

MIS Lecture 10

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Introduction to e-Commerce

- e-Commerce
- e-Business
- Types of e-Commerce
- Dimensions of e-Commerce
- People involved in e-Commerce development
- Strategy formulation for e-Commerce
- Basic Technology of the Internet

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e-Commerce vs e-Business

e-Commerce

Refers generally to all forms of transactions related to commercial activities, including both organizations and individuals, that are based on the processing and transmission of digitized data, including text, sound and visual images

e-Business

- ✦ Digitally enabled transactions and processes within a firm, involving information systems under the control of the firm
- ✦ Does not involve commercial transactions across organizational boundaries where value is exchanged

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Feature distinguish of e-Commerce Technology

- ✦ **Ubiquity:** Available anywhere anytime
- ✦ **Global reach:** Over 400 Million web users, and increasing
- ✦ **Universal Standards:** Internet standards
- ✦ **Richness:** Multimedia content
- ✦ **Interactivity:** 2-ways communication
- ✦ **Information Density:** High quality info, low cost
- ✦ **Personalization/Customization:** Personalized info for different visitors

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Major Types of e-Commerce

Business-to-Business (B2B)

refers to the full spectrum of e-commerce that can occur between two organizations.

- This includes purchasing and procurement, supplier management, inventory management, channel management, sales activities, payment management & service and support.

Business-to-Consumers (B2C)

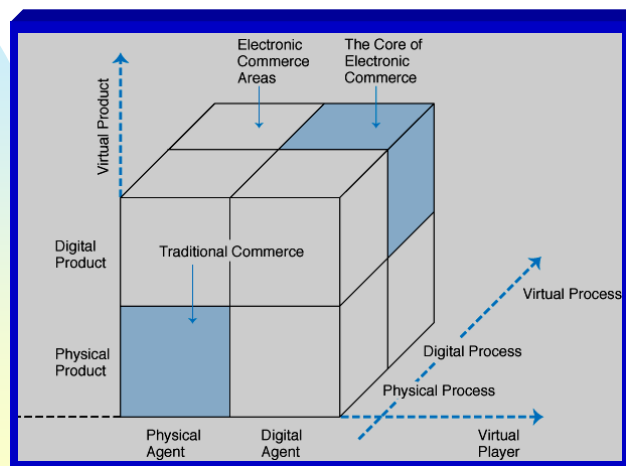
refers to exchanges between business and consumers, like the ones managed by Amazon Yahoo and Charles Schwab & Co.

Consumer-to-Consumer (C2C)

involve transactions between and among consumers. These can include third party involvement, as in the case of the auction website eBay.

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The Dimensions of Electronic Commerce



Source: Choi et al. (1997), p. 18.

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The dimensions of EC

Product	Process	Delivery	e.g.	Type of E-Commerce
D	D	D	S/W download	Pure EC
D	D	P	Buy CD	Partial EC
D	P	D	E-Library Subsc in Bank	Partial EC
P	P	D	Not feasible	-
P	D	D	Not feasible	-
P	D	P	Buy book from Amazon	Partial EC
P	P	P	Buying cell phone from high street	Pure traditional e- commerce

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The people involved in developing e-Commerce systems

- ✦ **Organizational Professionals**
 - ✦ People who know what the organization needs and who decide what to get
- ✦ **Computer Professionals**
 - ✦ People who help the business professionals identify needs and possibilities and then turn these possibilities into realities
- ✦ **Project Managers**
 - ✦ Understands how to combine the skills of organizational and computer people in order to achieve successful development.
 - ✦ May come from either an organizational or a computer background

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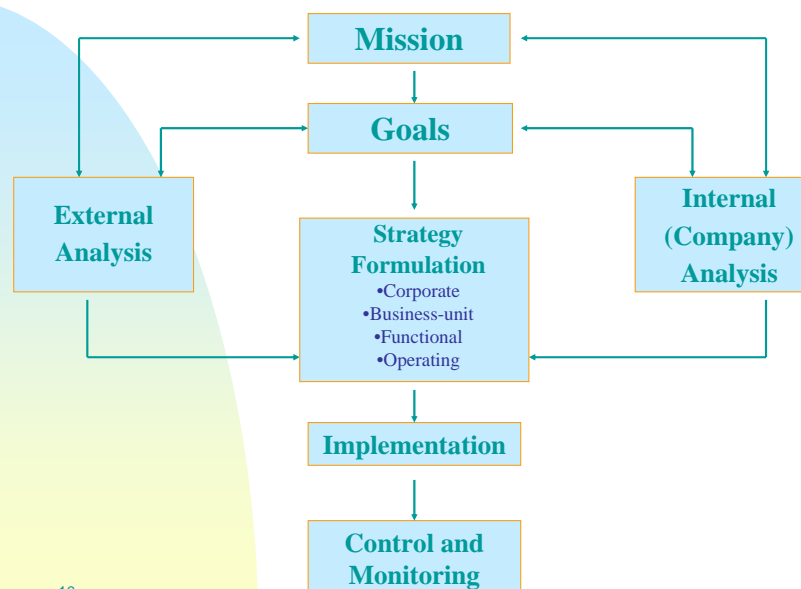
Strategy Making in a Rapidly Changing Environment

How can a company faced with the changing online environment set a strategy?

- *Classical Strategic planning*
 - This begins with the specification of the mission and vision of the firm.
 - A careful balance of internal and external analysis leads to a choice of strategy for the company as a whole called “corporate strategy”.
 - Strategies that relate to specific divisions within a company are termed as “business-unit strategies”.

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Classic Framework for Strategy Management



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New Views of e-Commerce Strategy

Speed of change and adaptation must be figured into the classical strategic management equation.

Proposed Approaches to Strategy Formulation in Networked Economy

1. Sense and respond paradigm:

- It provided an approach to strategic thinking that was intuitive, actionable and easy to implement.
- It made companies focus on listening in a new manner to customers to reduce the high levels of uncertainty.
- Drawbacks:
 - Its very reactive and the starting point is always the customer.
 - This is more appropriate for traditional offline companies.

2. Strategy as rules:

- Focus on “simple rules” rather than complex strategic planning exercises.
- Simple rules help the senior e-commerce manager recognize positive (or negative) situations and react accordingly.

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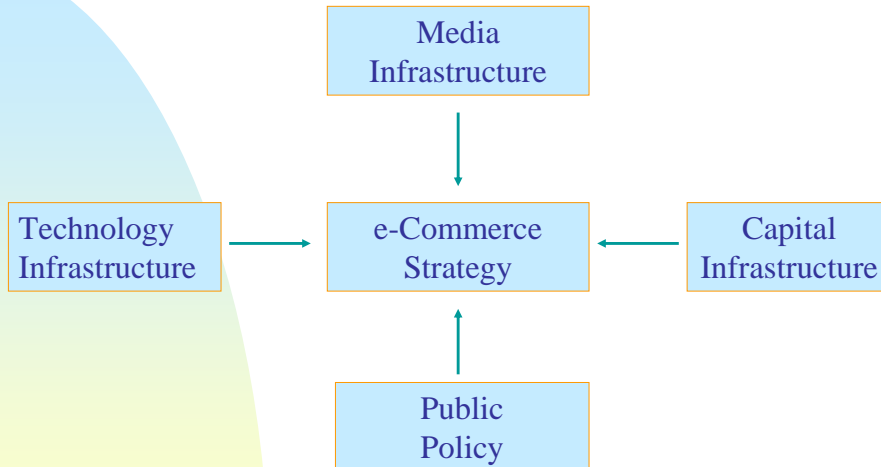
Factors of Consumer Behavior in the Online Environment

The 2 key factors that are of paramount importance in the online environment are:

- **Customization:** This refers to the personalization of communications between users and a website.
- **Interactivity:** is defined as the user’s ability to conduct two-way communications. This includes user to user and firm to user communication.

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A Comprehensive Framework



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The Context of Strategy Formulation: The Four Infrastructures

- ❑ *Technology infrastructure*: This is both an enabler and driver of change. The hardware backbone of computers, routers, servers, fiber optics, cables, modems, etc. provide half of the technology equation. The other half includes the software and communication standards including the core protocols for the www.
- ❑ *Capital Infrastructure*: Deals with getting the money to launch new businesses and finding the right people to build the business plan and seek funding sources.

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The Context of Strategy Formulation: The Four Infrastructures (cont'd)

- ❑ **Media infrastructure:** The e-commerce managers must make choices about the types of media employed (e.g., print, audio, video), the nature of the media and editorial policy (including style, content, look and feel).
- ❑ **Public Policy Infrastructure:** All the decisions related to strategy, technology, capital and media are influenced by laws and regulation, i.e., public policy decisions. It not only affects specific business but also direct and indirect competitors.

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The Strategy Formulation Process

- ❑ ***There are six interrelated, sequential decisions to strategy:***
 - Framing the Market Opportunity
 - Business Model
 - Customer Interface
 - Market Communication and Branding
 - Implementation
 - Metrics

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e-Commerce Strategy



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How the Internet Works

Characteristics that allow shared access of data in a network :

1. Unique identification of each computer on the network

Internet is a network of millions of computers and thousands of networks intertwined together. Thus it was important that each computer can be uniquely identified by assigning a specific Internet Protocol(IP) address.

e.g., 198.108.95.145

2. Human-friendly addressing

Domain Name System (DNS) gave each computer on the network an address comprising an easily recognizable letters and words instead of an IP address.

e.g., www.philanthropy.com

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How the Internet Works (cont'd)

3. Packet Switching

- *To remedy delays associated with unequally sized data transfers, instead of transferring files in their entirety, whole files are broken up into data packets before being transferred over the network.*

4. Routing

- *Routers are dedicated, special-purpose computers which serve as an intermediary between networks. They route packets efficiently through networks. Routers are building blocks of the internet.*

5. Reliability and Transmission control Protocol

- *IP software handles packet deliveries and TCP handles safe delivery of packages.*

6. Standardization

- *Without the TCP/IP standardization, there would have been many negative tradeoffs, such as inflexibility and increased functional and switching costs.*

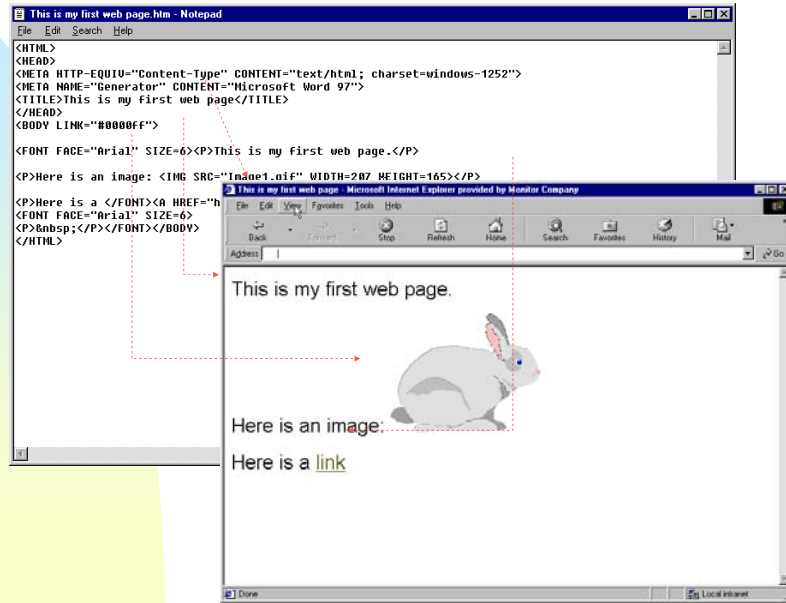
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How are Web Sites Created?

1. A Web page can be made by adding text-based codes called Hyper Text Markup Language (HTML) to a text file. Text editor allows to create WebPages and gives more flexibility and control over design and layout.
2. Document conversion tools enable existing documents and new documents to be created and posted with minimal investment in learning markup language.
3. Several web authoring tools are available; e.g., Microsoft FrontPage lets users add multimedia objects such as sound and animation to their web pages.
4. High-end Web authoring tools such as Dreamweaver and Adobe GoLive offer more powerful site creation and management features, and allow expanded features such as database integration to be built in a web site.

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Browser View and Source View of a Web Page



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What Web pages are made of

- **The entire Web is built upon three concepts: web pages (documents seen on the browser), links (connecting one web page to another), and servers (storing and transmitting the information to the browsers for display)**
- **No special software is required to create a web page**
- **Majority of pages are created using Hyper Text Markup Language(HTML)**

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Contents of the Web

- **Links**
 - Internal Anchor Links:
 - Internal anchors are used to connect with other locations within the same document.
 - Page Links:
 - Page links allow users to link to other web pages.
 - Mail-to Links:
 - Mail links are used to let users send feedback and questions directly to them.

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Contents of the Web (cont'd)

- **Forms**
 - Forms are basically web pages where the user can enter information on the fields provided on the page. Forms are useful in getting highly structured feedback.
- **Images**
 - The most supported image formats on the Web are Graphic Image Format (GIF) and Joint Picture Encoding Group (JPEG).
- **Multimedia**
 - Web supports multimedia file type such as images, audio and video.

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Capturing Content

Capturing contents and compressing data

- **Print Images**

Printed images can be captured with low cost scanners and photos can be downloaded with digital video cameras.

- **Audio**

Sounds can be captured, compressed and stored for use on the web.

- **Video**

Video capture cards allow users to capture the analog video output of camcorders, VCRs and DVD players.

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Web Browsers

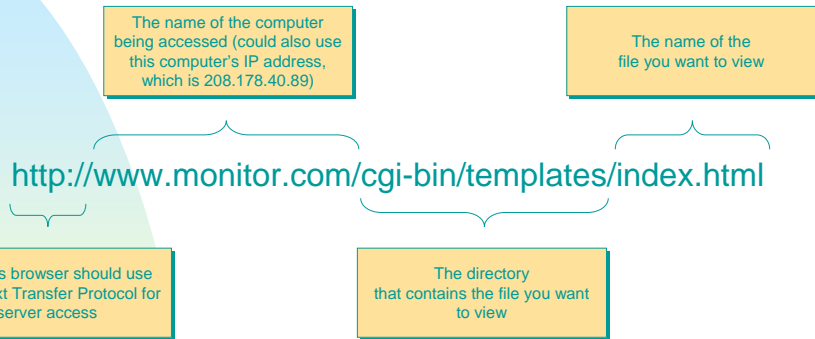
- Browsers make the retrieval process transparent.
- Uniform Resource Locator (URL):

Tells the browser several things about how to access the desired content:

1. The transmission protocol to access the content.
 - e.g., Hyper Text Transfer Protocol for Web Pages, File Transfer Protocol (FTP) for transmission of files and the extended S-HTTP for a higher degree of security.
2. The name of the computer where the content can be found
3. The directory on the computer where content is stored, and
4. The name of the file containing the content.

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Components of a URL



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Source: Adapted from Douglas Comer, *The Internet Book*, 3rd Ed. (New Jersey: Prentice Hall, 2000), 203.