



E-Commerce

INTRODUCTION TO E-COMMERCE

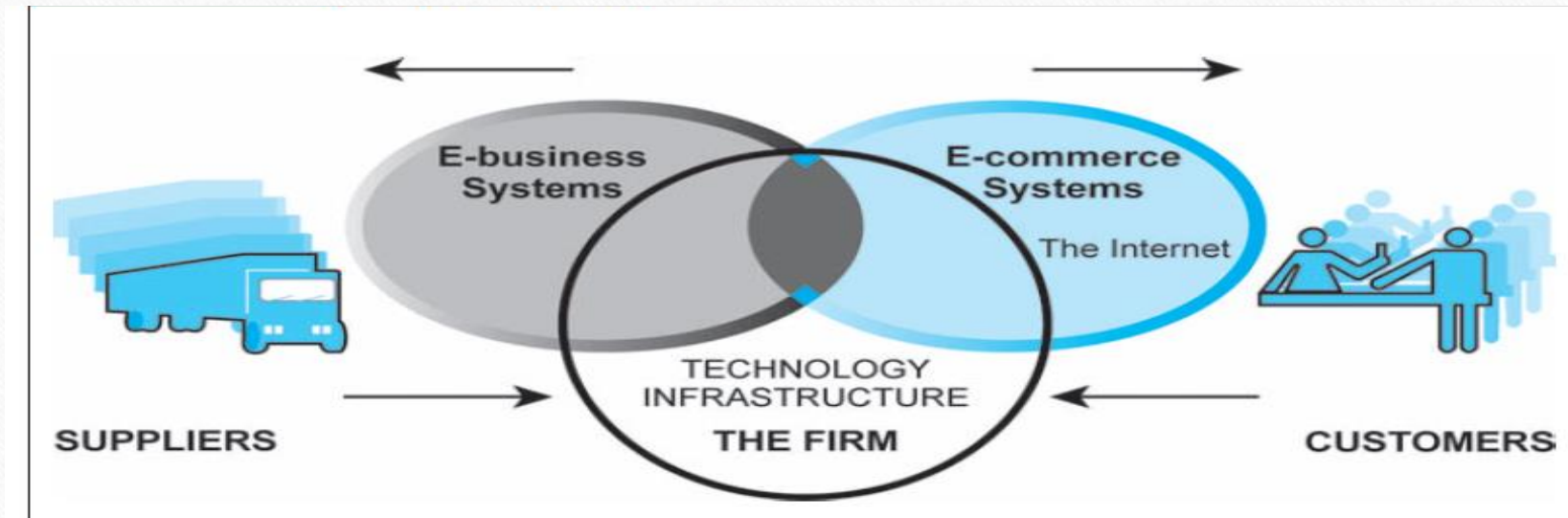
- E-commerce is digitally enabled commercial transactions between and among organizations and individuals.
- ***Digitally enabled transactions*** include all transactions mediated by digital technology e.g. Internet. For the most part, this means transactions that occur over the Internet and the Web.
- ***Commercial transactions*** involve the exchange of value (e.g., money) across organizational or individual boundaries in return for products and services. Exchange of value is important for understanding the limits of e-commerce. Without an exchange of value, no commerce occurs.

Definitions of e-commerce

- Electronic Commerce (EC) is where business transactions take place via telecommunications networks, especially the Internet.
- Electronic commerce describes the buying and selling of products, services, and information via computer networks including the Internet.
- Electronic commerce is about doing business electronically.
- E-commerce is defined as the conduct of a financial transaction by electronic means.

E-COMMERCE AND E-BUSINESS

- **E-business** refers primarily to the digital enablement of transactions and processes *within* a firm, involving information systems under the control of the firm



E-COMMERCE FRAMEWORK

- The framework for e-Commerce consists of three parts:
- *1. Variety of electronic commerce applications*
 - inter- and intra-organizational and electronic market examples such as Supply Chain Management, Video-on-Demand, Procurement and purchasing, On-line marketing and advertising, Home shopping etc.

- **2 . Building blocks of the infrastructure consists of:**

- **Common business services**, for facilitating the buying and selling process.
- **Messaging and information distribution**, as a means of sending and retrieving information (ex-EDI, e-mail, P2P file transfer)
- **Multi-media content and network publishing**, for creating a product and a means to communicate about it.
- **Information Superhighway infrastructure** consisting of telecommunication, cable operator, ISPs , Wireless technologies and Internet.

- 3. *Public policy* and *technical standards*

- **Public policies** govern issues like universal access, privacy, and information pricing. The public policy infrastructure affects not only the specific business but also direct and indirect competitors. It should take into consideration of:
 - Cost of accessing information
 - Regulation to protect consumers from fraud and protect their right to privacy.
 - Policies of global information traffic to detect information pirating and obscene sites.
- **Technical Standards** governs issues like technology for communication and as well as for Internet

Electronic Commerce Applications

Supply Chain Management
Procurement & Purchasing
Audio and Video on Demand
Entertainment and Gaming

Online Marketing and Advertising
Online Shopping
Online Financial Transaction
Education and Research

Common Business Services Infrastructure

(Security/Authentication, Electronic Payment, Directories/Catalogs)

Multimedia Content & Network Publishing Infrastructure

(Digital Video, Electronic Books, World Wide Web)

Messaging & Information Distribution Infrastructure

(EDI, E-Mail, HyperText Transfer Protocol)

Information Superhighway Infrastructure

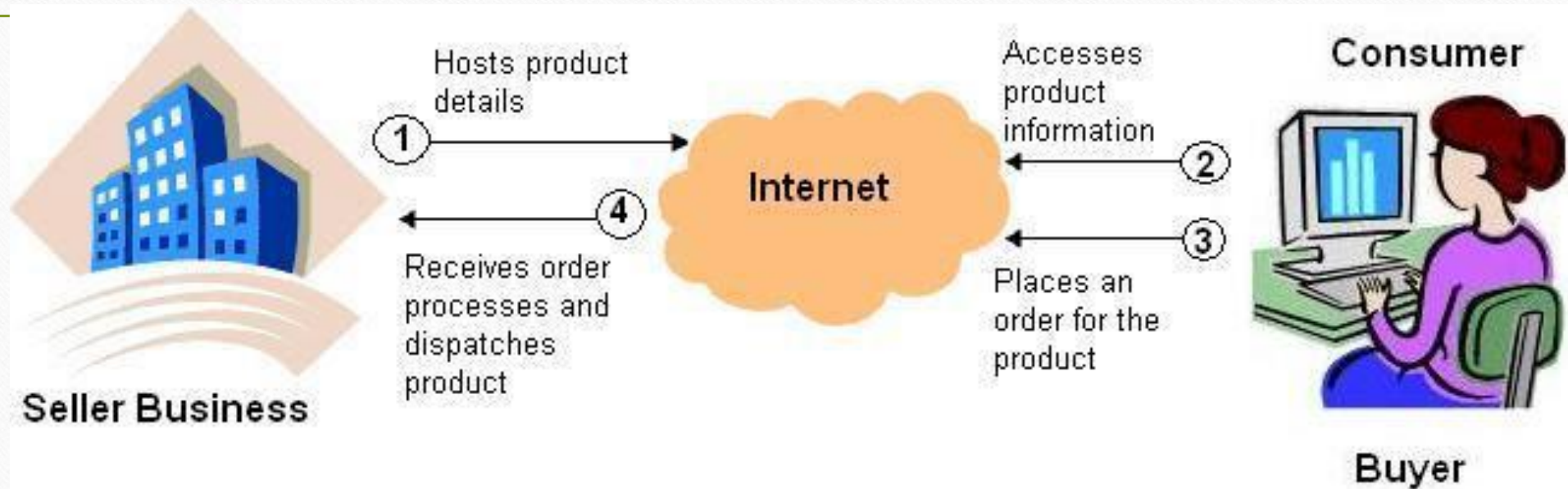
(Telecom, Cable TV, Wireless, Internet)

Public policy, legal, economical
development, and privacy issues

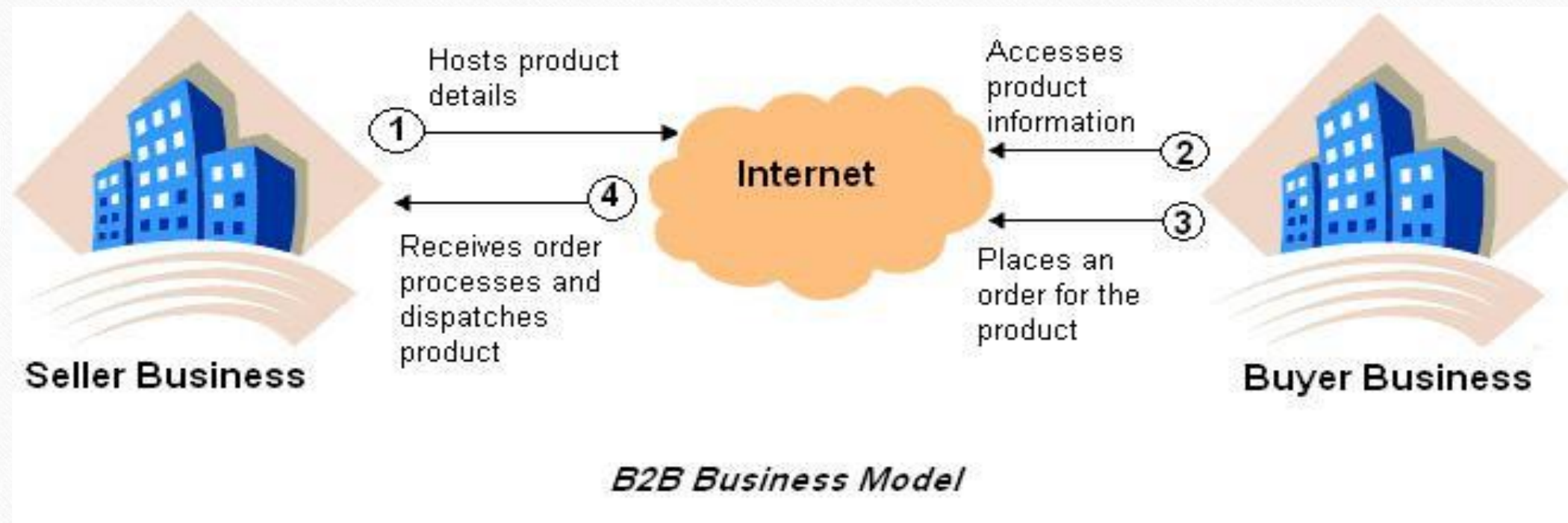
Technical standards for electronic
documents, multimedia contents, business
transactions, and network protocols

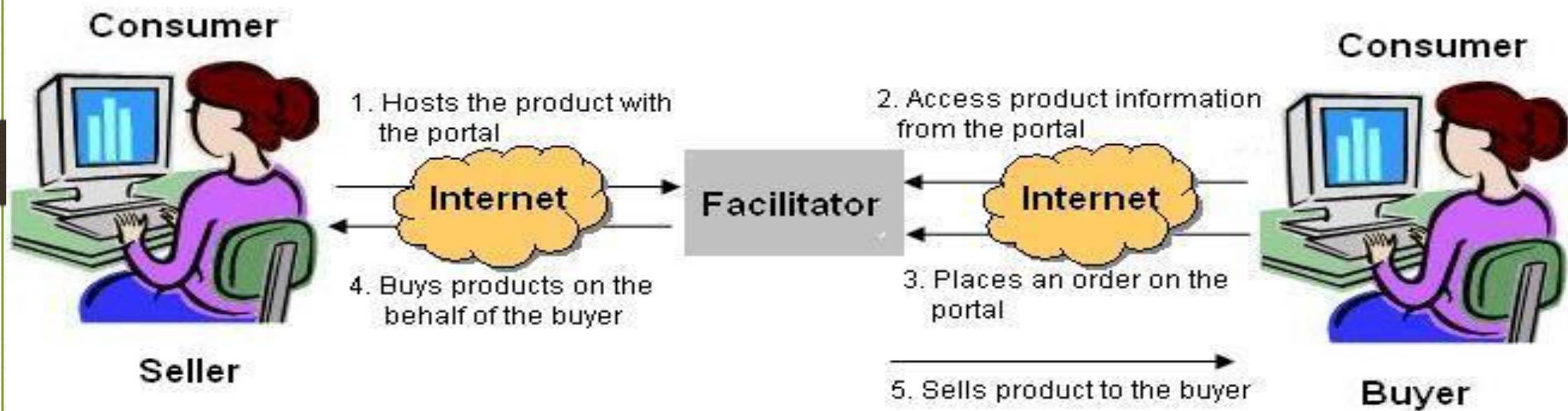
TYPES OF E-COMMERCE

- B2B - Business to Business: The two businesses pass information electronically to each other. B2B e-commerce currently makes up about 94% of all e-commerce transactions.
- B2C - Business to Consumer: This is where the consumer accesses the system of the supplier. It is still a two way function but is usually done solely through the Internet.
- C2B - Consumer to Business: Consumer to Business is a growing arena where the consumer requests a specific service from the business.
- B2E - Business to Employee: Business to Employee e-commerce is growing in use. This form of E-commerce is more commonly known as an 'Intranet'.
- C2C - Consumer to Consumer: The consumer lists items for sale with a commercial auction site. Other consumers access the site and place bids on the items. The site then provides a connection between the seller and buyer to complete the transaction.



B2C Business Model





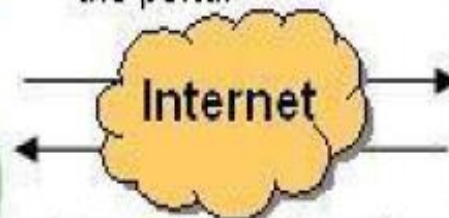
C2C Business Model

Consumer



Seller

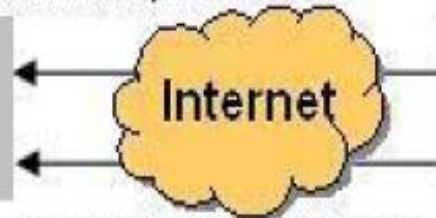
1. Hosts the product with the portal



4. Buys products on the behalf of the buyer

Facilitator

2. Access product information from the portal



3. Places an order on the portal

5. Sells product to the buyer



Buyer Business

SCOPE OF E-COMMERCE

- Pre-sales, subcontracts, supply
- Financing and insurance
- Commercial transactions: ordering, delivery, payment
- Product service and maintenance
- Co-operative product development
- Distributed co-operative working
- Use of public and private services
- Business-to-administrations
- Transport and logistics
- Public procurement
- Automatic trading of digital goods
- Accounting
- Dispute resolution

ADVANTAGES OF E-COMMERCE

- Electronic Commerce can increase sales and decrease costs.
- Advertising done well on the web can get even a small firm's promotional message out to potential customers in every country in the world.
- Businesses can use electronic commerce to identify new suppliers and business partners.
- Electronic Commerce increases the speed and accuracy with which businesses can exchange information, which reduces costs on both sides of transactions.
- E-Commerce provides buyers with a wider range of choices than traditional commerce because buyers can consider many different products and services from a wider variety of sellers.
- Electronic payments of tax refunds, public retirement and welfare support cost less to issue and arrive securely and quickly when transmitted over the Internet.

DISADVANTAGES OF E-COMMERCE

- Costs, which are a function of technology, can change dramatically even during short-lived electronic commerce implementation projects because the technologies are changing so rapidly.
- Firms facing difficulty of integrating existing databases and transaction-processing software designed for traditional commerce into the software that enables electronic commerce.
- Companies that offer software design and consulting services to tie existing systems into new online business systems can be expensive.
- Consumers are fearful of sending their credit card numbers over the Internet and having online merchants.

DRIVING FORCES OF E-COMMERCE

- Environmental factors that create Business Pressures:
 - Economic Forces
 - Market Forces
 - Technology Forces
 - Societal and environmental forces

Economic Forces

- **Lower marketing costs:** marketing on the Internet maybe cheaper and can reach a wider crowd than the normal marketing medium.
- **Lower sales costs:** increase in the customer volume do not need an increase in staff as the sales function is housed in the computer and has virtually unlimited accessibility
- **Lower ordering processing cost:** online ordering can be automated with checks to ensure that orders are correct before accepting, thus reducing errors and the cost of correcting them.
- **New sales opportunities:** the website is accessible all the time and reaches the global audience which is not possible with traditional storefront.

Market Forces

- Strong competition between organizations
- extremely low labor cost in some countries
- frequent and significant changes in markets
- increased power of consumers

Technology Forces

- The development of information and communications technology (ICT) is a key factor in the growth of ecommerce.
- This in turn has made communication more efficient, faster, easier, and more economical as the need to set up separate networks for telephone services, television broadcast, cable television, and Internet access is eliminated.
- From the standpoint of firms/ businesses and consumers, having only one information provider means lower communications costs.

Societal and environmental forces

- Changing nature of workforce
- Government deregulations
- Shrinking government subsidies
- Increased importance of ethical and legal issues
- Increased social responsibility of organizations
- Rapid political changes

UNIQUE FEATURES OF E-COMMERCE TECHNOLOGY

- **Ubiquity:**
- In traditional commerce, a marketplace is restricted i.e. we can be in limited physical area to buy or sell.
- E-Commerce is ubiquitous meaning that it is available just about everywhere, at all times.
- It make possible to shop from your desktop, at home, at work or even from your car, using mobile commerce.
- From a consumer perspective, ubiquity reduces transaction costs – the costs of participating in a market.
- To transact, it is no longer necessary that you spend time and money traveling to a market.

- **Global Reach:**

- Unlike traditional commerce, e-commerce technology permits commercial transaction to cross cultural and national boundaries far more conveniently and cost effectively.
- As a result, the potential market size for e-commerce merchants is roughly equal to the size of the world's online population.

- **Universal Standards:**

- One strikingly unusual feature of e-commerce technologies is that the technical standards of the Internet, and therefore the technical standards for conducting e-commerce, are universal standards – they are shared by all nation around the world.
- In contrast, most traditional commerce technologies differ from one nation to the next.
- The universal technical standards of e-commerce greatly lower market entry cost –the cost merchants must pay just to bring their goods to market.

- **Richness:**

- With the use of e-commerce technology merchant can present their message in effective way. Information richness refers to the complexity and content of the message.

- **Information density:**

- The Internet and the Web vastly increase information density – the total amount and quality of the information available to all market participants, consumers and merchants alike. E-commerce technologies reduce information collection, storage, processing and communication costs.
- At the same time, these technologies increase greatly the accuracy and timeliness of information – making information more useful and important than ever.

- **Personalization/Customization:**

- Merchants can target their marketing message to specific individuals by adjusting the message.
- The technology also permits customization – changing the delivered product or service based on a user's preference or prior behavior.

- **Interactivity:**

- E-Commerce technologies are interactive, meaning they allow two-way communication between merchant and consumer.
- All of these activities are possible on an e-commerce Web site.
- Interactivity allows an online merchant to engage a consumer in a ways similar to a face-to-face experience, but on a much more massive, global scale.

Critical response activities by Organizations

- strategic systems for competitive advantage
- continuous improvement efforts
- business process reengineering (BPR)
- business alliances

Value Chain in E-Commerce

- The value chain typically consists of one or a few primary value (product or service) suppliers and many other suppliers that add on to the value that is ultimately presented to the buying public.
- A **value chain** is the set of activities performed in an industry or in a firm that transforms raw inputs into final products and services.
- the term *value chain* as an interconnected set of value-adding activities.

Industry Value Chains

- value chain analysis can help identify more precisely just how e-commerce may change business operations at the industry level.
- The generic players in an industry value chain:
 - *suppliers, manufacturers, transporters, distributors, retailers, and customers.*

SUPPLIERS



MANUFACTURERS



Supply Chain
Management
Systems

DISTRIBUTORS



Inventory
Management
Systems

RETAILERS



Efficient
Customer Response
Systems

CUSTOMERS

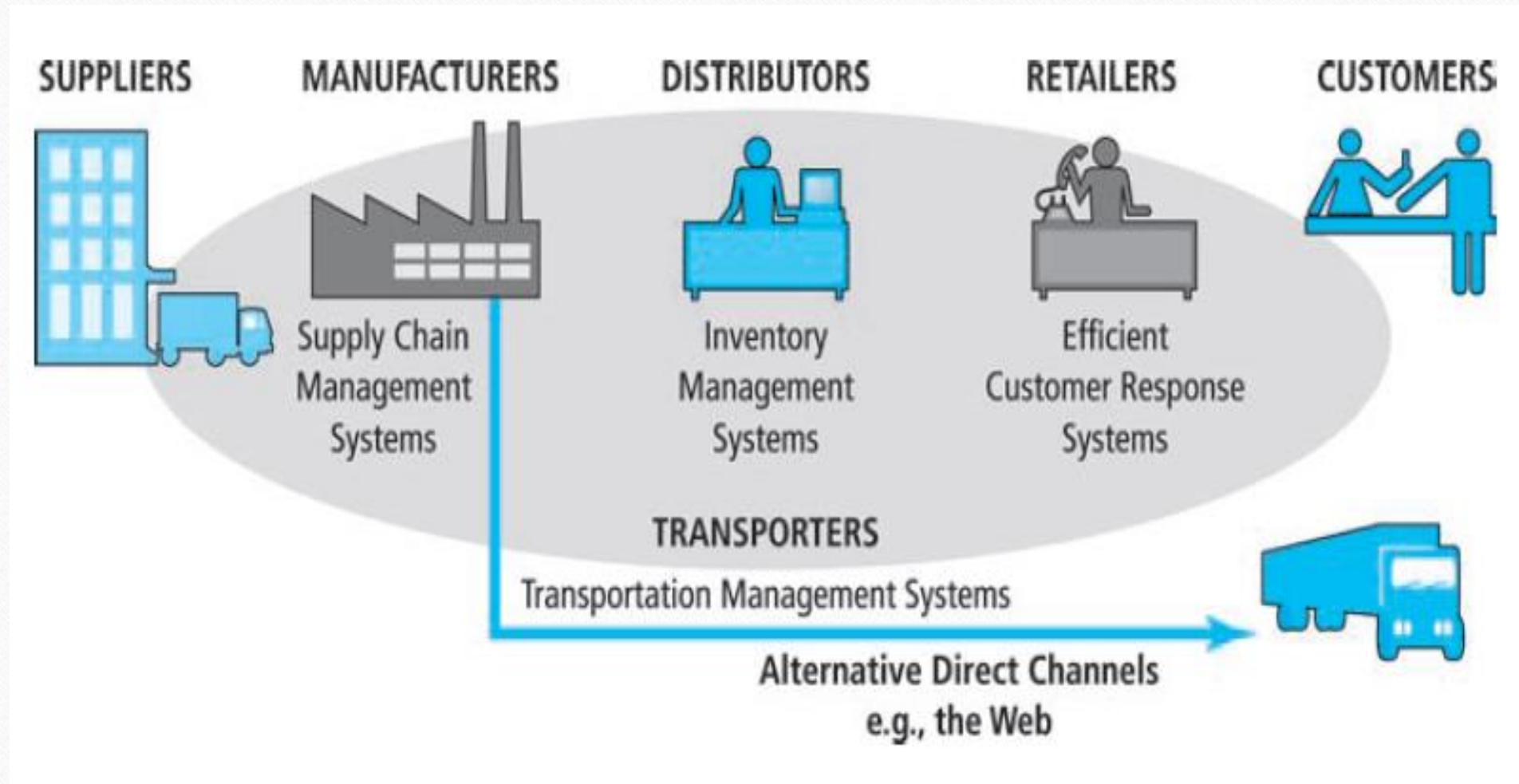


TRANSPORTERS

Transportation Management Systems



Alternative Direct Channels
e.g., the Web



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- Manufacturers can reduce the costs they pay for goods by developing Internet-based B2B exchanges with their suppliers.
 - Manufacturers can develop **direct relationships** with their customers, bypassing the costs of distributors and retailers.
 - Distributors can develop highly efficient **inventory management systems** to reduce their costs, and retailers can develop highly efficient customer relationship management systems to strengthen their service to customers.
 - Customers in turn **can search for the best quality, fastest delivery, and lowest prices**, thereby lowering their transaction costs and reducing prices they pay for final goods.
 - Finally, the **operational efficiency of the entire industry can increase**, lowering prices and adding value for consumers, and helping the industry to compete with alternative industries.

Firm Value Chains

- A **firm value chain** is the set of activities a firm engages in to create final products from raw inputs.
- E-commerce offers firms many opportunities to increase their operational efficiency and differentiate their products.
- Every firm can be characterized by a set of value-adding primary and secondary activities performed by a variety of actors in the firm.
- A simple firm value chain performs five primary value-adding steps:
Inbound logistics, operations, outbound logistics, sales and marketing, and after sales service.

Administration
Human Resources
Information Systems
Procurement
Finance/Accounting

SECONDARY ACTIVITIES

PRIMARY ACTIVITIES



Inbound
Logistics



Operations



Outbound
Logistics



Sales and
Marketing

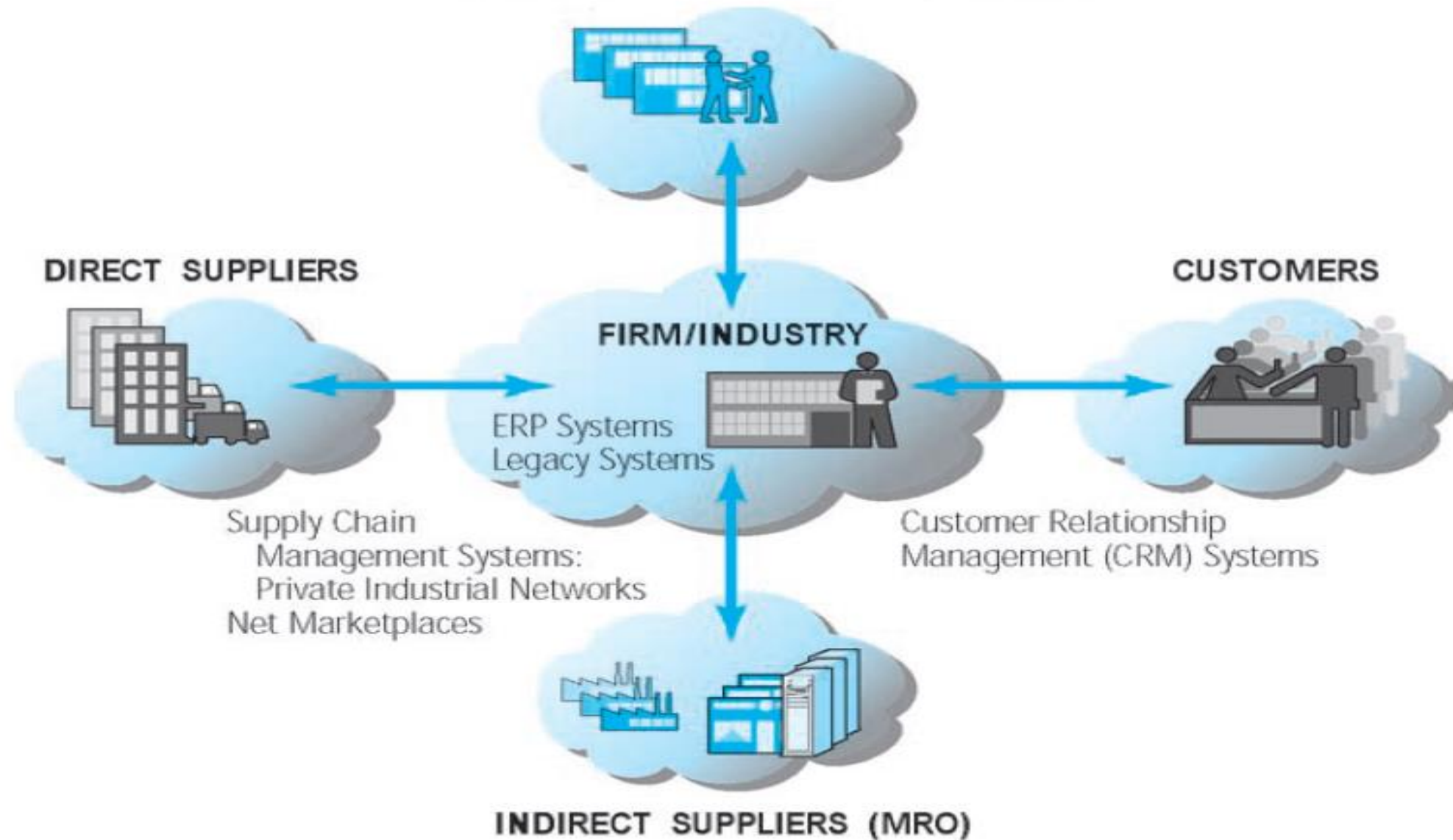


After Sales
Service

Firm Value Webs

- E-commerce creates new opportunities for firms to cooperate and create a value web.
- A **value web** is a networked business ecosystem that uses e-commerce technology to coordinate the value chains of business partners within an industry, or at the first level, to coordinate the value chains of a group of firms.
- A value web coordinates a firm's suppliers with its own production needs using an Internet-based supply chain management system.

STRATEGIC ALLIANCE AND PARTNER FIRMS



Internet & Web

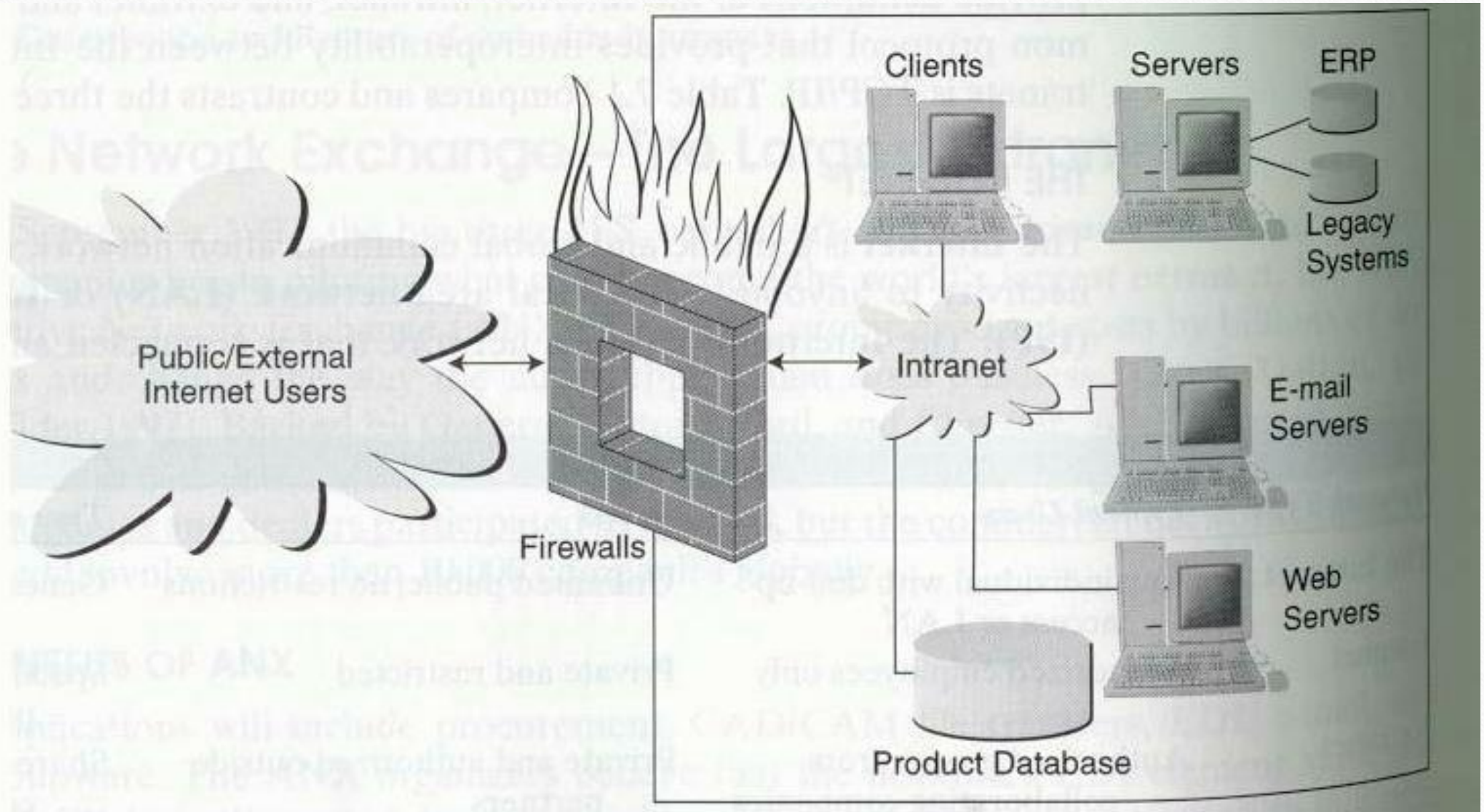
- the **Internet** is an interconnected network of thousands of networks and millions of computers linking businesses, educational institutions, government agencies, and individuals.
- The word Internet is derived from the word *internetwork*, or the connecting together of two or more computer networks.
- The Internet is a public network that is connected and routed over gateways.
- The **Web** is one of the Internet's most popular services, providing access to billions, perhaps trillions, of Web pages, which are documents created in a programming language called HTML

Stages in the Development of the Internet



Intranet

- An intranet is a corporate LAN or wide area network (WAN) that uses Internet technology and is secured behind company's firewalls.
- Although intranets are developed on the same TCP/IP protocol as the Internet, they operate as a private network with limited access.
- Intranets are limited to information pertinent to the company and contain exclusive and often proprietary and sensitive information.
- Intranets provide the infrastructure for many **intrabusiness commerce** applications.



Extranet

- An extranet, or “extended intranet”, uses the TCP/IP protocol network of the Internet, to link intranets in different locations.
- Extranet transmission are usually conducted over the Internet, which offers little privacy or transmission security.
- Extranets provide secured connectivity between corporation’s intranets
- Extranet allows groups to collaborate, sharing information exclusively, and exchanging it securely.

