

Glimmers and Signs of Innovative Health in the Commercial Internet



Shane Greenstein
Northwestern University
October, 2009

Thank you



- ▶ Thanks to the organizers.
- ▶ Will present synopsis of an essay.
 - Part of a larger book project.
 - This essay will be published in a law journal.
 - Short version will be chapter in book discussing lessons of Internet commercialization
 - Funding from Kaufman Foundation, Searle Foundation, Kellogg School of Management.

Ewing Marion
KAUFFMAN
Foundation



NORTHWESTERN
UNIVERSITY



Outline

- ▶ **Brief overview**
- ▶ The List
- ▶ Conclusion



Recognizing healthy innovative behavior. Why care?

- ▶ What are the symptoms of healthy behavior in an innovative industry such as the Internet?
 - Seemingly simple Q, actually rather elusive A.
 - Yogi Berra << *Essay's answer* << Precise model.
- ▶ Broad motivation.
 - Fostering innovation is a worthwhile goal.
 - Economic growth from new services, lower prices.
 - No general agreement on how to assess progress.
 - Ad hoc “know innovation when they see it” common in calls for/against gov’t intervention in Internet.
 - Innovative conduct sensitive to administrative action.
 - Predictable guidelines can help users & suppliers.

Frequent reassessment inherent in this complex setting

- ▶ Market power endemic to setting, but Internet value chain has been (& will be) moving target.
 - Broadband diffusion improves access but concentrates distribution in specific locales.
 - Does mkt power shape innovative conduct? If so, how?
 - Platforms organize interdependent commercial behavior, but proprietary services not commodities.
 - Microsoft, Intel, Cisco, RIM, Apple, Google, Oracle...
 - Contractual incompleteness: multi-lateral bargaining impossible; renegotiation due to new conditions (due to tech change); Legal ambiguities over new services.
 - Legal defaults & regulatory decisions must play a role.

Four symptoms of innovative health



- ▶ The list:
 - Economic experiments
 - Vigorous standards competition
 - Entrepreneurial invention
 - Absence of unilateral bargaining
- ▶ Why is this list interesting? A couple reasons...
 - *Not* usual list of suspects for communications.
 - *Not* what lawyers/engineers are taught in school.
 - Stresses innovative conduct in Internet value chain.
 - Some writing focuses on topic, but whole not explicit.

Outline

- ▶ Brief overview
- ▶ **The List**
- ▶ Conclusion



Economic experiments



- ▶ A market-oriented action designed to help a firm learn or resolve uncertainty about an unknown economic factor.
- ▶ Usually such lessons cannot be learned in a laboratory or controlled environment.
 - Learning about nuances of market demand.
 - Learning about processes for providing services.
- ▶ The last fifteen years of internet markets
 - In virtually all aspects of the value chain.
 - Some survives and grows (Ebay, Google, Facebook).
Stuff fails (webvan, pets.com). So it goes.

More economic experiments



- ▶ Firms learn from experience, participants learn from each other.
 - Wall street focuses on firms, not communities.
 - Learning from invention of the commercial “hot-spot” → 802.11 community benefited
- ▶ Policy could focus on mkt-wide learning.
 - Variety of players using different capabilities, milestones, beliefs about profitability.
 - Foster lower cost to initiatives.
- ▶ Stress the mkt-wide sense of urgency, range of service options, lower prices.



Vigorous standards competition



- ▶ Bleeding/leading edge technologies often cannot deploy without routines processes, and/or coordination of activities.
 - Ratification of new standards can signal the pending arrival of technological progress.
 - While standards do not arrive at a regular rate, a slow pace is an alarming sign.
 - Challenging measurement issues: some standards are more important than others...
- ▶ Why competition? Multiple solutions *ex ante*.
 - Economic benefits to more choice of standards and their sponsors in face of uncertainty.

More vigorous standards competition



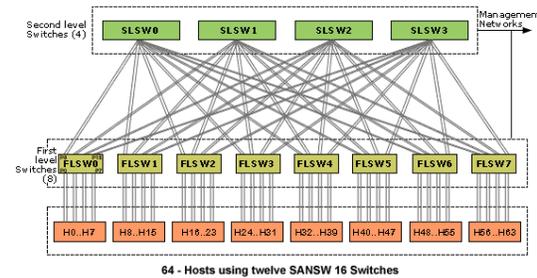
- ▶ Inherently messy & confusing to outsiders.
 - Frustrating open-endedness. Never static.
- ▶ Policy could focus on multiple options.
 - The cost of monopoly: attempts to quiet life. Reduce options that cannibalize its own products.
 - Extreme ex: IBM & EBCDIC. AT&T & retail CPE.
 - Wall Street tends not to favor plethora of options.
- ▶ Competition among sponsoring institutions
 - Fuel sense of urgency, costly in short run.
 - More than about design, also decision processes.
- ▶ Once again, key role in “market-wide” gains.

Entrepreneurial invention



- ▶ Financially risky & organizationally challenging business pursuing new opportunity.
 - First attempts at deploying, distributing, servicing.
- ▶ Focus on presence of participants.
 - Small start-ups & small divisions in large firms.
 - Most start-ups involve entrepreneurs, but not all entrepreneurs must have venture funding → cannot use VC funded entry as only sign.
- ▶ After reaching a minimal level then more entrepreneurs does not improve things much.
 - However, their complete absence is a symptom of poor innovative health...

More entrepreneurial invention



- ▶ Entrepreneurs often are first to perform an economic experiment w/new standard.
 - Entrepreneurs can (& do!) come from the edges.
 - Additional factors: low development costs, low delay to market, strong appropriation.
 - Astoundingly low cost w/low delay today (Web 2.0).
- ▶ Many determinants out of control of entrant, but incumbent firms can shape some factors.
 - Releasing design info (e.g., Intel & mother boards).
 - Buyout options for new firms (e.g., Cisco, Microsoft)
- ▶ Once again, key role in market-wide gains.

Absence of unilateral bargaining

- ▶ One party has bargaining–power to proffer a take–it–or–leave–it offer & others have no choice but to accept.
 - Bargaining pervasive due to technical interrelatedness
 - Absence of unilateral is healthy, but presence (by itself) is not sufficient to presume unhealthy.
- ▶ Bargain breakdowns raise questions in network
 - Common in high tech (e.g. Intel/Dell), unproblematic in the face of options/substitutes.
 - Cogent’s dispute with Sprint after peering. Paying for the connection or reneging on an agreement? Users get caught in the use of hard–nosed bargaining tactic.

More about unilateral bargaining

- ▶ The policy issues with one-sided negotiation
 - Dominant firms can use dictates to hurt competitive process, reduce experiments, & encumber entrants.
 - Example: Microsoft & “out-of-box” experience. Help screens for users of Netscape. Pushing Compaq around for experimenting w/Netscape.
- ▶ Key issue: consistency of policies to all firms.
 - Microsoft recent declaration to developers. Not altering managerial discretion nor transparency.
- ▶ Once again, stress market wide gains.
 - Profitability of established firm is one of several considerations. Consider mkt-wide processes.

Outline

- ▶ Brief overview
- ▶ The List
- ▶ **Conclusion**



Healthy innovative competition among dominant firms.

- ▶ Predictable concerns triggers intervention
 - Intervention triggered when experimentation slows, standards introduction delayed, rate of entrepreneurial invention slows, selfish one-sided bargaining used.
- ▶ Question: Four freedoms not clear guidance on range of acceptable managerial actions.
 - Illustration: Cogent/Sprint. Entrant/incumbent bargaining is really the key competition policy issue.
 - Illustration: Comcast/Bit-Torrent. Two externalities. One is user to use, other is Comcast to other innovative entrant.

Thanks for your attention.

- ▶ Thank you.

