Platform differentiation:
with an application to mobile

By

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Thanks

- Thanks for the time.
- Will try to get a conversation started.
  - Based on joint work with Tim Bresnahan
  - Still a bit fuzzy. Appreciate feedback.

The plan

- Define terms
- Motivation: a general economic question
- Why non-hierarchical platforms survive/thrive
- In mobile platforms, in particular, parts 1 & 2
- Recap

Define terms for a value chain analysis

- Value chain: tracing flow of money. Online ads amount to approx $32B US, less than wireline access rev, approx $40B.
  - Mobile access/ad rev? Publically quoted numbers are small.
- A *platform*: a reconfigurable base of compatible components on which users and firms build applications.
  - iPhone, Android, Blackberry, Symbian, MS Windows
- *Hierarchical* platform: centralized control of investment, pro-active management of boundaries.
  - High fraction of platform owned/controlled by platform leader.
- *Complements*: two or more components that work together when delivering service, e.g., platform & app.
- *Contracting* : Platform leaders make contracts w/developer over access to info, money, requirements; platform leader can partially shapes apps w/quid-pro-quo.

Motivation: a general economic question

- Most economists would agree that...
  - Hierarchical platforms coordinate complements well
  - Using contracts to govern relations b/w partners usually yields better outcomes than using none.
    - For a large # of reasons...but big one is "assigning responsibilities reduces negative externalities..."
- So...why don't we always see a dominance of hierarchical platforms that use contracting?
  - In the market, generally, & in mobility, in particular?
- Our answer: markets that enable successive generations of differentiated platforms enable experimentation in platform governance
  - Particularly less hierarchical platforms, which turn out to have some advantages.

Why non-hierarchical platform (NHP) survives/thrives (perhaps)

- Coordination works in short run, but costly & requires planning, which limits range of apps.
  - Platform leaders will limit costs by investing in designs to support some types of apps, not others.
    - Aspects where forecast most value, but fixed/irreversible.
  - Leaders will not design platforms (APIs, SDKs) to encourage direct competitors.
    - Or encourages cannibalization or loss of control.
- Contracting over time challenging. Not all apps cooperate. Hierarchical platforms "lose" some.
  - Mistrust in sharing information, particular when value-contingent contracts depends on future. Renegotiation.
- Differentiation by a follower takes advantage of uncovered gaps by the existing/earlier.

In mobility, in particular, part 1.

- Apple differentiated from Blackberry w/different conception about source of value. Technical discontinuities arise from platform governance model.
  - Keyboard v. touch-typing
  - Small screen, big color
  - Minimal bandwidth, allowing high bandwidth
  - Minimal web, allowing high web presence
  - Data center v. cloud-based support
  - Protected email v. data-plan surfing
  - Deep carrier cooperation v. a degree of tension
- Differentiating from Nokia & Windows too.
  - For sake of time "leave as a homework exercise."

In mobility in particular, part 2.

- As follower, Android differentiated from Apple.
- Apple gains from revenue.
  - Android from ads, search-based.
- Apple has approval process, i-tunes compatible, which users value in i-tunes.
  - Android encourages google maps/search, some freedom in customization.
- Apple reserved rights. Pushed costs to developers. Controlled some pricing.
  - Android invited developers w/more discretion.

Recap

- Why did we get a search-oriented ad-based platform in mobile smart phones?
  - Because hierarchical platforms have short run advantages, but limited over time. If second entrant can differentiate w/non-hierarchical platform governance, it will do if it gets somewhere.
  - Different way of thinking about boundary of competition.
- The good news: mkt today is running a horse race on differentiated approaches to raising revenue in mobile.
  - The open question: what type of horse race are we observing in wireline-supported Internet? Where are points of differentiation in platforms? Do we have a system where lots of alternatives can experiment?

- Thanks.