Long Tail or Steep Tail?
A Field Investigation into How Online Popularity Information Affects the Distribution of Customer Choices

Discussant: Nanda Kumar, UTD
SICS, Berkeley 2007
Research Question

- How does the availability of vendor popularity information affect customer decisions?
  - Customer decision – click or not to click on a vendor site | popularity information
Findings

- More popular vendors are clicked more often but less popular vendors do not become less popular
  - Evidence of steep tail effect but does not come at the expense of the long tail effect
Value of Popularity Information

- **Motivation for clicking**
  - What is out there?
  - Learn from others - resolving quality/matching uncertainty – minimize search cost
    - More valuable if customers have similar preferences (products are vertical vs. spatially differentiated)
    - Heterogeneity in customer preferences

- **Involvement**
  - Do I care about product differences enough?
  - How much time do I want to spend?

- **Risk preference**
  - Customers with more internet experience are more likely to buy obscure products
Heterogeneity in Customer Preferences: An Analytical Illustration

- Mass of $m$ customers $\sim U[0, d]$

- Vendor location, $I = \{0, d\}$

- $Pr(I=0 | N, n_j, s) = \alpha_s$

- Consumers’ utility fn:
  - $U(x|r, p, t) = r - t x - p$

- Click only if you are likely to get non-negative utility from consumption
Case I: Customer Preferences not too Heterogeneous

\[ r - t \ d - p > 0 \iff d < (r - p)/t \]

\[ EU(.|\alpha_s) = r - \alpha_s t \ x - (1-\alpha_s)t \ (d - x) - p > 0 \]

■ # of clicks generated: \( m \)

■ Implication: If \( d \) is small and/or \( t \) is small full market coverage – everyone clicks
Case II: Customer Preferences
Sufficiently Heterogeneous

\[ x^* = \frac{r - (p/\alpha_s)}{t}, \quad x^{**} = d - \frac{r - (p/(1-\alpha_s))}{t} \]

- Click behavior critically depends on the assumption
- Popularity information \((\alpha_s)\):
  - \(\alpha_s \uparrow\), # of clicks: \(\uparrow\), if \(\alpha_s < \frac{1}{2}\)

# of clicks: \(\frac{m}{dt}\)[(\(r - (p/\alpha_s)\)) + (\(r - (p/(1-\alpha_s))\))]

\(d \uparrow\) and/or \(t \uparrow\), # of clicks: \(\downarrow\)
Take Aways

- Spatially differentiated markets:
  - If consumers don’t care about product differences (small $t$) and/or vendors are not too differentiated (small $d$) popularity information doesn’t matter
  - If the reverse is true – popularity information has an inverted-U/V effect on # of clicks
Concluding Remarks

- **Value of popularity information**
  - What do I learn from the behavior of others?
    - More valuable in vertically differentiated markets
  - **Information structure**
    - Computing $\alpha_s$?
    - May need information on identity of consumers that clicked

- **Clicks necessary but not sufficient for sale/profit**