

# The Engagement-Diversity Connection: Evidence from a Field Experiment on Spotify

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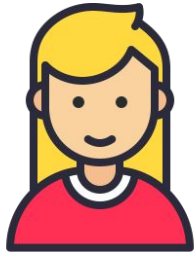
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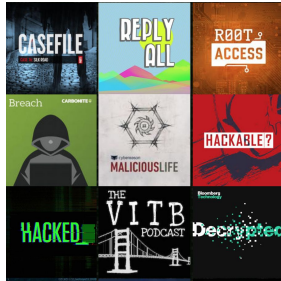
# Recommender systems

What effect do recommender systems have on...

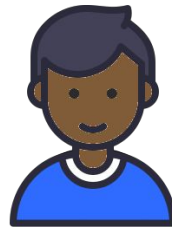
Individual-level consumption diversity



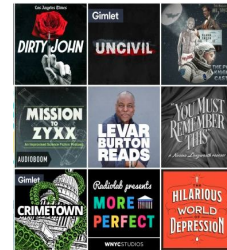
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Intragroup consumption diversity



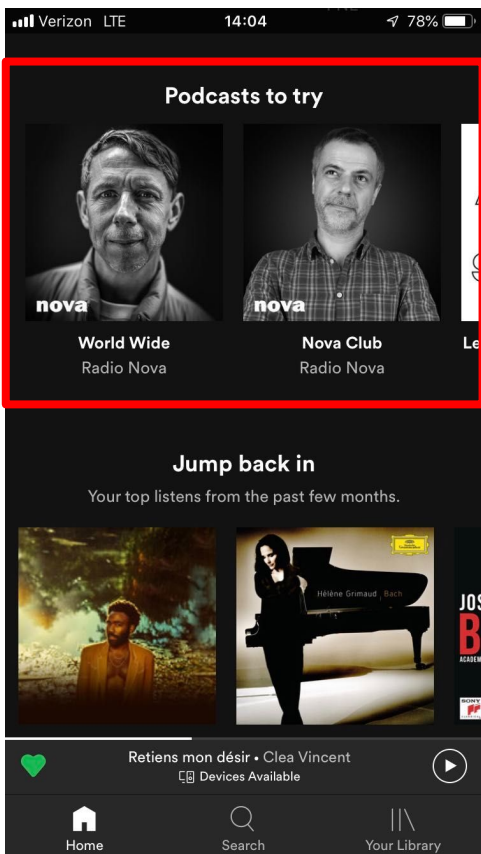
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# Experiment design



Treatment intervention changed the podcasts displayed to users in “Podcasts to try” on Spotify’s mobile app

**Control:** Recommended the 10 most popular podcasts among users in their demographic group

**Treatment:** Recommended 10 podcasts based on an ML model that uses music listening history and demographic info to predict podcast follows (Nazari et al. forthcoming)

- Removed once a user streams or follows their first podcast

# The “engagement-diversity trade-off”

- Recommender systems can create an “**engagement-diversity trade-off**” for firms when optimizing solely for engagement
  - Increase the amount of content users consume
  - Increase the homogeneity of content that individual users consume
  - Increase the dissimilarity between what different users consume
- Exposure to personalized recommendations **affects recommended consumption *and* “organic” consumption**
- Short-term exposure **does not cause long-term changes** to consumption volume or diversity
  - Possible to “correct course” after audits of recommender systems