

Recommendation Dynamics

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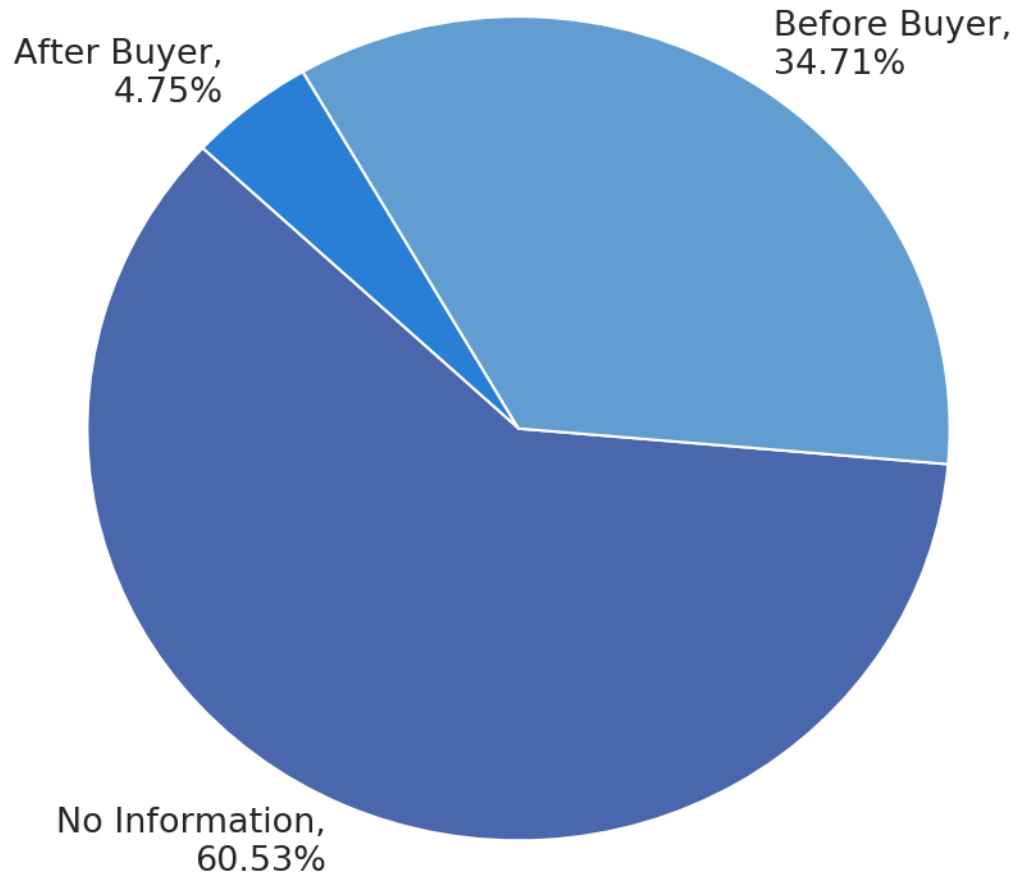


Findings

Up to 65% Hearsay Recommendations

“I haven’t used it – but you could try Company X!”

Recommender Trial Start

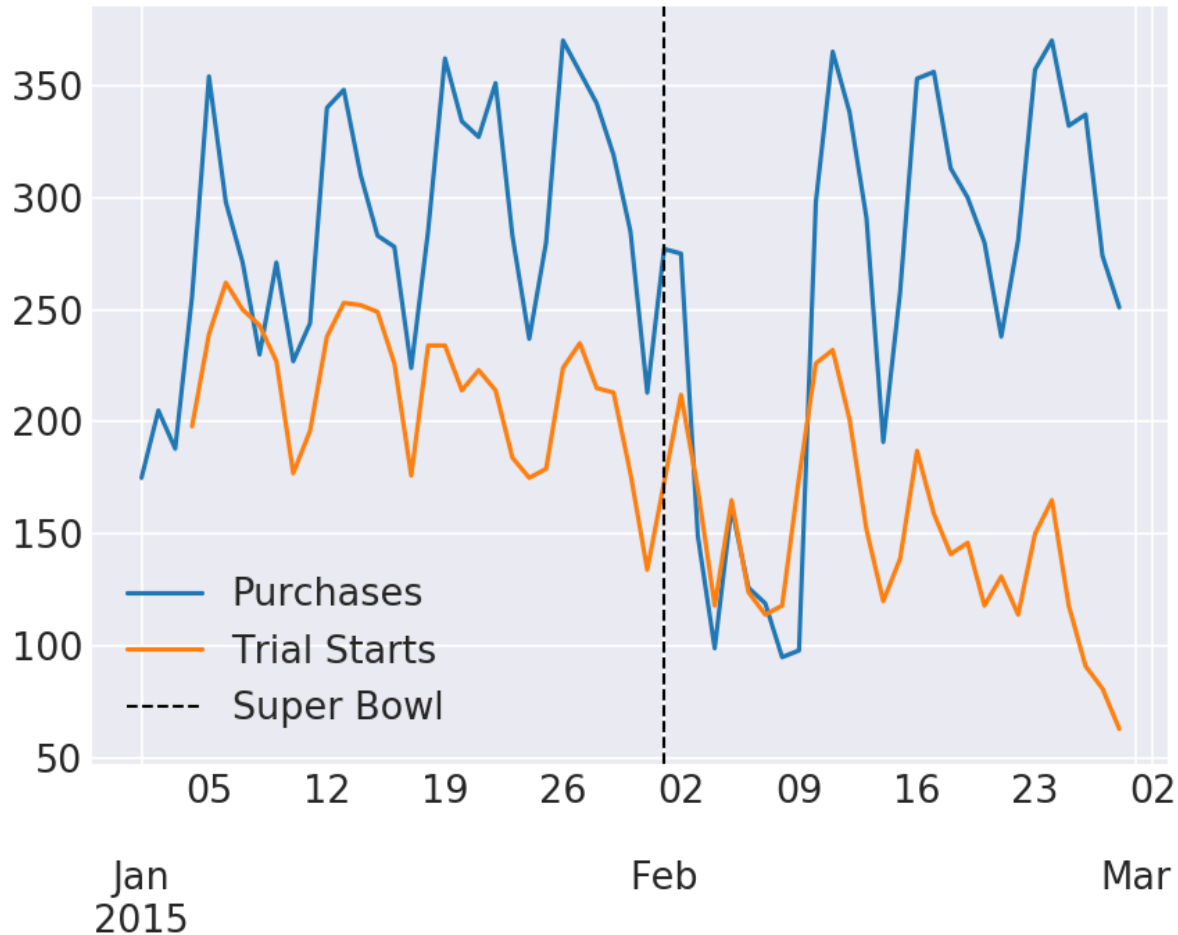


- No trial information for 60.5% of recommenders
 - Not (yet) *Company X* customers?
 - Customers who could not be located?
- 4.7% of recommenders signed up for trial after buyers do
- 4.7%-65.2% “hearsay” recommendations
 - Recommendation leading to purchase
 - Recommender has no *Company X* experience
 - Missing at random estimate: 12.02%
 - But: “missing at random” seems implausible

Super Bowl Ad Crowds Out Recommendations

"I heard about Company X during the Super Bowl!"

Daily Purchases and Trials of Buyers



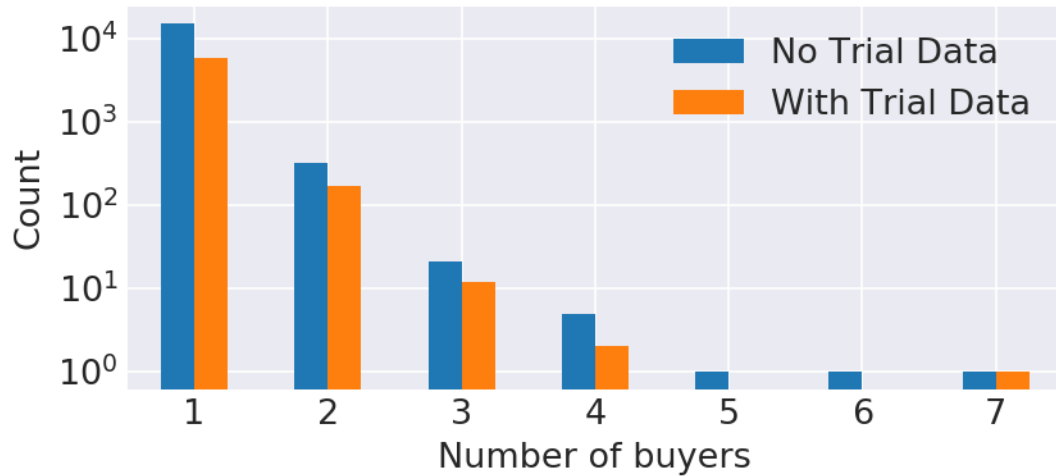
- Serrated pattern
 - Generally less activity on weekends
 - Similar for purchases and trial starts
- Purchases drop after 2-1-2015
 - Super Bowl Ad!
 - Much smaller effect for trial starts
- But: only have data if
 1. Purchase between 1-1-2015 and 2-28-2015
 2. Recommender listed at purchase time
- Fewer customers list recommendation after Super Bowl
 - Already aware of *Company X* because saw ad?

(Level and downward slope of Trial Starts can be explained by sampling)

Most Buyers Trial Within a Year of Recommenders

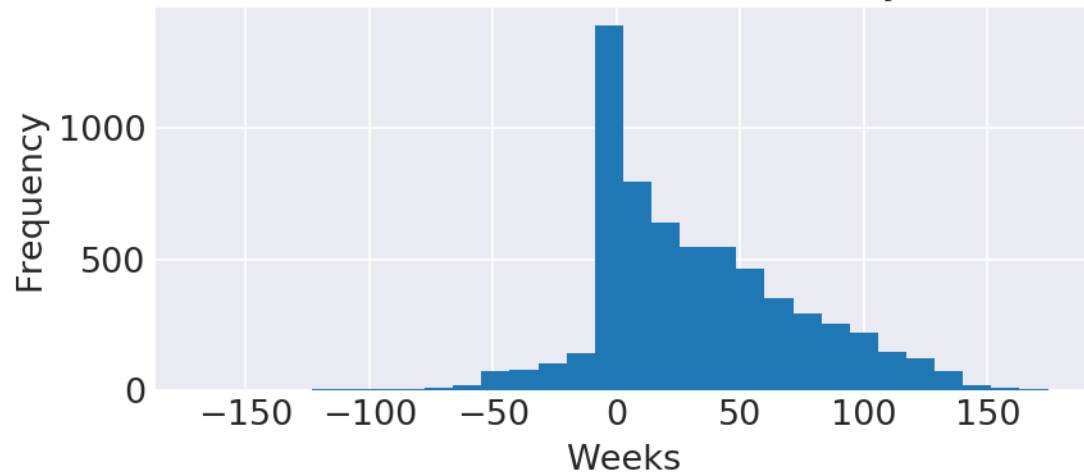
“I just started using Company X – you should try it out!”

Buyers per Recommender



- 97% of recommenders with trial data recommend one buyer (in two month sample window)
 - (98% for recommenders without trial data)
- Spike in buyer trial starts after recommender trial starts
 - 0-24 hours: 12.4%
 - 0-4 weeks: 19.0%
 - 0-1 year: 59.6%
- If trialing recommenders remain customers:
 - Recommendations less frequent with increased customer seniority

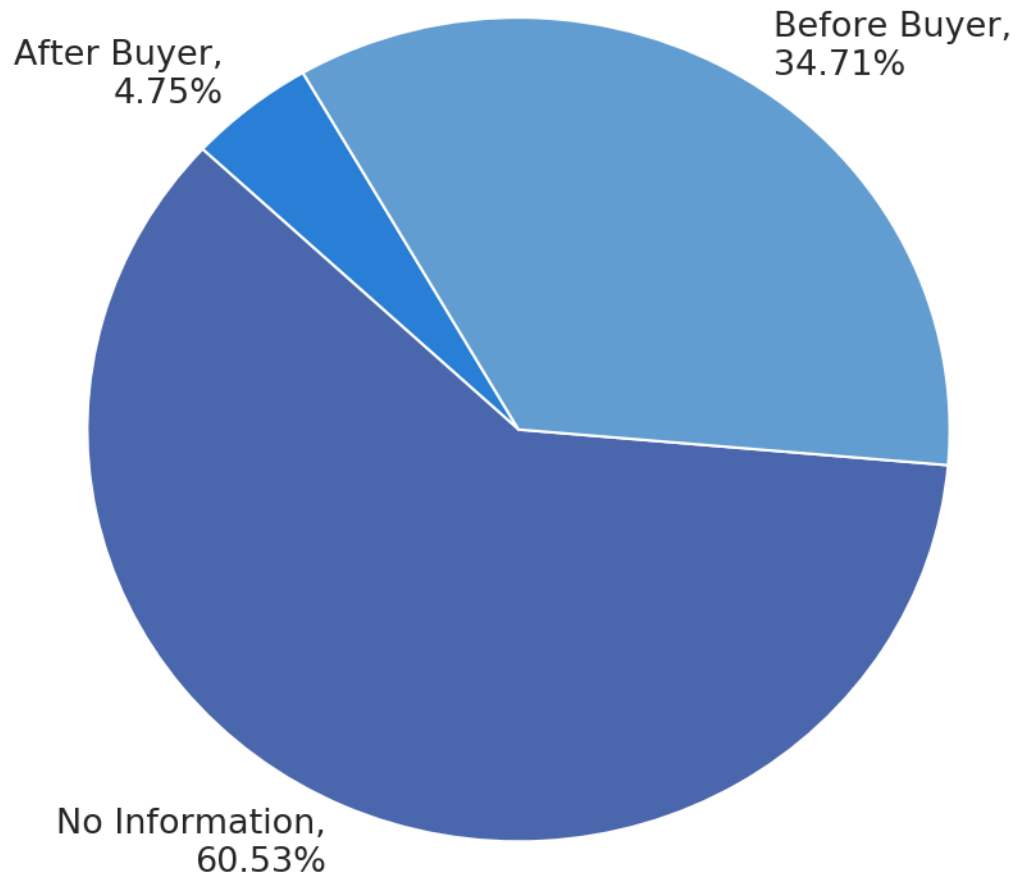
Weeks from Recommender to Buyer Trial



Hypotheses

Hypothesis: Majority of Recommendations Due To Hearsay

Recommender Trial Start



How to test?

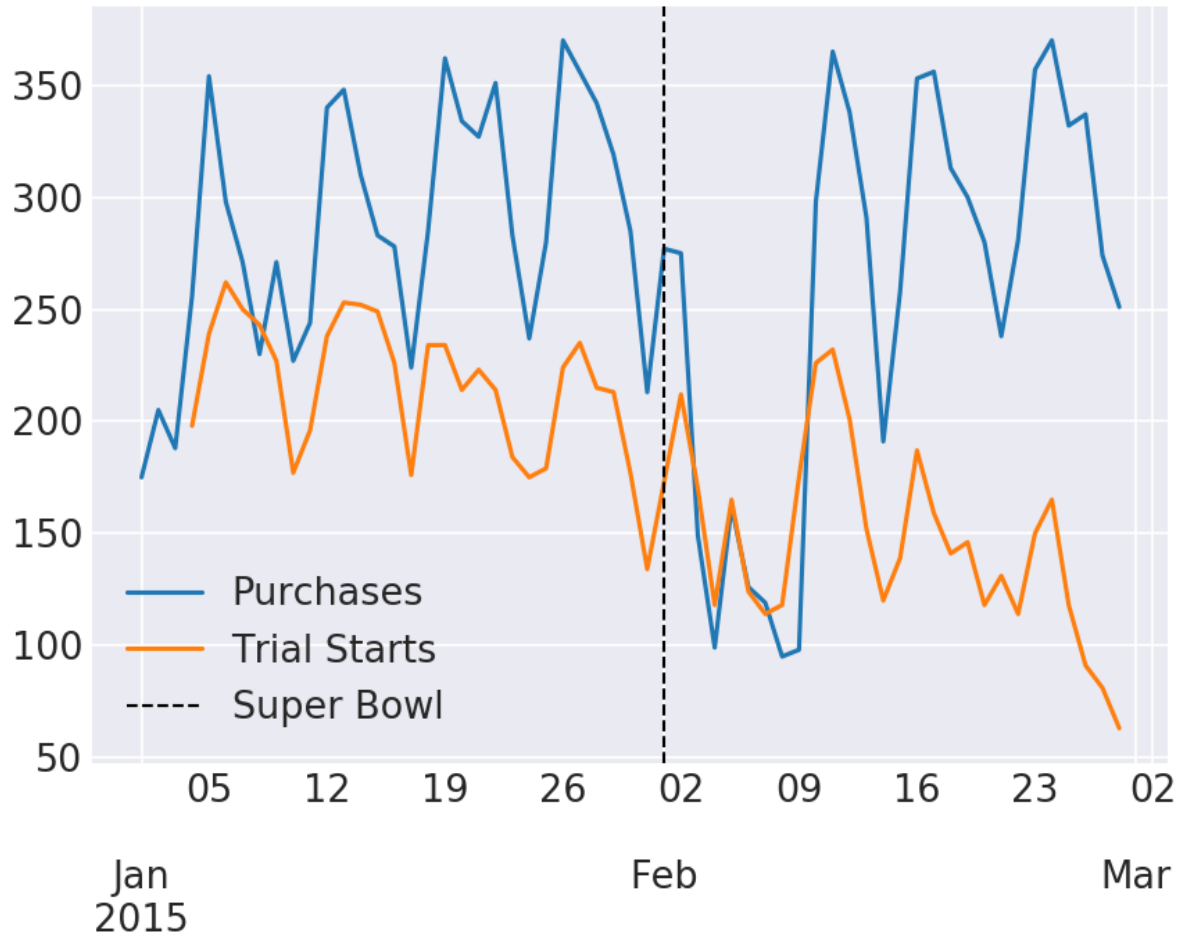
- Investigate whether recommenders with unavailable trial starts are customers
 - Look for fuzzy matches in customer data base
 - Ask engineers about matching algorithm
 - Contact listed recommenders
- If confirmed
 - Investigate where “hearsay” recommenders learn about *Company X*

Why?

- Gain insight into who recommenders are
 - Target campaigns effectively

Hypothesis: Recommendation Campaigns Less Effective After Alternative Campaigns

Daily Purchases and Trials of Buyers



(Level and downward slope of Trial Starts can be explained by sampling)

How to test?

- Investigate whether alternative campaigns generally crowd out recommendations
 - Look at effect of other Super Bowl ads
 - Look at effect of other ad campaigns
- Investigate how long crowding out lasts
 - Here: recovery 10 days after Super Bowl
- Confirm Super Bowl campaign increased sales overall

Why?

- Maximize effectiveness of recommendation and alternative campaigns

Hypothesis: Recommending Users Need Incentives to Re-Recommend

Buyers per Recommender



How to test?

- Investigate if prior recommenders are (still) active users
- Investigate whether active users re-recommend without leading to purchases
- Evaluate impact of recommendation incentives
 - A/B test: reminder emails, free month, ...

Why?

- Effectively increase sales and sign-ups through recommendations from active users

Weeks from Recommender to Buyer Trial

