Introduction to
Electronic Commerce/Electronic Business

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Networked Economy

- Creates value through the collection, organization and distribution of information
- Formulates strategies to manage the digital enterprise
- Competes in real-time
- Operates in a world characterized by low barriers to entry
- Organizes resources around the demand side (customer is the core)
- Employs ICT to manage relationships with customers and markets
Digital Economy

- An economy based on **digital technologies**, including digital communication networks, computers, software, and other related information technologies (Internet economy; the new economy)

- A **global** platform over which people and organizations interact, communicate, collaborate, and search for information
Electronic Commerce (EC) Concept

- The Internet has emerged as the major worldwide distribution channel for goods, services, managerial and professional jobs
- This is profoundly changing economics, markets and industry structure, products and services and their flow, consumer segmentation, consumer values, consumer behavior, jobs, and labor markets
eCommerce Perspectives

Communications

Commercial

Business Process

Service
eCommerce Definitions

- **Communication**: delivery of goods, services, information, or payments over networks or any other electronic means
- **Commercial (trading)**: provides capability of buying and selling products, services, and information via online services
- **Business process**: doing business electronically by completing business processes over electronic networks (substituting physical business processes)
- **Service**: a tool that addresses the desire of governments, firms, consumers, and management to cut service costs while improving the quality of customer service and increasing the speed of service delivery
Electronic Business Definitions

- It is a dynamic set of technologies, applications and business processes that link enterprises, consumers and communities through the electronic exchange of goods, services, transactions and information (technology enabled and technology-mediated)
  - eGovernment
  - eLearning
  - eTraining
  - edutainment
Electronic Commerce Models

- **Pure v Partial eCommerce** depends upon the degree of digitization of the
  - product (service) sold;
  - process; and for
  - delivery agent

- **Virtual organizations** conduct their business activities solely online

- **Click-and-mortar organizations** conduct some eCommerce activities, but do their primary business in the physical world

- **Brick-and-Mortar organizations** are old-economy corporations that perform most of their business offline, selling physical products by means of physical agents

- **Electronic market (eMarketplace)** online marketplace where buyers and sellers meet to exchange goods, services, money, or information
Dimensions of eCommerce

Types of eCommerce

Business originating from . . .

<table>
<thead>
<tr>
<th>Business</th>
<th>Consumers</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2B</td>
<td>C2B</td>
</tr>
<tr>
<td>B2C</td>
<td>P2P</td>
</tr>
</tbody>
</table>

And selling to . . .
Major types of eCommerce

- Business2consumer (B2C)
  - Online transactions are made between businesses and individual consumers
    - eTailing (online retailing)
    - Examples: amazon.com, dell.com
Business2Consumer

www.dell.com
Major types of eCommerce

- Business2business (B2B)
  - Businesses make online transactions with other businesses intra-business eCommerce
  - eCommerce conducted inside an organization (e.g., business2employees B2E)
Business2Business

www.speedsend.com
Other types of eCommerce

- Consumer2business (C2B)
  - Individuals use the Internet to sell products or services to organizations

- consumer-to-consumer (C2C)
  - Consumers sell directly to other consumers

- mCommerce
  - eCommerce transactions and activities conducted in a wireless environment
Who are the C2B Actors?

C2B business models like most of C2C models like Ebay are based on 3 players: a consumer acting as seller, a business acting as buyer and an intermediary dealing with the connection between sellers and buyers.

Consumer

A consumer in the C2B business model can be any individual who has something to offer either a service or a good. The individual is paid for the work provided to the companies. Depending on the model, the "consumer" can be:

- A webmaster/ blogger offering advertising service (through Google Adsense program for example or amazon.com affiliation program)
- A photographer or a designer offering stock images to companies by selling his artwork through Fotolia or istockphoto for example
**Consumer2Business**

Consumer2consumer

http://en.wikipedia.org
Other types of eCommerce

☐ eLearning
  - Online delivery of information for purposes of training or education

☐ eGovernment
  - eCommerce model in which a government entity buys or provides goods, services, or information to businesses or individual citizens
Welcome to the e-Learning Centre

an information resource for learning and development professionals and academics and staff developers

At the e-Learning Centre you will find a large collection of selected and reviewed links to e-learning resources. These are categorised into 5 main sections:

1. **Library**: Links to selected and reviewed articles, white papers, research reports, journal articles and resource collections in the wide field of e-learning.

2. **Showcase**: Links to examples of interesting online courses, learning materials and other e-learning solutions for business, colleges, universities as well as for general interest.

3. **Products & Services**: Links to e-learning products and services in 3 categories: e-Learning tools and systems, Off-the-shelf e-learning content and e-Learning service providers (content developers, consultants, etc).

4. **Events**: Links to conferences, workshops, seminars and short courses in the area of e-learning.

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eCommerce Environment (trio Net)

- **Internet**: global information networked environment
- **Intranet**: a corporate or government network that uses Internet tools, such as web browsers, and Internet protocols (corporate information networked environment)
- **Extranet**: a network that uses the Internet to link multiple intranets (between business partners and associates)
eCommerce Framework

- eCommerce applications are supported by a comprehensive infrastructure and by 5 building blocks:
  - People
  - Public policy
  - Marketing and advertising
  - Support services
  - Business partnerships
eCommerce Framework
Nature of eCommerce is Interdisciplinary

- Computer science
- Marketing
- Consumer behavior
- Finance and accounting
- Economics
- Management information systems
- Business law
- Psychology
Benefits of eCommerce to organizations

- Global reach (no boundaries – expanded market exposure)
- Cost reduction (up to 90%)
- Supply chain improvements (logistics and operations)
- Extended hours: 24/7/365 (no time differences)
- Customization (improved and friendly customer relations)
- Rapid time-to-market (real-time)
- Online currency of information updates
- Just-in-time manufacturing
Benefits of eCommerce to individuals

- More diversified variety of products and services
- 80% chance for better and cheaper products and services
- Instant delivery
- Information availability leading to more knowledgeable customers
- Electronic communities and interactive shopping
- 24 hours a day shopping, no boundaries
- Vendor free, product free, location free choice
- More competition, better service, better quality and better price
Benefits of eCommerce to society

- More work, less traveling, less traffic and less air pollution
- More people can buy more products with less money leading to raising the standard of living
- On a global scale, minimizing haves and have nots
- Reaching out to rural areas in government and public services
- Telecommuting
eCommerce Limitations

- **Technological limitations**
  - Lack of universally accepted **standards** in terms of security, quality and reliability
  - **Software** developing tools are still evolving
  - Internet **accessibility** is expensive
  - Telecommunications **bandwidth** is still growing

- **Non-technological limitations**
  - Lack of **trust** in security and privacy deter customers from buying online
  - Legal issues including **taxation** are not resolved
  - National **regulations** and **policies** sometimes conflict
  - Customers frequently want to feel the **products**
  - **Fraud** on the Internet
eCommerce Management Challenges

- Understanding how customers are evolving
- Anticipating ICT changes
- Setting realistic expectations regarding eCommerce benefits
- Integrating online and offline activities (hybrid models)
- Identifying how eCommerce activities can be a source of competitive advantage
Internet Platform

- Technology
- Business Tool
- Marketing Tool
- Social Space
# Internet Growth

## eCommerce Platform

<table>
<thead>
<tr>
<th>Country</th>
<th>Internet users</th>
<th>% of population</th>
<th>Broadband households</th>
<th>% of total households</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Australia</td>
<td>13.6</td>
<td>66.7%</td>
<td>4.3</td>
<td>53.9%</td>
</tr>
<tr>
<td>2. Canada</td>
<td>21.8</td>
<td>65.3%</td>
<td>8.1</td>
<td>62.6%</td>
</tr>
<tr>
<td>3. France</td>
<td>30.9</td>
<td>50.6%</td>
<td>12.8</td>
<td>48.0%</td>
</tr>
<tr>
<td>4. Germany</td>
<td>42.0</td>
<td>51.0%</td>
<td>14.8</td>
<td>38.6%</td>
</tr>
<tr>
<td>5. Italy</td>
<td>30.1</td>
<td>51.8%</td>
<td>9.3</td>
<td>41.6%</td>
</tr>
<tr>
<td>6. Japan</td>
<td>89.1</td>
<td>69.9%</td>
<td>26.0</td>
<td>57.3%</td>
</tr>
<tr>
<td>7. South Korea</td>
<td>35.6</td>
<td>72.7%</td>
<td>13.0</td>
<td>79.8%</td>
</tr>
<tr>
<td>8. Spain</td>
<td>18.3</td>
<td>45.2%</td>
<td>6.3</td>
<td>47.5%</td>
</tr>
<tr>
<td>9. UK</td>
<td>37.2</td>
<td>61.2%</td>
<td>13.9</td>
<td>54.6%</td>
</tr>
<tr>
<td>10. US</td>
<td>188.1</td>
<td>65.2%</td>
<td>65.0</td>
<td>53.6%</td>
</tr>
</tbody>
</table>
Economics of IT

- Mainly dominated by decreasing cost
  - Early 1990s (Computing)
  - Mid 1990s (Connectivity)
  - Late 1990s (Bandwidth)
  - Early 2000s (Interactivity)
Electronic Commerce
Changing the Rules of Competition

- 1980s
  - Company versus company

- 1990s
  - Supply chain versus supply chain

- 2000s
  - Business model versus business model
Reasons for Going Online

- Expand market reach (no distance or geographical barriers)
- Visibility (global presence)
- Responsiveness (instant)
- New services (diversity)
- Strengthening business relationship (dealing directly with the customers)
- Cost reduction
Electronic Commerce Concerns

- Competition is growing locally and globally
- Copyright violation is a becoming a real issue
- Customer acceptance needs to be better handled from a cultural perspective
- There is no legal framework for the Internet that is binding on a worldwide basis
- The Internet is less personal so people are not bound to a certain vendor (no loyalty)
- Security is a real concern for individuals and organizations
- Some companies are unsure of the viability of their digital business case
Statistics from the World
Europe Becoming Online

- 59% of European homes have some sort of Internet appliance
- 57% of these appliances will be PCs
- UK leads the online appliance market with 30% penetration, followed by France with 16% and Spain with 15%
- Small and medium-sized European businesses showed sharp increases in Internet use
  - 70% are online
  - 40% have their own websites
Statistics from the World
India Becoming Online

- Internet subscribers reached 25 million in 2006
- Establishment of 10,000 community Internet centers (each with 6 PCs)
- Indian state and federal governments invested 1.2 billion US dollars between 2002 and 2005 in eGovernment
Digital Revolution Characteristics

- Globalization
- Digitization
- Speed
- Information overload
- Convergence
- Innovation
- Business models and processes
Future of eCommerce

- The total online shopping in the US could go up to 7 trillion US dollars by 2008
  - Number of Internet users worldwide should reach 1.1 billion
  - 50% of Internet users will shop online by 2020
  - eCommerce growth will come from mainly from B2B
  - Some growing applications are the mSeries (mobile evolution)
    - mGovernment
    - mCommerce
    - mLearning
Case: US Market

- According to comScore Networks, 2006 online retail spending reached a record 102 billion US dollars, a 24% increase from 2005.

- Over the next five years, Jupiter expects US online retail sales to grow at a compound annual growth rate of 11%, reaching 171 billion US dollars in 2011 and accounting for 6.6% of total retail sales.
Case: Asia-Pacific

- Japan and South Korea, the region's largest markets had online sales volumes of 34 billion and 14 billion US dollars, respectively in 2006 with projections for stable growth in the foreseeable future.

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2010</th>
<th>% market share 2006</th>
<th>CAGR 2006-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>$33.5</td>
<td>$61.9</td>
<td>65.4%</td>
<td>16.6%</td>
</tr>
<tr>
<td>South Korea</td>
<td>$14.0</td>
<td>$28.8</td>
<td>27.3%</td>
<td>19.7%</td>
</tr>
<tr>
<td>China</td>
<td>$2.5</td>
<td>$18.0</td>
<td>4.9%</td>
<td>63.7%</td>
</tr>
<tr>
<td>India</td>
<td>$1.2</td>
<td>$6.4</td>
<td>2.3%</td>
<td>50.7%</td>
</tr>
</tbody>
</table>

Note: converted at average annual exchange rates (projected for future years); *includes online travel; **CAGR=compound annual growth rate
Source: eMarketer, January 2007

www.eMarketer.com
Case: Worldwide Online Sales

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>50.0%</td>
</tr>
<tr>
<td>Europe</td>
<td>30.6%</td>
</tr>
<tr>
<td>India</td>
<td>2.3%</td>
</tr>
<tr>
<td>South Korea and Japan</td>
<td>3.8%</td>
</tr>
<tr>
<td>Central and South America</td>
<td>3.0%</td>
</tr>
<tr>
<td>Mexico</td>
<td>3.0%</td>
</tr>
<tr>
<td>Other</td>
<td>7.3%</td>
</tr>
</tbody>
</table>

Note: includes chain retailers, catalog companies, Web-only merchants and consumer brand manufacturers
Source: Internet Retailer with WebSurveyor, October 2006
eCommerce Worldwide (2006-2010)

Retail E-Commerce Worldwide, 2006-2010 (millions and % change)

- 2006: $335,024 (24.2%)
- 2007: $419,745 (25.3%)
- 2008: $517,096 (23.2%)
- 2009: $608,714 (17.7%)
- 2010: $711,390 (16.9%)
eCommerce Success Stories

- Virtual eCommerce companies
  - www.ebay.com
  - www.google.com
  - www.yahoo.com
  - www.aol.com

- Click-and-Mortar companies
  - www.cisco.com
  - www.intel.com
  - www.ibm.com
  - www.ge.com
eCommerce Failure Cases

- Virtual eCommerce companies
  - www.etoys.com
  - www.chemdex.com (B2B)
  - www.verticalnet.com
  - www.drugstore.com