

The Economics of P2P Networks: Implications for Structure and Competition

Michael D. Smith

H. John Heinz III School of Public Policy and Management
Carnegie Mellon University

mds@cmu.edu

<http://www.heinz.cmu.edu/~mds>

FTC Peer-to-Peer Workshop

December 15, 2004

Michael D. Smith

<http://www.heinz.cmu.edu/~mds>

Markets for Information Goods

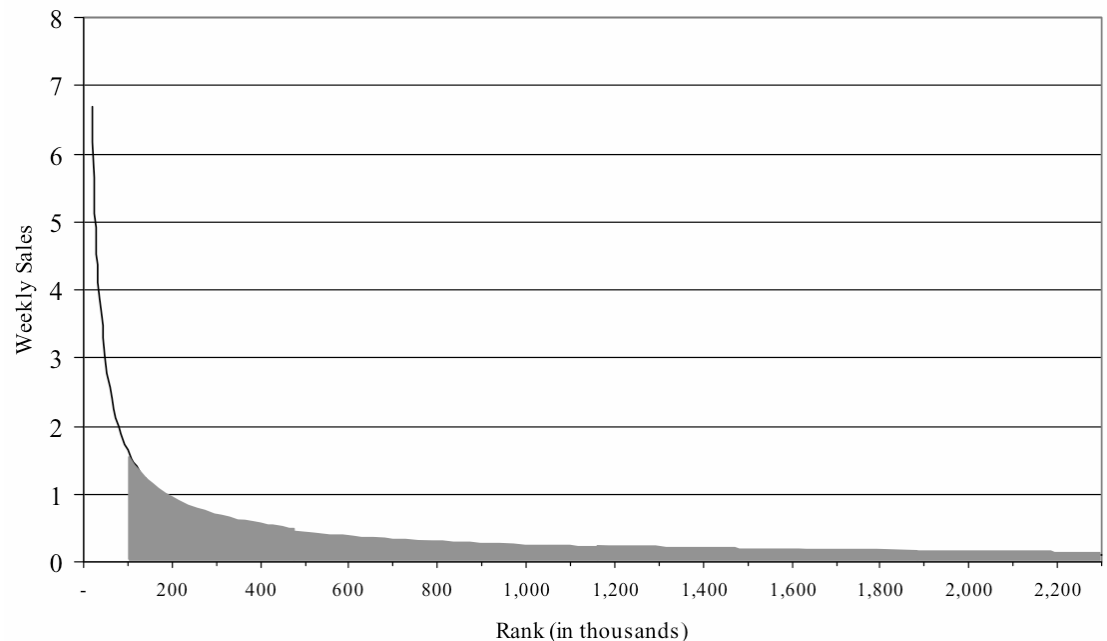
- Creative Artists have historically faced a market of “Hits and Misses”
 - Concentrated Distribution Channels:
 - Wal-Mart must sell 100,000 copies of a CD per year to cover their overhead (only 1% of CDs)
 - Tower Records only stocks <6% of all CDs in print, Blockbuster stocks <12% of all DVDs in print.
 - Concentrated Promotional Channels:
 - Popular radio stations add 3-4 new songs to their playlists each week (0.3% of total songs released)
- This impacts structure of industry and types of projects chosen by artists

Michael D. Smith

<http://www.heinz.cmu.edu/~mds>

Distribution: Valuing Variety

- Books (source: Brynjolfsson, Hu, Smith 2003)
 - 40-50% of book sales at Amazon are in books that would not be stocked by local bookstores
 - Consumer surplus gains \$1B from increased variety (10x gains from lower prices)
- CDs/DVDs
 - 25-35% of CD and DVD sales at Amazon would not have been stocked at local retailers (source: Ghose, Smith, Telang 2004)



Michael D. Smith

<http://www.heinz.cmu.edu/~mds>

Promotion: Valuing Community

- Optimal size/reach of P2P networks is bounded (Asvanund, Clay, Krishnan, Smith 2003)
- Protocol enhancement can create self-forming communities of interest (Asvanund, Krishnan, Smith, Telang 2004)
- Promotion through DRM-enabled collaborative filtering techniques within community (Krishnan, Montgomery, Smith 2004)

Implications and Discussion

- Changes in structure of music industry?
- Changes in applications?
 - Streaming programming
 - Rich-media blogging
 - Rich-media enabled community interaction
(Krishnan, Mulhberger, Smith, Telang, Zhang 2004)