

Marketing Campaign Analysis - A/B Testing & Segmentation

Business Objective

The goal was to evaluate the impact of personalized email campaigns on customer conversion and retention. The analysis aimed to uncover how characteristics such as language, age group, and marketing channel influenced campaign effectiveness.

Approach & Methodology

- Developed custom Python functions to calculate key metrics like conversion rate and retention rate
- Designed and analyzed an A/B test comparing control vs. personalized email variants
- Segmented results by language, channel, and age group to detect behavior patterns
- Applied t-tests and lift calculations to measure statistical significance and business impact

Key Insights

- Discovered conversion rate varied significantly across demographic and channel segments
- Quantified the uplift of personalized emails over control using lift analysis
- Demonstrated the value of targeted marketing strategies with data-backed conclusions

Key Learnings

- Gained hands-on experience in building experiments from raw campaign data
- Strengthened understanding of metric engineering and segmentation logic
- Applied statistical reasoning to drive actionable marketing decisions