

The Information Economy

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Outline

- ▶ What is the information economy
- ▶ Issues that have arisen since the advent
- ▶ Evolution into a feedback economy
- ▶ Rights of creators of information goods

What is the information economy?

- ▶ Information technology Economy
- ▶ E-commerce
- ▶ Knowledge Economy
- ▶ Digital Economy

Question

- ▶ Do we need a “New Economics” for the new age? (I’ve definitely wondered this question - Internet is a pivotal part of the economy)
- ▶ Thesis - no we do not, refer to technological change that occurred because of the telephone revolution

What is Information

- ▶ Information = anything that can be digitized = encoded as a stream of bits
- ▶ Information goods = have value, different for different customers
- ▶ Information goods have high fixed costs, but low marginal costs
- ▶ Price information according to value, not cost
- ▶ Value based-pricing leads to differential pricing
- ▶ Differential pricing based on new vs. old versions of information goods
 - ▶ Ex: Delay in releasing newer versions of a game

Protecting Intellectual Property

- ▶ Important issue that we have discussed before
- ▶ Eg: Hollywood was petrified when video recorders came out, but now they make most of their money from video sales rather than theater
- ▶ Choose terms and conditions that maximize value, not maximize protection

Information is an experience good

- ▶ Consumers need to experience it to value it
- ▶ So how will people buy it before they know how much they value it? It needs to be experienced every time that it is consumed
- ▶ Solution: Branding and reputation
- ▶ WSJ online -> same logo, same format -> conveys the same quality, same brand, attracts the customer loyalty
- ▶ Tension between giving away your information and charging them to recover it is a fundamental problem -> discuss it later in the presentation

Economics of Attention

- ▶ “A wealth of information creates a poverty of attention” - economist Herbert Simon
- ▶ Competition for attention; people are forever searching to distill the vast information on the internet -> most popular website are search engines!
- ▶ Internet is different because allows for one-to-one attention, customized ads (like we have discussed previously in this course)

Technology Takeover

- ▶ Value of the web lies in its ability to provide immediate access to knowledge
- ▶ How many of you still even read books? Curious about a topic - > go to the internet
- ▶ New -> ability to manipulate information
- ▶ Whole new arena of systems competition - > who can build the fastest processors, the sleekest computer

Information Economy and Network Effects

- ▶ Value of a product depends on how many users there are = network effects
- ▶ Important for a product to gain critical mass; then the going gets easier
- ▶ Can gain critical mass by having strategic important partners, being smart about timing

Evolution into A Feedback Economy

Evolution into a feedback Economy

- ▶ Internet has the ability to harness these word of mouth networks
- ▶ Bidirectionality of the internet -> organizations can reach audience of millions, but individuals can also voice their opinions on public forums
- ▶ Will discuss online feedback mechanisms (reputation systems)
- ▶ Reputation systems = individuals share opinions on companies, products, and world events

Evolution, Contd.

- ▶ Best known application of reputation systems: used to build trust in online markets
- ▶ The widespread presence of online feedback mechanisms is changing people's behavior in various ways (movies, stocks, restaurants)
 - ▶ Amazon, Ebay, Epinions, Yelp
- ▶ Affects different aspects of organizations
 - ▶ Brand building, gaining customers - good reputation = more customers, vice versa
 - ▶ Product development, quality control - use reaction to re-engineer products
 - ▶ Supply chain quality assurance - organizations can better assess suppliers
- ▶ Intensifies relationship between producer and consumer; involves game theory

Online Feedback Mechanisms

- ▶ Modern instantiation of ancient concept of word-of-mouth
- ▶ Often the primary enabler of economic activity
- ▶ Differences
 - ▶ Enormous scale because of low-cost bidirectionality of internet
 - ▶ Automated feedback mediators (algorithmic analysis of feedback)
- ▶ Trust issues and problems with interpreting subjectivity

Case Study: EBay

- ▶ Best online feedback mechanism to date
- ▶ Transactions backed by trust, not by formal contracts
- ▶ Trading relationships are one-time deals usually (89 percent)
- ▶ Buyers feedback on sellers 60 percent of the time, sellers on buyers 52 percent of the time
- ▶ Feedback is positive: 99.1 percent positive, 0.6 negative, 0.3 neutral

Case Study: Ebay

- ▶ Conclusions of all the work done on ebay feedback mechanisms: feedback affect price and occurrence of sale, but effects are ambiguous
- ▶ Impact is higher for more expensive/riskier transactions
- ▶ Most important aspects are
 - ▶ Overall number of positive and negative ratings
 - ▶ Number of recently posted negative comments (posted in last week)

Evaluation Criteria

- ▶ Two most important concrete evaluation criteria (Dellarocas)
- ▶ 1) Expected payoffs of the outcomes induced by mechanism for various classes of stakeholders over their appropriate time horizon
- ▶ 2) Robustness of the outcomes against different assumptions about behavior
- ▶ 3) Thoughts?
 - ▶ How has feedback shaped your e-commerce experiences?
 - ▶ How has feedback shaped your everyday experiences?
 - ▶ Do you provide feedback?

Content Creation

- ▶ Tim Kreider on the struggles of content creators with the advent of the internet
- ▶ Abundance of information means diminished value
- ▶ Diminished value of creators of content
- ▶ Artists' salary is exposure, not money - is this fair?
- ▶ Information/content is often distributed free of charge, so how do content creators make money?
- ▶ Thoughts?

References

- ▶ “Information Rules”. Hal Varian and Carl Shapiro, 1999.
- ▶ “The Digitization of Word of Mouth”. Chrysanthos Dellarocas. *Management Science*; Vol 49 No. 10; 2003.
- ▶ “Slaves of the Internet, Unite!”. Tim Kreider. *New York Times*. Oct 206, 2013.