E-Commerce-Impact on Society
E-commerce—Why study it?

- Maybe the most emphasized area of technology applications → important
- What are the likely impacts of e-commerce on society both positive and negative?
- What is the role of computer professionals in ensuring that negatives are avoided and positives supported?
Brief History of E-Commerce

- 1970’s—EFT (Electronic Funds Transfer): between banks, over secure private networks
- 1980’s—EDI (Electronic Data Interchange): proprietary networks, JIT supply-chain streamlining
- 1990’s—WWW-based interchange using public networks; birth of completely online merchants
- 2000’s—Web Services: flexible interoperation using open XML-based protocols, e.g. SOAP
Partial Framework for E-commerce interactions

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<tr>
<th>Participants</th>
<th>Business</th>
<th>Consumer</th>
<th>Government</th>
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<tr>
<td>Consumer</td>
<td>C2B</td>
<td>C2C/P2P</td>
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<td>Government</td>
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What is E-Commerce?

- *Electronic*—in this discussion, meaning supported by computers and computer networks
- *Commerce*—the exchange of goods, services, ideas, and social interaction between individuals, groups, organizations, or governments; may or may not involve money
What are the impacts on society?

- Fundamental shift in the way goods, services, and ideas are created, produced and distributed
- Let’s take a look at some of the paradigms that have emerged
Online Retailers—E-tailers, .com

- Classic example is Amazon.com
  - Sells mostly tangible goods
  - No physical locations
  - Distributed inventory, service centers, shipping, etc.—sometimes called virtual organization
  - Offer convenience, wide selection, competitive pricing
  - Not as good for items consumers need to touch and feel to buy
  - Not prone to theft of merchandise
  - In practice, often difficult to make a profit
Bricks and Mortar

- Classic example is Barnes and Noble
  - Sells anything
  - Primary venue is physical stores
  - Necessary to have inventory located at stores which requires advanced shipping and inventory control
  - Customers can feel and try on goods
  - No need to wait for shipping
  - Threatened by e-tailers
Bricks and Clicks

- Classic example Barnes and Noble, and more recently Gateway computers
  - Combines e-tailing and physical locations to leverage the benefits of both
  - Last few years have served to highlight some of the main issues related to the shift to more and more e-commerce
Trust

- Earning consumer trust has been a key component to encouraging online transactions.
- This may not be such an issue with the younger generation, and particularly with people who are children now.
- Brand names become very important.
Security

- We have already discussed this in relation to privacy and intellectual property.
- Establishing adequate security is a key component of gaining consumer trust.
- Example of an innovation is single-use credit card numbers.
User Interfaces

- Studies show (www.useit.com) that good user interfaces for websites can increase traffic and browser/buyer conversion ratios by more than 200%.
- More than ever the importance of good design is emerging—especially interfaces for wireless and handheld devices.
Mass Customization

- Manufacturers can now produce batches of one—e.g. custom tailored blue jeans
Customer Relationship Management (CRM)

- Becoming a huge research area
- Focuses on how to make the best use of massive amounts of customer data that has been captured from transactions, purchasing, data mining, etc.
- Core question is how to attract and keep customers
Search Engines and Agents

- A major problem with online commerce is consumers’ ability to find the best product at the best price
C2C and P2P

- Classic business example: E-bay
- Classic non-business example: Napster
We discussed many of these issues during the week on government.

Computers facilitate the transactions that go on between the citizenry and government—e.g. e-file for taxes.
The Future?

- Ancient economies were based on a barter system which existed until the invention of money
- Do you think it’s possible to return to the barter system now that we have e-commerce?
- What would be good and bad about such a system?