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SI 646 - Information Economics, Winter 2007

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SI 646
Information Economics

Jeff MacKie-Mason
The economics of information goods
The economics of information goods
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Source: http://www.wikipedia.org/
The economics of information goods will help you answer...
How can free information increase profits?
How can free information increase profits?
How should you package and sell information?

Zoom Lends Program ($1 a book, 4 weeks)
3 blocks away from Borders

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>DAILY FINE</th>
<th>MAX. FINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books, Compact Discs, Kits, Audio books, Art Prints &amp; CD-Roms</td>
<td>$0.25</td>
<td>$10.00</td>
</tr>
<tr>
<td>Paperback Books</td>
<td>$0.25</td>
<td>$5.00</td>
</tr>
<tr>
<td>Magazines, Pamphlets, Maps, Pictures (Per Envelope), Sheet Music</td>
<td>$0.10</td>
<td>$5.00</td>
</tr>
<tr>
<td>Videos</td>
<td>$1.00</td>
<td>$10.00</td>
</tr>
<tr>
<td>Zoom Lends</td>
<td>$0.25</td>
<td>$15.00</td>
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<tr>
<td>Replacement Library Card</td>
<td>$1.00 charge</td>
<td></td>
</tr>
<tr>
<td>Library Card Renewal</td>
<td>No charge</td>
<td></td>
</tr>
<tr>
<td>Hold (Reserve) Card</td>
<td>No charge</td>
<td></td>
</tr>
<tr>
<td>Zoom Lends</td>
<td>$1.00/wk.</td>
<td></td>
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</tbody>
</table>

Source: http://www.aadl.org/  
Source: http://www.redhat.com/
How can strategic product design increase barriers to entry?

Red Hat
Nextstep
OS/2
Mac OS X Leopard
BeOS
Windows Vista
How can software agents learn about consumer preferences?
Adaptive pricing

Source: Undetermined
Who cares?
Anyone interested in why information organizations are successful (or not)
Who cares about “personalized pricing”?
Do book authors care?
Do book publishers care?
Do book sellers care?
Do book readers care?
Does selling used books help or hurt... authors?
publishers?
sellers?
readers?
iTunes pricing vs. rheostat?
Did Microsoft harm consumers by destroying Netscape?
Should Microsoft be forced to carry Java?
So... how many technical design decisions should govt’ make?
Schedule and course policies are on CTools
Grading

- Class Participation 20%
- Assignments 50%
- Exam 30%
Class participation

- All readings in advance
- Mixture of lecture and discussion
  - I’ll cold call unless there is active participation by all
- I’m looking for
  - *regular* participation, but also
  - *quality* (thoughtful comments or questions)
Assignments

Two:
- due dates on schedule
- available about two weeks in advance

Mixture of short essay applications and problem solving

Hard and long: get started early

Working in groups *encouraged*, but all written submissions must be your own
Exams

One in-class

Mixture of multiple choice, short answer, problem solving
Student evaluations conclude:

Difficulty... HIGH
Past Students Have

- Joined Scient Corporation before the IPO
- Joined think tanks such as the Aspen Institute
- Published their term paper in *Management Science*
- Presented research started here at professional conferences
- Launched companies (e.g. Boxbe, funded last week for $1.7 million)
- Earned starting salaries way above those of their professors
- Gone on to be doctoral studies
For economic problems, what is information?
Hayek (1945): What is info?
Fundamental economic problem: how can a group utilize relevant information not held by any individual in its totality?
A: Assign central authority to make allocation decisions?
A: Constitute loosely-linked distributed teams to coordinate?
A: Organize market of individual agents?
Hayek: The “market” allocates efficiently, not because all information is given to any one mind but because “limited fields of vision sufficiently overlap”
Market efficiency requires: The marginal rates of substitution between two goods must be the same in all their different uses. Achieved by prices: prices are critical economic information!
Prices as information: What do we need to know to make good decisions?
Hayek: Critique?
Hirshleifer (1973): Beliefs are probability distributions over states of nature
"Ann Arbor is in Michigan"
Info is an event that changes beliefs
"Our best guess is that we will have 100 patrons"
"New marketing study makes us much more confident that we should expect 120 patrons."

\[ \mu = 100, \sigma = 20 \]

\[ \mu = 120, \sigma = 12 \]
Economics of uncertainty is passive
(the belief state)
Economics of info is active (info is change in beliefs)
## Info-involved actions

<table>
<thead>
<tr>
<th>Info possessor</th>
<th>Info seeker</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Own use</td>
<td>1. Production (research, creation)</td>
</tr>
<tr>
<td>2. Sale</td>
<td>2. Purchase (&quot;pull&quot;)</td>
</tr>
<tr>
<td>3. Gratuitous dissemination (&quot;push&quot;)</td>
<td>3. Monitoring (attention)</td>
</tr>
</tbody>
</table>
Is higher demand for information always good for society?
What types of information are demanded?
Should we expect law of one price to usually hold?
Hirshleifer: Critique?
Stiglitz (2000): What is info?
characteristics
behavior
Stiglitz: Information is different
People want to know about characteristics to make selections.
Actions, at best, are imperfectly observed
Stiglitz: Critique?
Shapiro and Varian apply the old economic principles to new digital information questions.
"You must price your information goods according to consumer value, not according to your production cost." (SV p. 3)

"When managing intellectual property, your goal should be to choose the terms and conditions that maximize the value of your intellectual property, not the terms and conditions that maximize the protection." (SV p. 5)

"Information is an experience good every time it's consumed. How do you know whether today's Wall Street Journal is worth 75 cents until you've read it? Answer: you don't."

"The real value produced by an information provider comes in locating, filtering, and communicating what is useful to the consumer." (SV p. 6)

Why are you here?
Information economics is important for anyone who cares whether and why organizations are successful (or not)
Information economics is important for anyone who cares how much and what quality of information is produced.
Studying information economics will prepare you for every professional career.