Search & Competition II:

Erik Noyes/Adam Saunders • February 26, 2004

Agenda

- 2:30-2:45 Framing
- 2:45-3:45 Guest: Yannis Bakos
  - » Reflections on “Reducing Buyer Search Costs” (1997)
- 3:45-4:00 Break
- 4:00-4:45 What did you find?
  - » iPod / Harry Potter
- 4:45-5:00 Lynch & Ariely (2000)
- 5:00-5:15 Baye & Morgan (2001)
- 5:15-5:30 Wrap Up

Questions for Today

- Why will/won't the Internet create perfectly competitive markets?
- Why is price dispersion *so persistent* in homogenous goods markets?
  - How does the Harry Potter and iPod experiment fit with this week's readings?
- Considering buyer search costs, what strategies should sellers pursue?

More Questions

- What are the most important things that consumers and businesses value in an online marketplace?
- How should your strategy differ depending if you are a:
  - pure-play Internet retailer
  - hybrid business
  - ‘bricks and mortar’
- Will Amazon succeed? Why? Why not?
  - Annual profits (losses)
    - 1998: ($124m)
    - 1999: ($719m)
    - 2000: ($1.4B)
    - 2001: ($567m)
    - 2002: ($149m)
    - 2003: $35m

Yet More Questions

- What do you do if you are Barnes and Noble?
- What differentiates the “winning” shopbot from other shopbots in a given marketspace, i.e. consumer electronics.
- Will a central trust authority emerge?

Yet More Questions

- Would sales taxes kill the Internet?
- Will friction in online markets increase or decrease over the next five years?
- What is going to happen when more goods are delivered via digital downloads?

Further class input

- Now, to the blackboard.

Bakos – Questions for Discussion

- Generally speaking, which market players can/can't create electronic marketplaces?
  - What have we learned since 1997?
- Will search costs fall inexorably with the introduction of new information technologies?
- Will there be a Google for online commerce – the first place where virtually all product searches begin?

Bakos – Questions for Discussion

- Considering Bakos' "fit" concept, doesn't the marketer price, place, and promote the product to *minimize* search costs?

- Where have intermediation services, i.e. the creation of electronic marketplaces, generally succeeded? Failed?

2-Page Exercise

- Observed price dispersion – fit with this week's readings?
- Shopping process?
- Final purchase decision?
  - Where would you buy?
  - Was it a website/vendor you had heard of before?
  - Why not the others?
  - Repeat business – would you return?
- Importance of brand/extended product?
- Appraisal of different shopbots?

iPod: Observed Price Dispersion

			$487.00		
			$489.00		
			$489.95		
			$494.00		
			$494.00		
			$494.00		
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			$499.00		
			$499.00		
			$499.00		
			$499.00		
			$499.00		
			$499.00		
		$480.00	$499.00	$500.30	
		$483.00	$499.99	$500.70	
$469.00	$470.00	$484.75	$499.99	$504.81	
$469.00	$474.00	$484.75	$499.99	$504.81	$514.14

- Average price: $492.92

- **Source: MySimon.com, Dealtime.com, Yahoo! Shopping*

Wine Online:

Search Costs Affect Competition on Price, Quality, and Distribution

(Marketing Science, 2000)

Paper Focus

- The seller's dilemma:
  - *Fear of price competition*
  - *Fear of comparison shopping*
  - *Disincentives to provide product/quality information*
  - How much transparency?
  - Defensive or offensive?
- The buyer's objective:
  - Price/quality

Paper Focus (2)

- “Our paper attempts to provide empirical evidence about the short-run and long-run consequences of the different lowered search costs, to better understand consumer, retailer, and manufacturer incentives in electronic markets for differentiated products.”

- Scope:

Search <–> Purchase <--> Retention

Paper Focus (3)

- “We wish to demonstrate the rhetorical point that effects of easier quality search may outweigh those of easier price search, so we choose to study a category in which these factors magnify the relative weight of search costs for quality information: selling of fine wines.”

Paper Focus (4)

"*Price sensitivity should be higher for cross-store comparison of common wines.*"

unique wines (40)	common wines (20)	unique wines (40)

Experiment Design/Data

- Experiment/online wine selling
- Consumers shop with their own money at two competing electronic wine merchants
- Independent Variables:
  - Search cost for price information (low-high)
  - Search cost for quality information (low-high)
  - Search cost for comparing across two competing electronic wine stores (low-high)

Experiment Design/Data (2)

- 72 MBA & Ph.D. students
- 8 shopping trips (for one randomly selected check-out)
- Taste tests
- Average purchase per trip: 3 bottles
- Search during shopping: sort/scroll/drill-down
- 2-months later: Likelihood of continued use?

Findings

- For differentiated products (unique wines), lowering the cost of search for quality information reduced price sensitivity.
- Easy cross-store comparison:
  - Increased price sensitivity for common wines (expected result)
  - No effect on price sensitivity for unique wines
- Lowering search costs (price, product, comparison) increased consumer welfare
    - » Higher satisfaction on taste tests
    - » Fewer disappointing purchases

Findings (2)

- “All these results suggest incentives for retailers carrying differentiated goods to make information environments maximally transparent, but to avoid price competition by carrying more unique merchandise.”
- “We predict that retailers will find that consumers give more business to sellers who provide transparent shopping experiences that lower search costs for price, quality, and comparison.”

Findings (3)

- Transparency increases customer retention
  - “Retailers will find that consumers give more business to sellers who provide transparent shopping experiences that lower search costs for price, quality, and comparison.”

Critiques of Paper

- Using own money?
- Social desirability?
- How realistic is shopping process? (8X)?

Wine Online:
Discussion Questions

- Not as defensive as might be predicted:
  - Why do major e-tailers continue to offer easy access to commodity prices?

- Channel conflict:
  - Do electronic marketplaces actually pose a threat if branded product manufacturers charge a common price?

Information Gatekeepers

On the Internet and the Competitiveness of Homogenous Product Markets

(American Economic Review, 2001)

Paper Focus

- The equilibrium reaction between a market for price information (controlled by a gatekeeper) and the homogenous product market it serves.

- In other words, what would happen if there was a Google for comparing the prices of online products?

Paper Focus (2)

- Can price dispersion in the product market persist when all consumers have access to a list of firm prices?
- How much will a monopoly gatekeeper charge consumers and firms? Are these fees socially optimal? Does this enhance social welfare?
- Why do all consumers want to participate, but not all firms?

Paper Focus (3)

- There is currently price dispersion in homogenous markets – is this permanent?
  - Establishing a market for information leads to more competitive markets *but* prices will still be above marginal cost with probability 1.
  - Consumers all want to use the gatekeeper – but not all firms. If all firms participated, it would lead to Bertrand competition and eliminate gatekeeper rents.

Paper Focus (4)

- Gatekeeper sets fees higher than the social optimum for firms in order to *induce* price dispersion.

- This misalignment of gatekeeper and social incentives may be so severe that the gatekeeper finds it in her own interest to establish a market for information even when doing so reduces social welfare.

The Model

- Consumers are separated into geographically separate towns, each served by a local firm.
- Transactions costs are high enough to discourage customers from visiting the next town.
- Each firm is a local monopolist.
- The gatekeeper expands options for consumers and firms.
  - Consumers can buy from any firm.
  - Firms can advertise and sell to any consumer.
  - Consumers pay a subscription fee, firms pay to advertise on the web site.

The Model (2)

- In the absence of the gatekeeper, each local firm charges the monopoly price.
  - For example, Erik's odyssey on the Canadian highways to find a McDonald's.

- Assume that consumer surplus from local store is high enough to cover the cost of visiting it.

Findings

Nonsubscriber consumers visit and purchase from local firms.

Subscribing consumers

- First visit the gatekeeper site
- Purchase at the lowest price there
- If no prices listed, they go to their local firm.

Findings (2)

- A firm that does not advertise on the gatekeeper's site charges the monopoly price.
  - (The mathematics get a bit complicated).
  - Let's use an intuitive argument instead.

Findings (3)

- Advertised prices are always lower than non-advertised prices.

- This combined with optimal shopping on the part of local consumers, implies that the optimal price charged by such a firm is the monopoly price.

Key Result

- A dispersed price equilibrium exists even when all consumers subscribe.
- This is true even when consumers ALWAYS buy the lowest price good!
- Why does this happen?

Key Result

- Price dispersion is a necessary condition for a profitable gatekeeper!
- Free riding limits the ability of the gatekeeper to extract all consumer surplus.
- Consumers free ride, but firms don’t.

Consumer Welfare

- Monopoly gatekeeper sets advertising and subscription fees higher than the social optimal.

- Establishing the market for information increases social welfare when cost of setting up site is less than the sum of:
  - the expected reduction in deadweight loss in the product market
  - plus the expected reduction in transaction costs.

Critiques

- Only choice online is to use the gatekeeper – turning to one site first is not modeled.
- Buy always at the lowest price – correct?

Conclusions

- Gatekeeper profits maximized when:
  - Product market exhibits price dispersion
  - Access fees are sufficiently low that *all* consumers subscribe
  - Advertising fees *exceed* socially optimal levels, thus inducing partial firm participation
  - Advertised prices are below unadvertised prices.

Conclusions

- Gatekeeper doesn’t want too many firms.
  - The market is more competitive, firm profits are lower, so there is less surplus for gatekeeper to extract.
  - Second, consumers find the gatekeeper less valuable – what’s the point of having a gatekeeper then?
- But the gatekeeper loves consumers!

Conclusions

- Social and gatekeeper incentives in the market for information are never fully aligned.
- Recommendation – charge the firms, not consumers – even subsidize consumers if you have to. Consumers will attract firms for you.
- A monopoly gatekeeper charges firms and consumers too much to transmit and access information.

Chevalier and Goolsbee (2003)

- Prices are more variable online than in stores.
- Significant price elasticity to the site's own prices and to leading rival's prices.
- Amazon is a clear market leader, while Barnes and Noble is the price-taking fringe.

Ellison & Ellison (2003)

- Examines sensitivity of online sales to taxation.
- Comparison of state-by-state purchases of memory – data from Pricewatch.com.
- Suggests buyers are tax sensitive but like to buy from their home/nearby states.