The Future of Online Video: An Economic Perspective

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Overview I: Online Video’s Future - Overview

- Part 1 - Recent development of online video entertainment
  - Major types of players & content aggregation patterns

- Part 2 - The future of online video entertainment:
  - Many technological/economic advantages....
  - but 4 main obstacles:
    - competition with MVPDs
    - availability of high quality content
    - development of successful business models
    - effects of ISP pricing

- Brief summary and policy discussion
Overview II: Main Points about Online Video’s Future

- Online video growth not a natural result of offline to online viewer migration—there are significant obstacles.

- MVPDs have significant economic advantages over online competitors.

- ISP pricing incentives and relaxed net neutrality regulation may increase effective consumer prices for online video.

- The importance of monitoring MVPD and ISP size and behavior
The Economics of Online TV: Some Prior Research

- **Earlier works**
  Owen (1999); Bakos & Brynjolfson, (1999); Shapiro & Varian (1999); Kahin & Varian, eds (2000); Noam, Groebel & Gerbarg, eds., (2004); Yoo (2006); Noam, ed. (2008); Wildman (2008)

- **More recent studies**
  Donders & Evens (2011); Frieden (2013); Evens (2013); Brenner & Maxwell (2013); Simon (2012); Nooren, Leurdijk, & van Ejik (2012); Baccarne, Evens & Shuurman (2013)

- **Reports**
Online Video Matures: Media Use

- The avg. US adult watches 34 hours of traditional TV per week and 6 hours of time-shifted TV, but only about 1 hour of online video.

- The top 10% of US adults account for 86% of online video streaming, watching on average 2 hrs., 34 min. per week.

- Netflix and YouTube together accounted for 45% of total peak North American fixed Internet traffic in 2013.
The Prevalence of Online Video Aggregation

- The suppliers of a large amount of content via one website or app, typically from multiple creators or content owners

- Aggregators appear to dominate online video distribution

- Economic advantages of aggregation:
  - one-stop shopping/viewing
  - low marginal capacity costs
  - enables economies of scale
Main Online Video Business Models

- Ad based
  - Amateur content (YouTube)
  - Professional content (Hulu, CBS)

- Direct Payment:
  - Rental Services & Electronic Sell-Through (iTunes)
  - Subscription streaming services (Netflix)

- Authentication of Offline MVPD subscription:
  - “TV Everywhere” MVPDs (Comcast Xfinity)
  - Verification-based TV network portals (HBO-Go)
Part 2: The Future of Online Video

Many economic advantages....
- Low delivery costs
- Unlimited content capacity
- Targeted advertising potential
- Direct payment systems
- Device functionality and interactivity

But..... 4 main obstacles
1) Competition from MVPDs
2) Availability of high quality content
3) Development of successful business models
4) Effects of ISP pricing
Part 2: The Future of Online Video

- The 4 main obstacles

1. **Competition with MVPDs**
2. Availability of high quality content
3. Development of successful business models
4. Effects of ISP pricing
Very efficient delivery systems for large-scale aggregations of programming, especially live events.

- IP conversions, with very fast download/upload speed (e.g., Google Fiber)

Within-home tech advances similar to online functionality

- DVRs, on-demand, home wi-fi rebroadcast; set top box carriage of Netflix, other services

Both advertisers and consumers benefit from bundling
The potential for large-scale online content aggregation to compete with MVPDs

- Could comparable assemblies of broadcast/cable network programming, plus online services (eg, Netflix, Hulu, etc.) be marketed as competing online packages?

- Possibly yes, but MVPDs have an apparent advantage in large scale aggregation via “TV Everywhere” (TVE) or similar services
Potential Cable TV Disaggregation

Independent networks/aggregator websites (TBS, Hulu, etc.)

Programming Networks

Cable TV Systems

Subscribers
TV Everywhere Business Model

- Programming Networks
  - Cable TV Systems
    - Subscribers
  - TVE aggregations
Prevalence of MVPD Subscription Authentication

- Major broadcast networks do not require authentication.

- Most major basic and premium cable networks offer programming online, but only with authentication.
  - 2013 Screen Digest survey of 73 cable networks that all require some type of authentication

- Most of the larger MVPDs centralize TVE services.
Individual networks have plausible economic incentives to require authentication on their own if:

\[
\text{gains in online advertising} \\
+ \text{direct payment revenues without authentication}
\]

are less than

\[
\text{gains in offline advertising} \\
+ \text{per sub fees with authentication}
\]

Pro-authentication factors include:

- offline rev per sub > online rev per sub
- higher total value to MVPD from carrying the network

Examples: HBO-Go; TBS
MVPD incentives to offer TVE

- MVPDs have an advantage over independent online aggregators due to value of TVE as a price discrimination device to prevent offline disconnections.
  - The result can be restricted entry of competing online aggregators (Waterman, Sherman, and Ji, Telecommunications Policy, 2013)
  - Intuition: If an MVPD has a price-cost margin of $100-$70=$30, it pays to subsidize ‘free’ online TVE by up to $30 per sub to prevent the marginal (online-using) subscriber from ‘cutting the cord.’

- MVPDs also have a potentially anti-competitive incentive to preserve their offline business and advantage their own entry into online video (e.g., Singer, 2010).
Part 2: The Future of Online Video

- The 4 main obstacles

1. Competition with MVPDs
2. Availability of high quality content
3. Development of successful business models
4. Effects of ISP pricing
Prevailing online windows as price discrimination devices

- Online movie VOD simultaneous with MVPD VOD
  - VOD appeals to highest value viewers

- Ad supported broadcast/cable programs delayed by 1 day or more
  - Appears to reflect lower online revenues per viewer hour.

- Subscription window (e.g., Netflix) occurs months later, generally comparable to HBO/other premium cable networks.
  - Bundled services cannot extract value from higher specific demands.

- Prospects for earlier online windows depend on:
  - Continuing offline to online viewer migration
  - Higher online revenues per viewer, especially advertising
Part 2: The Future of Online Video

- The 4 main obstacles

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Development of Successful Business Models

- Successful models essential for growth and development of early windows and high quality original programming

- To date, revenues per viewer apparently lower for online exhibition, justifying offline/online delays (windows)

- Uncertain prospects for advertising model improvements
Part 2: The Future of Online Video

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The Effects of ISP Pricing

- Recent industry transition toward soft caps (e.g., Comcast)

- Soft caps as ISP price discrimination
  - Heavy video users tend to have higher willingness to pay

- Payments to ISPs by content suppliers; the potential role of network neutrality

- Results: higher effective consumer prices for online video services
Summary and Tentative Conclusions I

- Online video has important technological/economic advantages …but there are obstacles to online video growth.

- MVPDs have significant advantages as competitors to online, and also as large scale aggregators of online content.

- ISP pricing strategies and relaxed network neutrality rules may increase effective consumer prices for online video.
The FCC’s goal of robust online video entry and competition with MVPDs requires

- active monitoring of MVPD and ISP behavior, especially those with high national market shares.

- control of national market shares of MVPDs and ISPs via the merger review process.
The Future of Online Video

Thank you......

Please check out our workshop paper for a more in-depth analysis and exploration.