

Customer Churn Analysis Report

Overview

This report provides an analysis of the dataset containing 10,000 customers from a bank. The goal is to explore key factors influencing customer churn ('Exited') and identify trends across various demographic and financial attributes.

1. Dataset Summary

- **Number of Records:** 10,000
 - **Number of Features:** 14
 - **Key Features:**
 - **Demographics:** Geography, Gender, Age, Surname
 - **Financials:** CreditScore, Balance, EstimatedSalary
 - **Behavioral:** Tenure, NumOfProducts, HasCrCard, IsActiveMember
 - **Target Variable:** Exited (Churn)
 - **No Missing Data:** All fields are fully populated.
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2. Key Insights

2.1. Churn Rate

- **Retention Rate:** 79.63% of customers stayed.
- **Churn Rate:** 20.37% of customers exited.

2.2. Demographic Insights

- **Geography:**
 - France: 50.14%
 - Germany: 25.09%
 - Spain: 24.77%
 - Potential Focus: Germany, given its moderate customer base and potential churn risks.
- **Gender:**
 - Male: 54.57%
 - Female: 45.43%
- **Age Distribution:**
 - Average Age: ~39 years
 - Younger customers (below 30) and older customers (above 60) may exhibit different churn behaviors.

2.3. Financial Attributes

- **Credit Score:**
 - Ranges from 350 to 850, with a mean of ~650.
- **Balance:**
 - Average Balance: ~\$76,485

- 38% of customers have zero balance, which could correlate with churn.
- **Estimated Salary:**
 - Ranges between ~\$12 and ~\$200,000, with a mean of ~\$100,090.

2.4. Behavioral Insights

- **Tenure:**
 - Average tenure is ~5 years.
 - Customers with a tenure of less than 3 years may exhibit higher churn rates.
 - **Number of Products:**
 - Most customers have 1-2 products.
 - Customers with 3 or more products are more likely to churn.
 - **IsActiveMember:**
 - Active members are less likely to churn.
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3. Visual Findings

Churn Distribution:

- 20% of the customers have churned, highlighting a need for targeted retention strategies.

Churn by Geography:

- France has the largest customer base but exhibits a moderate churn rate.
- Germany may have higher churn rates relative to its customer base size.

Churn by Gender:

- Churn rates are slightly higher among females compared to males.

Churn by Age:

- Middle-aged customers (35-50) are less likely to churn compared to younger and older customers.
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4. Recommendations

1. **Targeted Retention Efforts:**
 - Focus on customers in Germany.
 - Develop strategies to engage female customers and active members.
2. **Customer Engagement:**
 - Encourage usage of more products for retention but monitor for overloading customers.
 - Incentivize customers with zero balance to increase account activity.
3. **Age-Specific Campaigns:**
 - Younger customers could benefit from tailored financial education and services.
 - Older customers may need loyalty incentives.
4. **Predictive Analysis:**

- Build a churn prediction model using features like CreditScore, Age, Balance, and IsActiveMember.
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5. Conclusion

This analysis provides a comprehensive view of customer churn trends and identifies key areas for intervention. Implementing the recommendations can improve customer retention and overall satisfaction. Further analysis, such as predictive modeling, can enhance targeting and resource allocation.

Appendices

Key Statistics:

- Average Credit Score: 650
- Average Balance: \$76,485
- Average Estimated Salary: \$100,090