**Bank churn 10K Report**

**Findings**

# TLDR Recommendations;

* **High Churn Rate in Germany** → Targeted customer retention strategies. Further investigation is needed to look into why Germany has such a high churn rate compared to other countries.
* **Younger customers churn more** → Offer loyalty programs for young professionals./ Introduce **exclusive banking benefits** for customers aged 35-45 to retain them as they are high risk and most likely to leave.
* **Inactive members leave despite high balance** → Improve engagement & personalized services./ Implement **customer engagement strategies** (e.g., personalized product offers, reward programs for active members)./Offer **incentives for customers** to use banking services more frequently
* **Credit Score plays a role in churn** → Provide financial advisory & tailored loan offers.
* **More products over 3+ → Higher churn** → Improve complaint resolution processes. / Encourage customers with one product to adopt a second one, as customers with only 2 products tend to churn less. And for customers with 3 to 4 products, more investigation would be needed to find out why they churn at such a high rate.

Kaggle dataset link: <https://www.kaggle.com/datasets/radheshyamkollipara/bank-customer-churn>

# **Bank Churn Analysis Report**

## **1. Introduction**

### **Objective:**

This report aims to analyze customer churn in a bank, identify key factors influencing churn, and provide actionable recommendations to improve customer retention. The analysis is based on a dataset of 10,000 bank customers, using MySQL for data processing and Tableau for visualization.

### **Key Business Question:**

* Why do customers leave the bank?
* What are the primary factors influencing churn?
* How can the bank reduce churn and improve customer retention?

## **2. Data Overview**

### **Dataset Information:**

The dataset contains **10,000** customer records with **14 Columns** related to demographics, account details, and customer activity.

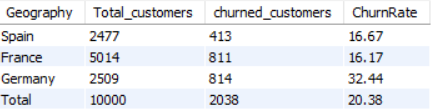
| **Feature** | **Description** |
| --- | --- |
| **CustomerID** | Unique customer identifier (not used in analysis) |
| **CreditScore** | Customer's credit score (higher = more creditworthy) |
| **Geography** | Customer's country (France, Germany, Spain) |
| **Gender** | Male or Female |
| **Age** | Customer's age |
| **Tenure** | Years as a bank customer |
| **Balance** | Account balance |
| **NumOfProducts** | Number of bank products held |
| **HasCrCard** | Whether the customer has a credit card (1 = Yes, 0 = No) |
| **IsActiveMember** | Whether the customer is an active member (1 = Yes, 0 = No) |
| **EstimatedSalary** | Estimated annual salary |
| **Exited** | Whether the customer churned (1 = Yes, 0 = No) |
| **Complain** | Whether the customer has filed a complaint |
| **Satisfaction Score** | Rating given by the customer |

## **3. Data Analysis & Findings**

### **A. Overall Churn Rate**

**Finding:** The overall churn rate is **20.38%**, meaning approximately 2,038 customers left the bank.

### **B. Churn by Geography**



**Finding:** **Germany has the highest churn rate (32.4%)**, which is nearly **twice** the rate of France and Spain. But it should be noted that Germany has less customers than france.

**Possible reasons:**

* Different banking policies or fees in Germany.
* Customer dissatisfaction in that region.

**Recommendation:** The bank should **investigate customer complaints in Germany** and improve its offerings.

### **C. Insights from the Age Churn Rate:**

1. **Churn Peaks at Ages 40-45**
   * The highest number of churned customers fall within the **40-45 age group**, followed closely by **35-40**.
   * This suggests that middle-aged customers (especially in their 40s) are the most likely to leave.
2. **Lower Churn for Young and Older Customers**
   * **Young customers (under 30) churn less**, possibly because they have fewer banking commitments or are just starting their financial journey.
   * **Customers over 55 also churn less**, likely due to long-term banking relationships and financial stability.
3. **Potential Reasons for High Churn in Middle Age (35-45)**
   * **Financial Pressure:** Customers in this range may be making major financial decisions (e.g., mortgages, family expenses) and might switch banks for better deals.
   * **Career Transitions:** Job changes or relocations could lead them to switch banks.
   * **Dissatisfaction with Services:** They might be looking for better investment or loan options.

### **Recommendations:**

**Targeted Retention Strategies for 35-45 Age Group**

* Offer **personalized financial plans**, mortgage deals, or investment incentives.
* Improve **customer service and engagement** for middle-aged customers.

**Loyalty Programs for High-Risk Age Groups**

* Introduce **exclusive banking benefits** for customers aged 35-45 to retain them.

### **D. Customer Activity & Churn**

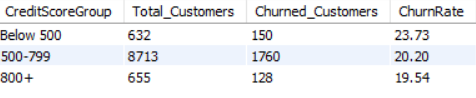


**Finding:** **Inactive customers churn at a significantly higher rate** (26.87%) compared to active customers (14.27%).

**Recommendation:**

* Implement **customer engagement strategies** (e.g., personalized product offers, reward programs for active members).
* Offer **incentives for customers to engage more with banking services**.

### **E. Churn by Credit Score**



### **Finding:**

* Customers with a **credit score below 500** churn at **23.73%**.
* Customers with a **credit score between 500 and 799** churn at **20.20%**.
* Customers with a **credit score above 800** churn at **19.54%**.

**Key Takeaways:**

* While churn **does decrease** as credit score increases, the difference **is not as drastic** as expected.
* Customers with **very low credit scores (<500)** have the **highest churn rate** (23.73%), but it's only about **3.5% higher** than those with scores above 800.
* The **500-799 range**, which includes most customers, has a **moderate churn rate (20.20%)**.
* Even **high-credit-score customers (800+)** still experience churn (19.54%), meaning other factors (such as tenure, income, and engagement) might play a role.

**Business Action:**

* Focus **retention strategies** more on customers **with credit scores below 500** since they have the highest churn.
* Investigate **other influencing factors** (e.g., product usage, complaints, or satisfaction scores) to reduce churn further.

### **F. Churn by Balance & Products Held**

**Finding:**

* Customers with **zero balance churn at 13.82%**, indicating **low engagement with the bank**.
* Customers with **multiple products (2-3) churn less** than those with only **one product**.

**Recommendation:** Encourage customers to use **multiple financial products** (e.g., savings, loans, insurance) to increase retention.

* If a customer has no money in their account, it may mean:
  + They **use another bank as their primary financial institution**.
  + They **signed up but never fully engaged** with the bank's services.
  + They are **dissatisfied with the bank** and **planning to leave**.

**Recommendation:**

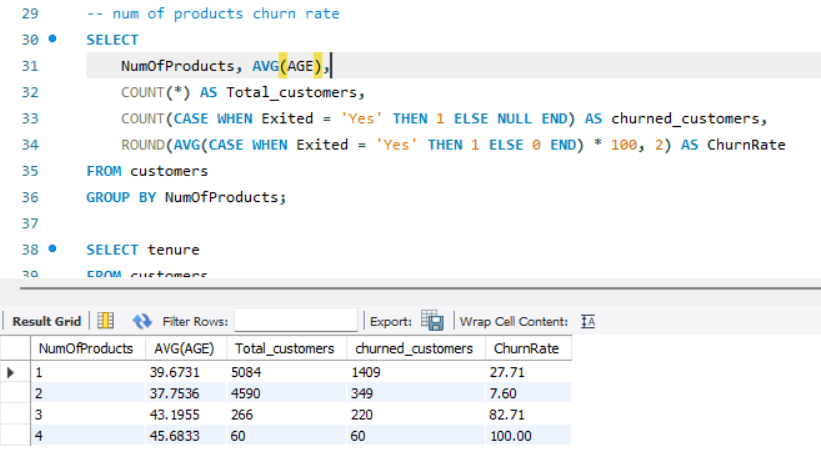
* **Encourage deposits** by offering incentives like:
  + Higher interest rates on savings accounts.
  + Cashback offers or rewards for maintaining a balance.
  + Personalized promotions based on spending behavior.
* **Engage inactive customers** through targeted campaigns:
  + Send reminders about unused account benefits.
  + Offer easy savings plans or automatic transfers.

#### **Why might Customers with Multiple Products Churn Less?**

* Customers who use **2 or more products** (e.g., checking + savings account, credit card + loan) tend to be **more loyal**.
* If a customer **only has one product**, they have **less incentive to stay** and may leave for a competitor offering better terms.
* Customers with multiple financial products **interact with the bank more frequently**, making them feel more committed.

**Recommendation:**

* **Cross-sell products to single-product customers**:
  + If they only have a **checking account**, offer a **savings account** with interest benefits.
  + If they only have a **credit card**, suggest a **loan** with a lower interest rate for existing customers.
  + If they use **only a savings account**, offer an **investment or insurance plan** to enhance their banking relationship.
* **Introduce bundling discounts**:
  + Provide **discounts on loans** for customers with a checking + savings account.
  + Offer **higher rewards on credit cards** for customers with multiple products.
* **Educate customers on financial benefits**:
  + Send personalized recommendations based on their banking activity.
  + Use **email marketing and SMS alerts** to promote financial literacy and investment benefits.



**Taking a closer look At products held**

1. **Customers with Only One Product (NumOfProducts = 1)**
   * **Average Age:** 39.67
   * **Total Customers:** 5,084
   * **Churn Rate:** 27.71%
   * **Insight:** These customers churn at a moderate rate, indicating they may not feel fully engaged with the bank.
2. **Customers with Two Products (NumOfProducts = 2)**
   * **Average Age:** 37.75
   * **Total Customers:** 4,590
   * **Churn Rate:** 7.60%
   * **Insight:** This group has the **lowest churn rate**, suggesting that customers with at least two products feel more committed to staying.
3. **Customers with Three Products (NumOfProducts = 3)**
   * **Average Age:** 43.20
   * **Total Customers:** 266
   * **Churn Rate:** 82.71%
   * **Insight:** A **very high churn rate**, which is unexpected. This could indicate that customers with three products might have been oversold financial products or have experienced dissatisfaction.
4. **Customers with Four Products (NumOfProducts = 4)**
   * **Average Age:** 45.68
   * **Total Customers:** 60
   * **Churn Rate:** 100%
   * **Insight:** Every customer in this group churned. This strongly suggests that customers with too many products might be feeling overwhelmed, or they may be high-value customers who left for better financial services elsewhere.

### **Key Takeaways:**

✅ **Customers with 2 products are the most stable** – they churn the least.  
❌ **Customers with 3+ products churn at alarmingly high rates** – this could indicate dissatisfaction, aggressive cross-selling, or financial strain.

### **Recommended Actions:**

* **Encourage customers with only one product** to adopt a second one (e.g., if they only have a checking account, offer them a savings account).
* **Investigate why customers with 3+ products are leaving.** Are they being sold products they don’t need? Are fees or complexities driving them away?
* **Offer personalized financial guidance** to customers with multiple products to ensure they’re getting value from them.

## **4. Key Insights & Business Recommendations**

Based on the findings, the following **actionable strategies** are recommended:

### **🔹 A. Target High-Churn Regions (Germany)**

* Investigate **customer dissatisfaction reasons** (e.g., fees, service quality).
* Offer **Germany-specific retention programs** (discounted services, improved support).

### **🔹 B. Improve Retention for Younger Customers**

* Create **personalized banking products** for young customers.
* Offer **loyalty rewards for long-term banking relationships**.

### **🔹 C. Engage Inactive Customers**

* Send **personalized engagement emails**.
* Offer **bonus interest rates** or **cashback incentives** for active transactions.

### **🔹 D. Financial Advisory for Low Credit Score Customers**

* Provide **credit-building programs**.
* Offer **discounted loan rates** to encourage customer retention.

### **🔹 E. Promote Multi-Product Usage**

* Encourage customers to use **two** to increase loyalty.
* Bundle **savings, credit, and investment options** into attractive packages.

## **5. Conclusion**

This analysis reveals that **customer churn is influenced by location, age, activity level, credit score, and product usage**. By implementing targeted **retention strategies**, the bank can reduce churn, increase customer satisfaction, and improve overall profitability.

**Next Steps:**

1. Implement **churn prevention programs** in Germany.
2. Develop **loyalty strategies for middle-aged customers**.
3. Improve **customer engagement and financial advisory services**.
4. Monitor results and iterate strategies based on ongoing data analysis.

**Technologies used:**

* **SQL Database & Queries** for churn analysis.
* **Tableau Dashboard** for visual insights.
* **Business Recommendations Report** (this document).

### **Final Thoughts**

We've identified key factors such as geography, age, activity level, credit score, and product usage that influence churn rates. By implementing the targeted strategies and recommendations outlined in this report, the bank can effectively reduce customer churn, enhance satisfaction, and boost overall profitability.

Continuous monitoring, ongoing data analysis, and iterative strategy refinement will be crucial to maintaining long-term success. With a proactive approach and commitment to customer-centric solutions, the bank can foster stronger relationships, build loyalty, and ensure sustainable growth.