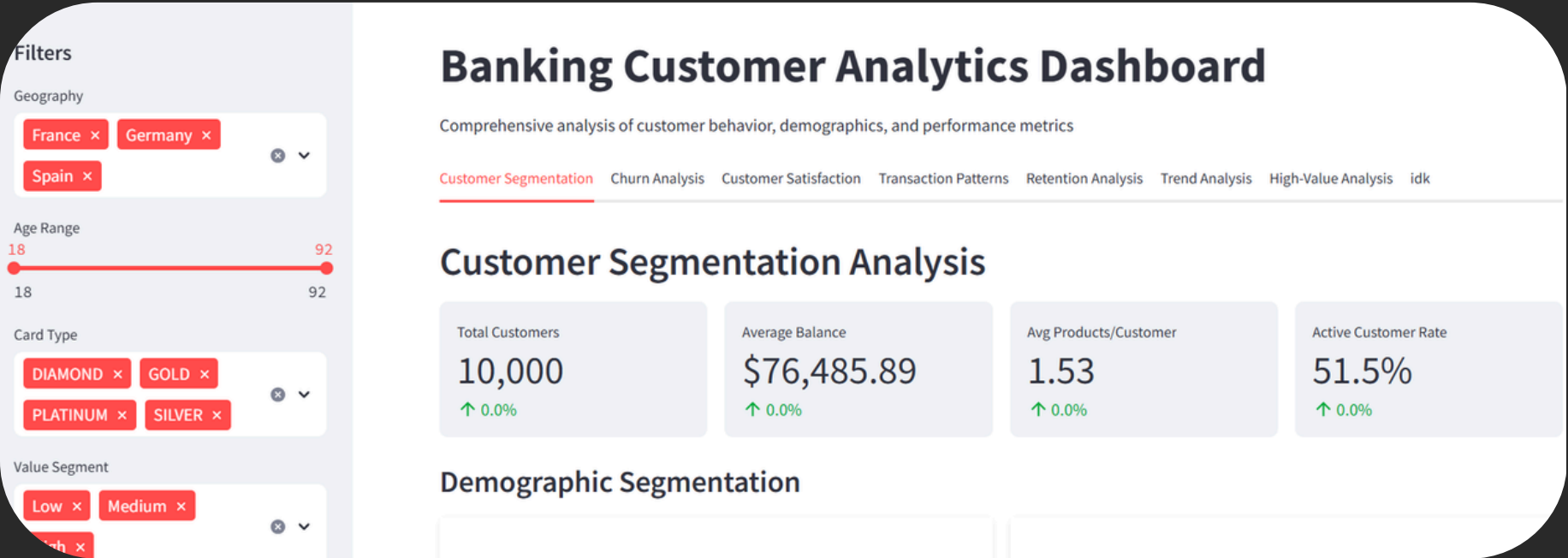


# STATISTELLA: ROUND 2

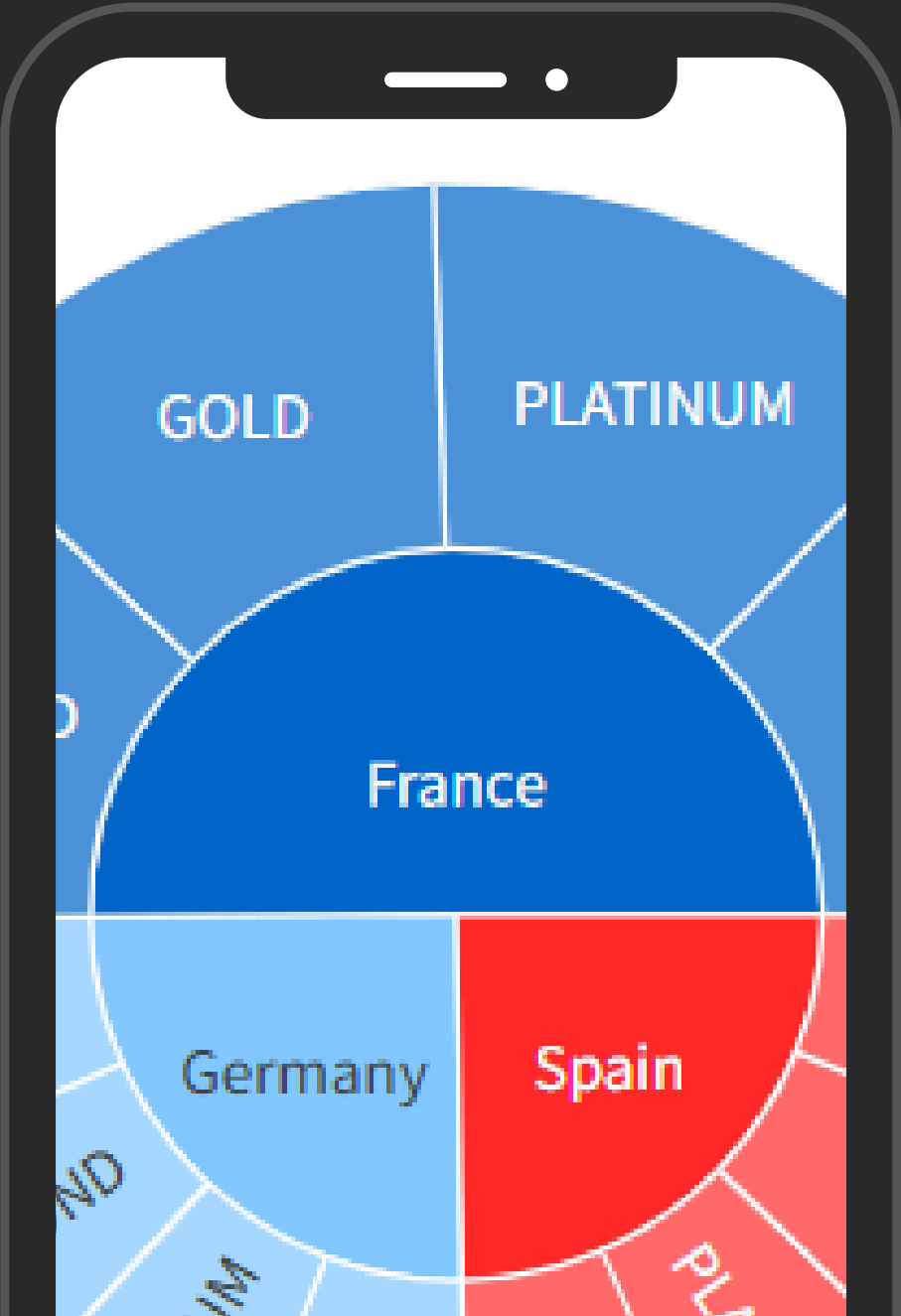


## Banking Customer Analytics Dashboard

The dashboard offers a data-driven approach to analyzing customer demographics, transaction patterns, and retention indicators, providing actionable insights to reduce churn and enhance customer satisfaction.



Unlocking Insights, Enhancing Relationships, Reducing Churn



## Business Story & Strategic Value

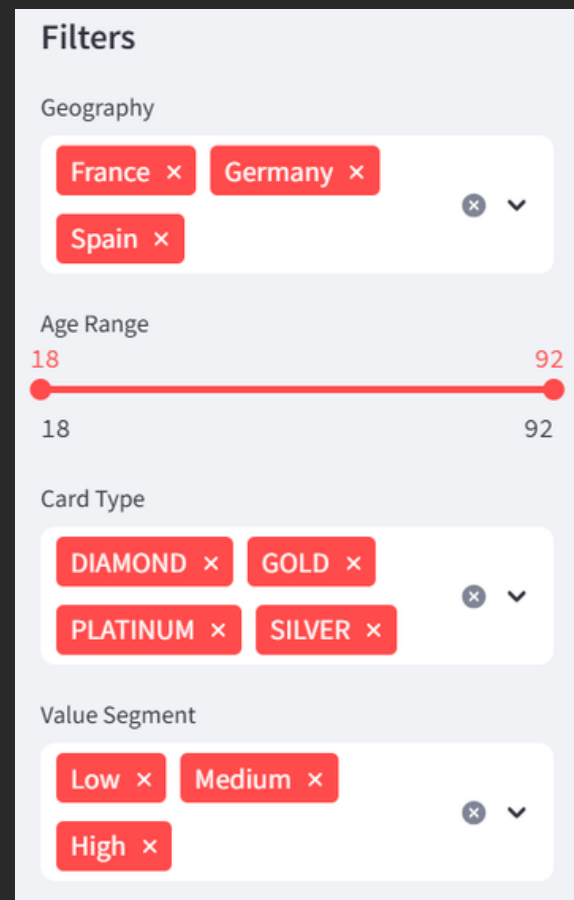
- Dashboard Vision Created to bridge the gap between raw banking data and actionable insights
- Enables data-driven decision making at all management levels
- Provides comprehensive customer understanding through multiple lenses

## Strategic Objectives

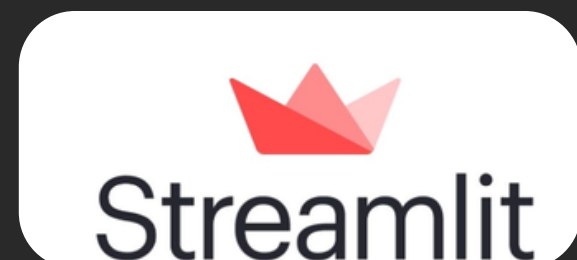
- Customer retention optimization
- Service quality improvement
- Product development guidance
- Risk management enhancement
- Revenue growth acceleration

## Value Proposition

- Single source of truth for customer analytics
- Real-time decision support system
- Comprehensive view of customer lifecycle
- Predictive insights for proactive management



The screenshot shows a 'Filters' sidebar with four sections: 'Geography' with buttons for France, Germany, and Spain; 'Age Range' with a slider from 18 to 92; 'Card Type' with buttons for Diamond, Gold, Platinum, and Silver; and 'Value Segment' with buttons for Low, Medium, and High. Each section has a clear button and a dropdown arrow.



# ABOUT THE DASHBOARD

## Framework Selection & Benefits

- Streamlit framework chosen for rapid development and deployment
- Python-based architecture enabling robust data analysis

## Key Technologies Integration

- Plotly: Powers interactive visualizations with hover effects, zoom capabilities, and dynamic filtering
- Folium: Enables geographical visualization with clustering
- Custom CSS: Enhances visual appeal and user experience

## Advanced Features

- Real-time filtering system with multiple parameters
- Interactive data visualization with drill-down capabilities
- Export functionality for further analysis
- Multi-tab organization for logical data presentation

# CUSTOMER SEGMENTATION & CHURN

## Insights



### Customer Demographics and Gender Distribution:

Customers aged 35–40 are the largest group, with males outnumbering females by ~15%.

### Geography and Customer Distribution:

France has as many customers as Germany and Spain combined, with a balanced card type distribution across regions.

### Top Performers and Incentivization:

High-value customers have higher activity, product purchases, and balances. Germany has the highest points earned, but France leads in satisfaction scores.

## Recommendations



- Develop targeted campaigns for the 35–40 age group, emphasizing loyalty programs.
- Launch initiatives focused on attracting more female customers, such as promotions around Women’s Day.

- Strengthen marketing efforts in France, leveraging its high customer base and satisfaction scores.
- Investigate why Germany and Spain lag in customer numbers despite balanced card distributions—possibly due to regional preferences or less effective outreach.

- Implement a leaderboard or rewards program to incentivize top performers, promoting competition among high-value customers.
- Use satisfaction insights from France to replicate customer experience strategies in other regions.

## Insights



### Churn Analysis

Germany has the highest churn rate, followed by Spain. Female churn rates are consistently higher across all geographies.

### Churn Factors

- Lower credit scores among churned customers ( $p = 0.0074$ ).
- Higher average age for churned customers ( $p = 0.0000$ ).
- Tenure and points earned do not show significant differences.

### Behavioral Segmentation

High-value customers exhibit higher activity and engagement, with significant product usage patterns across value segments.

## Recommendations



- Focus churn reduction strategies on Germany and Spain, such as proactive customer support and retention offers.
- Conduct focus groups or surveys to understand and address factors driving higher churn among females.
- Target customers with lower credit scores and balances with financial advisory services.
- For older customers, design retention strategies, such as personalized communication.
- Focus on cross-selling opportunities to increase the number of products purchased, for at-risk customers.
- Personalize communications and product recommendations for high-value customers to sustain engagement.
- Expand offerings in value segments with untapped potential, using insights from product usage trends.

# CUSTOMER SATISFACTION & TRANSACTION PATTERNS

## Key Insights from Satisfaction Analysis

- Active Members: Higher satisfaction and more products purchased.
- Geography: Germany has a significantly higher complaint rate compared to France and Spain.
- Card Type: Diamond users have the most complaints, but silver users maintain a good balance and satisfaction.



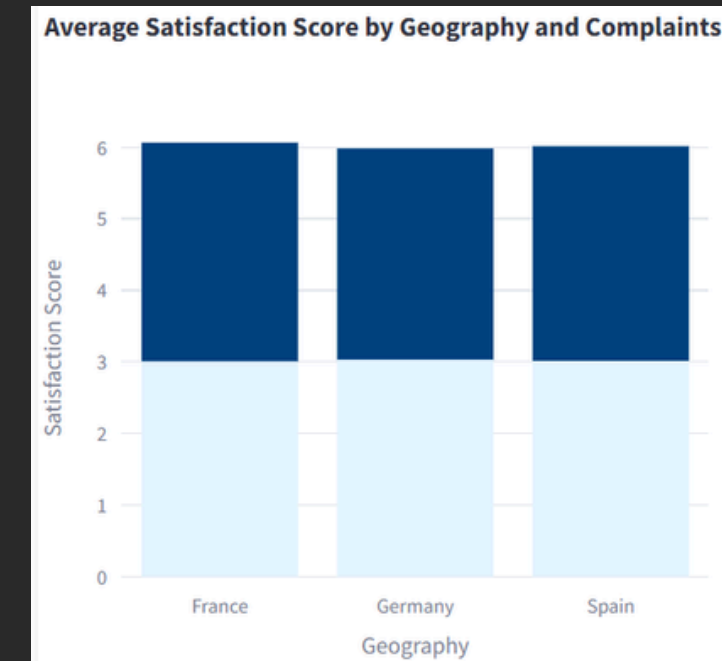
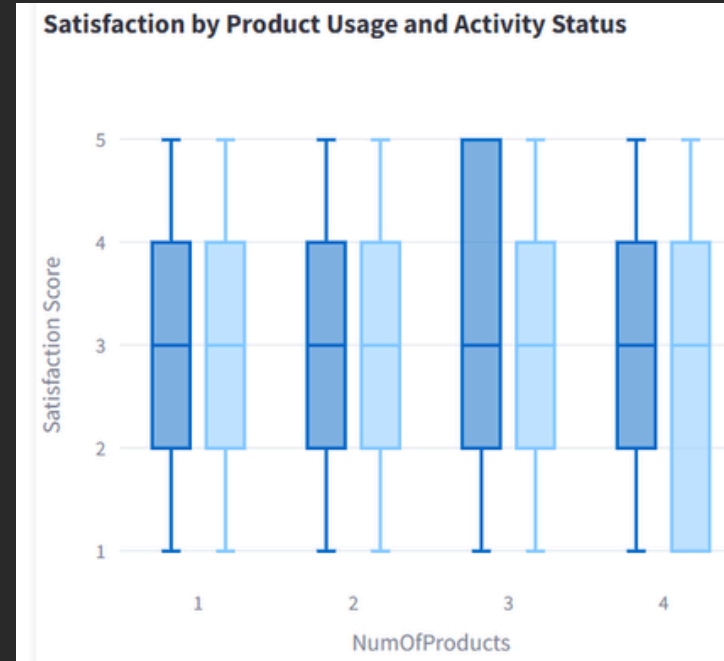
## Transaction Patterns

- 1. Average Balance: \$76,485.89**  
Diamond users show lower balances despite being premium members.
- 2. Avg Salary Usage: 387.9%**  
High salary usage could indicate overspending.
- 3. High Spenders: 60.9% of customers.**  
Upsell financial products like savings plans to high spenders to increase company revenues.



## Visualizations-Driven Observations

- Strong correlations between satisfaction and factors like product usage and balance.
- Geographically, Germany is the most concerning region.
- Diamond users face the most issues.
- Higher satisfaction among users with 2+ products.



## ACTIONABLE RECOMMENDATIONS

### 1. For Customer Satisfaction:



- Implement customer feedback loops to understand specific pain points affecting satisfaction.
- Prioritize complaint resolution systems, focusing on high-complaint areas such as Germany and diamond users.
- Promote membership activity through exclusive benefits and gamification strategies to convert inactive users.
- Reassess the value proposition of diamond cards to ensure the benefits align with customer expectations.

### 2. For Visual Observations:



- Focus marketing efforts on customers with higher tenure and better balance to maximize satisfaction.
- Consider geography- and card-specific campaigns, like improving customer support or enhancing card benefits.
- Incentivize customers with one product to explore and use additional offerings (e.g., bundled discounts).

### Immediate Action Items



- Address Germany and diamond users' complaints via targeted interventions.
- Conduct training for support teams on top complaint themes.
- Promote active membership through loyalty programs and personalized campaigns.
- Launch tools to guide overspending customers (e.g., budget alerts, savings products).



# RETENTION & TREND ANALYSIS

## Insights

### 1. Overall Retention & Tenure Insights:

- Satisfaction scores for customers with a tenure between 3-9 months are consistent, but for those with longer tenure (e.g., 10+ months), satisfaction scores drop significantly.

### 2. High-Value Customer Churn:

- Surprisingly, customers in the high-balance category ("High Value") have a higher churn rate, despite their financial capacity to engage more actively.

### 3. Rewards Impact:

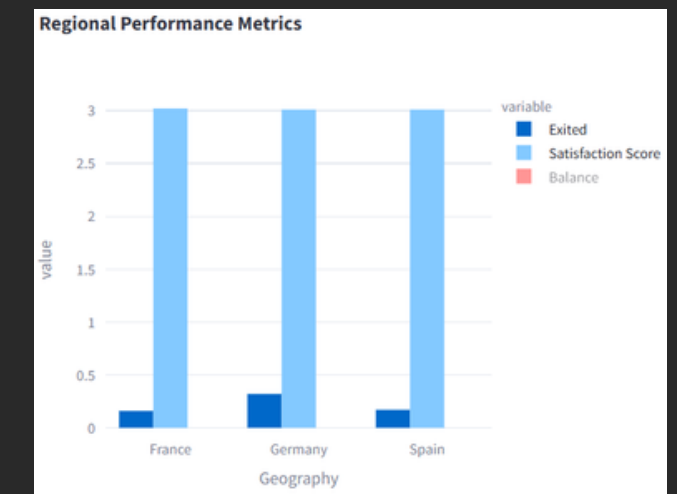
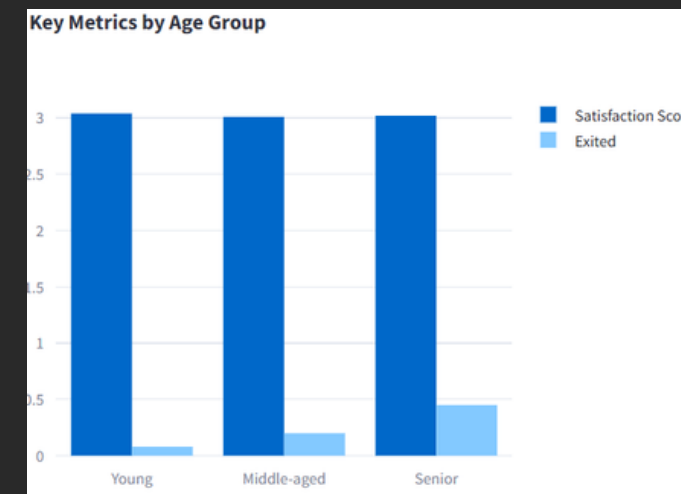
- Customers in the "Very High" reward category exhibit lower satisfaction scores (2.992) and a relatively high churn rate compared to the "High" category. The overall reward structure doesn't strongly correlate with retention or satisfaction.

### 4. Tenure-based Cohort Analysis:

- "New" and "Developing" customers show similar churn rates (21%) and lower satisfaction (around 3.0) compared to "Established" and "Loyal" cohorts, which have slightly better satisfaction scores (around 3.03-3.04) and lower churn.

### 5. Geographical Insights:

- Germany has the highest exit rates compared to other regions, indicating region-specific factors affecting churn.



## Recommendations

### 1. Retention & Tenure Strategies:

- Design targeted surveys or feedback mechanisms to identify pain points among long-tenure customers.
- Implement loyalty programs or personalized benefits for customers approaching the 10-month mark to maintain satisfaction.

### 2. Optimize Rewards System:

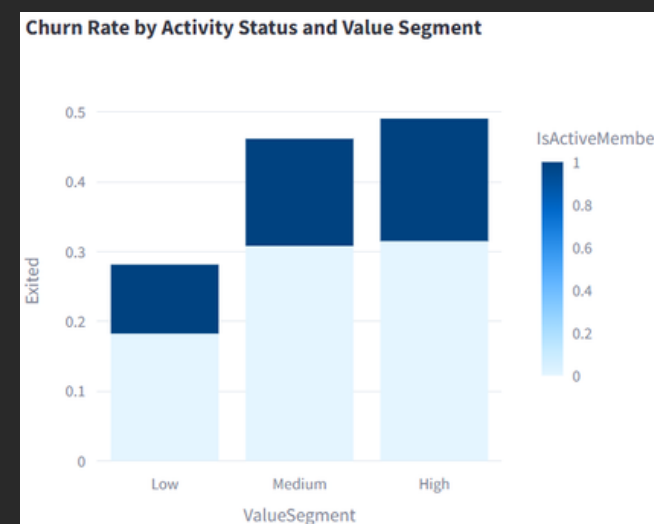
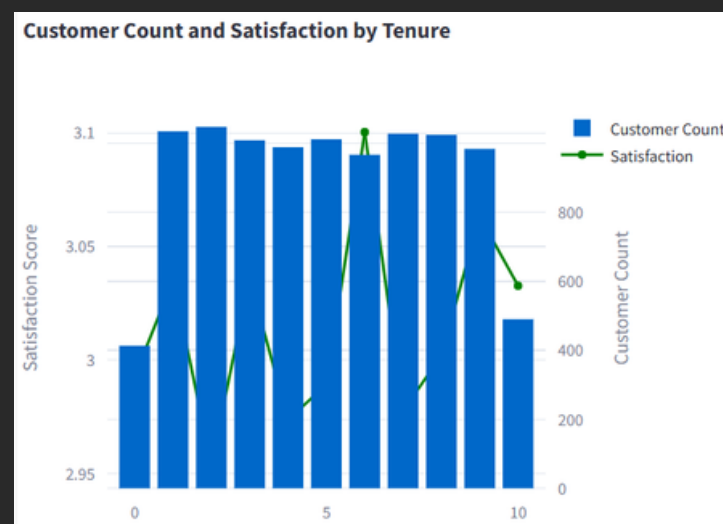
- Revisit the reward-to-value ratio, particularly for "Very High" earners, ensuring it matches their expectations.
- Promote transparency in reward benefits and highlight success stories of customers leveraging them effectively.

### 3. Geographical Strategies:

- Conduct in-depth analysis of customer feedback from Germany to identify region-specific dissatisfaction drivers.
- Tailor localized campaigns, such as improved support services or culturally aligned offers, to improve retention.

### 4. Tenure-Based Incentives:

- Design separate engagement plans for "New" and "Loyal" customers. For example:
  - New Customers: Offer a milestone-based reward program (e.g., "Earn extra rewards after your first three purchases").
  - Loyal Customers: Provide exclusive access to beta features or early sales notifications.



# VALUE SEGMENTS & RECOMMENDATIONS

## Customer Value Segmentation

- High-value customers form a small percentage but contribute disproportionately to metrics like balance and satisfaction scores.
- The potential high-value customer segment offers significant opportunity for growth, constituting majority.



## Demographic

- Gender disparity suggests potential untapped opportunities in engaging and converting female customers to high-value status.
- This indicates that strategies effective in Germany could be adapted and tested in France to elevate its high-value customer percentage.



## Behavioral Insights

- High-value customers have higher average balances, satisfaction scores, and product usage than low-value customers.
- They have shorter tenure but exhibit higher engagement, suggesting early adoption of products/services leads to higher value status.



## Actionable Recommendations

### 1. For High-Value Customers:



- **Enhance Rewards Programs:** Increase loyalty by offering exclusive and customized rewards.
- **Premium Services:** Provide personalized services such as dedicated account managers or early access to new products.
- **Proactive Engagement:** Initiate personal outreach programs focusing on feedback and continuous improvement.

### 2. For Low-Value Customers:



- **Education and Upskilling:** Conduct financial literacy workshops to improve product understanding and usage.
- **Targeted Promotions:** Create campaigns that encourage low-value customers to increase balances or satisfaction scores (e.g., bonus points for higher usage).

### 3. For Potential High-Value Customers:




- **Predictive Targeting:** Use machine learning models to identify customers with high potential and proactively nurture them through tailored offers.
- **Time-Limited Offers:** Leverage urgency with limited-time promotions to drive immediate action.


# THANK YOU!




## Team Beyond Horizon

By leveraging data-driven insights, we can not only retain valuable customers but also foster long-term loyalty, paving the way for sustained success and growth in the banking sector.

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