants.
  + Methodology: Created histograms to visualize the price distribution.
* Task 8: Delivery Time Analysis
  + Objective: Analyze the average delivery time of restaurants.
  + Methodology: Created bar charts to display average delivery times by city and overall.
* Task 9: Cuisine Analysis
  + Objective: Analyze the variety of cuisines offered by restaurants.
  + Methodology: Created pie charts, treemaps, and bar charts to visualize the distribution and variety of cuisines.
* Task 10: Areawise Restaurant Analysis
  + Objective: Determine the number of restaurants in each area within the city.
  + Methodology: Created bar charts to display restaurant counts by area within each city.
* Task 11: Correlation Analysis
  + Objective: Investigate correlations between variables such as price, ratings, and delivery time.
  + Methodology: Created scatter plots and calculated correlation coefficients using DAX
* Task 12: Customer Feedback Analysis
  + Objective: Analyze customer feedback based on ratings and total ratings.
  + Methodology: Created scatter plots, bar charts, and pie charts to visualize customer feedback patterns.
* Task 13: Geographical Mapping
  + Objective: Create a geographical map of restaurant locations.
  + Methodology: Used the map visual in Power BI to plot restaurant locations based on city and area.

**Insights and Recommendations**

* Popular Food Types
  + Insight: Certain cuisines are more popular in specific cities.
  + Recommendation: Expand offerings and target promotions for popular cuisines in respective cities.
* Top Rated Restaurants
  + Insight: A small percentage of restaurants have very high ratings.
  + Recommendation: Highlight and promote top rated restaurants on the platform.
* Factors Affecting Ratings
  + Insight: There is a correlation between delivery time, price, and average ratings.
  + Recommendation: Optimize delivery times and pricing strategies to improve customer satisfaction.
* Price Analysis
  + Insight: The price distribution shows a wide range of average prices across restaurants.
  + Recommendation: Ensure diverse pricing options to cater to different customer segments.
* Delivery Time Analysis
  + Insight: Delivery times vary significantly across cities.Recommendation: Implement strategies to improve delivery efficiency in cities with longer average delivery times.
* Cuisine Variety
  + Insight: Certain cuisines are underrepresented in some cities.
  + Recommendation: Introduce a wider variety of cuisines to meet diverse customer preferences.
* Geographical Distribution
  + Insight: There are areas with higher concentrations of restaurants.
  + Recommendation: Explore opportunities to expand into underserved areas.

**Conclusion**

* This comprehensive analysis of Swiggy's restaurant data provides actionable insights that can help enhance customer satisfaction, optimize operations, and drive business growth. By leveraging these insights, Swiggy can make data driven decisions to improve its services and expand its market presence.