

Business Problem and Data Dictionary: Customer Churn Analysis

1 Understanding Customer Churn

Customer churn refers to the percentage of customers who stop using a company's products or services within a given time frame. High churn rates, such as 25% per month, can lead to significant financial losses and instability, prompting businesses to investigate reasons for customer attrition and develop retention strategies.

2 Problem Statement Overview

The dataset contains information on 10,000 customers of a bank, with the target variable **Exited** (binary: 1 if the customer leaves, 0 if they stay). The goal is to identify key features influencing churn using a logistic regression model. The dataset includes 18 columns, detailed below.

3 Data Dictionary

The dataset consists of 10,000 rows and 18 columns, as follows:

1. **RowNumber**: Record number (no impact on churn).
2. **CustomerId**: Random identifier (no impact on churn).
3. **Surname**: Customers surname (no impact on churn).
4. **CreditScore**: Customers credit score (higher scores may reduce churn likelihood).
5. **Geography**: Customers location (may influence churn).
6. **Gender**: Customers gender (potential influence on churn).
7. **Age**: Customers age (older customers may be less likely to churn).
8. **Tenure**: Years as a bank client (longer tenure may indicate loyalty).
9. **Balance**: Account balance (higher balances may reduce churn likelihood).
10. **NumOfProducts**: Number of bank products used (may affect churn).
11. **HasCrCard**: Whether the customer has a credit card (1 = yes, 0 = no; may reduce churn).

12. **IsActiveMember:** Whether the customer is active (1 = yes, 0 = no; active customers less likely to churn).
13. **EstimatedSalary:** Customers estimated salary (higher salaries may reduce churn).
14. **Exited:** Target variable (1 = customer left, 0 = customer stayed).
15. **Complain:** Whether the customer has a complaint (1 = yes, 0 = no).
16. **Satisfaction Score:** Score for complaint resolution (if applicable).
17. **Card Type:** Type of card held by the customer.
18. **Points Earned:** Points earned via credit card usage.