Exploratory Data Analysis (EDA) Report

1. Cluster Analysis

1.1 Cluster Labels and Counts

- Moderate or Low Engagement and Banking Behavior: 5,632 customers

- High Banking Behavior, Low or Moderate Engagement: 626 customers

- High Engagement, Low or Moderate Banking Behavior: 572 customers

- Low Engagement, Low Banking Behavior: 175 customers

- Highly Engaged, High Banking Behavior: 76 customers

1.2 Findings

- The majority of customers (5,632) fall into the Moderate or Low Engagement and Banking Behavior cluster, indicating a significant portion of the customer base is neither highly engaged nor exhibiting strong banking behaviors.

- Only 76 customers are in the Highly Engaged, High Banking Behavior cluster, suggesting a small segment of highly valuabl e customers.

- Opportunities exist to move customers from lower engagement clusters to higher ones through targeted strategies.

2. Digital Features Distribution

To better understand the distribution of digital features among customers, we examined the proportion of these features in each segment.

2.1 Key Findings

- Phone Service Usage:

- Most customers have phone service, regardless of their level of digital capability.

- This suggests that phone communication remains a vital channel for customer interaction.

- Internet Access:

- Nearly half of the customers with low digital capability have access to the internet.

- Most customers with high digital capability have internet access.

- Indicates potential for online engagement even among less digitally capable customers.

- Payment Methods:

- Customers with low digital capability predominantly use mailed checks for payments.

- Customers with high digital capability prefer automatic payment methods or electronic checks.

- There might be a shift towards digital payment methods among tech-savvy customers.

2.2 Opportunities to Increase Campaign Effectiveness

First, we can utilize phone calls for promotion. Since most customers have phone service, phone calls can effectively reach both digital capability groups. Personal offline interactions may enhance engagement with less digitally inclined customers.

2.2 Internet Channels

- With widespread internet access, online promotions are cost-efficient and can reach a broad audience.

- Email marketing, social media campaigns, and online ads can be effective.

2.3 Promote Automatic Payment Methods

- Offer incentives for customers to switch to automatic payments.

- Benefits include increased loyalty and operational efficiency.

3. Segmentation by Financial Status and Loyalty

Segment Definitions are defined as:

i. Low Financial Status, Low Loyalty: Segment 1

ii. Moderate or Low Financial Status, Moderate or Low Loyalty: Segment 2

iii. Low or Moderate Financial Status, High Loyalty: Segment 3

iv. High Financial Status, Low or Moderate Loyalty: Segment 4

v. High Financial Status, High Loyalty: Segment 5

Customer Behaviors and Preferences Across Segments:

Segment 1: Low Financial Status, Low Loyalty

- Product Usage: Fewer products held.

- Transaction History: Lower transaction volumes.

- Digital Engagement: Limited use of digital channels.

- Preferences: Prefer traditional banking methods.

Strategies:

- Financial Education: Offer workshops to improve financial literacy.

- Basic Product Bundles: Provide affordable, essential banking products.

- Outreach Programs: Use phone calls and mailed communication to engage.

Segment 2: Moderate or Low Financial Status, Moderate or Low Loyalty

- Product Usage: Moderate number of products.

- Transaction History: Average activity levels.

- Digital Engagement: Mixed usage.

- Preferences: Open to both traditional and digital services.

Strategies:

- Personalized Offers: Tailor products to meet specific needs.

- Incentives for Digital Adoption: Encourage use of online services with rewards.

- Customer Service Enhancement: Improve support to build loyalty.

Segment 3: Low or Moderate Financial Status, High Loyalty

- Product Usage: At least three products per customer.

- Transaction History: Consistent activity.

- Digital Engagement: Active use of available channels.

- Preferences: Value relationship with the bank.

Strategies:

- Upselling Opportunities: Introduce additional products and services.

- Loyalty Rewards: Implement programs to acknowledge their commitment.

- Feedback Mechanisms: Engage them in product development through surveys.

Segment 4: High Financial Status, Low or Moderate Loyalty

- Product Usage: Potential for more products, but current holdings are limited.

- Transaction History: High-value but infrequent transactions.

- Digital Engagement: May prefer personalized services over digital channels.

- Preferences: Expect high-quality service and exclusivity.

Strategies:

- Premium Services: Offer wealth management and investment products.

- Relationship Managers: Provide dedicated support personnel.

- Exclusive Events: Invite them to exclusive seminars and networking events.

Segment 5: High Financial Status, High Loyalty

- Product Usage: At least three products, but fewer customers hold six products compared to Segment 3.

- Transaction History: High volumes and values.

- Digital Engagement: Likely to use advanced digital services.

- Preferences: Seek comprehensive financial solutions.

Findings:

- Despite high financial status, there's room to increase product holdings.

- Potential untapped revenue from cross-selling additional products.

Strategies:

- Comprehensive Financial Planning: Offer holistic services covering all financial needs.

- Cross-Selling Campaigns: Identify gaps in product usage and promote relevant offerings.

- Enhanced Loyalty Programs: Provide exclusive benefits to encourage additional product adoption.

4. Patterns in Product Usage and Transaction History

Overall Trends:

- High Loyalty Segments:

- Customers have a minimum of three products.

- Segment 3 has more customers with six products than Segment 5.

- Indicates that financial status doesn't directly correlate with the number of products held.

- Low/Moderate Loyalty Segments:

- Distribution skews towards holding more than three products.

- Potential risk of churn despite higher product holdings.

Digital Engagement Patterns:

- High Digital Capability Customers:

- Prefer online and automatic payment methods.

- More responsive to digital marketing efforts.

- Low Digital Capability Customers:

- Rely on traditional payment methods like mailed checks.

- May require alternative communication channels.

Opportunities for Targeted Marketing:

- Segment-Specific Promotions:

- Design campaigns that resonate with each segment's preferences.

- Use data analytics to personalize offers.

- Channel Optimization:

- Allocate resources to the most effective communication channels per segment.

- For example, focus on digital channels for high digital capability customers.

- Product Bundling:

- Create bundles that encourage customers to adopt additional products.

- Highlight the benefits and savings from bundled services.

5. Recommendations

Enhance Product Adoption Among High Financial Status Customers:

- Identify Barriers: Conduct surveys to understand why these customers hold fewer products.

- Customized Solutions: Develop products that cater to their specific needs, such as investment services or premium accounts.

- Relationship Building: Strengthen connections through personalized services and regular engagement.

Prevent Churn Among Low/Moderate Loyalty Customers:

- Incentivize Loyalty: Offer rewards for continued use and for holding multiple products.

- Monitor Satisfaction: Use feedback tools to identify dissatisfaction early.

- Improve Service Quality: Ensure customer service meets or exceeds expectations.

Increase Digital Engagement:

- Educate Customers: Provide tutorials and support to help low digital capability customers adopt online services.

- Promote Convenience: Highlight the benefits of digital channels, such as 24/7 access and faster transactions.

- Security Assurance: Address concerns about online security to build trust.

Optimize Marketing Strategies:

- Data-Driven Decisions: Utilize customer data to inform marketing tactics.

- Test and Learn: Implement A/B testing to refine messaging and offers.

- Measure Effectiveness: Regularly track key performance metrics to assess campaign success.

6. Key Performance Metrics

- Engagement Rate: 4.69%

- Conversion Rate: 0.00%

- Customer Lifetime Value (CLV): -0.00

- Return on Marketing Investment (ROMI): -2.88

Analysis:

- Low Engagement and Conversion Rates indicate a need to revamp marketing approaches.

- Negative CLV and ROMI suggest current strategies are not yielding profitable customer relationships.

Action Plan:

- Revise Marketing Channels: Focus on channels with higher engagement potential.

- Personalize Communication: Tailor messages to customer segments to increase relevance.

- Enhance Value Proposition: Clearly communicate the benefits of products and services.

7. Customer Risk Summary

Risk Categories:

- High Risk of Churn - Follow Up Needed: 3,782 customers

- Low Risk: 3,299 customers

Strategies to Mitigate Risk:

- Early Intervention: Reach out to at-risk customers with personalized offers.

- Improve Customer Experience: Address common pain points that lead to churn.

- Retention Programs: Develop initiatives that reward long-term customers.

8. Conclusion

The updated analysis provides a comprehensive understanding of customer behaviors and preferences across different segments. By leveraging these findings, the bank can:

- Increase Product Holdings: Encourage high financial status customers to adopt more products.

- Enhance Loyalty: Implement programs to retain customers, especially those at risk of churn.

- Optimize Marketing Efforts: Allocate resources effectively by targeting the right customers with the right messages through the right channels.

- Boost Digital Adoption: Promote digital services to improve efficiency and meet customer preferences.

Implementing these strategies is expected to improve key performance metrics, increase customer satisfaction, and drive overall business growth.

For next steps, we can dive deeper into transaction patterns and customer feedback, and set up KPIs to track the effectiveness of implemented strategies over time.

All in all, the bank can capture identified opportunities and strengthen its competitive position in the market by focusing on targeted marketing and personalized customer experiences,