Company overview

Since 1935, 3Rivers Federal Credit Union has been empowering our community to achieve financial wellness by offering personalized service, tools, and education. The member-owned, not-for-profit cooperative has $2.2 billion in assets, more than 110,000 members, 23 branches, and nearly 500 employees. 3Rivers offers a wide range of financial solutions, in addition to trust-worthy, lifelong guidance and relationships. For more information, visit 3riversfcu.org.

Results and Discussion

We have segmented customers into four distinct groups based on historical customer behaviour data and demographics.

Cluster 1: 
Age range (20 to 60): Has good income and excellent credit scores, over 800, coupled with healthy spending habits. Approximately 62% in this group have loans, but their financial behavior suggests they manage their debts effectively.

Cluster 2: 
Age range (over 60): Consists mainly of individuals with the highest income levels among all clusters. Although only 27% have loans, 8% tends to spend more than they earn.

Cluster 3: 
Age range (mid 40s): Consists mainly of individuals with the highest income levels among all clusters. Although only 27% have loans, 8% tends to spend more than they earn.

Cluster 4: 
Age range (20 to 60): Despite having an average income and a high percentage of loan-holding customers, 62%, their spending habits are balanced, with no tendency to overspend.

Conclusions

We also grouped the data based on census information, which is comprised of individual’s income range based on different regions, demographics, education, employment status, race and etc. The graph above represents the four clusters we obtained using the same data.

What is already known about this subject?

- Financial institutions have traditionally segmented customers based on basic demographic data, geographical location, or simple transaction history, which provided a broad but often superficial understanding of customer groups.
- Challenges in Traditional Segmentation: Conventional methods often fail to capture the complexities of customer behaviors and changing preferences, leading to less effective marketing and customer service strategies.

What does this study add?

- Innovative Use of Unsupervised Learning: This study leverages advanced unsupervised learning algorithms for customer segmentation, offering a novel approach in the financial sector to understand and categorize customer behaviors in a more nuanced manner.
- Advanced Customer Insight: The application of these algorithms provides deeper insights into customer preferences and behavior patterns, enabling the development of more personalized and effective marketing and service strategies.

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