CHURN ANALYSIS AND SEGMENTATION FOR SUBSCRIPTION SERVICES

Introduction:

Churn analysis is an important endeavour in the e-commerce industry, motivated by the fundamental requirement to retain consumers for long-term economic performance. This study examines the motive for understanding and mitigating churn, acknowledging its importance in a competitive market. The issue at hand is determining an appropriate clustering model for customer segmentation, which is critical for focused retention measures.

Methods employed: Our R-based research used 4 clustering models: k-means, hierarchical clustering, Gaussian Mixture Model (GMM) and Latent profile Analysis. We chose hierarchical clustering model with three clusters to establish a compromise between granularity and interpretability, ensuring that the segmentation offers organizations with relevant information. Data preparation, PCA, grouping, and subsequent analysis of cluster characteristics were all part of the structured process.

Highlights of the Results: Our study indicated three unique client groupings with distinct behavioural tendencies. This method provided a more detailed picture of the client base, enabling for targeted actions to address possible churn.

- Cluster 3 has the highest values for account age, monthly charges, total charges, and user rating, indicating potentially more established and higher-value users compared to the other clusters.
- Cluster 3 has the highest values for support tickets per month and subtitles enabled, suggesting a higher level of engagement or potential issues. Additionally, Cluster 2 has the lowest preference for movies.
- Cluster 3 has a slightly higher preference for using a mailed check as a payment method compared to the other clusters.

Tailored Churn Mitigation Strategies for Cluster 3:

- Utilize age-related metrics, such as account age, monthly charges, total charges, and user rating, to identify users in Cluster 3 as potentially more established and higher value.
- Tailor retention strategies, such as loyalty programs or exclusive offers, to retain these valuable customers. Acknowledge the higher values for support tickets per month and subtitles enabled in Cluster 3, indicating potential engagement.
- Implement enhanced customer support initiatives, personalized communications, and content recommendations to address their unique needs and concerns, aiming to improve satisfaction and reduce churn.
- Tailor content recommendations and promotional offerings to match their preferences, potentially introducing new content types or exclusive deals to enhance user satisfaction and loyalty.

Conclusion: The use of cluster analysis i allows for the discovery of many consumer categories, each with its own set of interests and habits. Analysing churn patterns within these clusters shows trends and high-risk users, allowing for customized retention measures. This strategy, which includes churn causes and targeted retention techniques, enables organizations to make data-driven choices, minimize churn, and increase customer lifetime value.

Dataset: https://www.kaggle.com/datasets/safrin03/predictive-analytics-for-customer-churn-dataset