



Predict Credit Consumption of Customer For a Leading Bank



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Business Context:

Analytics driving every industry based on a variety of technology platforms which collect information from various sources by analysing what customers certainly want. The Credit Card industry is also data rich industry and data can be leveraged in infinite ways to understand customer behaviour.

The data from a credit card processor shows the consumer types and their business spending behaviours. Therefore, companies can develop the marketing campaigns that directly address consumers' behaviour. In return, this helps to make better sales and the revenue undoubtedly grows greater sales.

Understanding the consumption pattern for credit cards at an individual consumer level is important for customer relationship management. This understanding allows banks to customize for consumers and make strategic marketing plans. Thus it is imperative to study the relationship between the characteristics of the consumers and their consumption patterns.

Business Objectives:

One of the leading banks provided below data

- a. Customer Demographics
- b. Customer Behavioural data (information on liabilities, assets and history of transactions with the bank for each customer). Data has been provided for a particular set of customers' credit card spend in the previous 3 months (April, May & June) and their expected average spend in the coming 3 months (July, August & September)
- c. Credit consumption

Data Dictionary

a. CustomerDemographics.csv

ID – Customer ID - Unique ID for every Customer

Account type - Account Type (current or saving)

Gender- Gender of customer (M or F)

Age - Age of customer

Income – Income Levels (High/Medium/Low)

Emp Tenure Years – Experience – Employment Tenure of customer in Years

Tenure with Bank – Number of years with bank

Region code Code assigned to region of residence (has order)

NetBanking Flag – Whether customer is using net banking for the transactions

Avg_days_between_transaction – Average days between two transactions







b. CustomerBehaviorData.csv

ID – Customer ID - Unique ID for every Customer

CC cons apr - Credit card spend in April

DC cons apr - Debit card spend in April

CC cons may - Credit card spend in May

DC cons may - Debit card spend in May

CC cons jun - Credit card spend in June

DC_cons_jun - Debit card spend in June

CC count apr - Number of credit card transactions in April

CC count may - Number of credit card transactions in May

CC count jun - Number of credit card transactions in June

DC count apr - Number of debit card transactions in April

DC count may - Number of debit card transactions in May

DC count jun - Number of debit card transactions in June

Card lim - Maximum Credit Card Limit allocated

Personal loan active - Active personal loan with other bank

Vehicle loan active - Active Vehicle loan with other bank

Personal loan closed - Closed personal loan in last 12 months

Vehicle loan closed - Closed vehicle loan in last 12 months

Investment 1 - DEMAT investment in june

Investment 2 - Fixed deposit investment in june

Investment 3 - Life Insurance investment in June

Investment 4 - General Insurance Investment in June

Debit amount apr - Total amount debited for April

Credit amount apr - Total amount credited for April

Debit count apr- Total number of times amount debited in april

Credit count apr - Total number of times amount credited in april

Max credit amount apr - Maximum amount credited in April

Debit_amount_may - Total amount debited for May

Credit amount may - Total amount credited for May

Credit count may - Total number of times amount credited in May

Debit count may - Total number of times amount debited in May

Max credit amount may - Maximum amount credited in May

Debit amount jun - Total amount debited for June

Credit amount jun - Total amount credited for June

Credit count jun - Total number of times amount credited in June

Debit count jun - Total number of times amount debited in June

Max credit amount jun - Maximum amount credited in June

Loan enquiry in last 3 months (Y or N)

Emi active - Monthly EMI paid to other bank for active loans

c. CreditConsumptionData.csv

ID – Customer ID - Unique ID for every Customer cc cons (Target) - Average Credit Card Spend in next three months





Note: Some customers are having missing values for credit consumption. You need to build the model using customer's data where credit consumption is non-missing's. You need to predict the credit consumption for next three months for the customers having missing values.

Model Evaluation Metric:

You should validate model using Root Mean Square Percentage Error (RMSPE) between the predicted credit card consumption and Actual Credit Consumption.

Expected Outputs:

- a. Detailed code with comments
- b. Data Exploratory analysis
- c. Model validation outputs
- d. Model documentation with all the details
- e. Predicted values for customers where target variable having missing values

