BANK CUSTOMER CHURN ANALYSIS

Project Overview

Business Problem:

The bank is experiencing customer attrition (churn), which directly impacts revenue, assets under management (AUM), and long-term profitability. With increasing competition in financial services, retaining existing customers is as important as acquiring new ones. The bank lacks visibility into:

- Why customers are leaving
- Which customers are most at risk
- Which segments cause the highest financial loss

Objective

- Analyze customer churn patterns
- Identify high-risk customer segments
- Understand drivers of churn
- Provide insights to help reduce churn through targeted retention strategies

Scope of Analysis

- Customer demographics analysis
- Behavioral analysis (activity, credit card ownership)
- Financial analysis (balance, salary)
- Product usage patterns
- Churn comparison across:
    - Age groups
    - Geography
    - Credit score segments
    - Account balance buckets
    - Product categories

Tools Used

- Microsoft Excel – initial review and validation
- Power BI – Interactive dashboard and visualization

Dataset Description

Source of Data:

Synthetic dataset commonly used for customer churn analysis in banking domain (Bank Customer Churn Prediction dataset).

Number of Records:

- 10,000 customers

Key Fields Explain:

Column Name	Description
CustomerId	Unique customer identifier
Credit Score	Customer credit score
Geography	Country (France, Germany, Spain)
Gender	Customer gender
Age	Customer age
Tenure	Years with the bank
Balance	Account balance
Num Of Products	Number of bank products used
Has Credit Card	Whether customer owns a credit card
IsActiveMember	Whether customer is active
Estimated Salary	Customer annual salary
Exited / Churn	Target variable (1 = left bank, 0 = active customer)

Exploratory Data Analysis (EDA) – Findings

- Churn ≈ **20.4%**
- France holds majority of customers (~50%)
- Highest customer volume:
  - Age group 31–40
  - Credit score 601–700
- Many customers hold only **1 product**
- High number of customers with **zero balance**
- Customers with multiple products churn less
- High churn observed among:
  - Inactive customers
  - Customers without credit cards
  - Some high-balance customers (100k–200k bucket)

Insights

- **Confirmed overall churn = 20.39%** — baseline to measure improvements against.
- **Prioritize high-balance churners (100k–200k)** — losing these customers costs the most; build high-touch retention for them.
- **Re-activate zero-balance customers with low-cost campaigns** — many accounts are zero balance; low-cost digital nudges could re-engage.
- **Focus on mid-credit-score groups** for retention marketing — these customers show significant churn counts and are likely defections due to competition.

Recommendations

Where to Invest

- Retention programs for high AUM customers
- Predictive churn modeling
- Personalized campaigns
- Customer success teams for premium segments

What to Reduce

- One-size-fits-all marketing
- Passive handling of inactive accounts
- Broad promotions without data targeting

What to Test

- Exclusive loyalty offers for high-balance churn risk customers
- Credit card activation bundles
- Junior savings plans for younger customers
- Cross-sell before churn event

Conclusions

The analysis confirms that churn is **material (~20%)** and financially harmful, especially among **high-balance customers** and **inactive segments**.
The dashboard highlights clear, consistent churn patterns and provides a strong foundation for a predictive model and targeted retention programs.
Moving forward, the bank should focus on engagement, and activation strategies.