Customer Segmentation & Offer Strategy (Python Documentation)

Jupyter Notebook

Python Codes

1. Importing libraries
   1. import pandas as pd
   2. import numpy as np
   3. import matplotlib.pyplot as plt
   4. import datetime as dt
   5. import ast
2. Upload csv files
   1. customers = pd.read\_csv("C:/Users/Sol Joaquin/Documents/GitHub/Coffeeoffers/customers.csv")
   2. events = pd.read\_csv("C:\\Users\\Sol Joaquin\\Documents\\GitHub\\Coffeeoffers\\events.csv")
   3. offers = pd.read\_csv("C:\\Users\\Sol Joaquin\\Documents\\GitHub\\Coffeeoffers\\offers.csv")
3. Customers file: Membership date is formatted as string
   1. customers['date'] = pd.to\_datetime(customers['became\_member\_on'].astype(str),format = '%Y%m%d')
   2. customers['year'] = customers['date'].dt.year
   3. customers['month'] = customers['date'].dt.month
4. Events 🡪 Value column: Not in dictionary. First convert to dictionary, then separate the values to each column (as key)
   1. events\_trial['value'] = events\_trial['value'].apply(ast.literal\_eval)
   2. value\_expanded = events\_trial['value'].apply(pd.Series)
   3. events\_trial = pd.concat([events\_trial.drop(columns='value'),value\_expanded], axis = 1)
   4. Output
      1. A screenshot of a computer

         AI-generated content may be incorrect.
      2. Offer id, amount, offer\_id, reward
      3. Offer\_id is found in offer completed events.
5. Total transaction over 30 days
   1. events\_trial['amount'].sum()
   2. Output: 1775451.9700000004
6. Create a column for transactions just before an offer is completed. Note that before an offer is completed, the customer must purchase something first.
   1. events\_trial['transactbeforeoffer'] = None
   2. events\_trial.loc[
   3. events\_trial['event'] == 'offer completed',
   4. 'transactbeforeoffer'
   5. ] = events\_trial['amount'].shift(1)
   6. How it works
      1. An column is made with “None”.
      2. Loc method is used
      3. It looks for ‘offer completed’ under the event column
      4. Then it targets the new column, transactbeforeoffer
      5. Shift(1) means make the previous row’s value appear in the current row.
         1. The previous row’s value is targeted in the ‘amount’ column.
         2. Current row is the [‘event’] == ‘offer completed, ‘transactbeforeoffer’
   7. Output
      1. A screenshot of a computer

         AI-generated content may be incorrect.
7. Total amount before completing offers
   1. events\_trial['transactbeforeoffer'].sum()
   2. Output: 616623.6799999975