

# E-Commerce

# Brief History

- Early 1970s saw introduction of Electronic Fund Transfers (EFT)
  - Limited to large organisations, financial institutions, few daring small business
- Late 1970s and early 1980s – Electronic data interchange(EDI)for e-commerce within companies
  - Used by businesses to transmit data from one business to another
  - to include other transaction processes besides financial; included manufacturers, retailers, services, etc
- 1990s- the World Wide Web on the Internet provides easy to use technology for information publishing and dissemination
  - Cheaper to do business (economics of scale)
  - Enable diverse business activities (economics of scope)
- Between 1997 and 2000, more than 12000 Internet-related business were started

# What is e-commerce?

*"The conducting of commercial transactions (the exchange of merchandise, services, information, and / or money between suppliers and receivers for the commercial transfer of goods between economic actors) through electronic mediation using Internet technology."*

-Ministry of International Trade and Industry of Japan

# What is e-commerce?

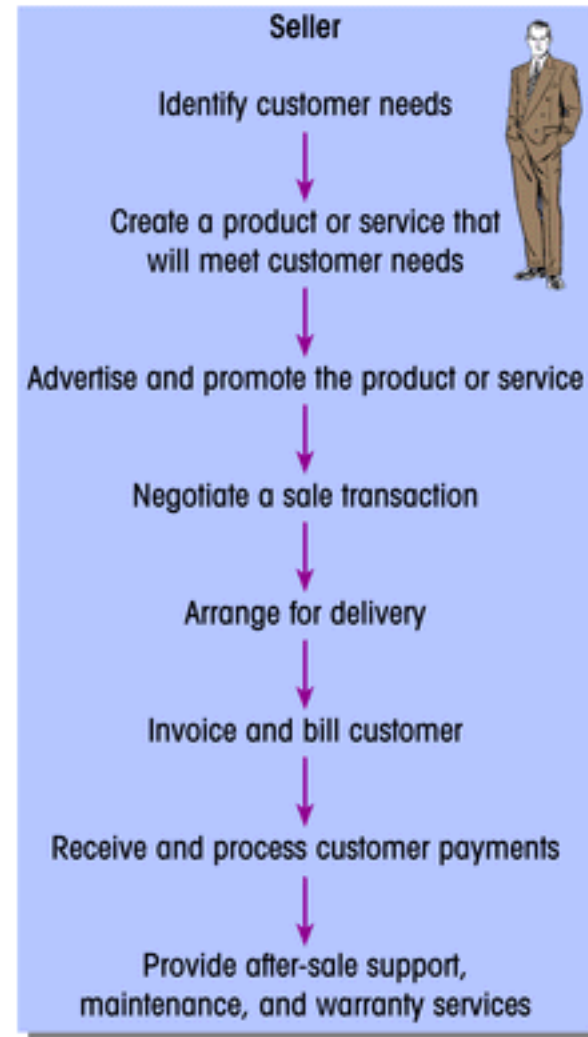
*"Electronic commerce (e-commerce) is business transactions conducted over the public and private computer networks. It is based on the electronic processing and transmission of data, text, sound and video. E-commerce includes transactions within a global information economy such as electronic trading of goods and services, on-line delivery of digital content, electronic fund transfers, electronic share trading, electronic bills of lading, commercial auctions, collaborative design and engineering, on-line sourcing, public procurement, direct consumer marketing and after-sales services. It involves the application of multimedia technologies in the automation and re-design of transactions and workflows, aimed at increasing business competitiveness. "*

- Inter-Agency Task Force on Electronic Commerce (IATFEC),  
Malaysia

# What is e-commerce?

- From these two definitions, e-commerce simply means:
  - the implementation of business transactions through the information superhighway using computer networks.
- In other words, business transactions are conducted in cyberspace.
- To implement it, e-commerce requires new physical and legal infrastructure (such as computer systems, telecommunication network, and cyberlaws), new skills, new workflows and new processes.

# Buyer and Seller Roles In Commerce



# Communication on the Web

- Mass media
  - One-to-many model
  - Flows from one advertiser to many customers
  - Seller is active, buyer is passive
- Personal contact
  - One-to-one model
  - Interchange within a framework of trust
  - Seller **and** buyer are active

# Communication on the Web (cont.)

- Web
  - Many-to-one/many-to-many model
  - Buyers can communicate with many sellers
  - Buyer actively searches, and controls the length, depth and scope of the search



# Communication Channels

**Mass media**  
One-to-many

Seller



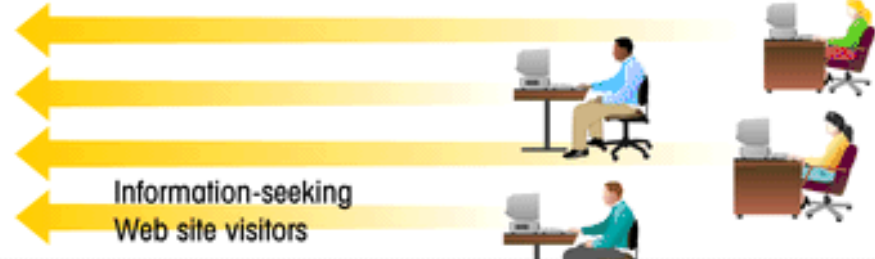
Sends a few carefully  
crafted messages to all



Thousands or millions of  
viewers, listeners, or readers

**The Web**  
Many-to-one

Seller



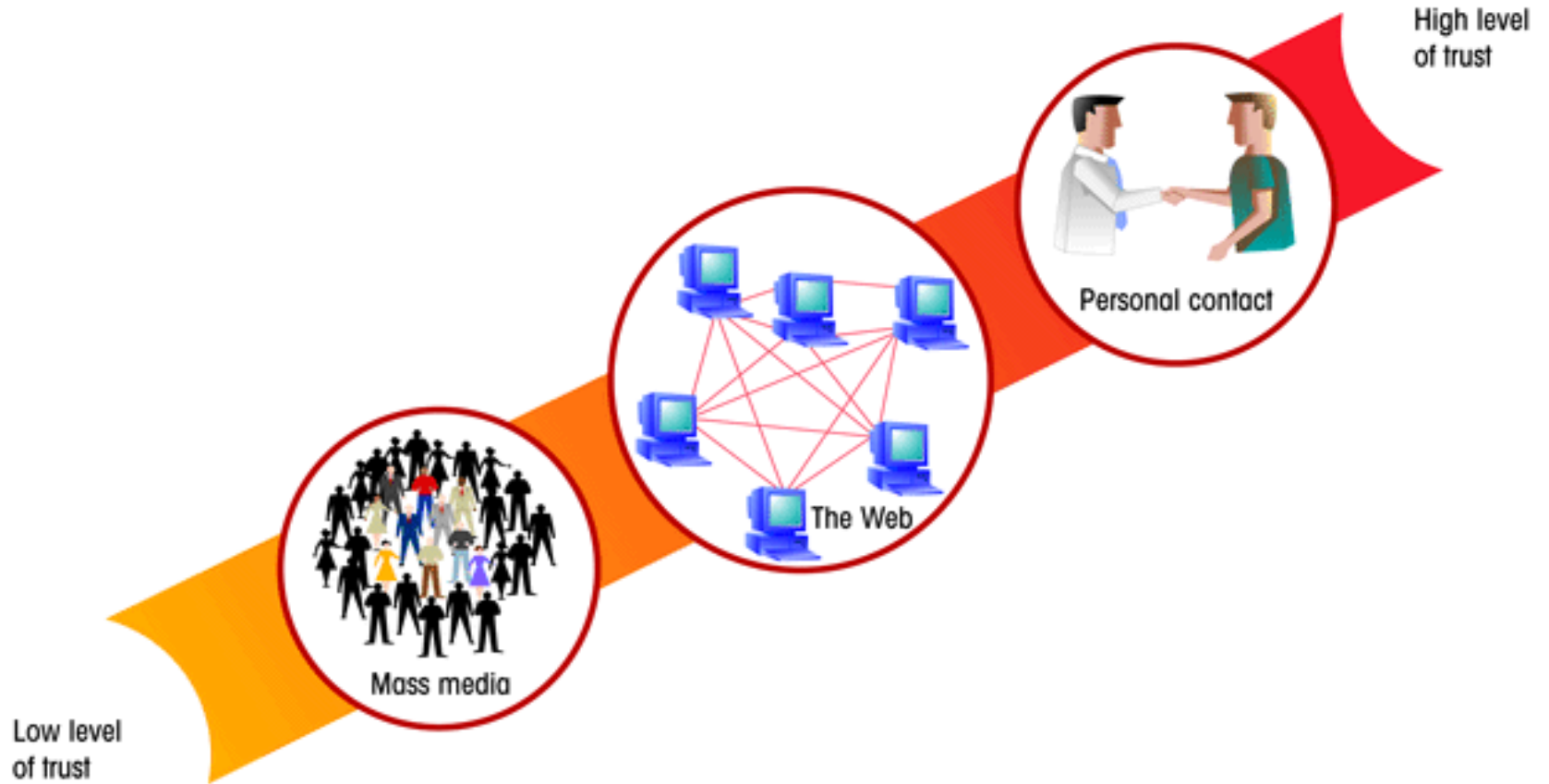
**Personal contact**  
One-to-one

Salesperson



Customer or prospect

# Levels of Trust



# Types of e-commerce

- 2 types of e-commerce:
  - B2C
  - B2B
  - B2G (business to government)

# B2C

- B2C means e-commerce transactions between business and consumer
- Commerce between companies and consumers
- Involve customer gathering information; purchasing physical goods (tangible such as books or consumer products) or information goods (goods of electronic material or digitised contents such as software or e-books)
- 2<sup>nd</sup> largest and earliest form of e-commerce
- Example of B2C business:
  - Retailing business: Amazon.com, pizzahut.com,
  - Information goods: cuticuti.com,
- With the use of online banking tools (example: Maybank2u)

- B2B means e-commerce transactions between business and business
  - E-commerce between companies
  - Example: IBM, HP, Dell
- B2G means e-commerce between companies and public sector
  - involves borderless transactions.
  - Internet for public procurement,
  - Example: myeg.com.my, e-tender by JKR, licensing procedures and other government related operation

# Advantage/benefit to business

- Help increase profits and decrease costs; reduced overhead; facilitates “pull”-type supply chain management
- Wide base for customers – internationally; geographically scattered; areas not previously reached
- Identify new suppliers and business partners
- Ability to create highly specialised businesses
- Lower communication costs
- Buyers have wide range of choices of vendors and products
- Availability 24/7
- Competitive market causes decrease in prices, discounts or “freebies” thrown in
- Customers receive relevant and detailed information in seconds, as opposed to days or weeks
- Allows individuals to work from home, do less travel

# Disadvantage to business

- Some businesses processes may not work using e-commerce
  - Perishable goods
- Difficult to calculate return-on-investment (ROI)
- Potential cultural and legal obstacles
  - Legal environment still unclear and have conflicting laws
- No “touch-and-feel” aspect
  - Loss of ability to inspect products from remote locations

# E-commerce infrastructure

- Information superhighway infrastructure
  - Internet, LAN, WAN, routers, etc
  - Telecom, cable TV, wireless, etc
- Messaging and information distribution infrastructure
  - HTML, XML, email, HTTP, etc
- Common business infrastructure
  - Security, authentication, electronic payment, directories catalogs, etc
- Web architecture
  - Client/server model
  - N-tier architecture; e.g. web servers, application servers, database servers, scalability



# The process of e-commerce

- Attract customers
  - Advertising, marketing
- Interact with customers
  - Catalog, negotiation
- Handle and manage orders
  - Order capture
  - Payment
  - Transaction
  - Fulfillment (physical good, service good, digital good)
- React to customer inquiries
  - Customer service
  - Order tracking

# Issues Surrounding E-commerce

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- Trust
- Language
- Culture
- Culture and government
- Infrastructure

# Trust Issues

- How do I know who you say you are?
- How can I guarantee that you will supply me with the products you offer within the timeframe you gave?



*"On the Internet, nobody knows you're a dog."*

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# Trust Issues

- Established companies, especially those with offline presence, have easy time creating trust on the Web
- New companies face difficulties due to anonymity that exists
  - Visitors won't just buy from anyone, especially if they have never heard of the company before

# Language Issues

- “Think globally, act locally”
- Providing local language conversions of a site
  - Customers more likely to buy products or services from a site in their own language
- About 60% of content on Web is in English; more than 50% of current Internet users do not read English

# Culture Issues

- Common language and common customs provide an easier time for consumers to determine how companies will react in situations of misrepresentation of quality, etc
- Laws and business practices vary between countries

# Culture Issues

- Wine.com (not suitable for Muslim culture)
- Use of icons and terms to depict common actions
  - Shopping *carts* used in US; shopping *baskets* used in Europe; shopping *trolleys* used in Australia
  - The OK symbol seen as an obscene gesture in some countries



# Culture and Government

- Government controls that limit forms of open online discussions
- Some officials in North African and Middle East take public issue with the availability of sexually explicit, anti-Islamic content on the Web

# Culture and Government

- In 2004, Chinese government shut down a Blogbus because it contained an essay which the government deemed to contain “forbidden content”
- French law regulates that an advertisement for a product must be in French; companies willing to sell to Frenchmen online and ship to France must have content in French
- What impacts do you see for these restrictions in Malaysia where e-commerce is concerned?

# Infrastructure Issues

- Local connection costs in developing countries high; some countries required payment for time spent online
  - This could lead to people spending less time online
  - Introduction of flat-rate access required
  - Check Tmnet promotion, W1max, Celcom and Maxis broadband
- More than half of businesses on web turn away international orders as do not have capacity or processes in place to fill them

# Obstacle, problems and issue faced by companies in engaging e-commerce

1. **Lack of awareness and understanding of the value of e-commerce**
  - Many think that e-commerce is suited only for big companies
  - Additional cost that will not bring any major returns to investment
2. **Lack of ICT knowledge and skills**
  - Shortage of skilled workers especially in small and medium companies
  - Limited capabilities in design, distribution, marketing and post sale support
3. **Financial cost**
  - Initial investment to adopt new technology is proportionately heavier for small than for large firm
  - Firms will need to undertake investment in an appropriate computer system to implement e-commerce.
  - High cost of computer and internet access
4. **Infrastructure**
  - Many developing countries have poor telecommunication infrastructure
5. **Security**
  - Ensuring security on payment and privacy of online transaction
  - Lack of trust to use internet to make online payment

# Impact of e-commerce

- e-commerce will eliminate mediation process as producers can sell direct to consumers.
- firms will have fast knowledge of what customers want.
- Firms can use this knowledge to guide the development of their product lines and to identify new growth areas at their earlier stages.
- e-commerce will also help small- and medium-sized enterprises (SMIs) to gain greater market reach for their products and services.

# Impact of e-commerce

- In fact, e-commerce can be an efficient and economical way for many SMIs to enter an export market.
- E-commerce offers consumers a wide range of new opportunities to do direct shopping and banking using the convenience of a home computer or other communication devices.
- Consumers will also benefit in terms of lower final prices due to lower transaction costs as described above.
- e-commerce consumers will have a wider and direct access to producers of goods and services without intermediaries.

# Impact of e-commerce

- With a wider choice of products and services offered to them, they can cast their preferences by describing what they want.
- In this environment, e-commerce will hasten the shift of market power of consumers, from a "product taker" to a "product maker".
- As a result, this process will lead to greater competition among firms to protect their market share.
- e-commerce will result in higher investment by the Government, firms and consumers.

# Impact of e-commerce

- Coupled with higher investment in IT, e-commerce will result in higher efficiency and productivity of the economy.
- e-commerce will contribute to higher total factor productivity of the Malaysian economy which is needed to sustain economic growth in the long term.
- E-commerce will create new activities and a variety of new industries which utilize IT.
- This will lead to the creation of new job opportunities.



# Reference

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Electronic Commerce, Seventh Annual Edition by Gary Schneider  
Electronic Commerce: A Managerial Perspective by Turban, Lee, King and  
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Public Bank Economic Review. May 2000.