20020759
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Colab Notebook (Please refer this notebook for detailed explanations)-
https://colab.research.google.com/drive/1ml1mWR4PVDzv9GvNaxvEgCC8xgMEhUeb?usp=sharing

Github Link - https://github.com/chrisMper/BIS.git

Assignment: Data Analytics Process and Interpretation

1. Select a Business Domain & Dataset

Customer Behavior in Retail (Starbucks)

Dataset:
Starbucks Customer Survey Survey from Malaysia on Starbucks Customer Behaviour
https://www.kaggle.com/datasets/mahirahmzh/starbucks-customer-retention-malaysia-survey

Dataset Description:
The dataset contains survey responses from over 100 respondents about their buying behavior at Starbucks in Malaysia. It includes demographic information (gender, age range, employment status, income range) and customer behavior data.

2. Define an Analytical Scenario & Process

Business Question:

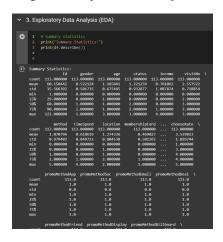What are the characteristics of customers who are likely to continue buying from Starbucks?

Analytical Process:

1. Data Collection: Download the dataset from Kaggle and load the dataset
2. Data Preprocessing: Handle missing values, encode categorical variables, and clean the data.
3. Exploratory Data Analysis (EDA): Analyze the dataset using summary statistics and visualizations to understand customer demographics and behavior.
4. Statistical Analysis: Perform correlation analysis, regression to identify key factors influencing customer retention.
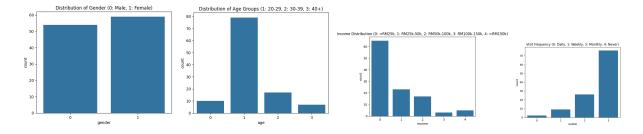
5. Interpretation: Interpret the results and provide actionable insights for Starbucks to retain customers.
6. Visualization: Use Python libraries (Matplotlib, Seaborn, Plotly) to visualize key findings.
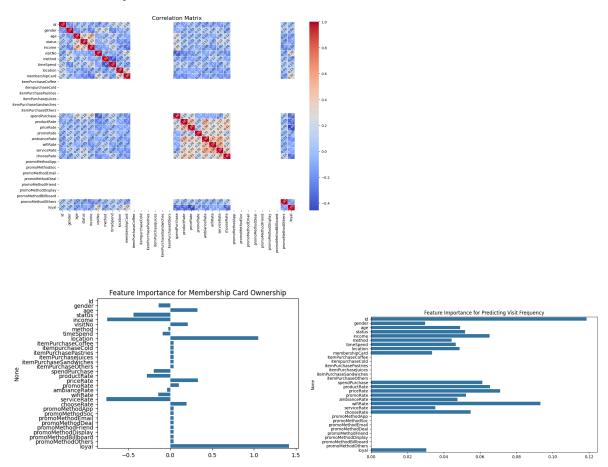
3. Perform the Analysis Using Python

Exploratory data analysis

Distributions

Statistical Analysis

Correlation Matrix

Feature Importance for Membership Card Ownership

Feature Importance for Predicting Visit Frequency

4. Interpretation of the results and their implications for decision-making in the business context.

The following characteristics define customers who are likely to continue purchasing from Starbucks:

Loyalty & Engagement

1. Loyalty is the strongest predictor of visit frequency.
   - Customers with high loyalty scores are much more likely to continue buying from Starbucks.
2. Membership Card Ownership is an important factor.
   - Customers who own a Starbucks membership card visit more frequently, indicating that rewards and exclusive perks influence repeat purchases.

In-Store Experience & Amenities

1. WiFi Rate is highly significant.
   - Customers who rate Starbucks WiFi highly tend to visit frequently, meaning that offering reliable internet can retain regular customers, especially those who work or study at Starbucks.
2. Service Rate and Choose Rate also impact visit frequency.
   - A positive experience with customer service and the ability to easily select products increase the likelihood of return visits. Friendly baristas, fast service, and customization options matter.

Location & Convenience

1. Location plays a significant role.
   - Customers who live or work near Starbucks are more likely to continue purchasing.

Promotional Influence

1. Traditional promotions (email, social media, billboards) have low importance in predicting repeat visits.
   - This suggests that loyalty-driven and in-store experiences matter more than broad marketing campaigns.

Based on these insights, Starbucks can improve customer retention by:

1. **Strengthening the Loyalty Program –**
   a. Offering personalized rewards, tiered membership benefits, and exclusive perks to keep customers engaged
2. **Enhancing In-Store Amenities –**
   a. Providing high-speed WiFi, comfortable seating, and a welcoming ambiance to encourage longer stays and repeat visits.
3. **Improving Customer Service –**
   a. Investing in barista training, mobile ordering efficiency, and customer experience personalization to maintain service quality.
4. **Targeting High-Value Customers –**
   a. Using purchase data to identify frequent buyers and offering exclusive promotions tailored to their preferences.
5. **Optimizing Store Locations –**
   a. Expanding in high-traffic areas and ensuring easy access for regular customers.