

Chapter 3

Using Information Technology to Engage in Electronic Commerce

- Inter-Organizational Systems IOS
- Electronic Data Interchange EDI
- Business Process Redesign BPR
- Value Added Networks

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What is Electronic Commerce?

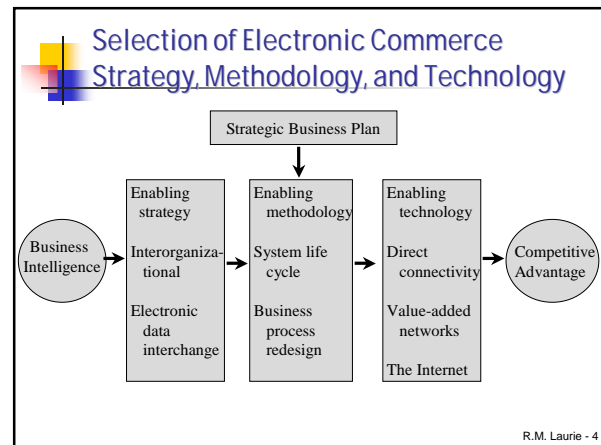
- **Electronic commerce is the use of computers to facilitate the firm's operations**
 - internal (finance, marketing, manufacturing, ...)
 - external (customers, suppliers, government, ...)

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Electronic Commerce

- **Benefits**
 - improved service, especially to customers
 - improved relationships to suppliers and the financial community
 - increased return on stockholder and owner investments
- **Constraints**
 - high costs
 - security concerns
 - immature or unavailable software

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Business Intelligence

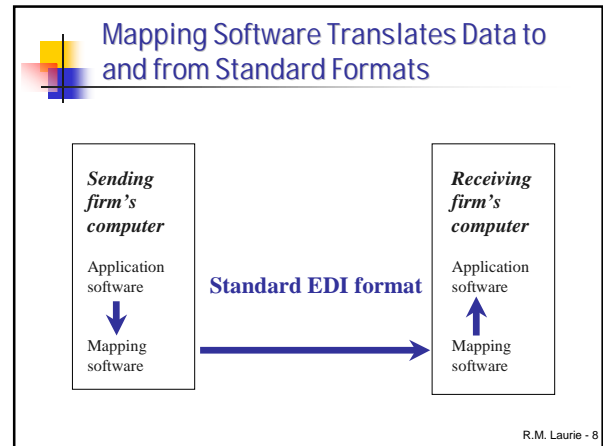
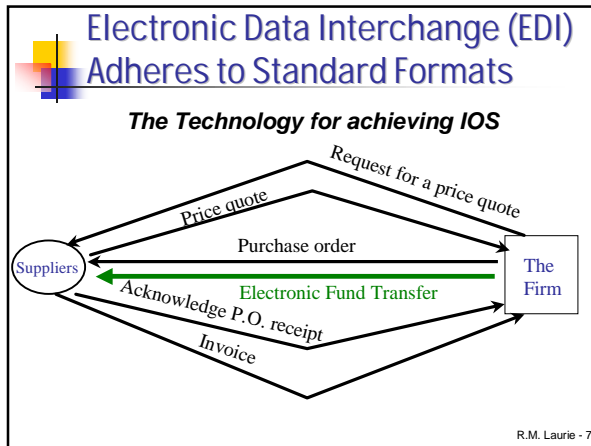
- **Evolved from simply gathering data about competitors to data gathering about all environmental elements**

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Interorganizational System (IOS)

- These link two or more firms so that they function as a single system to accomplish a common goal
- Generate internal efficiency in addition to interorganizational efficiency
- Provides customers with unique product features, reduced search-related costs, and raises the customer's switching costs
- Extranets are computer networks that allow information sharing between firms.
 - Provide security using firewall
 - Technology is based on Internet protocols

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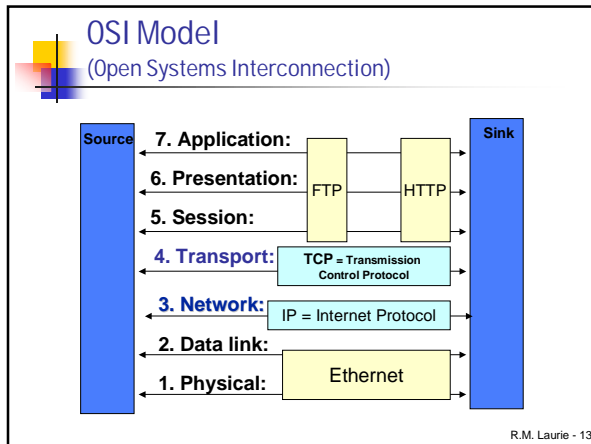


- ### EDI Benefits
- 1) Reduced errors
 - 2) Reduced costs
 - 3) Increased operational efficiency
 - 4) Increased ability to compete
 - 5) Improved relationships with trading partners
 - 6) Improved customer service
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- ### Electronic Commerce Technology
- Direct Connectivity
 - Value-Added Networks
 - The Internet
 - Marketing and customer service
 - Intranets
 - Secure local network
 - Extranets
 - Secure network to suppliers and customers
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- ### ARPANET
- Developed with Government Funding
 - Specification made Available to Public
 - Open System
 - Any company could build compatible system
 - ARPANET Internetworking Protocol = TCP/IP
 - TCP/IP becomes the standard
 - Connecting LANs and WANs
 - ARPANET is now called the Internet
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- ### TCP/IP Protocol Suite
- Combination of two Protocols
 - IP = Internet Protocol
 - Provides basic end to end communication
 - Layer 3: Network Layer of OSI Model
 - TCP = Transmission Control Protocol
 - Provides Reliable data transport
 - Layer 4: Transport Layer of OSI Model
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Basic Functionality: Internet Protocol (IP)

- IP defines computer communication details.
 - Specifying how packets are formed
 - Specifying how routers forward each packet
- Computers connecting to the Internet must follow the IP rules.
- Computers need IP software before using the Internet.

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The Reality Of Internal Structure

- The Internet contains a complex physical structure transparent to the users

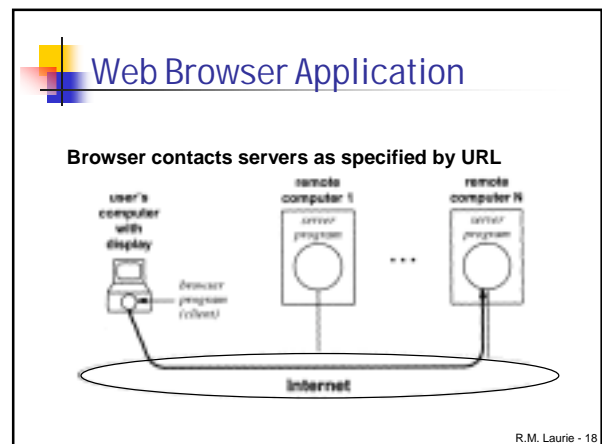
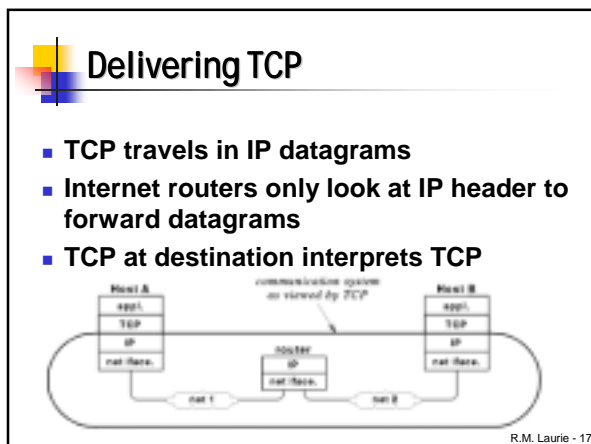
The diagram shows a network with nodes labeled a, b, c, d, e, and f. A router connects networks a and b. A computer is attached to network d.

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TCP

- Transmission Control Protocol (TCP) is most widely used transport protocol
- Provides reliable data delivery by using IP unreliable datagram delivery
- Compensates for loss, delay, duplication and similar problems in Internet components
- TCP handles the problems that IP does not handle without duplicating the work that IP does.

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Key Web Terminology

- Website
- Hypertext link
- Web page
- Home page
- Internet Browser
- Universal reference locator (URL)
- Protocol / domain / path
- W3C = World Wide Web Consortium

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Parts of a Universal Reference Locator (URL)

hypertext transmission protocol hypertext markup language

http://aisvm1.ais.com/abra7883/index.html

domain name path
(directory and file name
on the web server)

Internet Security

- Any resources linked to data communications have risk
- Security by physically separating the Web site from the firm's computer resources
- Security by using passwords that allow access to computing resources
- 'Firewalls' using routers, intermediary computers or application-level methods

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Business Applications for the Internet

- Marketing research
- Competitive intelligence
- Retailing applications
- The future impact of the Internet on business is enhanced as the National Information Infrastructure programs become established

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