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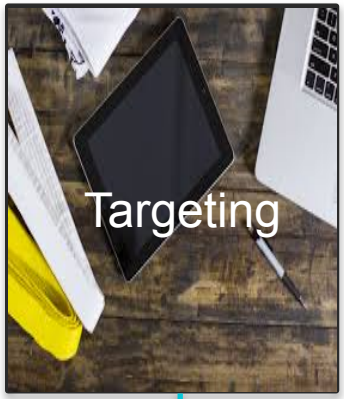
EXPLORE STRATEGIC MCM PLANNING AND BUILDING A CENTER OF EXCELLENCE

FORM & FUNCTION FOR CUSTOMER ENGAGEMENT

DIGITAL ANALYTICS CASE STUDY: Segmentation and Targeting of Endemic Partner Sites for Optimal Customer Engagement

Digital Customer Engagement Strategy



Right customer, Right Channel,
Right message

Strategic Analysis for Digital Media Targeting

- **Business Case:** Digital media has a low engagement rate and ROI. Banner ads can be somewhat commoditized in media buying
  - How do I use the CoE to improve my messaging and targeting in the digital channel?

- **Marketing Excellence Approach:**
  - Execution of online ads directed at specific segments with focused content through specific endemic publisher segments

- **Analytics solution:**
  - Use of machine learning to identify top performing publishers for your target segments

Research Design

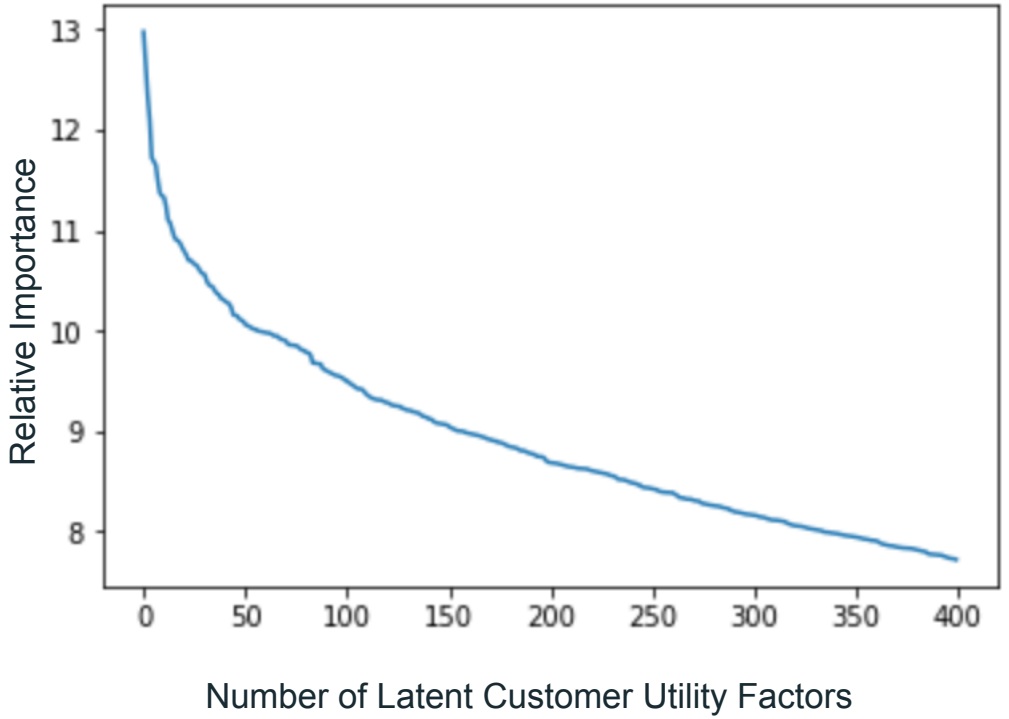
- Study populations:
  - Endemic content partner sites, e.g., Web MD, Everyday Health, …
  - Customer-site interactions
- Performance measure:
  - Predicted propensity for customer engage (CTR)
- Control factors:
  - Number of impressions served by partner site
  - Viewability of ads served by partner site
  - Number of unique potential customers reached by partner site
- Data source:
  - Client server log files from campaign

Collaborative Filtering used to extract customer utility for specific publisher sites

- Collaborative Filtering used for recommender systems by top online brands (e.g. Netflix, Amazon marketplace)
- Collaborate Filtering measures customer utility for a site through **revealed preference**
  - When a customer clicks on an ad (or does not click), they reveal their preference for that site
- Measures of customer utility from Collaborative Filtering used as predictors of the CTR in machine learning models

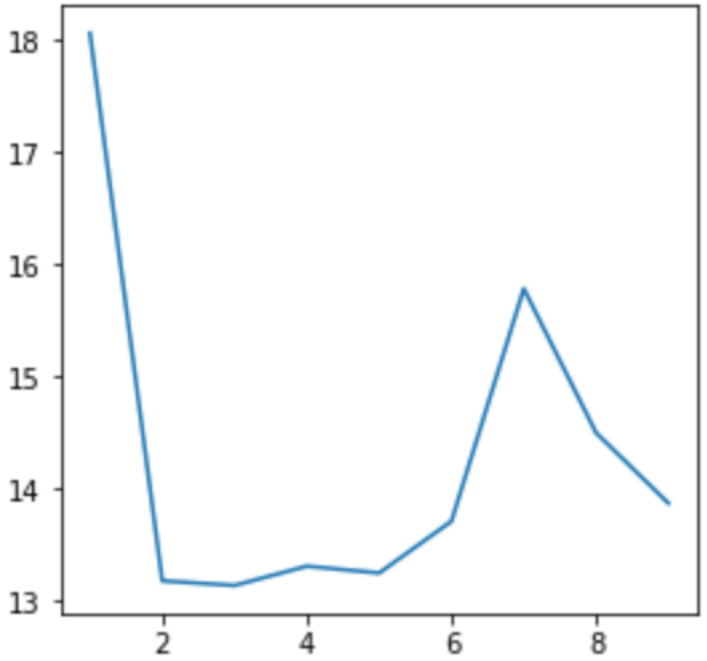
Singular Value Decomposition (SVD) of Customer-Site Interactions - 400 Factors 400,000 Customer Interactions

- Transforms customer-site interactions into site specific latent utilities
- Latent utility factors represent customer revealed preferences for specific sites
- Data reduction benefit:
  - *Reduces 400,000 customer interactions into 400 latent utility factors*



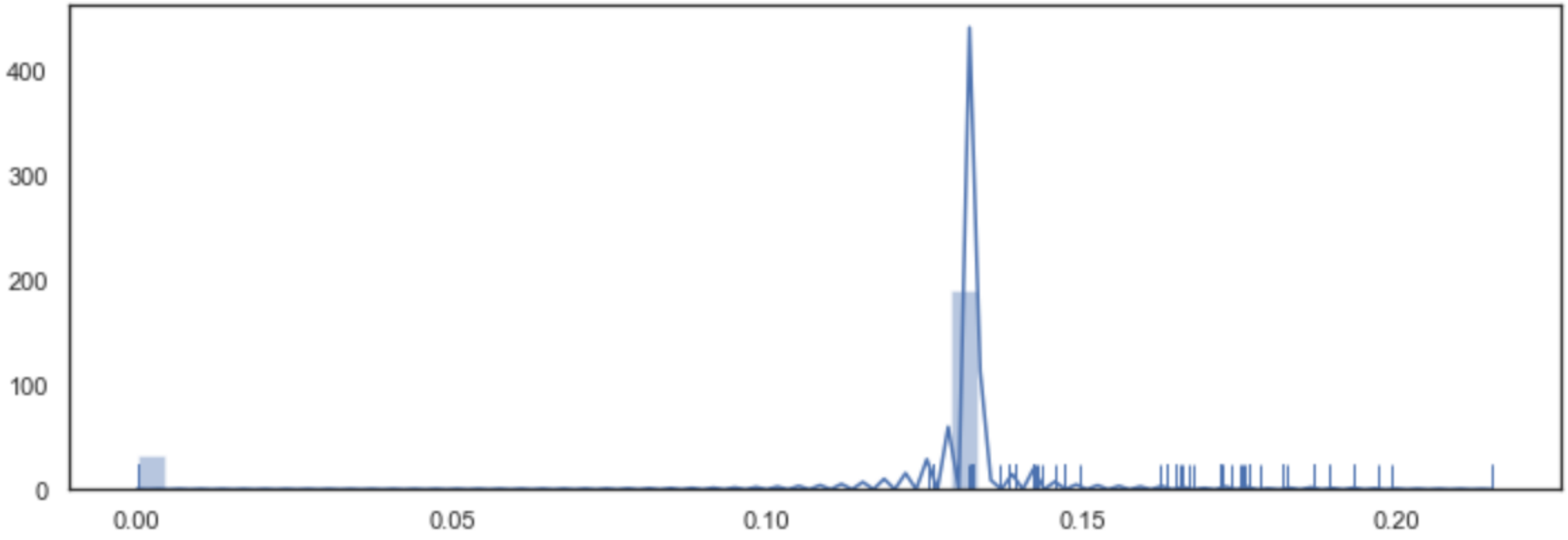
K-Nearest Neighbors - Optimal number of neighbors is 2

- K-Nearest Neighbors predicts the CTR for a publisher domain by averaging the CTR of the ‘k’ most similar publishers
- Similarity / dissimilarity is measured by the pairwise distance between publishers
- To find the optimal value for k, a grid search is used to identify the value of k that minimizes the Root Mean Squared Error (RMSE)
- In this sample, the optimal value for k is 2



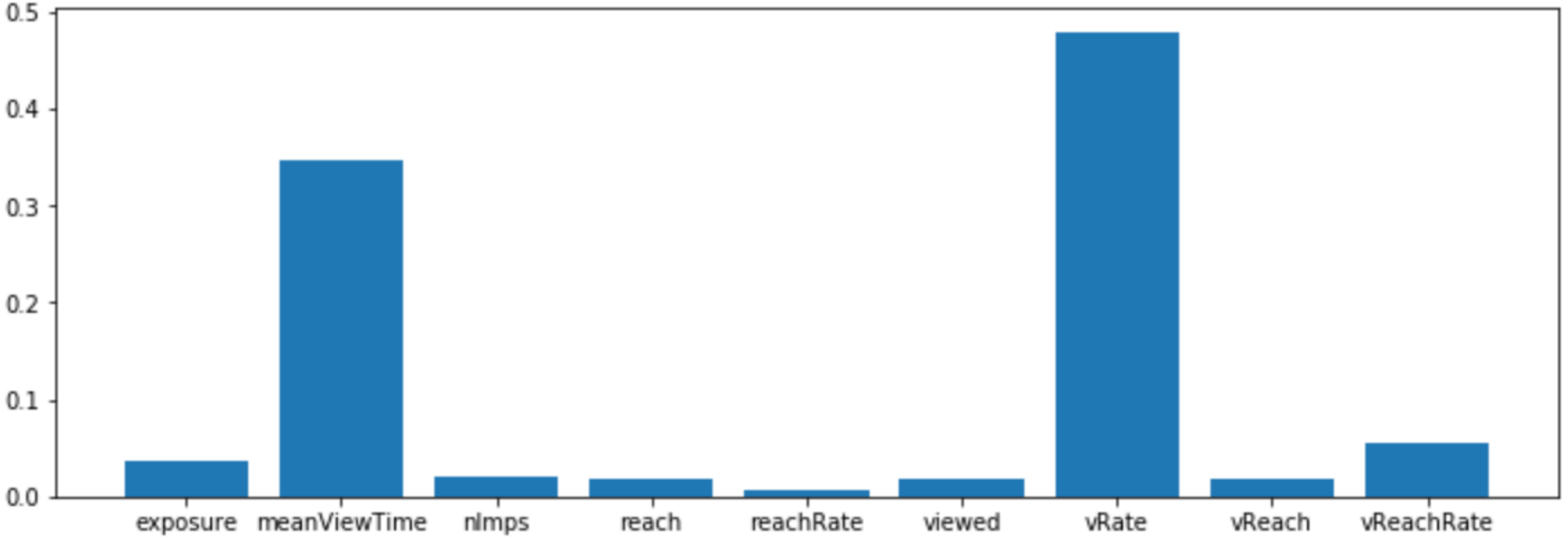
K Nearest Neighbors: Top 40 publisher domains have the highest level of engagement

- Targeting: Top 40 - 120 publisher domains have the highest customer engagement



Random Forest Regression: Key Drivers of Customer Engagement

- Random Forest Regression identified two metrics that drive the click through rate: Average View Time and the Viewed Rate
- Viewed CTR and View Time are related to the attraction of great content



Customer Engagement Analytic Insights

- **Segmentation**: Collaborative Filtering used to segment endemic publisher sites on latent customer utilities
- **Targeting**: Machine Learning used to predict customer propensities scores used to target top performing sites
- **Content**: Optimize display ad placements on endemic publisher sites by allocating ad spend to top performing sites