



ACS-1803
**Introduction to Information
Systems**

Instructor: Trevor Nadeau

E-Business, E-Commerce
Lecture Outline 10



eBusiness vs eCommerce



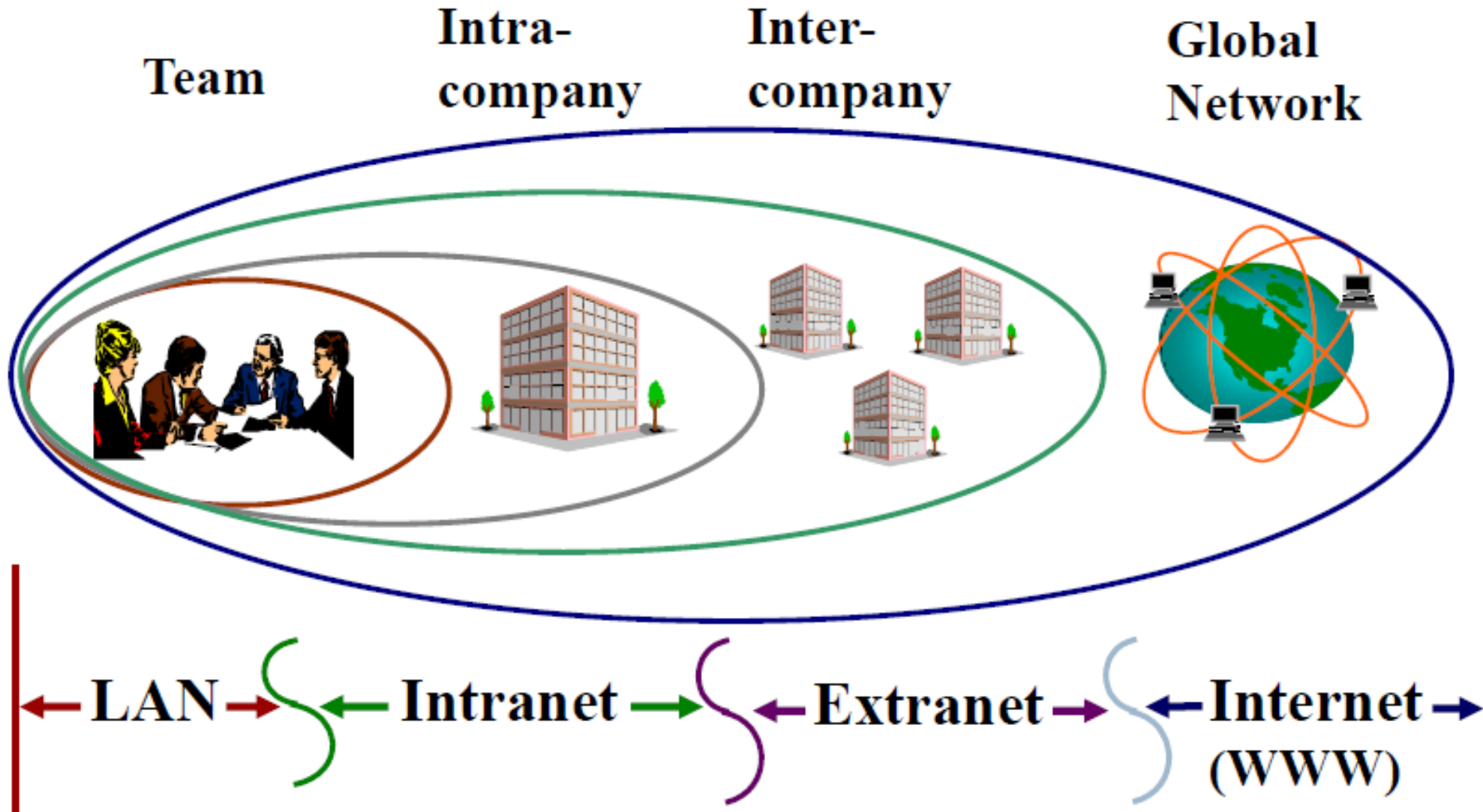
Introduction to Information Systems

- Explain the differences between extranets and intranets as well as show how organizations utilize these environments
- Describe electronic commerce and how it has evolved
- Describe the strategies that companies are adopting to compete in cyberspace
- Describe the stages of business-to-consumer electronic commerce and the key drivers for the emergence of mobile commerce
- Understand the keys to successful electronic commerce applications
- Understand general eBusiness security fundamentals

Network Computing Spectrum

Intranet/ Extranet/ Internet(WWW)

Network Computing Spectrum



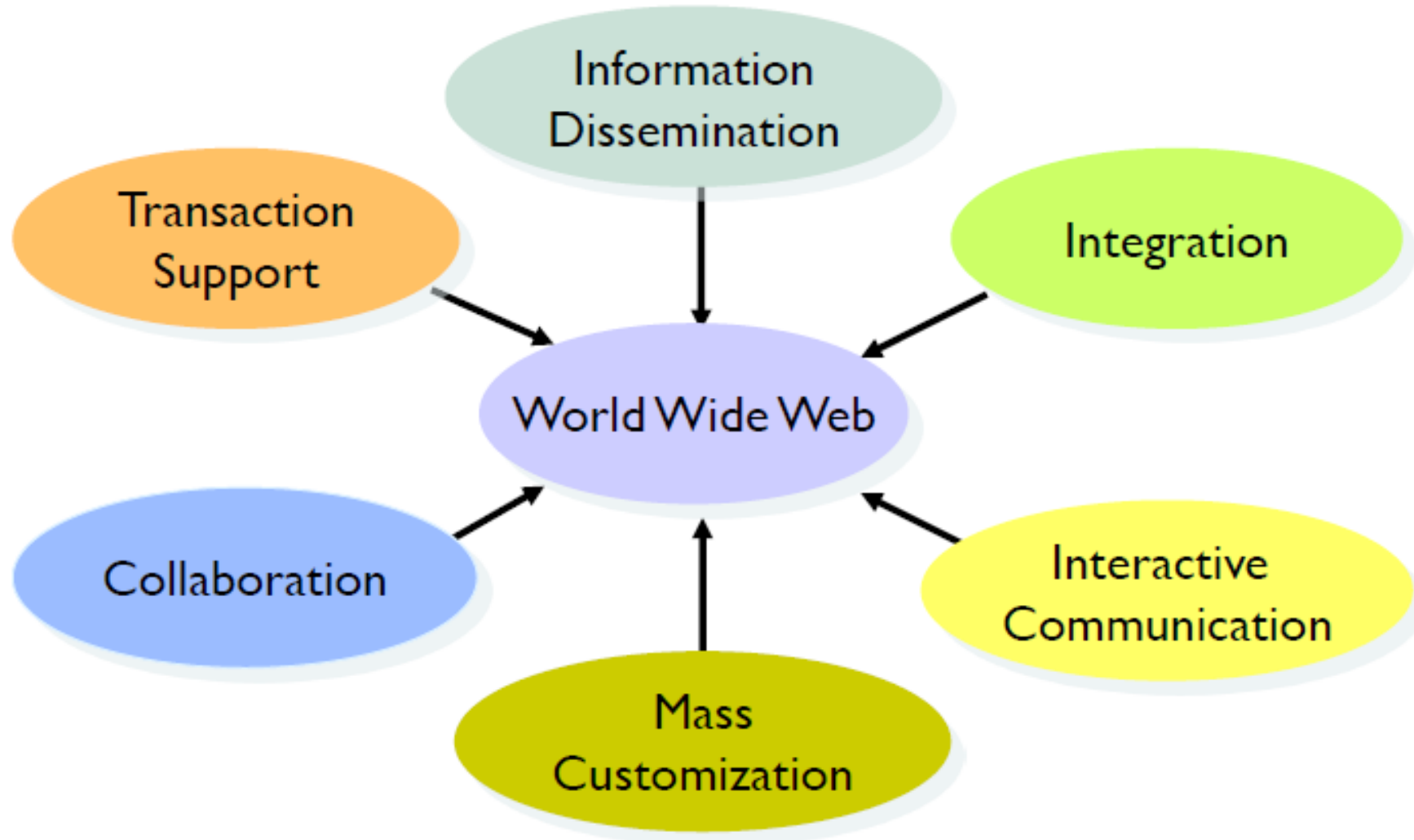
Internet and the World Wide Web Capabilities

- The Internet Changed Everything:
 - **Intranet** – internal, private network using Web technologies to facilitate transmission of proprietary information within the organization
 - **Extranet** – two or more firms using the Internet to do business together
 - **Internet and World Wide Web** created an entirely new communications capability for the emergence of Electronic Business (eBusiness)
 - **The Internet** opened up access to markets by lowering barriers to entry.

INTERNET & INTRANET

INTERNET	INTRANET	EXTRANET
<ul style="list-style-type: none"> • Internet is a global system of Computer Networks. • Network of Networks. 	<p>Private network that is contained within an enterprise.</p>	<p>An extranet is a private network that uses technology & the public telecommunication system to securely share part of a business's information or op'n.</p>
<ul style="list-style-type: none"> • Technically, when a network uses a set of protocols called TCP/IP, it stands out & is called then the internet. • Typically internet uses three layers. At the lowest level is IP, which defines the datagram or packets that carry blocks of data from one node to another node. • Internet is not owned by any one body. 	<ul style="list-style-type: none"> • A intranet may consist of many interlinked LANs & also use leased lines in the WAN. • Main purpose of intranet is to share company information among employees. 	<ul style="list-style-type: none"> • Extranets combine the privacy and security of intranets with the global reach of the internet, granting access to outside business partners, suppliers, and costumers to a controlled portion of the enterprise network. They provide flexibility serving internal and external users. • Supports the concept of Tunneling.
<p>Email, Internet Relay chat, Internet telephony</p>	<p>Corporate Phonebook, Teleconferecing for meeting</p>	<p>Exchange of large volumes of data using EDI.</p>

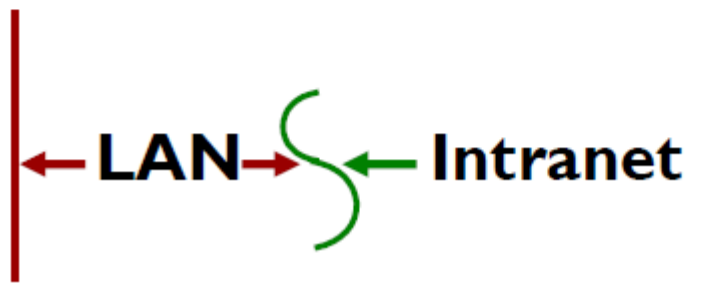
Internet and the World Wide Web Capabilities



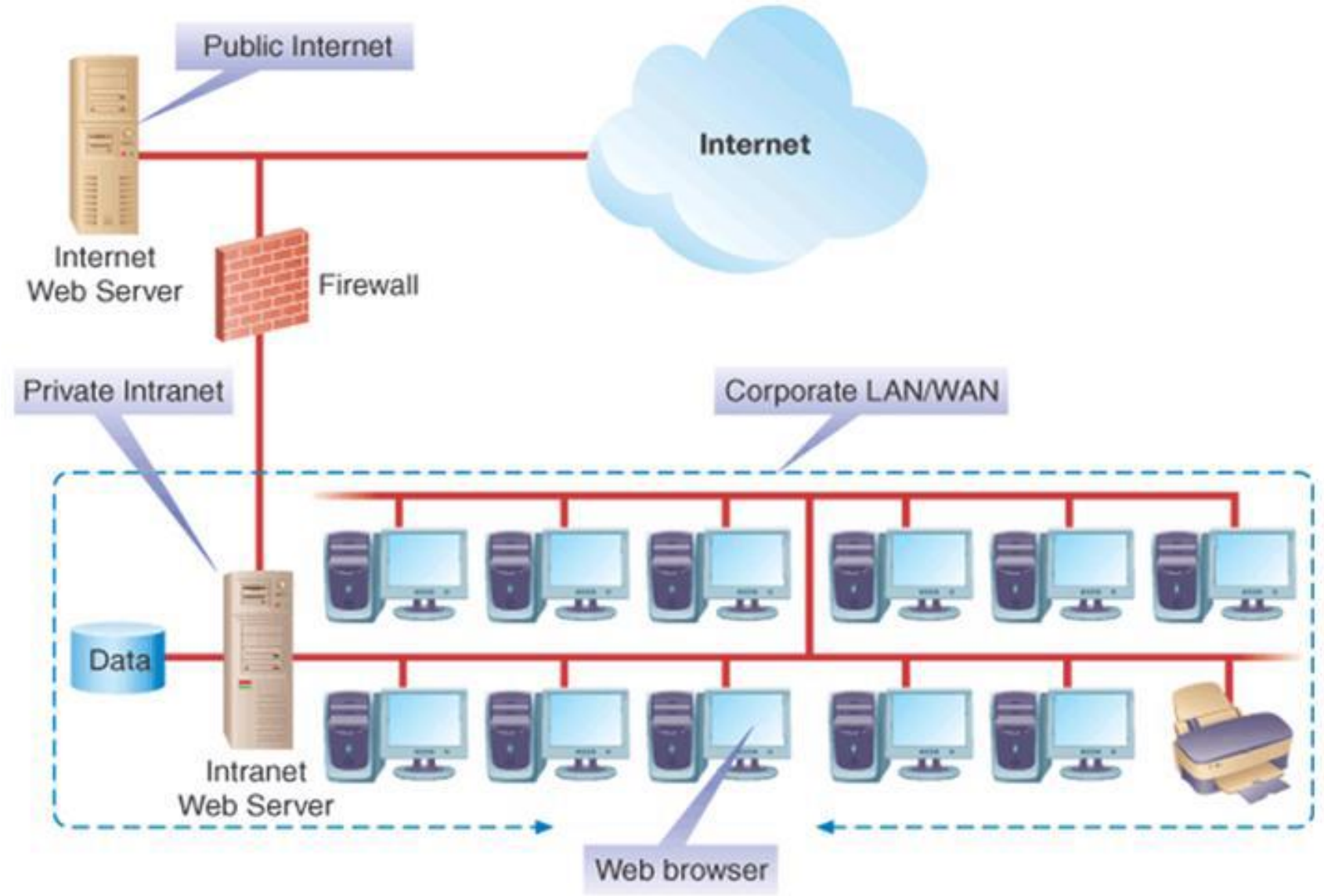
Network Computing Spectrum

Team

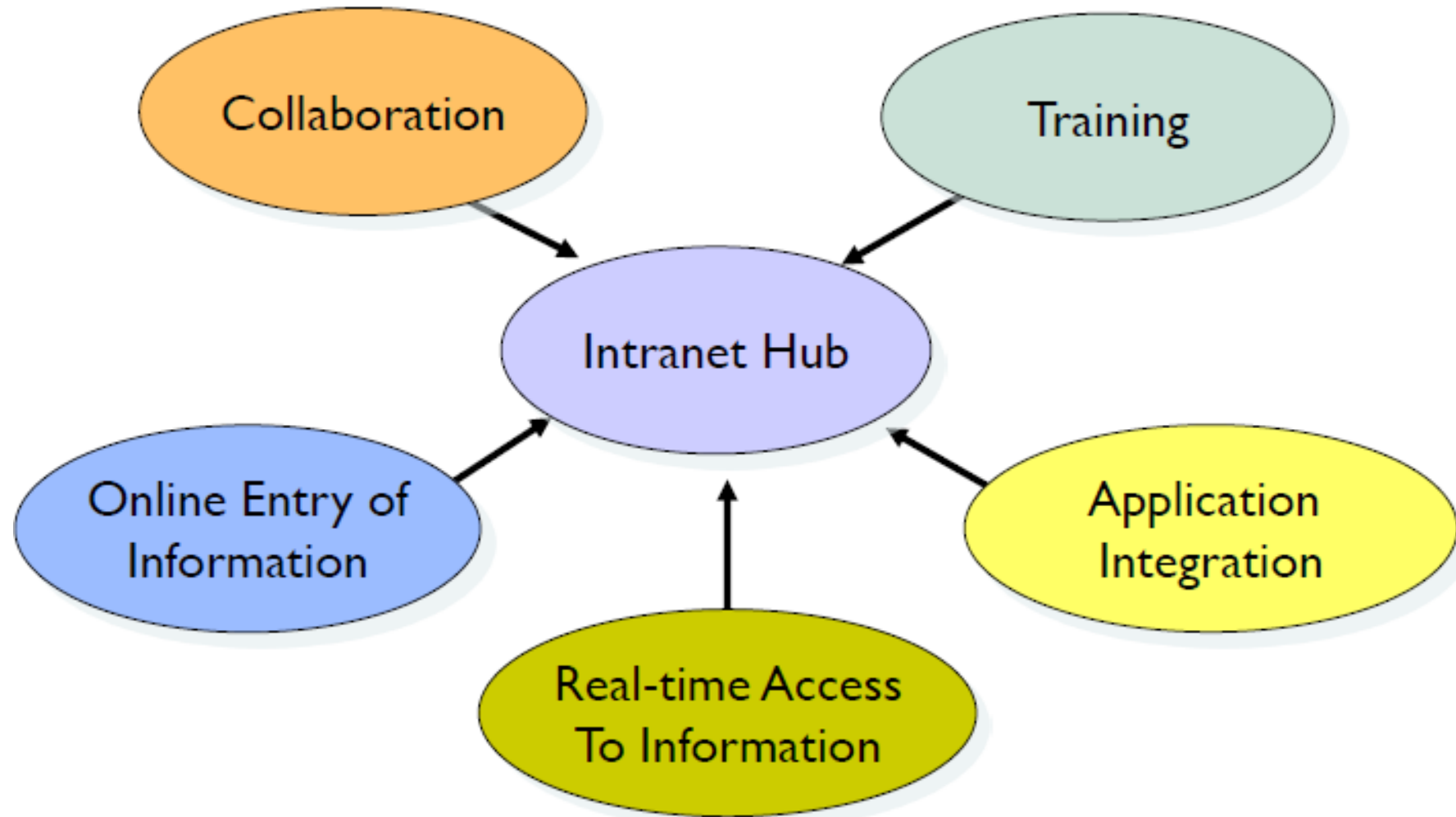
**Intra-
company**



Intranet Architecture



Intranet Applications



Intranet Applications

Training

- Provides **online access** to a host of **training functions** including course catalogs, registration, content (video, slides, other materials) and evaluation
- Provides significant **increases** in **productivity** and **standardization**, and **cost reductions** (e.g. travel costs)

Application Integration

- Allows for **integration** and **consolidation** of information from disparate systems into a **single point of access**
- **Increases** employee **productivity** and output **quality**

Real-Time access to Information

- Allows employees access to real-time information
- This **reduces customer service needs** by giving all **authorised** and interested **parties** direct system **access**

Intranet Applications

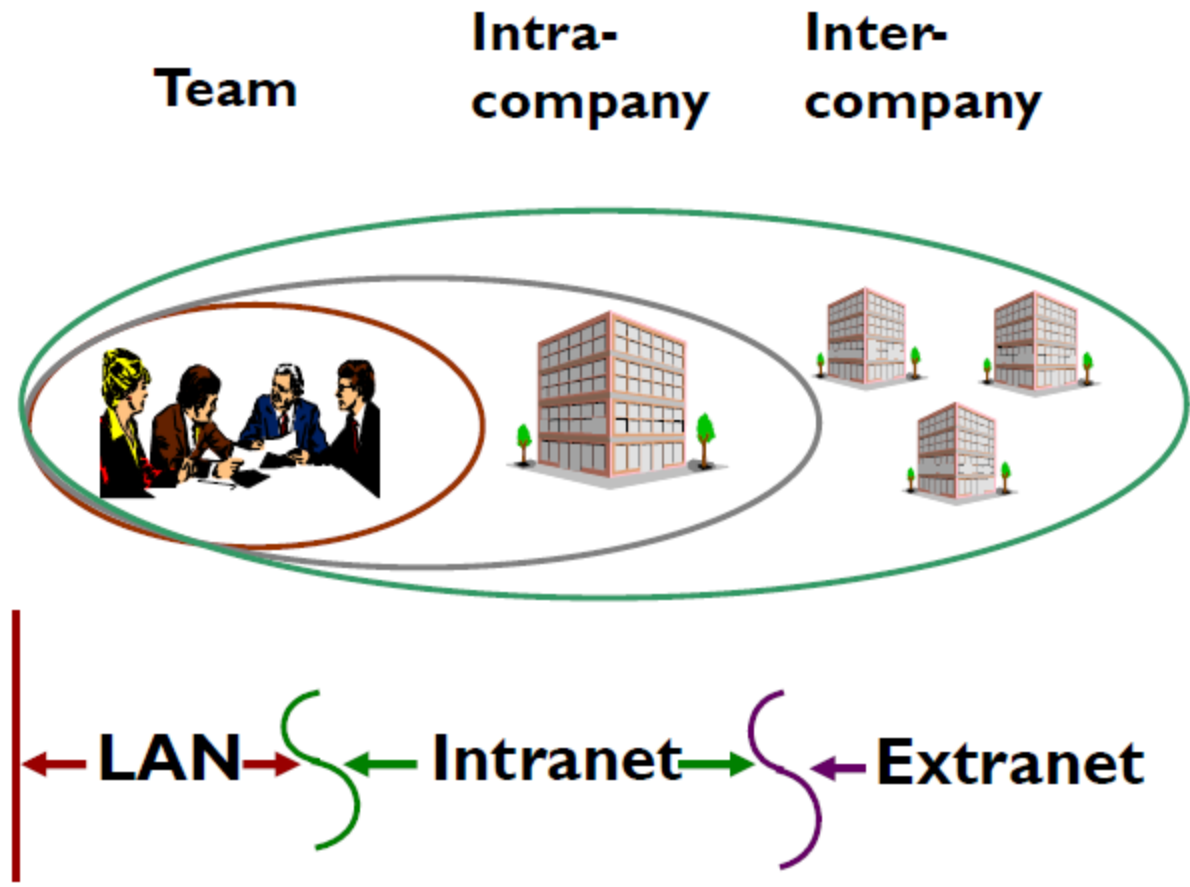
Online Entry of Information

- Allows for **direct** on-line **input** to **streamline** routine business **processes** (e.g. expense reporting)
- Provides for a significant **cost reductions** from reducing administrative **support** and shifting **maintenance** functions back to the **employee** (i.e. sick leave applications)

Collaboration

- Allows employees to **communicate** business **activities** across geographic and departmental boundaries
- Allows for **shorter** development **cycle times**
- Allows employees to stay abreast of current projects, corporate, and market conditions

Network Computing Spectrum



Extranets

- **Extranets**

- Extranets are **secure** network architectures that provide customers, suppliers, and employees with access to **internal** systems.
- **Extranets** enable two or more firms to use the Internet to do business together.
- They are an excellent use of **B2B** to allow companies to achieve a positive return on their tech investments.

- **Extranet Benefits**

- Improves **timeliness** and **accuracy** of communications, thereby reducing **errors** and **misunderstandings**
- Uses Electronic Data Interchange (EDI) as the standard **protocol** for allowing disparate computing platforms to **communicate** without additional investments in the application systems.
- Easy to use, requires little training
- Used to **automate** transactions, reducing cost and cycle time

Electronic Data Interchange (EDI)

- **Electronic Data Interchange**

- The **transmission** of electronic business **forms** between business **partners** (e.g. purchase order)
- Typically used by large organizations via VAN...**very expensive**
- The internet (VPN) has opened this technology to **smaller firms**
- **Utilizes universal standard transmission protocols to communicate and transmit data between different systems.**

- **How it works**

- EDI transactions are supported by two types of network methods:
 1. **VAN (Value Added Network)**
 2. **VPN (Virtual Private Network)**

Value Added Network (VAN)

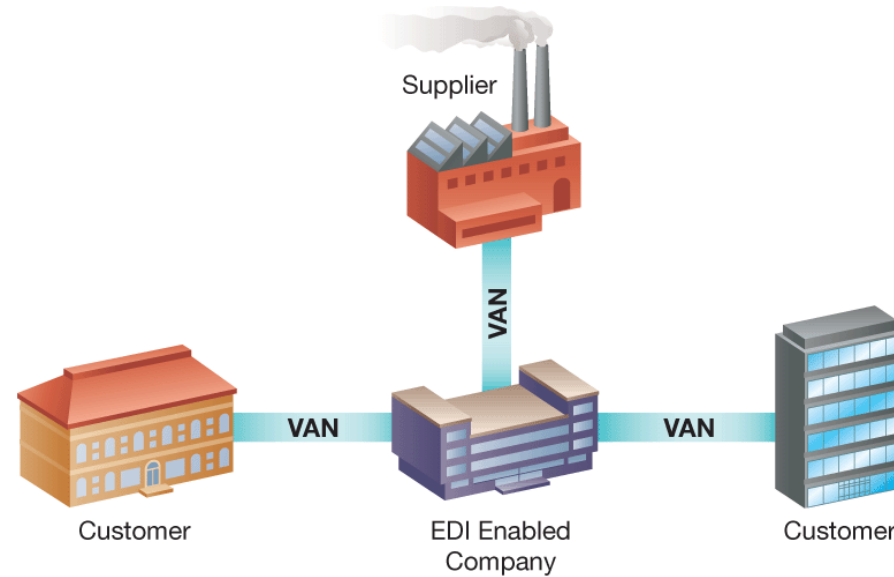
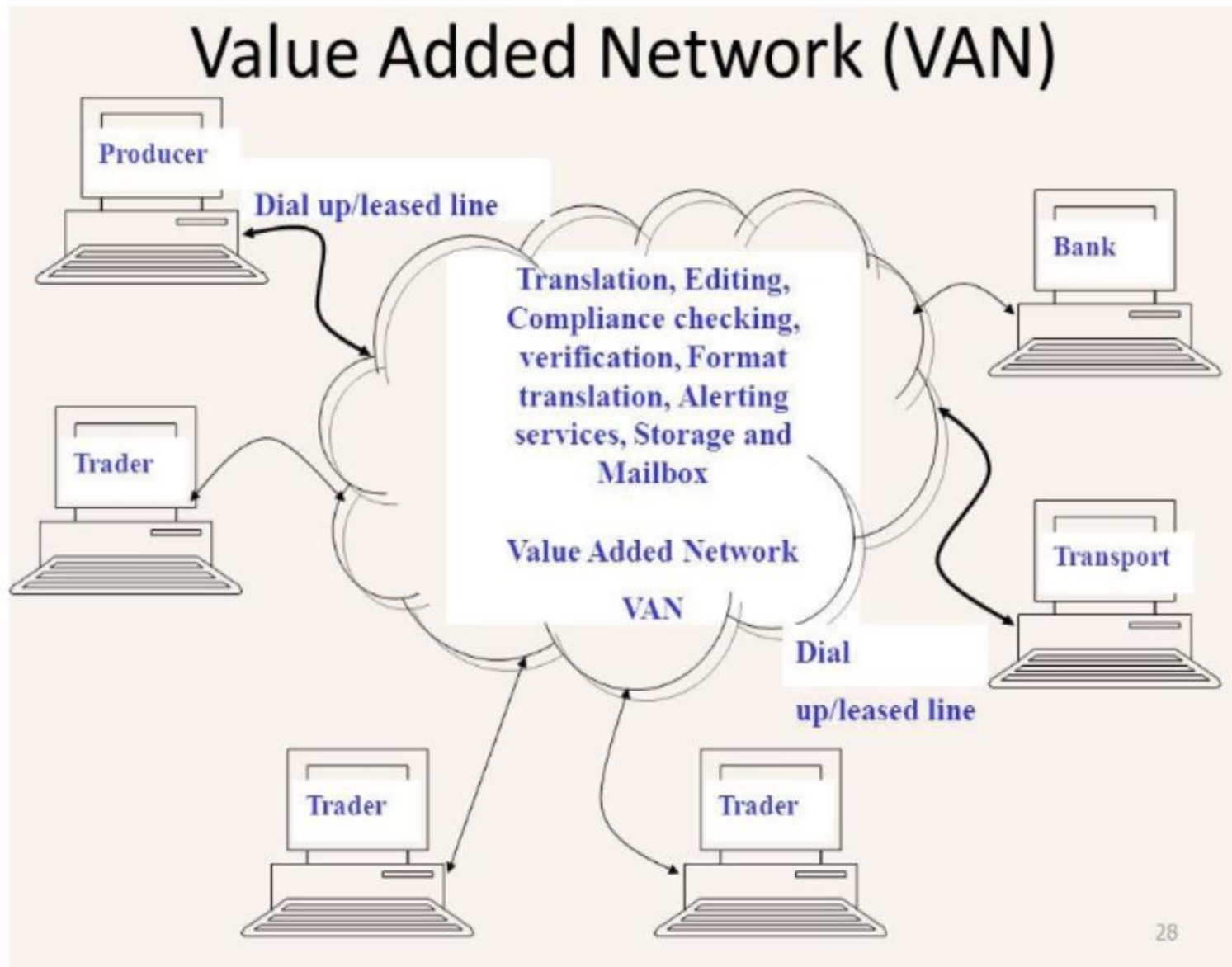


Figure 5.13 A typical EDI system architecture.

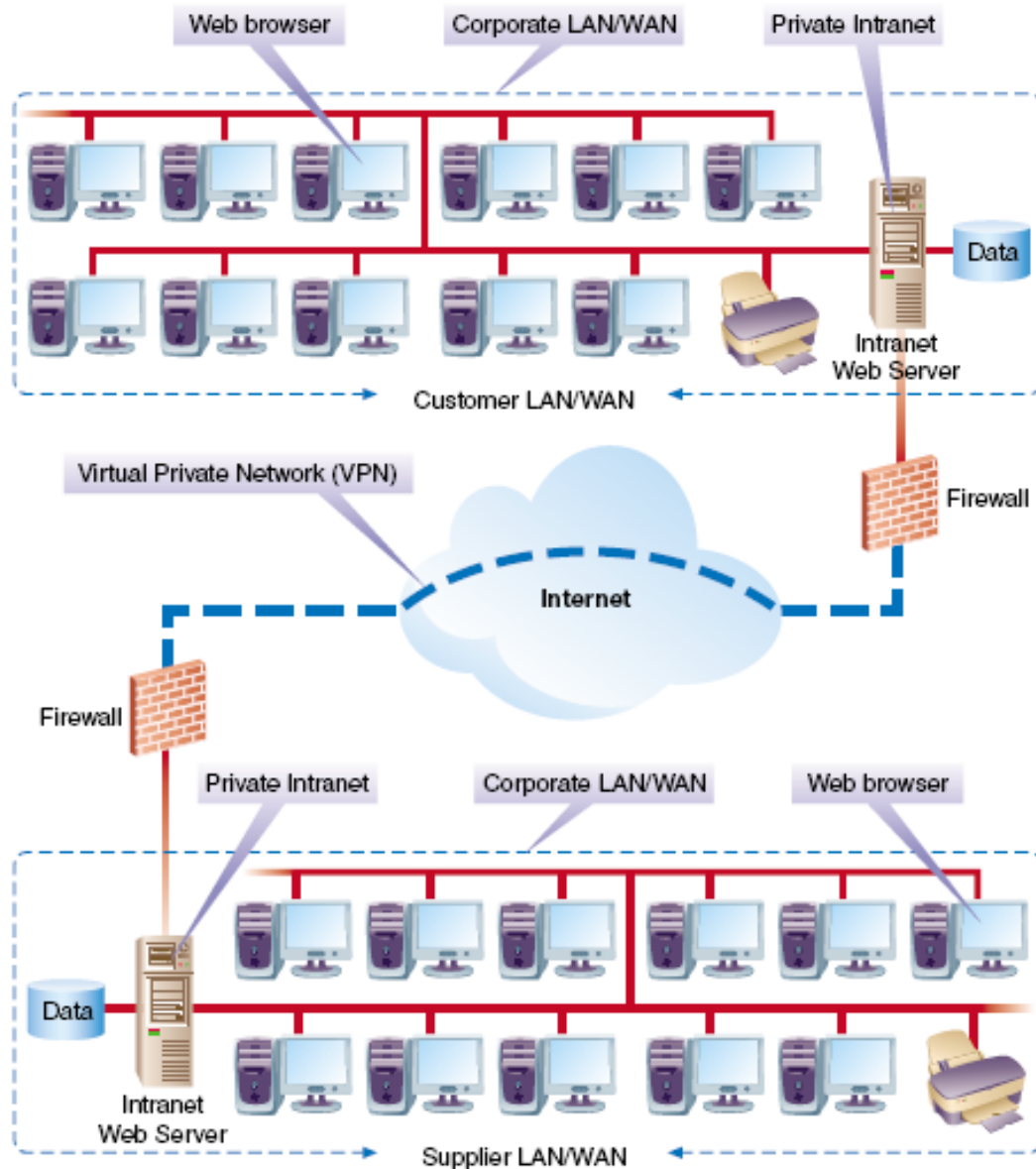
Copyright © 2008 Pearson Education Canada

- **VAN (Value Added Network)** providers are private network operators that provide guaranteed delivery. The VAN is responsible for routing, storing and delivering EDI messages. They also provide delivery reports. VANs may be operated by various entities:
 - telecom companies;
 - industry group consortia;
 - a large company interacting with its suppliers/vendors.

Value Added Network (VAN)



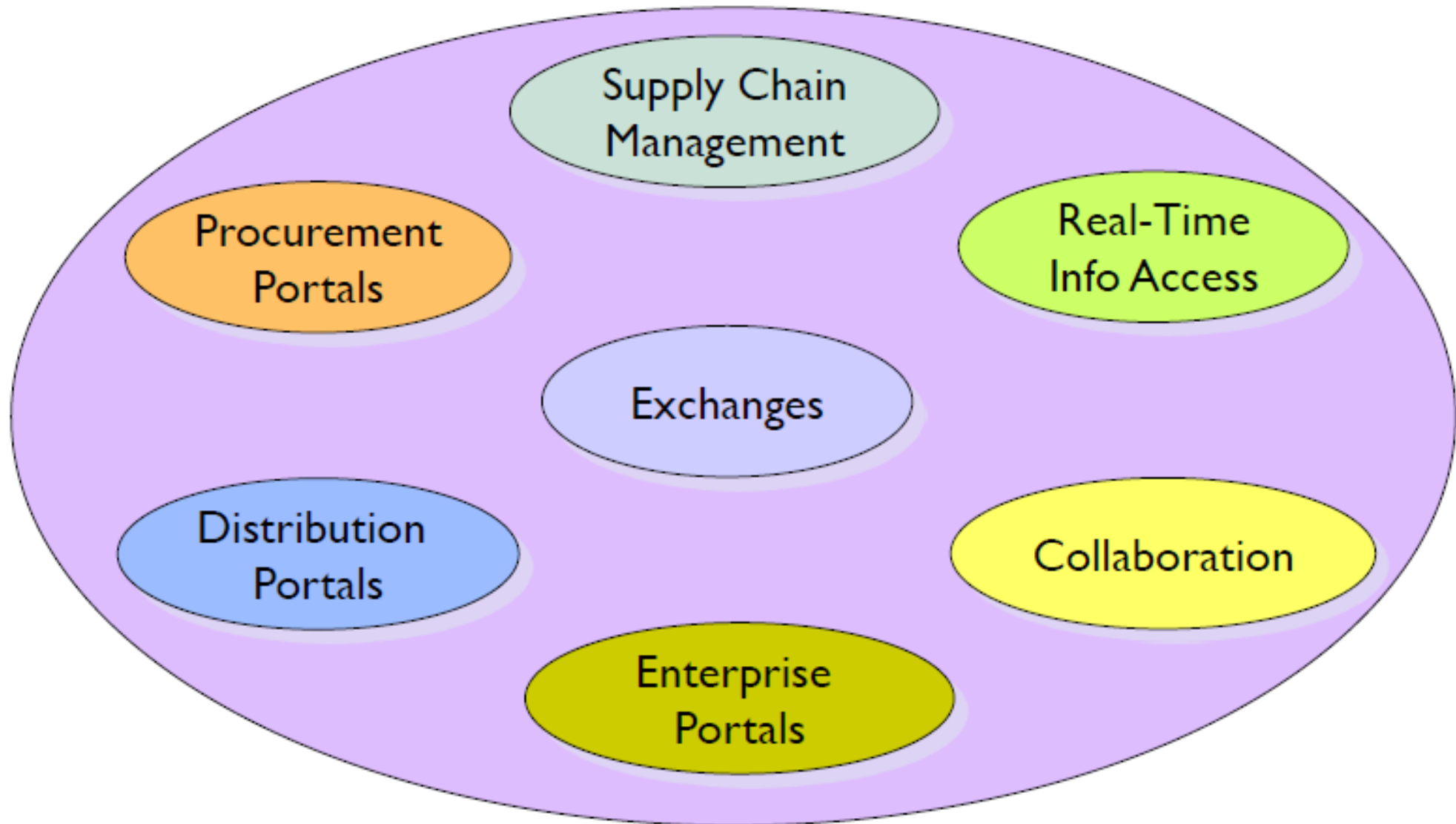
Virtual Private Network (VPN)



Virtual Private Network

- (VPN) is a **secure** network technique to protect extranet communications over an IP network
- Uses a technique called **tunneling** to **encapsulate**, **encrypt**, and **transmit** data over the Internet
- Requires server **authentication** (verify user with password) to allow operation
- May be managed as a fully integrated, end-to-end dedicated private network.
- Similar to a VAN – utilizes the IP network backbone and is a more cost-effective option for SME's.

Extranet Applications



Extranet Applications

- **Supply Chain Management**
 - Used to **exchange** supply and manufacturing **information** between **customers** and **suppliers**
 - The extranet contains features allowing participants to **purchase online**, **check** supplier **inventory**, **transfer design** specifications and **other** business related **tasks**
- **Real-time access to Information**
 - Allowing business **partners** and **customers** access to **real-time** system **information**
 - This **reduces** customer service **needs** by giving all **authorized** and **interested** parties direct system **access**

Extranet Applications

Collaboration

- Allows companies to respond proactively to marketplace changes by working directly with suppliers and customers
- Allows for **shorter** development **cycle times**
- Allows for **reorganisation** of the **purchasing function** turning buyers into supplier relationship managers

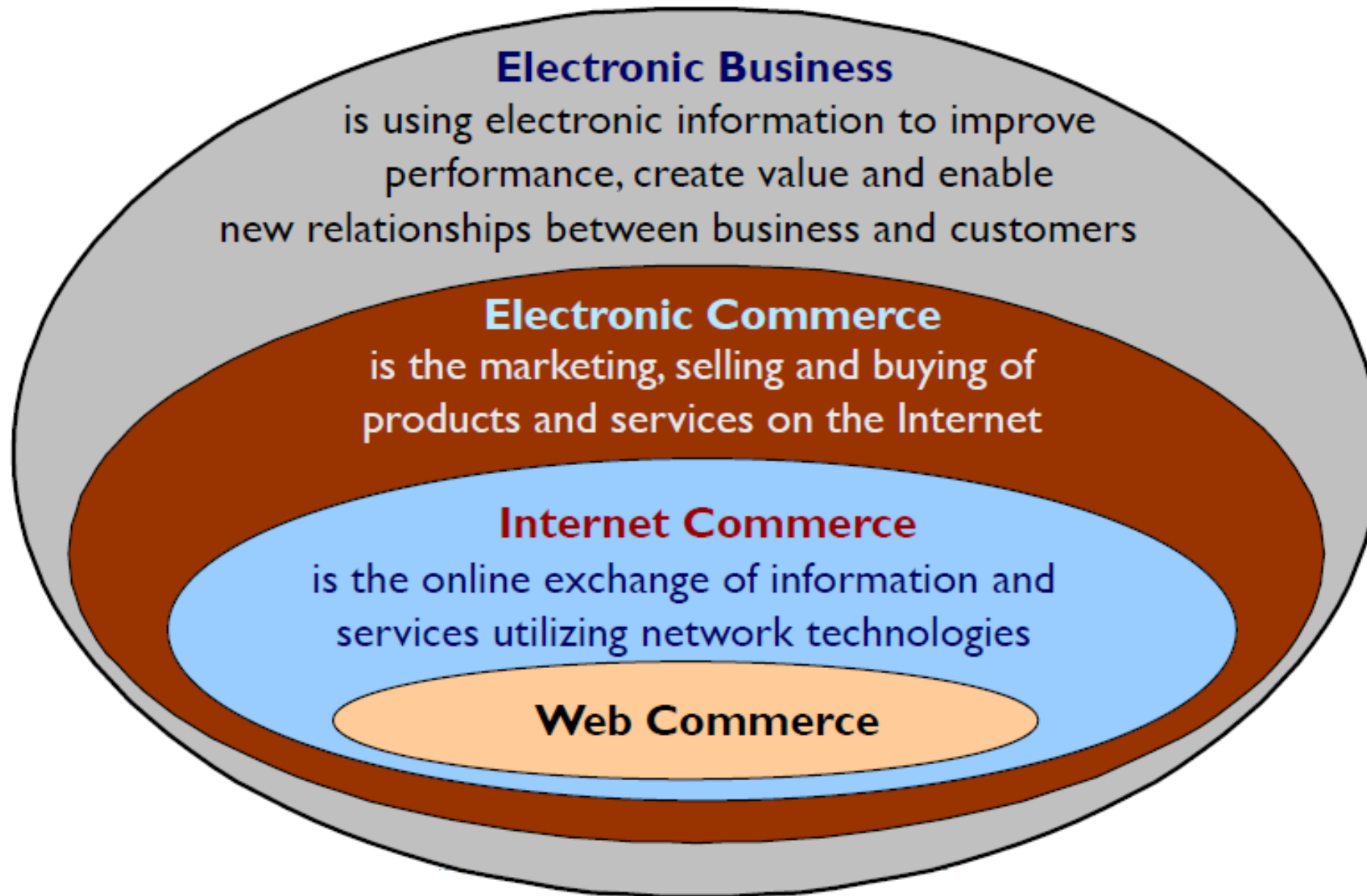
Enterprise Portals

- These are **access points** (front doors) combined from **multiple extranets** where business partners access secure, **proprietary** company **information**
- This provides a **single point of access** for information that comes from a **variety** of disparate **systems**
- Benefits include **faster access** for business partners, **reduced** maintenance **cost** by reduction in total extranets

eBusiness/ eCommerce

B2C, B2B, B2E, C2C

Electronic Business Defined



Types of Electronic Commerce

Type of EC	Description	Example
Business-to-Consumer (B2C)	Transactions between businesses and their customers	A person buys a book from Amazon.com
Business-to-Business (B2B)	Transactions among businesses	A manufacturer conducts business over the Web with its suppliers
Business-to-Employee (B2E)	Transactions between businesses and their employees	An employee uses the Web to make a change in his/her health benefits
Consumer-to-Consumer (C2C)	Transactions between people not necessarily working together	A person purchases some memorabilia from another person via eBay.com

Stages of eCommerce Maturity



Web sites that globally disseminate only static information about the company and its products available 24/7.
(e.g. Electronic Brochure)

Web sites that are integrated with corporate databases to extract and display the appropriate information for a customer request.
(e.g. displaying a bank balance)

Web sites that allow customers to enter orders and make payments directly online
(e.g. buying a book)

E-Commerce Impact to Competitiveness

- Enables new products and services
- Encourages substitute products
- Lowers barrier to entry
- Changes balance of power of customers and suppliers
- Transforms some industries
- Creates new opportunities for creating new markets, building brands, and large customer bases

eBusiness/ eCommerce

Strategy and Competitiveness

Traditional vs. Strategy Support Process

Example AVIS RENTA CAR

Using handheld technology combined with a reengineered business process to create a competitive advantage

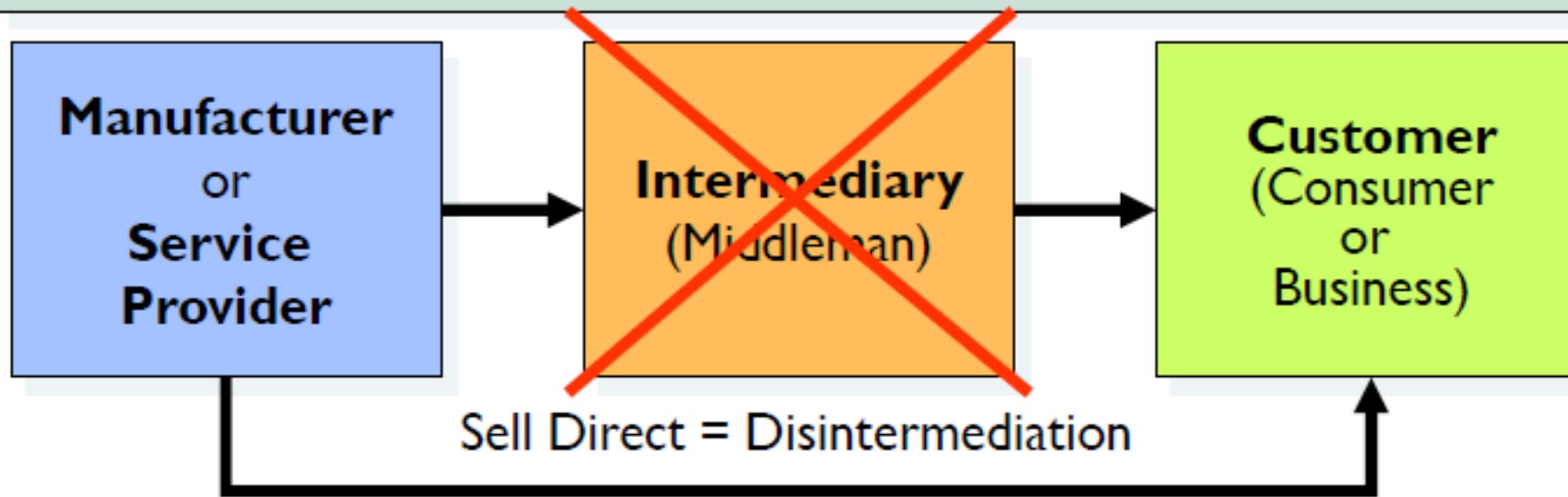
Table 2.2 The Avis airport computer-supported service encounter versus the traditional airport rental car service encounter.

	Traditional Rental Car Return Service Encounter	Avis's Computer-Based Service Encounter
	<i>Return car to lot attendant, get bags from another attendant, walk inside and wait in line to settle contract with another attendant, walk out, and board a shuttle.</i>	<i>Return car to lot attendant, grab receipt and bags, and board shuttle.</i>
Elapsed time	5–20 minutes	5–20 seconds
Number of people to interact with	2–3 people	1–2 people
Average number of footsteps customer takes	60–75 steps	5–10 steps
Relative efficiency	Low	High

Impact of the Web: Disintermediation

Disintermediation

- Removal of the intermediary (middleman) in a sale.
- Companies can sell directly to customers (retail or wholesale) without assistance using the Internet

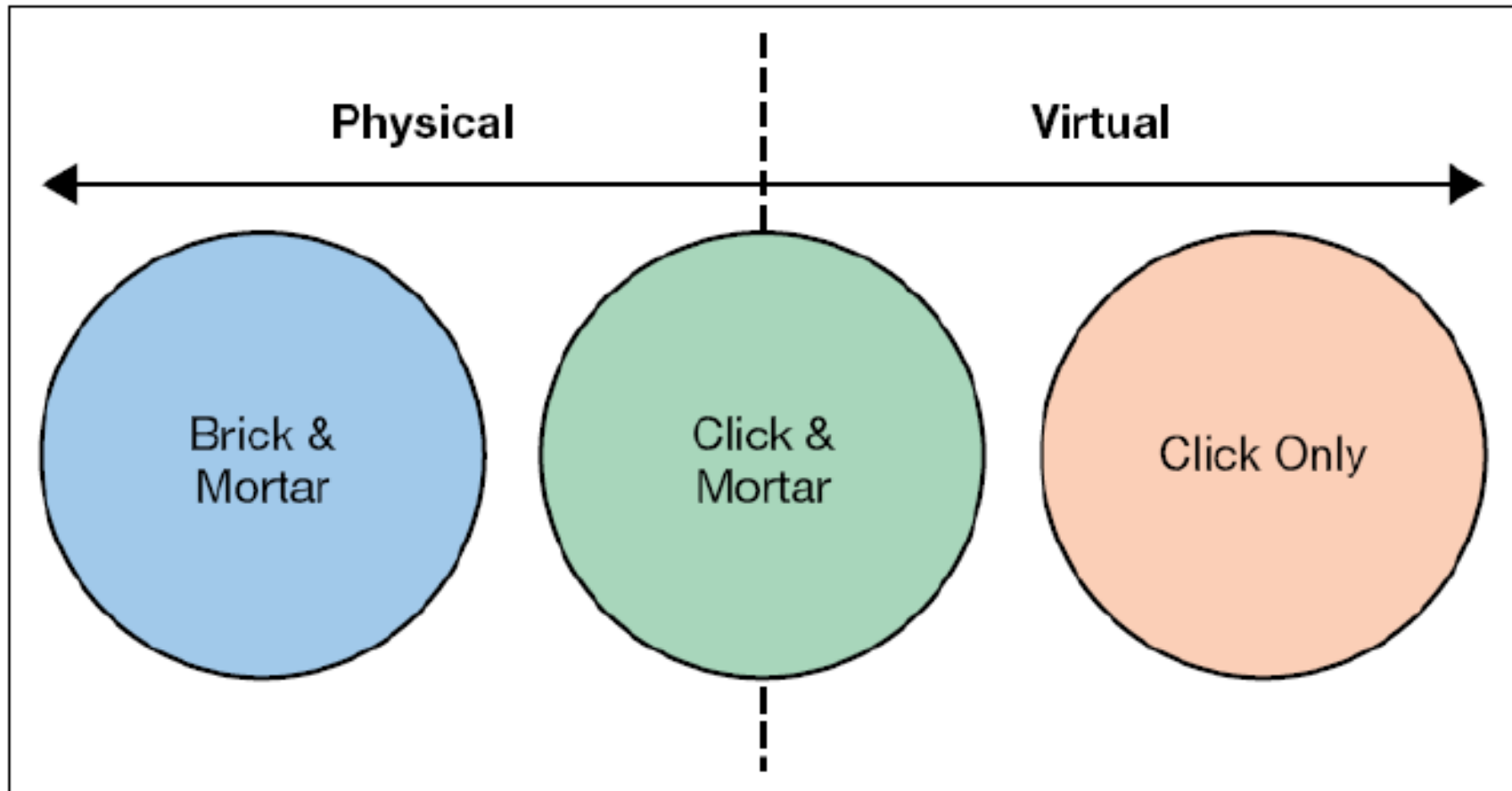


Example

- Airlines selling directly to flyers without a travel agent or customer service representative

Electronic Commerce Business Strategies

Business Strategies come in one of the following three types. All require a sound business model to be successful (see next)



Brick-and-Mortar & Click-and-Mortar Strategies

Brick-and-Mortar

- Operate a firm solely in traditional physical markets
- Approach business activities traditionally by operating physical locations (e.g. stores, offices, manufacturing plants)

Click-and-Mortar

- Operate a firm in physical locations and has added an EC component to their business
- Requires maximization of business opportunities in both the physical and virtual environments
- This strategy requires a significant investment in systems and space

Click-Only Strategies

- Business transactions are only conducted virtually
- Can require significant expertise and investment in technology and systems staff
- There are many different revenue models

Revenue Model	Examples	Revenue Source
Advertising	Yahoo.com	Fees from advertisers in exchange for advertisements
Subscription	WSJ.com, Consumerreports.org, Sportsline.com	Fees from subscribers in exchange for access to content or services
Transaction Fee	eBay.com, E-Trade.com	Fees (commissions) for enabling or executing a transaction
Sales	Amazon.com, LLBean.com, Gap.com, Sears.com, JCPenney.com	Sales of goods, information, or services
Affiliate	MyPoints.com	Fees for business referrals

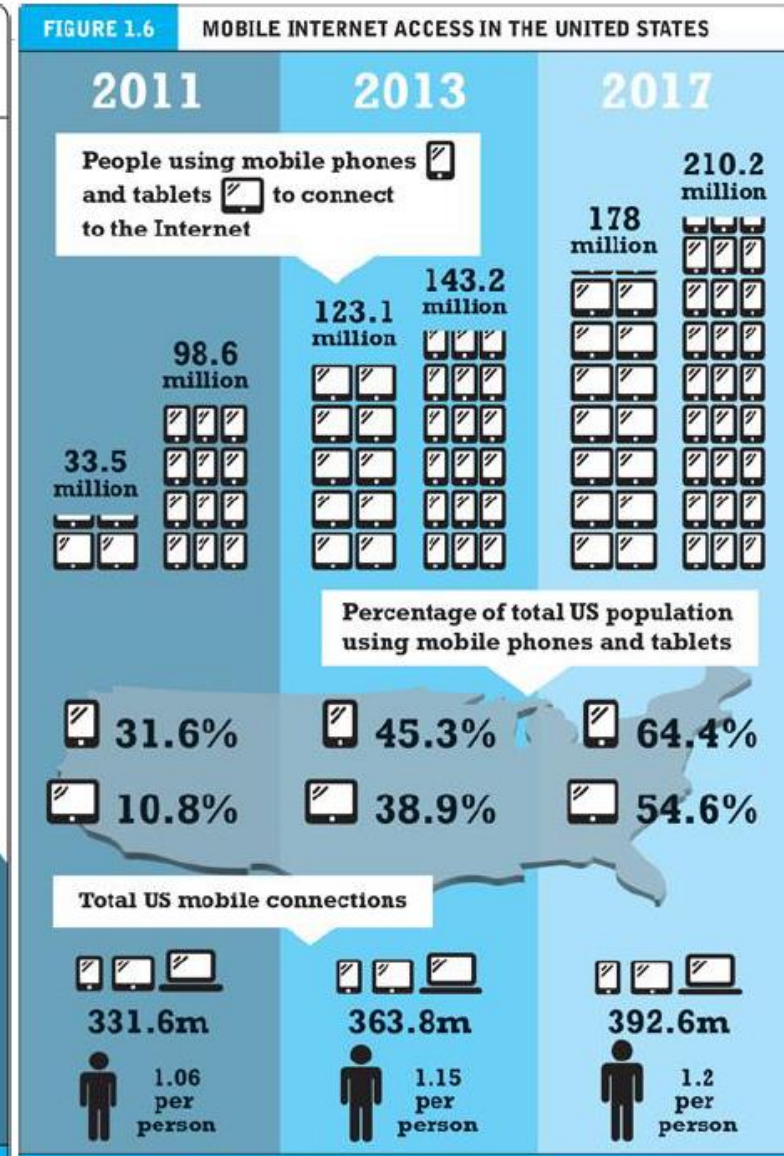
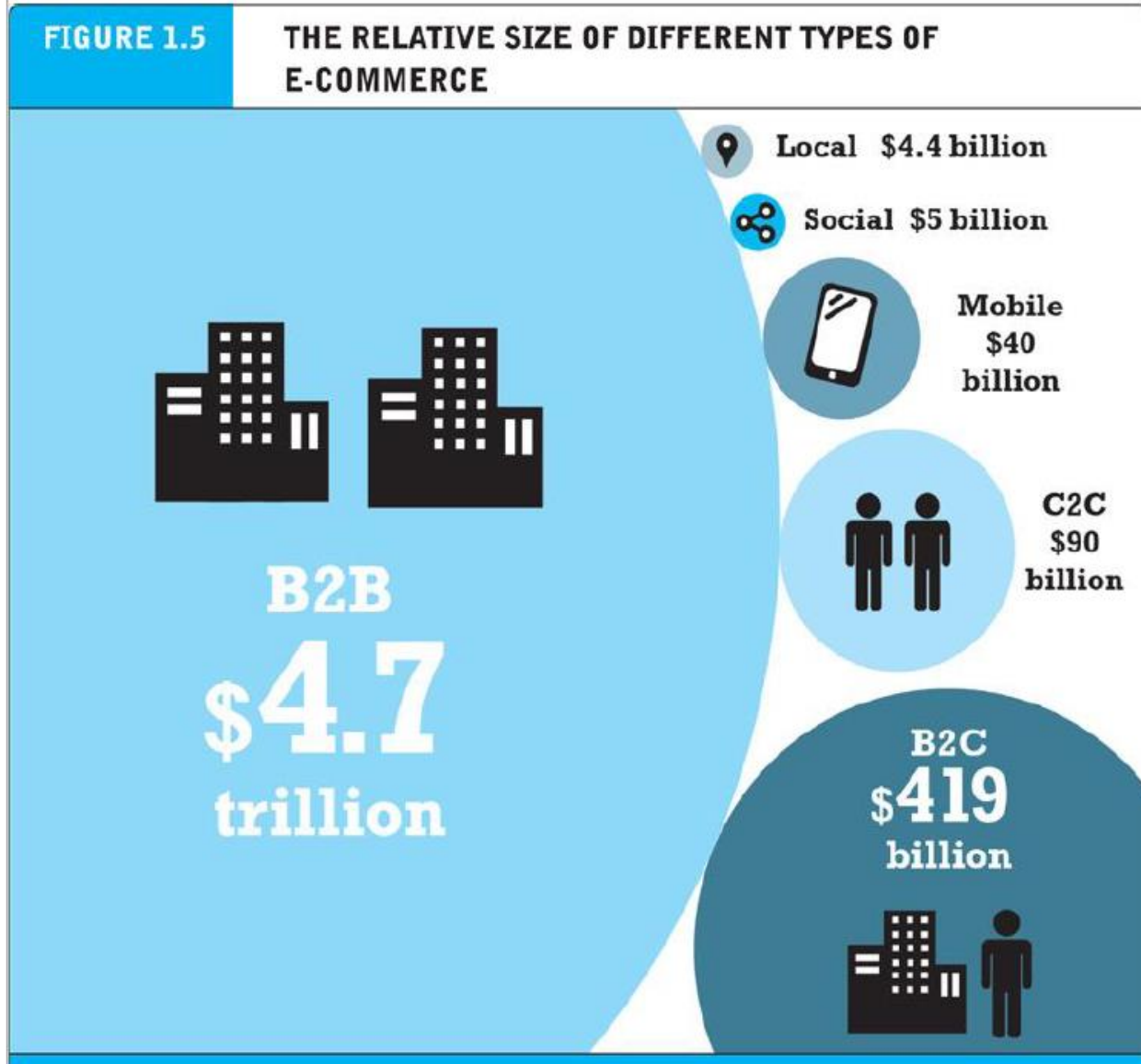
Table 5.4 *Five common revenue models for e-business.*

Laudon/Traver, *E-Commerce: Business, Technology, Society*, Table 2.1 (p. 62), Table 2.2 (p. 66), © 2004. Reprinted by permission of Pearson Education, Inc. Publishing as Pearson Addison Wesley.

The Mobile Platform

- Most recent development in Internet infrastructure
- Enables access to the Internet via wireless networks or cell-phone service
- Mobile devices include
 - Tablets
 - Smartphones
 - Ultra-lightweight laptops

B2B vs B2C vs MC



The Virtual Enterprise

- Uber, the world's largest taxi company, owns no vehicles.
- Facebook, the world's most popular media owner, creates no content.
- Alibaba, the most valuable retailer, has no inventory.
- Airbnb, the world's largest accommodation provider, owns no real estate.



E-Business, E-Commerce

End of Lecture 10