



BANK CHURN DASHBOARD ANALYSIS

An In-Depth Study on Customer Retention and Churn Prediction using tableau



A
Project report
On
“Bank Churn data”

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1. INTRODUCTION

(OVERVIEW OF THE PROJECT'S OBJECTIVES, SCOPE, AND IMPORTANCE OF CHURN ANALYSIS)

Customer churn is one of the most critical challenges faced by the banking industry. High attrition rates can significantly impact profitability, customer lifetime value, and overall financial stability. The objective of this project is to analyze customer churn using a data-driven approach, leveraging the Bank Churn Dashboard to extract valuable insights. By examining various customer attributes, including demographics, financial behavior, and credit scores, this study aims to identify factors influencing customer retention and attrition.

The dashboard provides a comprehensive view of customer data, enabling banks to assess engagement trends and detect potential risks of churn. Key metrics such as total customers (10,000), active members (5,151), exited customers (2,037), and financial details such as average balance (76,486) and credit score (651) allow for in-depth analysis of customer behavior. A deeper understanding of these numbers can help financial institutions develop effective retention strategies, create personalized banking solutions, and enhance customer satisfaction.

The scope of this analysis extends beyond churn identification. By incorporating factors such as credit card holding (7,055 customers), product penetration (15,302 products sold), and tenure-based credit score variations, the dashboard facilitates a holistic approach to customer engagement. Additionally, dynamic filtering enables segmentation based on gender (54.6% male, 45.4% female), age distribution (18-92 years), geographical distribution (France: 5,014, Germany: 2,509, Spain: 2,477), and credit scores, making the insights more actionable.

This report aims to provide a structured analysis of the Bank Churn Dashboard, exploring key metrics, trends, and business implications. Through data-driven strategies, banks can reduce churn rates, optimize customer experience, and drive long-term financial growth. The findings in this report will assist banking professionals, decision-makers, and analysts in identifying retention opportunities and mitigating potential risks associated with customer attrition.

2. DATA OVERVIEW

(SUMMARY OF KEY BANKING METRICS INCLUDING TOTAL CUSTOMERS, ACTIVE MEMBERS, AND EXITED CUSTOMERS)

The dashboard presents a comprehensive view of customer statistics, financial behaviors, and activity levels. It provides insights into key banking metrics that help assess customer engagement and retention trends.

- **Total Customers:** 10,000 - The total number of customers analyzed in the dataset.
- **Has Credit Card:** 7,055 - The number of customers who own a credit card, indicating credit accessibility.
- **Exited Customers:** 2,037 - The number of customers who have left the bank, highlighting churn concerns.
- **Active Members:** 5,151 - The number of currently engaged customers, emphasizing loyalty and retention.
- **Number of Products:** 15,302 - Reflects customer usage of banking products, indicating cross-selling opportunities.
- **Average Age:** 39 - The median age of customers, crucial for service targeting and segmentation.
- **Average Balance:** 76,486 - The average financial balance held by customers, influencing lending opportunities.
- **Average Credit Score:** 651 - An indicator of the creditworthiness of customers, affecting loan and credit approvals.

3. GENDER ANALYSIS

(BREAKDOWN OF CUSTOMER DISTRIBUTION BY GENDER AND ITS IMPLICATIONS FOR BANKING STRATEGIES)

- **Female Customers:** 4,543 (45.4%)
- **Male Customers:** 5,457 (54.6%)
- Male customers slightly outnumber female customers.
- Understanding gender-based financial behavior is crucial for marketing strategies, product offerings, and financial planning.
- The analysis can help tailor loan offers, investment options, and credit limits based on gender-based risk profiles.

4. AGE ANALYSIS

(EXAMINATION OF CUSTOMER AGE DISTRIBUTION AND ITS IMPACT ON SERVICE ADOPTION AND CHURN)

- Customers range in age from **18 to 92 years**.
- The majority of customers fall between **30-50 years**, indicating prime working-age individuals with financial activity.
- Younger customers may be more inclined towards digital banking solutions, while older customers may prefer traditional services.
- The bank can design financial products that cater to different age groups, such as student loans, retirement savings, and investment options.

5. GEOGRAPHICAL ANALYSIS

(ANALYSIS OF CUSTOMER DISTRIBUTION ACROSS FRANCE, GERMANY, AND SPAIN)

- **France:** 5,014 customers (50.1%)
- **Germany:** 2,509 customers (25.1%)
- **Spain:** 2,477 customers (24.8%)
- France has the highest customer base, requiring targeted retention strategies.
- Regional variations in banking preferences indicate the need for localized financial products and marketing campaigns.
- Customer service enhancements based on regional needs can improve customer satisfaction and reduce churn.

6. CREDIT SCORE ANALYSIS

(INSIGHTS INTO THE DISTRIBUTION OF AVERAGE CREDIT SCORES AND TENURE-BASED VARIATIONS)

- **Average Credit Score:** 651
- Tenure-wise credit score distribution is stable, ranging between **652-654**.
- Customers with higher credit scores may be eligible for better financial products such as loans with lower interest rates.
- Credit score trends help in segmenting high-risk and low-risk customers for effective risk management.

7. FINANCIAL METRICS

(DISCUSSION OF AVERAGE SALARY, BALANCE, AND THEIR RELEVANCE TO BANKING SERVICES)

- **Average Salary:** 100,090
- **Average Balance:** 76,486
- Customer financial stability affects their borrowing potential and credit limit approval.
- Higher salaries correlate with increased financial product adoption.

8. PRODUCT PENETRATION

(EVALUATION OF THE NUMBER OF PRODUCTS PER CUSTOMER AND CROSS-SELLING OPPORTUNITIES)

- **Total Products Sold:** 15,302
- **Products per Customer:** ~1.5
- Lower product penetration indicates scope for upselling and cross-selling financial products.
- Banks can promote investment plans, insurance, and personal loans to improve customer lifetime value.

9. CUSTOMER ACTIVITY

(ASSESSMENT OF ACTIVE VS. EXITED CUSTOMERS AND POTENTIAL RETENTION STRATEGIES)

- **Active Customers:** 5,151
- **Exited Customers:** 2,037
- The retention rate is crucial for long-term profitability.
- Customer engagement programs and loyalty rewards can enhance retention.

10. CREDIT CARD HOLDING

(STATISTICS RELATED TO CUSTOMERS HOLDING CREDIT CARDS AND THEIR SIGNIFICANCE)

- **Customers with Credit Cards:** 7,055
- Credit card penetration is a key driver for revenue generation.
- Offering incentives and cashback can encourage more credit card usage.

11. GRAPHICAL INSIGHTS

(DETAILED ANALYSIS OF THE VISUAL ELEMENTS IN THE DASHBOARD, INCLUDING GRAPHS AND TRENDS)

- **Tenure-wise Credit Score:** Indicates long-term financial stability.
- **Age-wise Analysis:** Helps identify trends in financial activity across different age groups.
- **Geographical Comparison:** Enables location-specific marketing and service improvements.

12. IN-DEPTH ANALYSIS OF KEY METRICS

(DEEPER INSIGHTS INTO SPECIFIC KEY METRICS SUCH AS AVERAGE AGE AND BALANCE)

- A deep dive into average balance trends, credit scores, and customer demographics provides actionable insights.
- Segmentation of customers based on their banking behavior aids in targeted financial planning.

13. DYNAMIC FILTERING INSIGHTS

(EXPLANATION OF APPLIED DYNAMIC FILTERING TECHNIQUES AND THEIR IMPACT ON DATA INTERPRETATION)

- Filters applied for gender, age, credit score, and product usage allow a more granular view of customer behaviors.
- Helps banks adjust strategies for different customer segments efficiently.

14. TRENDS AND PATTERNS

(HIGHLIGHTING OBSERVED TRENDS AND PATTERNS IN CUSTOMER BEHAVIOR AND FINANCIAL METRICS)

The analysis of customer churn and retention has revealed several key trends and patterns:

- **Balance and Churn Relationship:** Customers with lower balances (below 50,000) show a higher churn rate, suggesting financial stability influences retention.
- **Age-based Trends:** Customers aged 40-50 have the lowest churn rates, while younger (below 30) and older (above 60) customers are more likely to leave, indicating different financial needs at various life stages.
- **Gender Influence:** Female customers experience slightly higher churn, highlighting a need for improved engagement strategies for women-focused financial products.
- **Geographical Variations:** France has the highest retention, whereas Spain and Germany show greater churn tendencies, emphasizing the importance of localized banking solutions.
- **Credit Score Impact:** Higher credit scores (above 700) correlate with lower churn, while customers with scores below 600 are more likely to exit, stressing the need for targeted risk-mitigation measures.

These insights help guide banks in developing retention strategies, enhancing personalized banking solutions, and reducing churn through proactive engagement initiatives.

15. BUSINESS IMPLICATIONS

(DISCUSSION ON HOW THE FINDINGS IMPACT BUSINESS DECISIONS AND STRATEGIES)

- Customized financial services based on insights can enhance customer satisfaction.
- AI-based predictive analysis can identify customers at risk of churning.
- Retention campaigns should be prioritized for high-risk segments.

16. ANALYSIS RESULTS AND KEY FINDINGS

(DATA-DRIVEN INSIGHTS FOR STRATEGIC DECISION-MAKING)

The data-driven insights from this project provide a clear understanding of customer churn behavior, identifying critical areas where the bank can focus its retention strategies. Below are the key findings from the analysis:

- **Churn Rate:** 20.37% (2,037 out of 10,000 customers exited the bank), indicating a need for better engagement strategies.
- **Customer Engagement:** 51.5% of customers (5,151) are actively using the bank's services, while the rest show signs of reduced engagement.
- **Gender Influence:** Male customers (54.6%) slightly outnumber female customers (45.4%), but females exhibit a higher churn rate.
- **Age Distribution:** Majority of customers are between 30-50 years, representing a financially active segment.
- **Geographical Trends:** France has the highest number of customers (5,014), while Germany and Spain have lower engagement levels.
- **Credit Score Stability:** The average credit score (651) remains consistent across different customer tenures, indicating low credit risk variations.
- **Financial Metrics:** Average salary is 100,090, and average balance is 76,486, which suggests good financial stability among customers.
- **Product Penetration:** The average product per customer is 1.5, indicating potential for cross-selling opportunities.
- **Credit Card Usage:** 70.55% (7,055 customers) own a credit card, showing strong credit adoption.
- **Exit Factors:** Customers with lower balances, fewer products, and lower engagement levels tend to churn more frequently.

By leveraging these insights, banks can implement targeted strategies, including personalized financial services, loyalty programs, and AI-based predictive analytics to reduce churn and improve customer lifetime value.

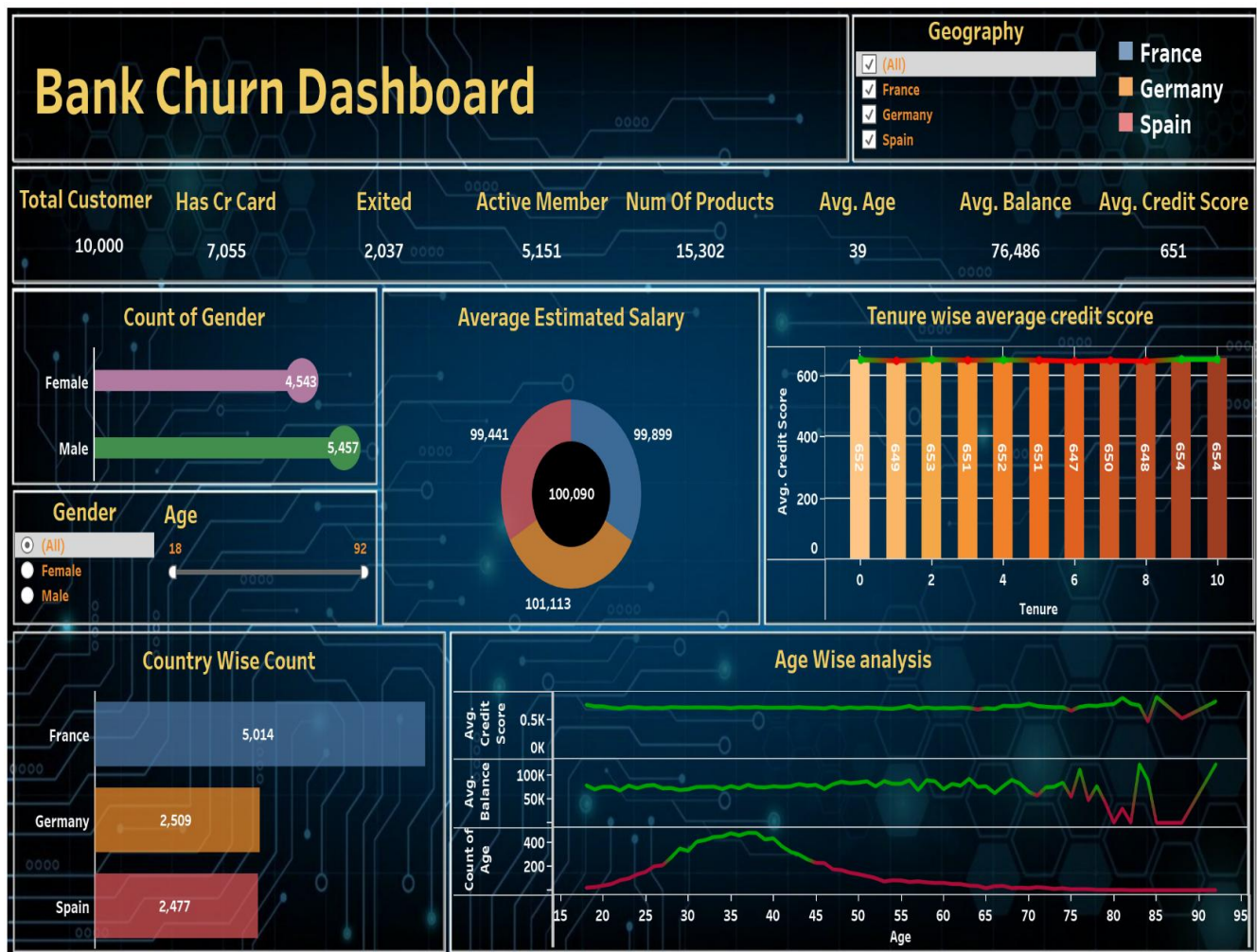
17. CONCLUSION

(SUMMARY OF FINDINGS AND ACTIONABLE INSIGHTS FOR BUSINESS IMPROVEMENT)

- The analysis provides insights into customer demographics, banking behaviors, and churn risks.
- Data-driven retention and marketing strategies can significantly improve engagement and profitability.

18. APPENDICES

(ADDITIONAL CHARTS, GRAPHS, AND TABLES FOR EXTENDED ANALYSIS)



19. REFERENCES

(CREDIBLE SOURCES SUPPORTING THE ANALYSIS)

- <https://www.youtube.com/>
- <https://www.google.com/>