

Electronic Commerce

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Economics

Lecture 12: May 8, 2008

Abstract

Market conduct based on pricing of differentiated products or price discrimination.

Ozymandias on the Internet

“Look on my works, ye mighty, and despair.” – Percy Bysshe Shelley,
Ozymandias

“Shirtsleeves to shirtsleeve in three generations.” – *anon.*

- Without entry barriers, entry erodes dominance (U.S. *v.* IBM)
 - Diffusion of product or process technology (direct)
 - Improved search technology (indirect)
- End-user tastes may change
- Even with entry barriers and stable tastes, market dominance doesn't last
 - Laziness
 - Bad luck (truly surprising innovations)

– The innovator's dilemma

Government intervention

- States often mirror federal government in U.S.
- Europe and many countries have similar laws and agencies
- Anti-trust laws and interstate commerce clause
 - Sherman, Clayton, Robinson-Patman Acts
 - Interstate Commerce Act
 - Communications Act of 1934
- Courts
- Executive branch
 - Antitrust Division of the Department of Justice
 - Federal Trade Commission (FTC)
 - Federal Communications Commission (FCC)

- Commerce Department often acts as an advocate for industry

Monopoly *vs.* monopoly-*zation*

- Market share “near enough” 100% is *monopoly*, but monopoly is not (and should not be) illegal *per se*
 - *Per se* is a legal term (from Latin) meaning “as such,” an objective, measurable condition
- Microsoft’s behavior is clearly intended to *extend* its monopoly to new markets, new industries, and whole new technologies
 - Such *monopolization is* illegal, but is based on a “rule of reason”—it’s a judgment call
- The monopoly is clearly harmful to the majority of Microsoft’s customers; few need the extreme integration that Windows provides, while the reliability and customizability of *open source software* is universally valuable

- If so, why buy Microsoft products? The answer is *switching costs* and *incompatibility protected by IP*

Why or why *not* break up Microsoft?

- Big is not bad *per se*
- Microsoft's investments clearly did produce excellent software (even if *I* don't like it!)
- Theoretically regulation of conduct could suffice, but
- Microsoft has a long history of violating both the spirit and the letter of its agreements with other private entities and the courts
 - Compare IBM *vs.* AT&T 1956 consent decree, which the two firms did live up to
 - 1950s and 1960s the threat of a break up by DoJ was scary (both IBM and AT&T were later targeted anyway)
 - By 1980s and 1990s, much weaker: IBM case abandoned as

“without merit,” AT&T actually wanted out of 1956 consent decree, and was a government franchise in the first place

- Geopolitics: Europe may be much harder on Microsoft

B2B exchanges: issues

- Exclusive ownership/membership: obvious potential for cartel behavior due to economies of scale in transactions
- Leveraging
- Price signaling

Open access and net neutrality

- A *common carrier* is a firm required to provide transportation or communication services to all customers on a nondiscriminatory basis – that means regardless of content (subject to law) as well as regardless of customer identity
- With the Internet, *quality of service* is an issue, also the identity of the partner

e-Commerce *is* special

- We have a large body of knowledge concerning pricing of products
- Much of it *may* not apply to the e-commerce realm because of special cost structure
- An important aspect is that much e-commerce is conducted by firms marketing traditional products via e-commerce methods; these firms need to understand e-commerce pricing not because they do it, but because it's done to them

Case: *Salon* magazine

- Business model: general news magazine for profit
 - Content: original news, wire stories, columns, feature stories of high quality, not photojournalism
 - Perceives *Time* and *Newsweek* as rivals
 - Advantage 1: very low cost of production and distribution
 - Advantage 2: frequent updates, more timely
- Revenue model: fairly traditional
 - Advertising
 - Bonus for advertisers: link to own site
 - No subscription fee

How to make a profit?

- Burst of dot-com bubble really hurt ad revenues
 - Problem of relationship creation and management: advertisers
- Convert to loss leader strategy
 - Features and AP stay free, but ...
 - First try: premium content for pay subscribers
 - Second try: expand subscription-only content to all original news
 - But subscription revenues remain hard to get
- Can this work?
 - Other web magazines (*Slate Web*) stay free (for now)
 - What about “hobbyist reporters”? (Who are they?)

– What about aggregators (“planets”)?

Basic theory of pricing

- Choose quantity q^* by equating $MR(q) = MC(q)$, then set p^* so that $q^* = D(p^*)$
- Is this applicable?
 - Physical products have some “smoothness”, General Motors is unlikely to start producing PCs or peanuts, this allows aggregating to “quantity of cars”, digital products are perhaps harder to categorize and quantify
 - Many disruptive innovations: demand is not well-known, so of course MR is hard to estimate

Cost-of-service pricing

- AKA “cost-plus,” “full-cost,” or “standard-volume” pricing
- Estimate average total cost
- Estimate projected output (*standard volume*) or *SV*
- Target ROI (*e.g.*, promise to shareholders) is multiplied by investment to get required total profit, then divided by *SV* to give target unit profit
- Add unit profit to ATC to get price
- Needs to be consistent with demand curve
 - Note effects of elasticity

Joint products

- How to apply this to Salon's problem?
- Note *two* revenue sources, **advertising** and **subscription**, with different prices!
- ATC is fairly easy to estimate because mostly fixed: salaries, Internet connection, investigative expenses
- Demand very hard to estimate

Value-of-service pricing

- Rather than try to set price according to $MC = MR$, try to “capture” more revenue
- Price discrimination
 - Must *segment* the market
 - Then charge different prices to different segments
 - Problem of self-selection

How to segment?

- Buyer characteristics: *e.g.*, senior or student discount
- Delay: subscribe if you want the latest news (examples?)
- Completeness: subscribe if you want access to archived (no longer current) information
- Convenience or precision: restrict number of variables accessed in one database run
- Premium product (where have we seen this before?)
- Restrictions (*e.g.*, airline prepurchase or stay-over-weekend)
- “Menu” pricing: many bundles of features to attract customers with different willingness-to-pay, customers can choose best (personal) performance-price ratio: *e.g.*, different speed chips

(note these do have cost differentials, but price not necessarily proportional! – cost-of-service pricing would show proportionality)

- What's the relationship of this kind of segmentation to the innovator's dilemma?

Two-part tariff

- How to capture more in a single segment?
- *Non-linear pricing* is one way
 - Quantity discounts
 - (Paid) member discounts: two-part (membership fee plus per-unit price) tariff

Auctions

- Effectively every buyer is a segment!
- “Second-price” result: the best the seller can do on average is to get each buyer to pay as much as the buyer with the next-highest valuation
- eBay method is effectively *sealed-bid second-price auction*, equivalent to *first-price English (oral) auction*
- Priceline “reverse auction” is really just the same auction process used by governments to let contracts
 - But e-commerce allows hundreds of thousands of auctions per day
 - Priceline rules are designed to allow sellers substantial flexibility in constructing service, then buyer must accept or

reject as final offer

- Why do sellers participate? Because of *capacity management*: filling an *otherwise empty* hotel room or airplane seat adds negligibly to the cost
- Alternatives such as Orbitz have different rules
- **N.B.** We're *not* talking about eBay and Priceline's strategies!

Penetration pricing

- *Get big fast* strategy
- Based on your decreasing ATC (and maybe anticipated learning curve), set price *now* at a price that covers costs and profit at *expected long run volume*
- Thus similar to cost-of-service pricing, but current “too low” price is an investment

Long-run prospects

- Lower search costs reduces need for *informational advertising* (as opposed to *brand-building*)
- Lower transactions costs
- Ease of disseminating price changes to customers makes price-cutting irresistible ...
- ... or does it? High visibility of web pricing to *rivals* as well makes *coordination* easier, possibly leading to collusion
 - Compare the “we will match/beat any price” offers
- How about buyer coops and Priceline-style auction sites? Will they make coordination hard?

Homework #3

Due Thursday, May 15 at 3:30 pm.

This is a preview. Submission and scoring guidelines will be published later.

Please read additional selections from Christensen's *The Innovator's Solution* (pp. 33-34 (note 3), 43-49. (These will be posted later, along with suggestions for additional related reading or review in *The Innovator's Dilemma*.)

1. On p. 158, Deak writes "To date [Amazon] showed success in overcoming the competitive inertia and the tendency to become 'fat, dumb, and lazy,' which so frequently infect the market leader." Evaluate this statement in the light of Christensen *et al.*'s analysis of the *innovator's dilemma*.

2. Identify **three** topics in Ch. 9 of Deak that seem related to Christensen *et al.*'s analysis. Describe each in one or two sentences, indicating the relationship to the “innovator’s dilemma.” Note the page number where you found it. The quotation in question 1 is one example; several of the section and subsection headers might also be appropriate.
3. Choose one of the topics identified in question 2. Say whether the Christensen *et al.* analysis tends to support or undermine the textbook’s analysis. Explain how, and support your opinion.

Final Report

This is a preview/draft. Final description and schedule will be announced Thursday, May 8.

The final evaluated work in this course will be a **Final Report** worth about 30% (*tentative!*) of your grade. You will write your final report in three stages:

1. **Choose a topic** (*deadline May 15, 3:30 pm*)
2. **Draft a proposal** (*deadline May 29, 3:30 pm*)
3. **Final version** (*deadline June 12, 11:59 pm*)

Deadlines for the topic and draft are firm; you **will** lose points for tardiness. You are encouraged to submit early; there is no penalty for repeated submission and revision within the deadline. Topic changes

are permitted after these deadlines **but only with permission of the instructor**. The deadline for the final version is absolute; late submissions will be treated as if they were not submitted at all (subject to the usual kinds of considerations of incomplete work; *i.e.*, missing the final submission deadline will be treated as if you missed a scheduled final examination).

Topic choice

Your topic must be a **case study of a particular enterprise involved in particular e-commerce activity**. “Enterprise” may include *subsidiaries, independent business units, NPOs, or government bureaus* at the discretion of the instructor. The e-commerce activity should be an important element of the enterprise’s business model, not an “afterthought” or something that “everybody does, so we should do it, too.” In submitting your topic you should give

- the name of the enterprise,
- a *brief* description of the particular industry or line of business the e-commerce activity targets,
- a *brief* description of the e-commerce activity,

- a *brief* explanation of the relation of the e-commerce activity to the enterprise's past success or future plans

“Brief” means no more than about 1000 characters (15 lines of 65 characters). This is **not** a draft!

Topics must be unique; in case of conflict, the first submission *received* will receive precedence. Topics approved and under consideration will be posted to <http://people.ucsc.edu/~sturnbul/Econ139A/report-topics.html>. See

<http://people.ucsc.edu/~sturnbul/Econ101/xc1-industries.html> for an example of the format.

Submissions **must** be made **by email** to sturnbul@ucsc.edu, be written *directly in the email* (not submitted as a Word document or other attachment). They *should* be submitted as *plain text*, not HTML.

Draft of proposal

The draft of proposal should also be submitted as plain text in email. In the draft you should include all of the information from your topic proposal, in an “introduction to the essay” format. The rest of the proposal should explain *how* you propose to analyze the industry, including

- a brief background/history of the enterprise you chose,
- the economic theories (*innovator's dilemma, first mover advantage, structure-conduct-performance, game theory, network externalities, ...* you plan to apply,
- any data sources (including graphs, statistics, product lists, *etc.*) you have identified (*there should be at least 2 or 3 besides the textbooks!*),

- a *tentative* hypothesis you hope to support in your essay, and
- a list of useful references you have identified (*there should be at least 2 or 3 besides the textbooks!*).

The draft may be up to about 3000 characters. This is a draft *proposal*, intended to allow me to advise you that you're heading in the wrong direction. You should not expect to be able to use very much of this directly in your final report (and if you try to make it a draft of the final report, you probably will get a poor evaluation).

The final report

The final report is a formal report. You should use a word processor to produce it. Submission by **email** in the form of a **PDF attachment** is **strongly** preferred, although other formats will be accepted.

The report should have a simple *title page* containing title, author, date, class and instructor. The title page is followed by the main text. After the main text, on separate pages, add your list of references, and any long tables or figures that you have not included in the text. If you do any statistical analysis (including generating graphs!), your data tables should be included as an appendix (a separate text file is fine). **All data and other material taken from other sources must be properly attributed, and the source included in your reference list.**