Loci of Competition, Market Power, and the Evolving Internet Industry Structure

John Chuang
UC Berkeley School of Information

Workshop on Internet Economics, 2012
Value Configuration

• Stabell and Fjeldstad, 1998; based on Thompson’s 1967 typology of technology:
  – Intensive technology (shops)
  – Long-linked technology (chains)
  – Mediating technology (networks)

• Which is the value configuration for the Internet industry?
Supply Chain(s)

- For traditional communications, two supply chains: End users buy access service; Access network buy transit service; money flows up the respective supply chains
New Elephant in the Room

Eyeballs \[\text{Access} \quad \text{Backbone} \quad \text{CDN/LCP} \quad \text{Content}\]
Dis-intermediation

Eyeballs → Access → Backbone → CDN/LCP → Content
Dis-intermediation

• For content distribution: supply chain model no longer accurate, since Access network is not buying content from CDN/LCP in order to sell to eyeballs
• So is this a two-sided market?
Two-Sided Market

- Two-sided market if we abstract the network as a single, unified platform between the two sides, or if we assume vertical integration between Access and CDN.
- Basis for numerous recent economic models of the Internet
Platform Competition

- Consumers may face a duopoly or oligopoly
- Unless consumers choose to multi-home, content providers will have to face not one but multiple terminating access monopolies
- Conversely, originating access monopolies also possible: e.g., Fox can deny content to Cablevision customers
- **But we are getting ahead of ourselves!**
  - Vertical integration between Access and CDN is still exception, not norm
A bilateral oligopoly is a better model of the current state of the world [Chuang, 2011]
- Oligopolies in two adjacent loci of competition
- Both Access and CDN/LCP firms have market power
Characteristics of Bilateral Oligoplies

• Negotiation/bargaining $\rightarrow$ long-term contracts $\rightarrow$ entry barriers for both loci
• With balance of power $\rightarrow$ lower consumer prices, increased consumer surplus
• Prevalence across different industries

Figure 1. The Effect of Insurer Market Concentration on Health Insurance Premiums For a Fixed Level of Hospital Market Concentration

[Frakt, 2010]
Bilateral Oligopoly: A Different Example

- Record labels are the originating access monopolies in this case
  - Music stores have to multi-home with the top four labels
- Do music stores have negotiating power vis-à-vis record labels?
  - Think about how Apple iTunes has shaken up the music industry
Takeaway

• Market power not only due to concentration in a given market
• Market power also influenced by level of competition in adjoining loci
  – Loci may evolve with technology, service, and/or business model innovations