Chapter 03
The Internetworked E-Business

Arthur H. Walton

Leaning Objectives
1. Understand the role of the internet.
2. Understand E-Business (“eB”) and E-Commerce (“eC”) Difference?
3. Understand Electronic Data Interchange (“EDI”).
4. Understand Collaborative systems (groupware)

Internet
The Information Age
The pillars of the information age are:
1. Explosive growth in computing power.
2. Rapid advancement in software functionality.
3. The emergence of the Internet as a standard data-transport network.

Internet (continued)
Key Questions
• What is it?
• What do you do with it?
• Who owns, runs and controls it?
• How big is it?
• How did it become what it is?
• What will it be like in the future?

Internet (continued)
Four primary uses of the Internet:
1. Information Source
2. B2C: We personally use it to buy things.
4. Intranets: Businesses use it as an information source and to share access to common information.
**Internet (continued)**

**How it works?**
A network of networks linked together by routers.

Based on accepted standards, i.e., TCP/IP, HTML, hypermedia databases, network management and security software.

“It is easy to join the Internet Club.”

---

**Key to Internet User Acceptance**

1. World Wide Web (WWW)
2. Search Engines (IE and Navigator)
3. Browsers

---

**Internet (continued)**

- 1969 First four nodes (UCLA, SRI, UCSB and Univ. of Utah on ARPANET (DOD sponsor)
- 1971 Fifteen nodes.
- 1972 Thirty-seven nodes (all universities)
  - Main traffic had become E-mail!
- 1973 First TCP draft as an international effort.
- 1977 Started using TCP/IP to link other networks.
- 1978 Finalized TCP/IP after four iterations.
- 1980 TCP/IP became preferred military protocol.
- 1984 National Science Foundation created NSFNet.
- 1985 marked start of growth in TCP/IP products.
- 1986 exponential growth of Internet began.

---

**Criticism of the Internet**

- Copyright Infringement
- Adverse Social Issues
- Invasion of Privacy
- Dangers of Hacker-attacks
- Negative technical issues like poor response time

---

**Internet Business Values**

- Generate New Revenue Sources
- Reduce Costs of Doing Business
- Develop New Markets and Channels
- Develop New Web-based Products
- Attract New Customers
- Increase Customer Loyalty and Retention

---

**Internet (continued)**

- 1989 ARPANET became a victim of its success.
- 1991 World Wide Web was developed at CERN.
- 1993 January - Mosaic released by NSCA (free!)
- 1993 December - Marc Andreessen left NSCA.
- 1994 April - Jim Clark founded Mosaic and hired Marc Andreessen and his pals.
- Microsoft versus Netscape
- AOL acquires Mosaic
E-Business Definition

E-Business is defined as the use of Internet (network) technologies to inter-network and empower business processes, electronic commerce and enterprise communication and collaboration within a company and with its customers, suppliers and other business stakeholders.

E-Commerce Definition

The marketing, buying, selling and support of products and services over networks. (the Internet?)

- B2B – Business to business (GE, Intel, Cisco, etc.)
- B2C – Business to consumer (Amazon.com, etc.)
- C2C – Consumer to consumer (i.e. eBay)

Customer-Focused E-Business

Let customers place orders directly
Let customers place orders thru distribution partners
Let customers check order history and delivery status
Give all employees a complete view of customers
Build a community of customers, employees, and partners

IS Initiative Justification

Market Capitalization Growth
Revenue Growth
New Market Entry
Management Directives
Competitive Pressures

Source: Internet Week
Electronic Data Interchange is commonly defined as the computer-to-computer exchange of business documents between organizations in a standard electronic format.

**EDI Applications**

- Purchase Orders
- Invoices
- Freight Bills
- Advanced Shipping Notices
- Inventory/Sales Data

**EDI System Obstacles**

- Data
  - Company data versus standards
  - Cross industry standards
  - Standards administration
  - Time zones and windows
  - Communication protocols
  - Telecommunications equipment
  - Service cost and balance
- Communications
- Applications
  - Integration
  - Features and function supported
  - Interface

**Groupware**

- Electronic Communications Tools
  - E-Mail
  - Voice Mail, Faxing
- Electronic Conferencing Tools
  - Voice Conferencing
  - Video Conferencing
- Collaborative Work Management Tools
  - Calendaring
  - Task and Project Mgmt
  - Workflow Systems
  - Knowledge Mgmt
  - Document Sharing
Groupware (continued)

Architecture

Three C’s of workgroup architecture

Groupware (continued)

Collaboration

Three C’s

Coordination

Communication

Discuss

Distribute

E-mail

Forums

Review

Approve

Release

Desktop

Groupware (continued)

Workgroup Infrastructure

What is workflow?

"Any business related task performed by two or more members of a workgroup, simultaneously or in sequence, to achieve a common goal."

Ivar Jacobson

Groupware (continued)

Who is Ray Ozzie?

Ray Ozzie was the original developer of Lotus Notes (groupware product) who left after Lotus was bought by IBM.

The success of Lotus Notes gives Ozzie and his new company definite and instant credibility.

This also puts Ozzie in the position to know the strengths and weaknesses of Lotus Notes where the company has a smaller number of people that they want to provide computer-based collaborative capabilities.
What is Peer-to-Peer?
Peer-to-peer is a computing environment where end user computers connect DIRECTLY with each other via the Internet or other telecommunications network links.
This contrasts with a hierarchical approach which is a tree-like structure that would require going all the way to the top of the tree and back down again even if the person you are communicating with is in the office next to you.

Groove Networks Software
Enables small group of workers to get together quickly online to collaborate on projects.
The software is designed to work best for groups of 25 people or fewer.

Groove Networks Software
Groove links workers via their PCs without the assistance of a central web server so that they can share all kinds of digital data online.