Technology Issues in Electronic Commerce

What is E-Commerce

Many definitions …
Wide view: Electronically based (commercial) activities
Narrow view: Use of the internet to enable business transactions

For example:
‘The use of the Internet and the web to transact business. More formally, digitally enabled commercial transactions between and among organizations and individuals.’

K. Laudon and C. Traves, E-commerce, Addison Wesley 2001

E-commerce and e-business
Internet terminology is still in a state of flux; nowhere is this more evident than in the past use of the terms e-commerce and e-business. Both have been used to describe any business activity which uses the Internet. However, some consensus is emerging in that the terms are gradually being employed in a more focused way. The term e-commerce is increasingly being used to describe online retailing, for example the use of the Web to sell books. The term e-business is increasingly being used to describe all business activities using the Internet, not just online retailing.

D. Ince. Developing Distributed and E-commerce Applications, Addison Wesley 2002
Explosive growth, dot.com collapse
E-Commerce II (2001-2005)
Reassessment of e-commerce companies

<table>
<thead>
<tr>
<th>TABLE 1.5</th>
<th>E-COMMERCE I AND E-COMMERCE II COMPARED</th>
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<td><strong>E-COMMERCE I</strong></td>
<td><strong>E-COMMERCE II</strong></td>
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<td>Technology-driven</td>
<td>Business-driven</td>
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<td>Revenue growth emphasis</td>
<td>Earnings and profits emphasis</td>
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<td>Venture capital financing</td>
<td>Traditional financing</td>
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<tr>
<td>Ungoverned</td>
<td>Stronger regulation and governance</td>
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<tr>
<td>Entrepreneurial</td>
<td>Large traditional firms</td>
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<td>Disintermediation</td>
<td>Strengthening intermediaries</td>
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<td>Perfect markets</td>
<td>Imperfect markets, brands, and network effects</td>
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<td>Pure online strategies</td>
<td>Mixed &quot;clicks and bricks&quot; strategies</td>
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<td>First mover advantages</td>
<td>Strategic follower strength</td>
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</table>
A typical online commerce transaction

Supply chain management
Major Types of E-Commerce

<table>
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<th>TABLE 1.2</th>
<th>MAJOR TYPES OF E-COMMERCE</th>
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<td>TYPE OF E-COMMERCE</td>
<td>EXAMPLE</td>
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<tr>
<td>B2C — Business to Consumer</td>
<td>Amazon.com is a general merchandiser that sells consumer products to retail consumers.</td>
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<tr>
<td>B2B — Business to Business</td>
<td>eSteel.com is a steel industry exchange that creates an electronic market for steel producers and users.</td>
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<tr>
<td>C2C — Consumer to Consumer</td>
<td>eBay.com creates a marketplace where consumers can auction or sell goods directly to other consumers.</td>
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<tr>
<td>P2P — Peer to Peer</td>
<td>Gnutella is a software application that permits consumers to share music with one another directly, without the intervention of a market maker as in C2C e-commerce.</td>
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<tr>
<td>M-commerce — Mobile commerce</td>
<td>Wireless mobile devices such as PDAs (personal digital assistants) or cell phones can be used to conduct commercial transactions.</td>
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K. Laudon and C. Traves, E-commerce, Addison Wesley 2001

Type of Applications

- Home shopping (banking, etc)
- Electronic service delivery (e.g. GOL)
- Information repository and exchange
- Procurement, B2B, Electronic Market places, Enterprise applications
- Electronic democracy, Voting, Justice, Policing
- etc
Can you think of more!?

E-Commerce & Technology

- Technology should not be at the center of your business case
- However …
This course

• This is a graduate-level course

• Big picture (which is important), what is e-commerce about, what are the subjects that you might want to study in more detail

• (Lectures), discussions, assignments, feedback test

• Talk to specialists, learn their culture

• How to succeed: Ask questions, be active, have fun!!!

Focus of this course

- Technology issues
- Concepts & Tools (overview)
- Networking (specifically the internet)
- Distributed Systems
- Web programming
- Data warehousing & mining
- Enabling technology (e.g. cryptography)
- Standards & protocols
CS and E-Commerce

- Level of technology discussions
  (Do I have to program?)
- Interfacing technology with business