Lecture notes on
E-commerce
Course code: BBA-N-606

Unit-I

Introduction to Commerce

Commerce is basically an economic activity involving trading or the buying and selling of goods.

For e.g. a customer enters a book shop, examines the books, select a book and pays for it. To fulfil the customer requirement, the book shop needs to carry out other commercial transactions and business functions such as managing the supply chain, providing logistic support, handling payments etc.

As we enter the electronic age, an obvious question is whether these commercial transactions and business functions can be carried out electronically.

In general, this means that no paperwork is involved, nor is any physical contact necessary. This often referred to as electronic commerce (e-commerce).

The earliest example of e-commerce is electronic funds transfer. This allows financial institutions to transfer funds between one another in a secure and efficient manner.

Later, electronic data interchange (EDI) was introduced to facilitate inter-business transactions.

Definition of E-commerce:

- "E-Commerce or Electronic Commerce, a subset of E-Business, is the purchasing, selling and exchanging of goods and services over computer networks (such as Internet) through which transactions are performed".
- "E-Commerce can be defined as a modern business methodology that addresses the needs of organizations, merchants and consumers to cut costs while improving the quality of goods and services and increasing the speed of service delivery by using Internet".
- E-Commerce takes place between companies, between companies and their customers, or between companies and public administration.
- Electronic commerce, commonly known as E-commerce is trading in products or services using computer networks, such as the Internet.
- Electronic commerce draws on technologies such as mobile commerce, electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange (EDI), inventory management systems, and automated data collection systems.

- Modern electronic commerce typically uses the World Wide Web for at least one part of the transaction's life cycle, although it may also use other technologies such as e-mail.

FEW EXAMPLES OF E-Commerce are:

- Amazon.com, an online bookstore started in 1995 grew its revenue to more than 600$ million in 1998.
- Microsoft Expedia, an integrated online travel transaction site helps to choose a flight, buy an airline ticket, book a hotel, rent a car etc. in only a few minutes.

Definition of E-commerce:

Sharing business information, maintaining business relationships and conducting business transactions using computers connected to telecommunication network is called E-Commerce.

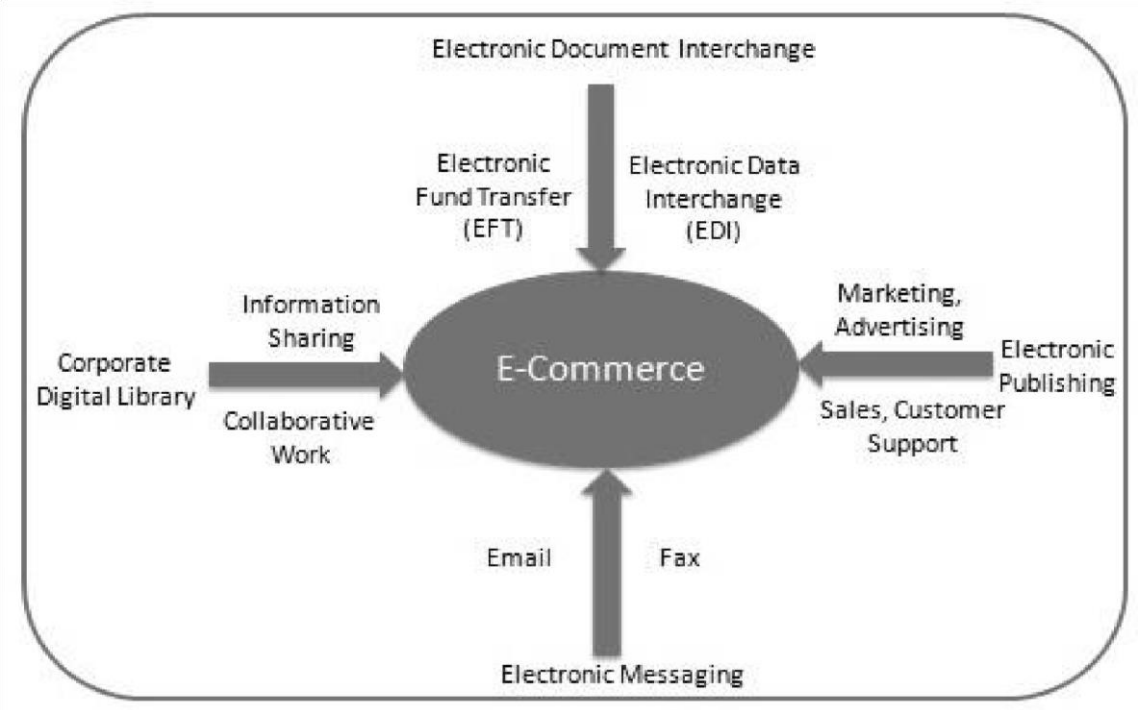
E-COMMERCE:-

E-Commerce or Electronics Commerce is a methodology of modern business, which addresses the requirements of business organizations. It can be broadly defined as the process of buying or selling of goods or services using an electronic medium such as the Internet.

E-Commerce or Electronics Commerce is a methodology of modern business, which addresses the need of business organizations, vendors and customers to reduce cost and improve the quality of goods and services while increasing the speed of delivery. E-commerce refers to the paperless exchange of business information using the following ways:

- Electronic Data Exchange (EDI)
- Electronic Mail (e-mail)
- Electronic Bulletin Boards

- Electronic Fund Transfer (EFT)
- Other Network-based technologies



E-Commerce Categories (scope of E-commerce):

1. Electronic Markets

Present a range of offerings available in a market segment so that the purchaser can compare the prices of the offerings and make a purchase decision.

Example: Airline Booking System

2. Electronic Data Interchange (EDI)

• It provides a standardized system

• Coding trade transactions

• Communicated from one computer to another without the need for printed orders and invoices & delays & errors in paper handling

• It is used by organizations that a make a large no. of regular transactions

Example: EDI is used in the large market chains for transactions with their suppliers

3. Internet Commerce

• It is use to advertise & make sales of wide range of goods & services.

• This application is for both business to business & business to consumer transactions.

Example: The purchase of goods that are then delivered by post or the booking of tickets that can be picked up by the clients when they arrive at the event.

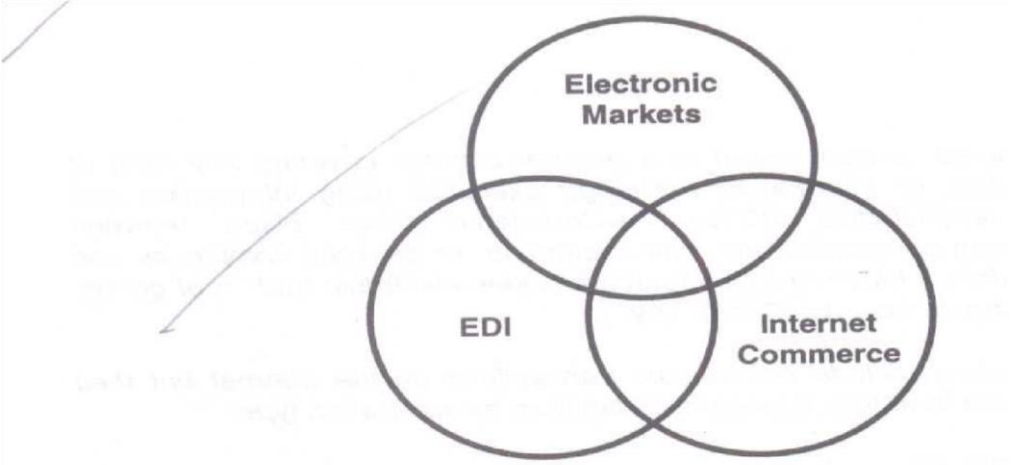


Fig. 1.1 The three categories of e-Commerce.

Features

E-Commerce provides the following features:

- **Non-Cash Payment**: E-Commerce enables the use of credit cards, debit cards, smart cards, electronic fund transfer via bank's website, and other modes of electronics payment.

- **24x7 Service availability**: E-commerce automates the business of enterprises and the way they provide services to their customers. It is available anytime, anywhere.
- **Advertising/Marketing**: E-commerce increases the reach of advertising of products and services of businesses. It helps in better marketing management of products/services.
- **Improved Sales**: Using e-commerce, orders for the products can be generated anytime, anywhere without any human intervention. It gives a big boost to existing sales volumes.
- **Support**: E-commerce provides various ways to provide pre-sales and post-sales assistance to provide better services to customers.
- **Inventory Management**: E-commerce automates inventory management. Reports get generated instantly when required. Product inventory management becomes very efficient and easy to maintain.

Communication improvement: E-commerce provides ways for faster, efficient, reliable communication with customers and partners.

Traditional Commerce v/s E-Commerce

Traditional Commerce	E-Commerce
Heavy dependency on information exchange from person to person.	Information sharing is made easy via electronic communication channels making a little dependency on person to person information exchange.
Communication/transactions are done in synchronous way. Manual intervention is required for each communication or transaction.	Communication or transactions can be done in asynchronous way. The whole process is completely automated.
It is difficult to establish and maintain standard practices in traditional commerce.	A uniform strategy can be easily established and maintained in e-commerce.
Communications of business depends upon individual skills.	In e-commerce, there is no human intervention.
Unavailability of a uniform platform, as traditional commerce depends heavily on personal communication.	E-commerce websites provide the user a platform where all the information is available at one place.
No uniform platform for information sharing, as it depends heavily on personal communication.	E-commerce provides a universal platform to support commercial/business activities across the globe.

Advantages of E-Commerce

The advantages of e-commerce can be broadly classified into three major categories:

- Advantages to Organizations
- Advantages to Consumers
- Advantages to Society

Advantages to Organizations

- Using e-commerce, organizations can expand their market to national and international markets with minimum capital investment. An organization can easily E-Commerce locate more customers, best suppliers, and suitable business partners across the globe.

- E-commerce helps organizations to reduce the cost to create process, distribute, retrieve and manage the paper based information by digitizing the information.
- E-commerce improves the brand image of the company.
- E-commerce helps organizations to provide better customer service.
- E-commerce helps to simplify the business processes and makes them faster and efficient.
- E-commerce reduces the paper work.
- E-commerce increases the productivity of organizations. It supports "pull" type supply management. In "pull" type supply management, a business process starts when a request comes from a customer and it uses just-in-time manufacturing way.

Advantages to Customers

- It provides 24x7 support. Customers can enquire about a product or service and place orders anytime, anywhere from any location.
- E-commerce application provides users with more options and quicker delivery of products.
- E-commerce application provides users with more options to compare and select the cheaper and better options.
- A customer can put review comments about a product and can see what others are buying, or see the review comments of other customers before making a final purchase.
- E-commerce provides options of virtual auctions.
- It provides readily available information. A customer can see the relevant detailed information within seconds, rather than waiting for days or weeks.
- E-Commerce increases the competition among organizations and as a result, organizations provides substantial discounts to customers.

Advantages to Society

- Customers need not travel to shop a product, thus less traffic on road and low air pollution.
- E-commerce helps in reducing the cost of products, so less affluent people can also afford the products.
- E-commerce has enabled rural areas to access services and products, which are otherwise not available to them.
- E-commerce helps the government to deliver public services such as healthcare, education, social services at a reduced cost and in an improved manner.

Disadvantages OF E-COMMERCE

The disadvantages of e-commerce can be broadly classified into two major categories:

- Technical disadvantages
- Non-technical disadvantages

Technical Disadvantages

- There can be lack of system security, reliability or standards owing to poor implementation of e-commerce.
- The software development industry is still evolving and keeps changing rapidly.
- In many countries, network bandwidth might cause an issue.
- Special types of web servers or other software might be required by the vendor, setting the e-commerce environment apart from network servers.
- Sometimes, it becomes difficult to integrate an e-commerce software or website with existing applications or databases.
- There could be software/hardware compatibility issues, as some e-commerce software may be incompatible with some operating system or any other component.

Non-Technical Disadvantages

- Initial cost: The cost of creating/building an e-commerce application in-house may be very high. There could be delays in launching an e-Commerce application due to mistakes, and lack of experience.
- User resistance: Users may not trust the site being an unknown faceless seller. Such mistrust makes it difficult to convince traditional users to switch from physical stores to online/virtual stores.
- Security/ Privacy: It is difficult to ensure the security or privacy on online transactions.
- Lack of touch or feel of products during online shopping is a drawback.
- E-commerce applications are still evolving and changing rapidly.

- Internet access is still not cheaper and is inconvenient to use for many potential customers, for example, those living in remote villages.

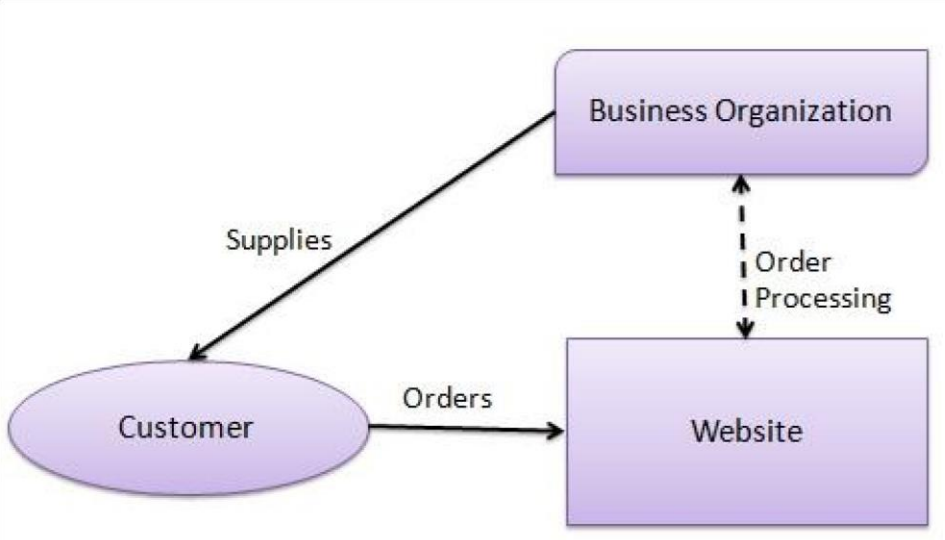
Business models of e-commerce (types of e-commerce):

E-commerce business models can generally be categorized into the following categories

1) Business - to - Business (B2B)
2) Business - to - Consumer (B2C)
3) Consumer - to - Consumer (C2C)
4) Consumer - to – Business(C2B)
5) Business - to - Government (B2G)
6) Government - to - Business (G2B)
7) Government - to - Citizen (G2C)

Business-to-Consumer (B2C)

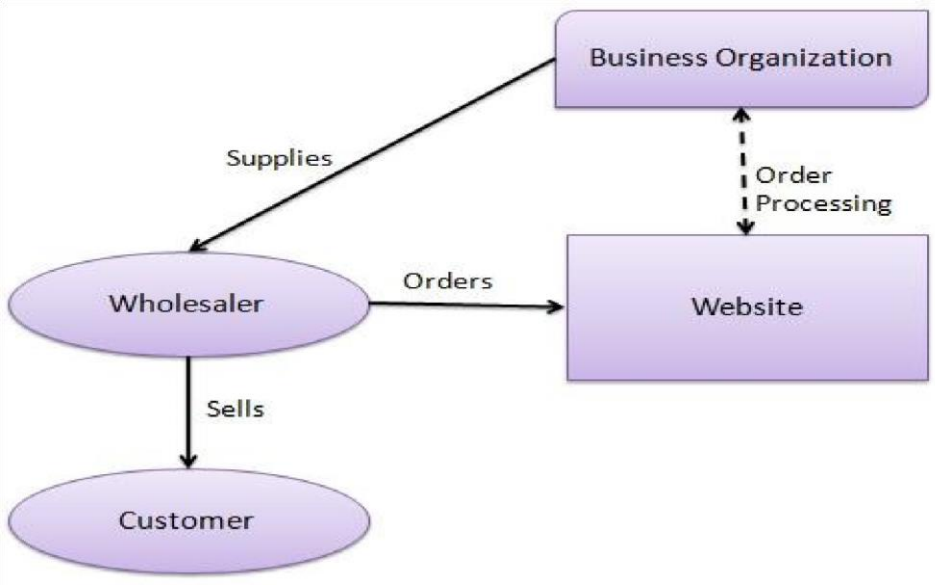
In a Business-to-Consumer E-commerce environment, companies sell their online goods to consumers who are the end users of their products or services. Usually, B2C E-commerce web shops have an open access for any visitor, meaning that there is no need for a person to login in order to make any product related inquiry.



Business-to-Business (B2B)

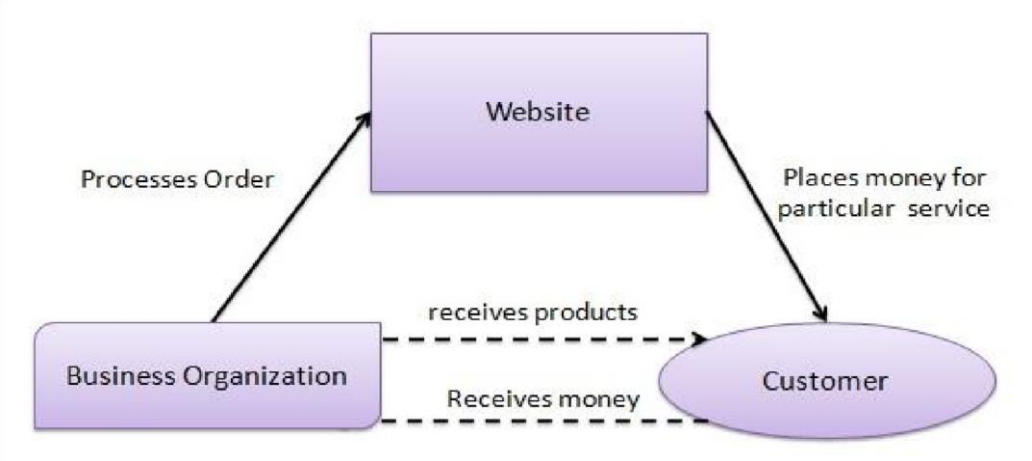
In a Business-to-Business E-commerce environment, companies sell their online goods to other companies without being engaged in sales to consumers. In most B2B E-commerce environments entering the web shop will require a log in. B2B web shop

usually contains customer-specific pricing, customer-specific assortments and customer-specific discounts.



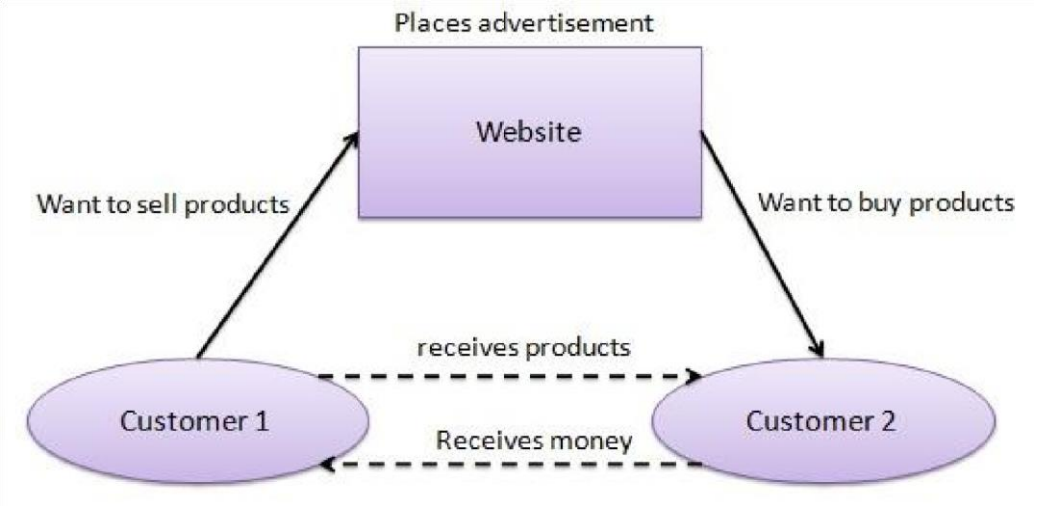
Consumer-to-Business (C2B)

In a Consumer-to-Business E-commerce environment, consumers usually post their products or services online on which companies can post their bids. A consumer reviews the bids and selects the company that meets his price expectations.



Consumer-to-Consumer (C2C)

In a Consumer-to-Consumer E-commerce environment consumers sell their online goods to other consumers. A well-known example is eBay.



1.8 E-Governance:

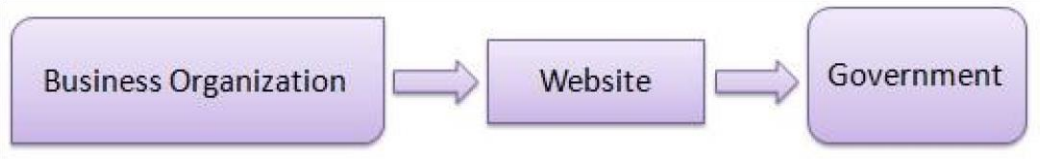
E-governance is the application of information and communication technology (ICT) for delivering government services, exchange of information communication transactions, integration of various stand-alone systems and services between government-to-customer (G2C), government-to-business (G2B), government-to-government (G2G) as well as back office processes and interactions within the entire government framework.

Through e-governance, government services will be made available to citizens in a convenient, efficient and transparent manner. The three main target groups that can be distinguished in governance concepts are government, citizens and businesses/interest groups. In e-governance there are no distinct boundaries.

Business - to - Government (B2G)

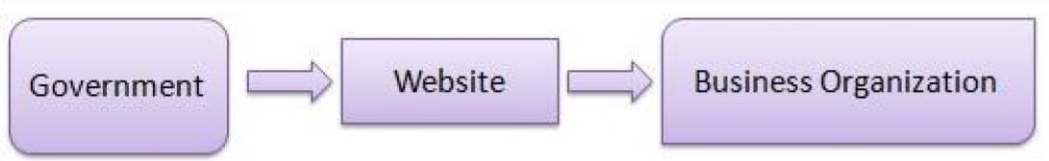
B2G model is a variant of B2B model. Such websites are used by government to trade and exchange information with various business organizations. Such websites are

accredited by the government and provide a medium to businesses to submit application forms to the government.



Government - to - Business (G2B)

Government uses B2G model website to approach business organizations. Such websites support auctions, tenders and application submission functionalities.



Government - to - Citizen (G2C)

Government uses G2C model website to approach citizen in general. Such websites support auctions of vehicles, machinery or any other material. Such website also provides services like registration for birth, marriage or death certificates. Main objectives of G2C website are to reduce average time for fulfilling people requests for various government services.

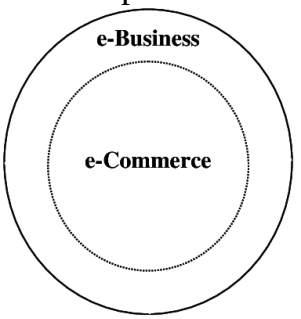
E-Business

- "E-Business is the conduct of business on the Internet, not only buying and selling but also servicing customers and collaborating with business partners".

- E-Business means connecting critical business systems directly to customers, vendors and suppliers- via the Internet, Extranet and Intranets.
- Therefore it means using electronic information to boost performance and create value by forming new relationships between and among businesses and customers.
- One of the first to use the term was IBM, in October 1997, when it launched a campaign built around e-business.

E-Business enables organizations to accomplish the following goals:-

- Reach new markets.
- Create new products or services.
- Build customer loyalty
- Make the best use of existing and emerging technologies.
- Achieve market leadership and competitive advantage.
- Enrich human capital.



e-Commerce is a subset of e-Business

Basic Requirements for E-Commerce

This section gives a very brief overview of the requirements for e-commerce. However, it is important to understand that all of these are not necessarily required for all levels of e-commerce. Requirements widely vary with different kinds of e-commerce activities.

Telecommunication Infrastructure Requirements

This mostly entails bandwidth and security. The requirement for bandwidth varies widely from one e-commerce activity to another making it hard to generalize. Bandwidth usually becomes crucial for service-based B2B e-commerce as opposed to product-based one and high-traffic B2C e-commerce as opposed to low-traffic one. Two main components of security requirements for e-commerce are type of firewall and encryption/algorithm mechanism. This also varies widely from one e-commerce activity to the other. Ranging from protection against unwanted disclosure of client information to guarantee of reliable electronic payment. Security requirements are a crucial part of e-commerce.

Hardware Requirements for E-commerce

Hardware requirements for high-traffic sites may be dependent on the following issues: number of transactions per second; number of hits per second; number of queries per second; number of queries done by RDBMS per second; number of pages served per second involving all of the above parameters. Some other factors that need to be considered when setting up a high traffic e-commerce site include clustering i.e. use of backup servers which automatically takes over operations in case of failure of primary ones. Low-traffic sites can be easily served from a single machine depending on the needs of the business. Pentium II/III based Intel server running Linux can serve hundreds of unique customers each day.

Software Requirements for E-commerce

several software are available free on the Internet that can be used to build e-commerce exchanges. Some examples are Apache Web Server, Apache-Jserv Servlet Engine, Linux Operating System, mySQL database, postgresql etc. Many of these open source software may not be adequate for high-traffic sites.

Technical Skill Requirements

A systems administrator must have a good knowledge of computer hardware, must be able to maintain and upgrade hardware including hard drive, processor and motherboard. He/she must also have the skill to install and compile Apache, mySQL and Java servlet engine. A developer needs to be a high level programmer with a few years of experience in the industry and must possess a clear understanding of how an e-commerce system works. Understanding how information flows from one end of the system to another and what modifications take place in between is essential. Specific required skills include programming skills in C, PHP and Java and knowledge on SQL programming and data architecture

Financial Infrastructure

Payment procedures are the ways in which a seller can receive payment in return for the goods or services sold. Access to these services depends on the banking infrastructure in location of selling and customers' locations. For full-fledged e-commerce transaction the banking infrastructure requirements should be as follows:

Dependable telecommunication network

Use of integrated banking software for back office and front office data processing

Use of WAN and Internet for banking operations

Availability of Electronic fund transfer System

Availability of Electronic Clearing System

Availability of Public Key based Encryption System

Availability of Credit Card System both for local and international payment

Availability of Foreign Exchange Remittance Mechanism over the Internet

Availability of Legal Infrastructure supporting online payment mechanism

Interim Solution:

If local telecommunication services in a country do not allow for direct connection of a web site to secure payment facilities, and in particular to those offered by credit card companies, it may be possible to host a web site in a neighboring location that is capable of providing the necessary financial connections.

Legal and Policy Framework

In general, policies that ensure legal certainty, security and consumer protection for online transactions and interactions should be enacted. These include the resolution of issues such as transactional security, electronic contract enforceability and the authentication of individuals and documentation. The development of such an enabling environment has involved a joint focus of

government and private sectors on: an efficient and sound financial system (including online payments, the use of electronic currency and foreign exchange liberalization), an efficient, inexpensive and reliable telecommunication system (including to long-distance market, competitive local exchange carriers, and high speed lines),legal mechanisms for the enforcement of contract law, consumer protection and defense of intellectual property rights, an efficient tax administration, and swift, transparent, and reliable customs operations. The following factors, often influenced by national policy, should be considered: Perceived political risk, Predictability of the legal environment, Soundness of economic and monetary policy, Openness to foreign direct investment, Convertibility of local currency, Restrictions on capital flows, Credit card usage, Credit card processing protocols, Access to credit, Entrepreneurial culture, Access to startup capital, Regulations and restrictions on small business.

Threats of E-commerce:

Hackers attempting to steal customer information or disrupt
the site A server containing customer information is stolen.

Imposters can mirror your ecommerce site to steal customer money

- Authorised administrators/users of an ecommerce website downloading hidden active content that attacks the ecommerce system.
- A disaffected employee disrupting the ecommerce system.
- It is also worth considering where potential threats to your ecommerce site might come from, as identifying potential threats will help you to protect your site. Consider:
- Who may want to access your ecommerce site to cause disruption or steal data; for example competitors, ex-employees, etc.

- What level of expertise a potential hacker may possess; if you are a small company that would not be likely to be considered a target for hackers then expensive, complex security may not be needed.

Features of E-Commerce:

- **Ubiquity**

  Internet/Web technology is The marketplace is extended beyond traditional available everywhere: at work, at home, and boundaries and is removed from a temporal and elsewhere via mobile devices, anytime. geographic location. ―Marketspace‖ is created; shopping can take place anywhere. Customer convenience is enhanced, and shopping costs are reduced.

- **Global reach**

  The technology reaches Commerce is enabled across cultural and across national boundaries, around the earth. national boundaries seamlessly and without modification.

  ―Marketspace‖ includes potentially billions of consumers and millions of businesses worldwide.

- **Universal standards**

  There is one set of There is one set of technical media standards technology standards, namely Internet across the globe.

- **Richness**

  Video, audio, and text messages Video, audio, and text marketing messages are are possible. integrated into a single marketing message and consuming experience.

- **Interactivity**

The technology works Consumers are engaged in a dialog that through interaction with the user. dynamically adjusts the experience to the individual, and makes the consumer a coparticipant in the process of delivering goods to the market.

- **Information density**

  The technology Information processing, storage, and reduces information costs and raises quality. communication costs drop dramatically, while currency, accuracy, and timeliness improve greatly. Information becomes plentiful, cheap, and accurate.

- **Personalization/Customization**

  The Personalization of marketing messages and technology allows personalized messages to customization of products and services are be delivered to individuals as well as groups.

  based on individual characteristics.

Factors affecting the growth and Needs of Electronic Commerce

1) **Supply chain coordination** – Due to supply chain coordination money can be saved by the availability of the material and for this companies should maintain proper internal IT systems to get the benefits of e-commerce.
2) **Global sourcing** – Gobal sourcing creates more capacity, which causes a temporary excess of lower prices and for this there is a need of finding global suppliers especially for custom fabricated products.
3) **MRO** – Online MRO purchasing reduces transaction costs. For this it is needed to utilize a software to connect corporate employees with vendor's catalog.

4) **Price Monitoring** – Companies want close relationships with vendors, but at the same time want to monitor the prices. For this companies need service to provide pricing information for both catalog and custom fab parts.
5) **Security** – Security is needed for growing volume of transactions and rising price tags. But for this greater security is needed for orders, company information provided to viendors and payments.
6) **Minimizing Up front cost and Risk** – E-commerce needs sustantial investment with substantial risks. It also needs cost and time for completion and functionality. For this company need to pay per transaction or per month with low up front expense and risk.
7) **Extranets** – It is the need of the companies to make production plans and capabilities accesible to vendors and buyers and not to competitors. Use of extranet can solve this problem.
8) **Pushing ecommerce to less sofisticated buyers** – Here technology resistant buyers will accept convinience while convinient technology will be used for less sophisticated buyers for e.g. kitchen counter scanners.
9) **Growing internet usage** – For this e-commerce will grow both in number of users and their intensity of use. For this it is needed to to grow internet infrastructure which needs routers, bandwidth, computers and appliances etc.

Prospects of Electronic Commerce

- 148 million people are online and the figure would increase year by year.
- In 1999, 100 million shoppers are expected to spend US dollar 15 Million in the cyber market space.
- The areas which will be growing are financial services, entertainment, travel and groceries.

- Returns from e-commerce depend upon how the processes are being influenced by e-commerce.

Recommender systems in e-commerce

Recommender systems are the systems in e-commerce which help in information processing and allow the customer to choose the product according to their needs. For the real world this is impossible for the physical market but in e-commerce it is possible. This systems help in suggesting the products to their customers before purchasing the product. The product is suggested depending upon the top sellers on the site and the demographics or the previous buying behavior of the customer upon which it will decide the future behavior. Recommendations of forms include product suggestions for the customer, product information of the required product, summarizing community opinion and then providing community critiques. This systems help to analyze the recommender systems at six market leading sites. Recommender systems are the systems which help in customizing the products according to the product needs of the customers to sale them on the website. . Recommender systems are similar in some respect and are different than marketing systems and supply-chain decision-support systems. Recommender systems which make use of computer are called as *automatic recommender systems*. The examples of the recommender systems are **Amazon.com, Drugstore.com, and MovieFinder.com.** E-commerce sales is increased using recommender systems in three ways –

1) **Making website useful for sales**: Visitors only look over the site to see the product information and do not purchase anything. Recommender systems find the product of the choice of the customer.
2) **Increasing cross sell**: Recommender systems increase sales by suggesting additional products to the customers.

3) **Building faith**: Trust is an important factor for the online business. Recommender systems build trust by creating a value added relationship between the site and the customer.

History of E-Commerce

- The history of Ecommerce seems rather short but its journey started over 40 years ago in hushed science labs
- In the 1960s, very early on in the history of Ecommerce, its purpose was to exchange long distance electronic data. In these early days of Ecommerce, users consisted of only very large companies, such as banks and military departments, who used it for command control communication purposes. This was called EDI, and was used for electronic data interchange.
- Originally, electronic commerce was identified as the facilitation of commercial transactions electronically, using technology such as Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT). These were both introduced in the late 1970s, allowing businesses to send commercial documents like purchase orders or invoices electronically.
- The growth and acceptance of credit cards, automated teller machines (ATM) and telephone banking in the 1980s were also forms of electronic commerce
- In 1982 Transmission Control Protocol and Internet Protocol known as TCP & IP was developed. This was the first system to send information in small packets along different routes using packet switching technology, like today's Internet! As opposed to sending the information streaming down one route
- Beginning in the 1990s, electronic commerce would include enterprise resource planning systems (ERP), data mining and data warehousing

- In 1995, with the introduction of online payment methods, two companies that we all know of today took their first steps into the world of Ecommerce. Today Amazon and ebay are both amongst the most successful companies on the Internet

Functions of E-Commerce

- **Marketing**:- One of the areas it impacts particularly is direct marketing. In the past this was mainly door-to-door, home parties (like the Tupperware parties) and mail orders using catalogues or leaflets. This moved to telemarketing and TV selling with the advance in television technology and finally developed into e-marketing.
- **Human Resource Management**:- Issues of on-line recruiting, home working and 'entrepreneurs' working on a project by project basis replacing permanent employees.
- **Business law and ethics**:- The different legal and ethical issues that have arisen as a result of a global 'virtual' market. Issues such as copyright laws, privacy of customer information etc.
- **Management Information System**:- Analysis, design and implementation of e-business systems within an organization ; issues of integration of front-end and back-end systems.
- **Product Operations and Management**:- The impact of on-line processing has led to reduced cycle time. It takes seconds to deliver digitized products and services electronically; similarly the time for processing orders can be reduced by more than 90 percent from days to minutes.
- **Finance and Accounting**:- On-line banking ; issues of transaction costs ; accounting and auditing implications where 'intangible' assets and human capital must be tangibly valued in an increasing knowledge based economy.

- **Economy**:- The impact of E-commerce on local and global economies; understanding the concepts of a digital and knowledge based economy and how this fits into economic theory.

E-Commerce Applications

- E-Marketing
- E-Advertising
- E-Banking
- E-Learning
- Mobile Commerce
- Online Shopping
- Entertainment

E-Marketing:-

- E-Marketing also known as Internet Marketing, Online Marketing, Web Marketing.
- It is the marketing of products or services over the internet.
- It is consider to be broad in scope because not refers to marketing on the internet but also done in Email and wireless media.
- E-Marketing ties together the creative and technical aspects of the internet, including design development, advertising and sales.
- Internet marketing is associated with several business models i.e., B2C, B2B, C2C.
- Internet marketing is inexpensive when examine the ratio of cost to the reach of the target.

E-Advertising:-

- It is also known as online advertising it is a form of promotion that uses internet and World Wide Web to deliver marketing messages to attracts customers.

- Example: Banner ads, Social network advertising, online classified advertising etc.
- The growth of these particular media attracts the attention of advertisers as a more productive source to bring in consumers.

E-Banking:-

- Means any user with a personal computer and browser can get connected to his banks, website to perform any of the banking functions. In internet banking system the bank has a centralized data base i.e., web-enabled.
- Best example for E-Banking is ATM.
- An ATM is an electronic fund transfer terminal capable of handling cash deposits, transfer, Balance enquiries, cash withdrawals, and pay bills.

SERVICES THROUGH E-BANKING:

- Bill Payment Service
- Fund Transfer
- Investing through Internet Banking
- Shopping

E-Learning:-

- E-Learning comprises all forms of electronically supported learning and teaching.
- E-Learning applications and processes include web-based learning, computer-based learning.
- Content is delivered via. The internet, intranet/extranet, audio, or video tape, satellite TV.
- E-Learning is naturally suited to distance and flexible learning, but can also be used conjunction with face-to-face teaching.
- E-Learning can also refer to the educational website such as those offering learning scenarios worst and interactive exercises for children.
- A learning management system (LMS) is software used for delivering, tracking, and managing training /education.

Mobile Commerce:-

- Mobile Commerce also known as M-Commerce, is the ability to conduct, commerce as a mobile device, such as mobile phone.
- Banks and other financial institutions use mobile commerce to allow their customers to access account information and make transactions, such as purchasing, withdrawals etc.,

- Using a mobile browser customers can shop online without having to be at their personal computer.

SERVICES ARE:

1. Mobile ticketing
2. Mobile contract purchase and delivery mainly consumes of the sale of ring tones, wallpapers and games of mobile phones.
3. Local base services
   - Local discount offers
   - Local weather
4. Information services
   - News
   - Sports, Scores

Online Shopping:-

- Online shopping is the process whereby consumers directly buy goods or services from a sell in real time, without intermediary services over the internet.
- An online shop, e-shop, e-store, internet shop web shop, web store, online store, or virtual shop evokes the physical analogy of buying products or services in a shopping center.
- In order to shop online, one must be able to have access to a computer, a bank account and debit card.
- Online shoppers commonly use credit card to make payments , however some systems enable users to create accounts and pay by alternative means ,such as
  - Cheque.
  - Debit cards.
  - Gift cards

Online stores are usually available 24 hours a day

Entertainment:-

The conventional media that have been used for entertainment are

1. Books/magazines.
2. Radio.
3. Television/films.
4. Video games.

- Online books /newspapers, online radio, online television, online firms, and online games are common place in internet where we can entertain.
- Online social networking websites are one of the biggest sources of E-entertainment for today's tech-savvy generation.

E-Commerce Trade Cycle

- E-Commerce can be applied to all, or different phases of the trade cycle.
- **The trade cycle varies depending on**:-

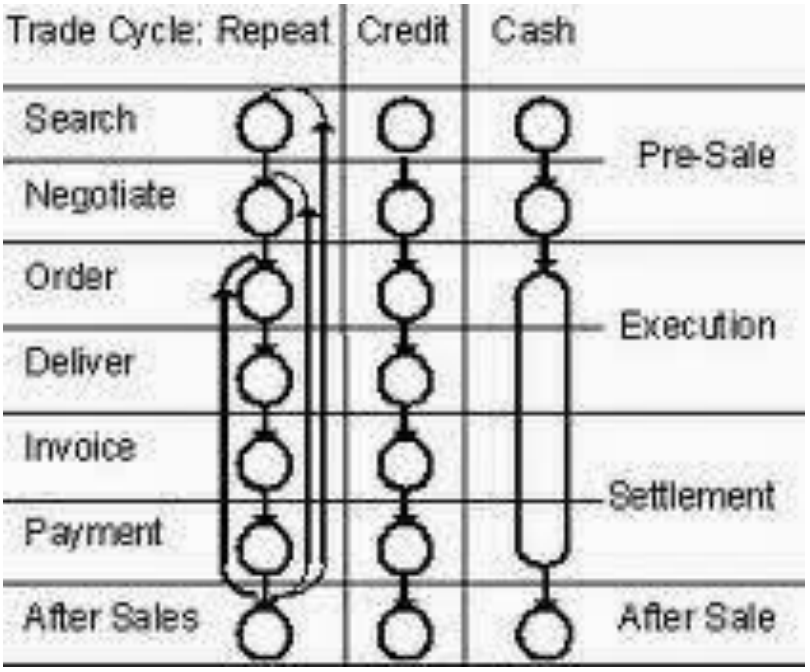
 The nature of the organization (or individuals) involved.
 The nature and type of goods or services being exchanged.
 The frequency of trade between the partners to the exchange process.

- **The trade cycle has to support**:-

 Finding goods or services appropriate to the requirement and agreeing the terms of trade often referred to as search and negotiation.
 Placing the order, taking delivery and making payment i.e., execution & settlement of transaction.
 After sales activity such as warrantee, service etc.
 There are numerous categories of trade cycles depending on the factors outlined above and, for many transactions, further complicated by the complexities of international trade.

- **Three generic trade cycles can be identified**:-

1. Regular, repeat transactions between commercial trading partners (Repeat Trade Cycle).
2. Irregular Transactions between commercial trading partners where execution and settlement are separated (Credit Transactions)
3. Irregular transactions in once-off trading relationships where execution and settlement are typically combined (Cash Transactions)



- **Electronic Markets**:-

 It increases the efficiency of the market.

 It reduces the search cost for the buyer and makes it more likely that buyer will continue the search until the best buy is found.

 It exists in financial markets & they are also used in airline booking system.

 It is irregular transaction trade.

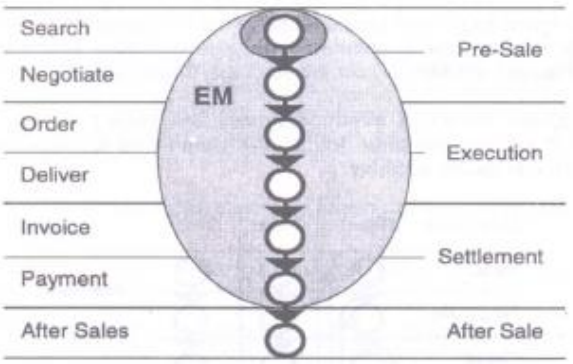


Fig. 1.3 Electronic Markets and Trade Cycle.

- **Electronic Data Interchange**:-

 It is used for regular repeat transactions.
 It takes quite a lot of work to set up systems.
 Mature use of EDI allows for a change in the nature of the product or service.

e.g. Applications are sending test results from the pathology laboratory to the hospital or dispatching exam results from exam boards to school.

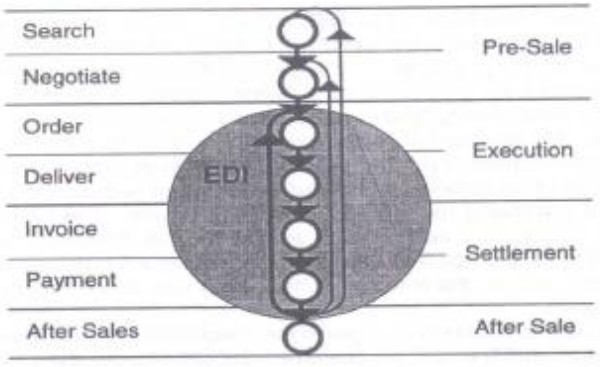


Fig. 1.4 EDI and the Trade Cycle.

- **Internet Commerce**:-

 <u>The first stage</u>

- Advertising appropriate goods and services.
- Internet sites offer only information & any further steps down the trade cycle are conducted on the telephone.

 The Second stage

- An increasing no. of sites offer facilities to execute & settle the transaction.
- Delivery may be electronic or by home delivery depending on the goods and services.

 The final stage

- After-sales service.
- On-line support & On-Line services.

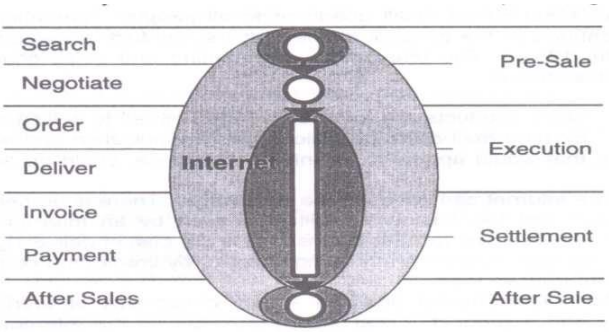


Fig. 1.5 Internet and the Trade Cycle.

Tools & Technologies for E-Commerce

- Electronic data interchange (EDI)
- Bar codes
- Electronic mail
- Internet
- World Wide Web
- Product data exchange
- Electronic forms
- **Electronic Data Interchange (EDI)**

 EDI is the computer-to-computer exchange of structured business information in a standard electronic format. Information stored on one computer is translated by software programs into standard EDI format for transmission to one or more trading partners. The trading partners'

computers, in turn, translate the information using software programs into a form they can understand.

- **Bar Codes**

 Bar codes are used for automatic product identification by a computer. They are a rectangular pattern of lines of varying widths and spaces. Specific characters (e.g. numbers 0-9) are assigned unique patterns, thus creating a "font" which computers can recognize based on light reflected from a laser.

 The most obvious example of bar codes is on consumer products such as packaged foods. These codes allow the products to be scanned at the checkout counter. As the product is identified the price is entered in the cash register, while internal systems such as inventory and accounting are automatically updated.

- **Electronic Mail**

 Messages composed by an individual and sent in digital form to other recipients via the Internet.

- **Internet**

 The Internet is a global network of millions of diverse computers and computer networks. These networks can all "talk" to each other because they have agreed to use a common communications protocol called TCP/IP. The Internet is a tool for communications between people and businesses. The network is growing very, very fast and as more and more people are gaining access to the Internet, it is becoming more and more useful.

- **World Wide Web**

 The World Wide Web is a collection of documents written and encoded with the Hypertext Markup Language (HTML). With the aid of a relatively small piece of software (called a "browser"), a user can ask for these documents and display them on the user's local computer, although the document can be on a computer on a totally different network elsewhere in the world.

 HTML documents can contain many different kinds of information such as text, pictures, video, sound, and pointers, which take users immediately to other web pages.

 It is this ability to jump from site to site that gave rise to the term "World Wide Web." Browsing the Web (or "surfing the Net") can be a fascinating activity, especially to people new to the Internet. The World Wide Web is by far the most heavily used application on the Internet.

- **Product Data Exchange**

 Product data refers to any data that is needed to describe a product. Sometimes that data is in graphical form, as in the case of pictures, drawings and CAD files. In other cases the data may be character based (numbers and letters), as in the case of specifications, bills of material, manufacturing instructions, engineering change notices and test results.

 Product data exchange differs from other types of business communications in two important ways.

 First, because graphics are involved users must contend with large computer files and with problems of compatibility between software applications. (The difficulty of exchanging CAD files from one system to another is legendary).

 Second, version control very quickly gets very complicated. Product designs, even late in the development cycle, are subject to a great deal of change, and because manufacturing processes are involved, even small product changes can have major consequences for getting a product into production.

- **Electronic Forms**

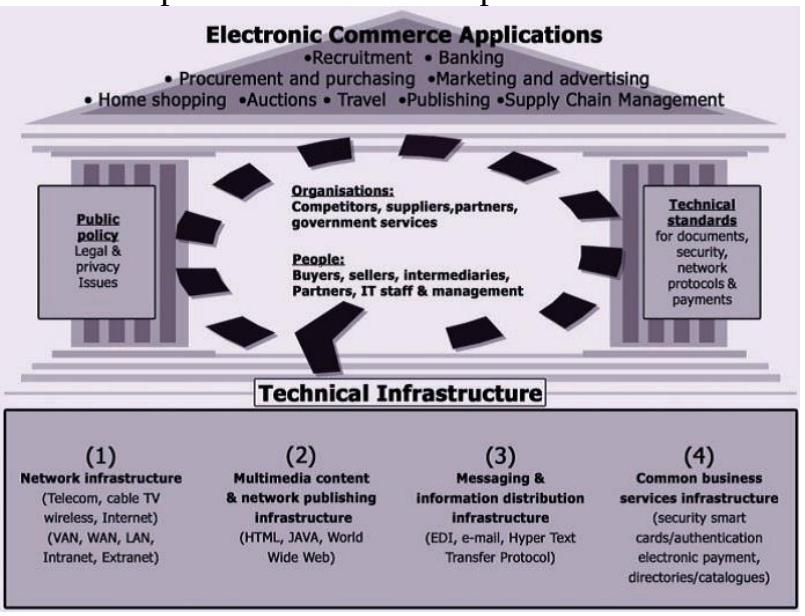
 Electronic form is a technology that combines the familiarity of paper forms with the power of storing information in digital form. Imagine an ordinary paper form, a piece of paper with lines, boxes, check-off lists, and places for signatures. To the user an electronic form is simply a digital analogue of such a paper form, an image, which looks like a form but which appears on a computer screen and is filled out via mouse, and keyboard.

 Behind the screen, however, lie numerous functions that paper and pencil cannot provide. Those extra functions come about because the data from electronic forms are captured in digital form, thus allowing

storage in data bases, automatic information routing, and integration into other applications.

Framework of E-Commerce

- This framework, first developed by Kalakota and Whinston, Professors of Information Systems and prolific authors on the subject, takes a holistic view and identifies the different components of business and technology that make up e-commerce. Using the analogy of the architecture of a building illustrated in Fig., they explain how the different components fit and interact together, emphasizing the relative importance of each component.



- Kalakota and Whinston use the analogy of a traditional transportation company to describe the complexity of the network and how the different components that make up the technology infrastructure are interlinked.

 The network infrastructure is like the network of roads that are interconnected and are of different widths, lengths and quality – for example, the Internet, local area networks, intranets. Network infrastructures also take different forms such as telephone wires, cables, wireless technology (such as satellite or cellular technology).

 The publishing infrastructure (including the WWW, Web servers) can be seen as the infrastructure of vehicles and warehouses, which store and transport electronic data and multimedia content along the network. Multimedia content is created using tools such as HTML and JAVA. This content can be very different with varying degrees of complexity similar to different vehicles travelling on the roads. For example, text only, or more complex is an application, such as a computer game, containing audio, video, graphics and a programme.
 Messaging and information distribution infrastructure are the engines and fuel, which transport the data around the network. Once the multimedia content is created, there has to be a means of sending and retrieving this information, for example by EDI, e-mail, Hyper Text Transfer Protocol.
 Once content and data can be created, displayed and transmitted, supporting business services are necessary for facilitating the buying, selling and other transactions safely and reliably. For example, smart cards, authentication, electronic payment, directories/catalogues.

- The next components which facilitate and enable e-commerce and which are built on the foundations of technology are:

 Public policy, regulations and laws that govern issues such as universal access, privacy, electronic contracts and the terms and conditions that govern e-commerce.
 Universal agreement of technical standards dictate the format in which electronic data is transferred over networks and is received across user interfaces, and the format in which it is stored. This is necessary so that data can travel seamlessly across different networks, where information and data can be accessed by a whole range of hardware and software such as computers, palmtops, and different kinds of browsers and document readers.
 The interaction of people and organizations to manage and coordinate the applications, infrastructures and businesses are all necessary to make e-commerce work.
 All these elements interact together to produce the most visible manifestation of e-commerce. These applications include on-line

banking and financial trading; recruitment; procurement and purchasing; marketing and advertising; auctions; shopping are just a few examples.

- This is a particularly useful framework for managers to understand the importance of technology and business, both within the organization and external to it, in the planning and development of any e-commerce or e-business solution.

Supply Chain Management:

It is the process of planning, implementing, and controlling the operations of the supply chain with the purpose to satisfy customer requirements as efficiently as possible. Supply chain management spans all movement and storage of raw materials, work-in-process inventory, and finished goods from point-of-origin to point-of-consumption.

Supply chain management must address the following problems:

-
-
-
-

Distribution Network Configuration: Number and location of suppliers, production facilities, distribution centers, warehouses and customers.

Distribution Strategy: Centralized versus decentralized, direct shipment, cross docking, pull or push strategies, third party logistics.

Information: Integrate systems and processes through the supply chain to share valuable information, including demand signals, forecasts, inventory and transportation.

Inventory Management: Quantity and location of inventory including raw materials, workin-process and finished goods.

Features Of Supply Chain Management:

In electronic commerce, supply chain management has the following features.

- An ability to source raw material or finished goods from anywhere in the world
- A centralized, global business and management strategy with flawless local execution
- On-line, real-time distributed information processing to the desktop, providing total supply chain information visibility
- The ability to manage information not only within a company but across industries and enterprises
- The seamless integration of all supply chain processes and measurements, including thirdparty suppliers, information systems, cost accounting standards,
- and measurement systems The development and implementation of accounting models such as activity based costing that link cost to performance are used as
- tools for cost reduction

A reconfiguration of the supply chain organization into high-performance teams going from the shop floor to senior management.

Components Of Supply Chain Management:

The following are five basic components of SCM.

- **Plan:**

This is the strategic portion of SCM. You need a strategy for managing all the resources that go toward meeting customer demand for your product or service. A big piece of planning is developing a set of metrics to monitor the supply chain so that it is efficient, costs less and delivers high quality and value to customers.

- **Source:**

  Choose the suppliers that will deliver the goods and services you need to create your product. Develop a set of pricing, delivery and payment processes with suppliers and create metrics for monitoring and improving the relationships. And put together processes for managing the inventory of goods and services you receive from suppliers, including receiving shipments, verifying them, transferring them to your manufacturing facilities and authorizing supplier payments.

- **Make:**

  This is the manufacturing step. Schedule the activities necessary for production, testing, packaging and preparation for delivery. As the most metric-intensive portion of the supply chain, measure quality levels, production output and worker productivity.

- **Deliver:**

  This is the part that many insiders refer to as logistics. Coordinate the receipt of orders from customers, develop a network of warehouses, pick carriers to get products to customers and set up an invoicing system to receive payments.

- **Return:**

  The problem part of the supply chain. Create a network for receiving defective and excess products back from customers and supporting customers who have problems with delivered products.

Measuring A Supply Chain's Performance:

The performance of a supply chain is evaluated by how it reduces cost or increases value. SCM performance monitoring is important; in many industries, the supply chain represents roughly 75 percent of the operating budget expense. Three common measures of performance are used when evaluating SCM performance:

- Efficiency focuses on minimizing cost by decreasing the inventory investment or value relative to the cost of goods sold. An efficient firm is therefore one with a higher inventory turnover or fewer weeks‘ worth of inventory on hand.
- Responsiveness focuses on reduction in both inventory costs and missed sales that comes with a faster, more flexible supply chain. A responsive firm is proficient in an uncertain market environment, because it can quickly adjust production to meet demand.
- Effectiveness of the supply chain relates to the degree to which the supply chain creates value for the customer. Effectiveness-focused supply chains are called ―value chains‖ because they focus more on creating customer value than reducing costs and improving productivity.

To examine the effect of the Internet and electronic commerce on the supply chain is to examine the impact the Internet has on the efficiency, responsiveness, effectiveness, and overall performance of the supply chain.

Advantages of Internet/E-Commerce Integrated Supply Chain:

The primary advantages of Internet utilization in supply chain management are speed, decreased cost, flexibility, and the potential to shorten the supply chain.

- **Speed:**

A competitive advantage accrues to those firms that can quickly respond to changing market conditions. Because the Internet allows near instantaneous transfer of information between various links in the supply chain, it is ideally suited to help firms keep pace with their environments. Many businesses have placed a priority upon real-time information regarding the status of orders and production from other members of the supply chain.

- **Cost decrease:**

  Internet-based electronic procurement helps reduce costs by decreasing the use of paper and labor, reducing errors, providing better tracking of purchase orders and goods delivery, streamlining ordering processes, and cutting acquisition cycle times.

- **Flexibility:**

  The Internet allows for custom interfaces between a company and its different clients, helping to cost-effectively establish mass customization. A manufacturer can easily create a custom template or Web site for a fellow supply chain member with pre-negotiated prices for various products listed on the site, making re-ordering only a mouse click away. The information regarding this transaction can be sent via the Internet to the selling firm‘s production floor and the purchasing firm‘s purchasing and accounting departments. The accuracy and reliability of the information is greater than the traditional paper and pencil transaction, personnel time and expense is reduced, and the real-time dissemination of the relevant information to interested parties improves responsiveness. These advantages can benefit both firms involved in the transaction.

- **Shortening the supply chain:**

Dell computers has become a classic example of the power the Internet can have on a supply chain. Dell helped create one of the first fully Internet-enabled supply chains and revolutionized the personal-computer industry by selling directly to businesses and consumers, rather than through retailers and middlemen. In mid-1996, Dell began allowing consumers to configure and order computers online. By 1998, the company recorded roughly $1 billion in ―pure‖ Internet orders. By reducing sales costs and attracting customers who spend more per transaction, Dell estimates that it yields 30 percent greater profit margins on Internet sales compared to telephone sales.

Disadvantages of Internet/E-Commerce Integrated Supply Chain:

- **Increased interdependence:**

  Increased commoditization, increased competition, and shrinking profit margins are forcing companies to increase outsourcing and subcontracting to minimize cost. By focusing on its core competencies, a firm should be able to maximize its economies of scale and its competitiveness. However, such a strategy requires increased reliance and information sharing between members of the supply chain. Increased dependency on various members of the supply chain can have disastrous consequences if these supply chain members are unable to handle the functions assigned to them.

- **The costs of implementation:**

  Implementation of a fully-integrated Internet-based supply chain is expensive. This expense includes hardware cost, software cost, reorganization cost, and training costs. While the Internet promises many advantages once it is fully

integrated into a supply chain, a significant up front investment is needed for full deployment.

- **Keeping up with the change in expectations:**

  Expectations have increased as Internet use has become part of daily life. When customers send orders electronically, they expect to get a quick confirmation and delivery or denial if the order can not be met. Increasingly, in this and other ways, customers are dictating terms and conditions to suppliers. The introduction of Internet-based supply chains make possible the change to a ―pull‖ manufacturing strategy replacing the traditional ―push‖ strategy that has been the standard in most industries.

INTRAORGANIZATIONAL ELECTRONIC COMMERCE

Internal commerce is the application of electronic commerce to processes or operations.

Specifically, we define internal commerce as using methods and pertinent technologies for supporting internal business processes between individuals, departments, and collaborating organizations.

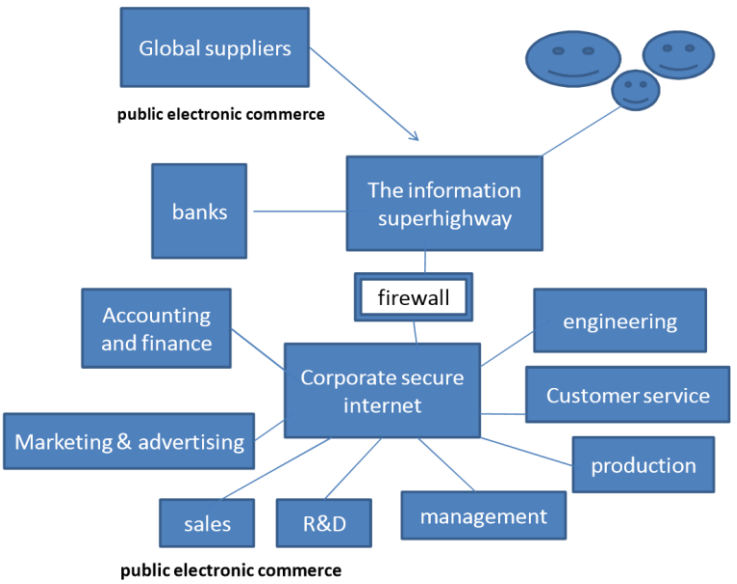
It is of two types

1. Private commerce
2. Public commerce

In a general sense, the term Information System (IS) refers to a system of people, data records and activities that process the data and information in an organization, and it includes the organization's manual and automated processes.

In a narrow sense, the term *information system* (or computer-based information system) refers to the specific application software that is used to store data records in a computer system and automates some of the information-processing activities of the organization.

These forces are commanding a rethinking of the importance of the networks-computers and communications and their role in the better utilization of corporate information in operational and analytical decision making.



Information architecture (**IA**) is the art of expressing a model or concept of information used in activities that require explicit details of complex systems.

Among these activities are library systems, content Management Systems, web development, user interactions, data base development, programming, technical writing, enterprise architecture, and critical system software design.

Most definitions have common qualities: a structural design of shared environments, methods of organizing and labelling websites, intranets, and online communities, and ways of bringing the principles of design and architecture to the digital landscape

What Is Cross-functional Management?

Cross-functional management (CFM) manages business processes across the traditional boundaries of the functional areas.

CFM relates to coordinating and sneering the activities of different units for realizing the super ordinate cross-functional goals and policy deployment.

It is concerned with building a better system for achieving for achieving such crossfunctional goals as innovation, quality, cost, and delivery.

MACROFORCES AND INTERNAL COMMERCE

Macro forces and internal commerce highlights the changes taking place in organization structure and explores how technology and other economic forces are molding arrangements within firms.

The common focus in most of these modern management particles is the use of technology for improving efficiency and eliminating wasteful tasks in business operations.

Efficient operations of the macro forces and internal commerce are:

Total quality management

Business process improvement or business process reengineering.

The words improvement and reengineering are often used interchangeably, creating confusion.

Although the goal of these two are same I.e. productivity gains, cost savings, quality and service improvements, cycle-time reduction.

One main reason for reengineering is to better complete in global markets. **Global Markets: Definition and Characteristics**

Definition:

The Oxford University Press defines **global marketing** as "marketing" on a worldwide scale reconciling or taking commercial advantage of global operational differences, similarities and opportunities in order to meet global objectives."

Global marketing:

When a company becomes a global marketer, it views the world as one market and creates products that will only require weeks to fit into any regional marketplace. Marketing decisions are made by consulting with marketers in all the countries that will be affected. The goal is to sell the same thing the same way everywhere.

The Four elements of global marketing of marketing:

Product:

A global company is one that can create a single product and only have to tweak elements for different markets. For example coca-cola uses two formulas (one with sugar, one with corn syrup) for all markets.

Price:

Price will always vary from market to market. Price is affected by many variables: cost of product development (produced locally or imported), cost of ingredients, cost of delivery (transportation, tariffs, etc.), and much more.

Placement:

How the product is distributed is also a country-by-country decision influenced by how the competition is being offered to the target market. Using Coca-Cola as an example again, not all cultures use vending machines.

Promotion:

After product research, development and creation, promotion is generally the largest line item in a global company's marketing budget. At this stage of a company's development, integrated marketing is the goal.

The global corporation seeks to reduce costs, minimize redundancies in personnel and work, maximize speed of implementation, and to speak with one voice.

Global marketing Advantages and Disadvantages

Advantages:

Economies of scale in production and distribution

Power and scope

Consistency in brand image

Ability to leverage good ideas quickly and efficiently

Uniformity of marketing practices

Helps to establish relationships outside of the "political arena"

Disadvantages:

Differences in consumer needs, wants, and usage patterns for products

Differences in consumer response to marketing mix elements.

Differences in brand and product development and the competitive environment.

Differences in administrative procedures and Differences in product placement.

Marketing Research:

It involves the *identification*, collection, analysis, *and dissemination of information*. Each phase of this process is important.

Finally, the findings, implications and recommendations are provided in a format that allows the information to be used for management decision making and to be acted upon directly.

It should be emphasized that marketing research is conducted to assist management in decision making and is not: a means or an end in itself.

Marketing Research Characteristics:

First, marketing *research is systematic*. Thus systematic planning is required at all the stages of the marketing research process.

The procedures followed at each stage are methodologically sound, well documented, and, as much as possible, planned in advance.

Marketing research uses the scientific method in that data are collected and analyzed to test prior notions or hypotheses.

Marketing research is *objective*. It attempts to provide accurate information that reflects a true state of affairs. It should be conducted impartially.

An **organizational structure** is a mostly hierarchical concept of subordination of entities that collaborate and contribute to serve one common aim.

Organizations are a number of clustered entities. The structure of an organization is usually set up in one of a variety of styles, dependent on their objectives and ambience.

Organizational structure allows the expressed allocation of responsibilities for different functions and processes to different entities.

Common success criteria for organizational structures are:

-Decentralized reporting

-Flat hierarchy

-High transient speed

-High transparency

Vertical Organization:

Hierarchically structured organization where all management activities are controlled by a centralized management staff.

Vertical organization has two problems:

First, it creates boundaries that discourage employees in different departments from interacting with one another.

Second, departmental goals are typically set in a way that could cause friction among departments.

A **vertical market** is a group of similar businesses and customers which engage in trade based on specific and specialized needs.

An example of this sort of market is the market for point-of-sale terminals, which are often designed specifically for similar customers and are not available for purchase to the general public.

A vertical market is a market which meets the needs of a particular industry: for example, a piece of equipment used only by semiconductor manufacturers. It is also known as a niche market.

Vertical market software is software aimed at addressing the needs of any given business within a discernible vertical market.

Horizontal organization:

A **horizontal market** is a market which meets a given need of a wide variety of industries, rather than a specific one.

Examples

In technology, horizontal markets consist of customers that share a common need that exists in many or all industries.

For example, customers that need to purchase computer security services or software exist in such varied industries as finance, healthcare, government, etc.

Horizontal marketing participants often attempt to meet enough of the different needs of vertical markets to gain a presence in the vertical market.

An example could be software that manages services in hotels - amenities solutions.

Vertical organization Comparison with horizontal organization:

A vertical market is a market which meets the needs of a particular industry: for example, a piece of equipment used only by semiconductor manufacturers.

A horizontal market is a market which meets a given need of a wide variety of industries, rather than a specific one: for example, word processing software.

New forms of organizational structure:

Two new forms of organizational structures are:

Prominent-virtual organizational structure:

In recent years, virtual enterprises have gained much attention as more and more firms from computer chip manufacturing to aircraft manufacturing.

Virtual organization is defined as being closely coupled upstream with its suppliers and downstream with its customers.

Virtual organization has been variously referred to as network organizations, organic networks, hybrid networks and value-adding partnership.

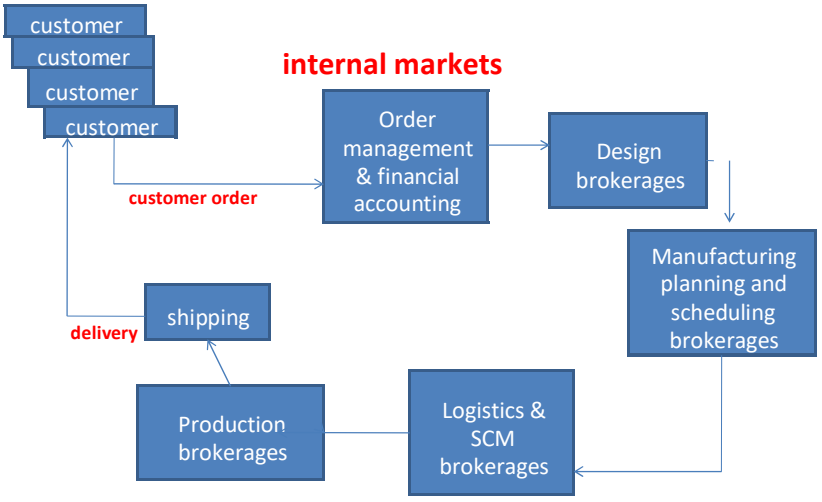
Brokerages organizational structure:

The main goal of electronic brokerages organization is to increase the efficiency of the internal marketplace.

Internal markets are beginning to appear not only in corporations but even in non business institutions like the government.

They are created inside organizations, allowing firms, suppliers, government agencies to meet the new challenges of the fast-changing environment.

Types of electronic brokerages in internal markets:



WORK FLOW AUTOMATION AND COORDINATION

In last decade, a vision of speeding up or automating routine business tasks has come to be known as "work-flow automation.

This vision has its root in the invention of the assembly line and the application of Taylor's scientific management principles.

Today, a similar trend is emerging in the automation of knowledge-based business processes called work-flow automation.

The goal of work-flow automation is to offer more timely, cost-effective,and integrated ways to make decisions.

Typically, work-flows are decomposed into steps or tasks, which are task oriented.

Work-flows can be simple or complex.

Simple work-flows typically involve one or two steps or tasks.

Another way of looking at work-flow is to determine the amount of cross-functional activity.

In other words, companies must adopt an integrated process view of all the business elements

Organizational integration is extremely complex and typically involves three steps

Improving existing processes by utilizing technology where appropriate.
Integrate across the business function offer identifying the information needs for each process.

Integrating business functions, application program interface, and database across departments and groups.

Complex work-flows involve several other work-flows, some of which Executes simultaneously.

Work-Flow Coordination:

The key element of market-driven business is the coordination of tasks and other resources throughout the company to create value for customer.

To this end, effective companies have developed horizontal structures around small multifunctional teams that can move more quickly and easily than businesses that use the traditional function-by-function, sequential approach.

Some of the simplest work-flow coordination tools are electronic forms routing applications such as lotus notes.

As the number of parties in the work flow increases, good coordination becomes crucial.

Work-flow related technologies:

Technology must be the “engine” for driving the initiatives to streamline and transform business interactions.

Large organizations are realizing that they have a middle-management offer all the drawn sizing and reorganization of fast few years.

Pressures for more comprehensive work-flow systems are building rapidly.

Work-flow system are limited to factory like work process.

Middleware is maturing:

By this users or third-party providers need to learn how to develop work-flow applications within middleware environment.

Organizational memory is becoming practical:

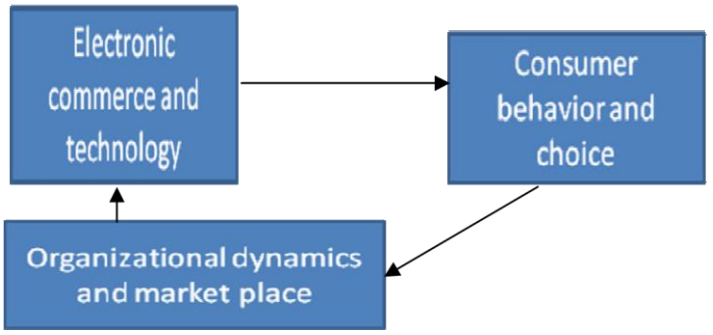
The new tools for memory becoming advancing towards what can be called the “corporate digital library”.

CUSTOMIZATION AND INTERNAL COMMERCE

Technology is transforming consumer choices, which in turn transform the dynamics of the marketplace and organizations themselves.

Technology embodies adaptability, programmability, flexibility, and other qualities so essential for customization.

Customization is explained as :



Mass customization, in marketing, manufacturing, and management, is the use of flexible computer-aided manufacturing systems to produce custom output.

Those systems combine the low unit costs of mass production processes with the flexibility of individual customization

"Mass Customization" is the new frontier in business competition for both manufacturing and service industries.

Implementation:

Many implementations of mass customization are operational today, such as softwarebased product configurations which make it possible to add and/or change functionalities of a core product or to build fully custom enclosures from scratch.

Companies which have succeeded with mass-customization business models tend to supply purely electronic products.

However, these are not true "mass customizers" in the original sense, since they do not offer an alternative to mass production of material goods.

Four types of mass customization:

Collaborative customization - Firms talk to individual customers to determine the precise product offering that best serves the customer's needs.

Adaptive customization - Firms produce a standardized product, but this product is customizable in the hands of the end-user.

Transparent customization - Firms provide individual customers with unique products, without explicitly telling them that the products are customized.

Cosmetic customization - Firms produce a standardized physical product, but market it to different customers in unique ways.

Most of the written materials and thinking about customization has neglected technology. It has been about management and design of work processes.

Today technology is so pervasive that it is virtually impossible to make clear distributions among management, design of work, and technology in almost all forms of business and industry.

Technology has moved into products, the workplace, and the market with astonishing speed and thoroughness.

Mass customization, not mass production.

Today the walls that separated functions in manufacturing and service industries alike are beginning to fall like dominoes.

Customization need not be used only in the production of cars, planes, and other traditional products.

It can also be used for textiles and clothing.

Technology is also enabling new forms of customized production in apparel industry.

What is Supply chain?

Consists of all parties involved, directly or indirectly in fulfilling a customer request.

SUPPLY CHAIN MANAGEMENT (SCM)

Supply chain management (SCM) is the management of a network of interconnected business involved in the ultimate provision of product and service packages required by end customers.

Supply Chain Management spans all movement and storage of raw materials, work-inprocess inventory, and finished goods from point-of-origin to point-of-consumption.

Supply Chain Management can also refer to supply chain management software which is tools or modules used in executing supply chain transactions, managing supplier relationships and controlling associated business processes.

The Management Components of SCM

The literature on business process re-engineering, buyer-supplier relationships, and SCM suggests various possible components that must receive managerial attention when managing supply relationships.

Lambert and Cooper (2000) identified the following components which are:

-Planning and control

-Work structure

-Organization structure

-Product flow facility structure

-Information flow facility structure

-Management methods

-Power and leadership structure

-Risk and reward structure

-Culture and attitude

Reverse Supply Chain Reverse logistics is the process of planning, implementing and controlling the efficient, effective inbound flow and storage of secondary goods and related information opposite to the traditional supply chain direction for the purpose of recovering

INTRODUCTION

The purpose of this chapter is to set up the stage for the remainder of the book. Since, due to the relative novelty of e-business, there is not yet a clear and shared view of what this domain entails, we first want to ensure a common understanding of the key terminology used throughout the book. Section 1.1 includes the definition of e-business-related terms and concepts as well as some strategy-specific perspectives. Following that, Section 1.2 provides a framework that describes the typical stages of technological revolutions and positions the evolution of electronic business during the past decade within this framework.

1.1 Key terminology

1.1.1 e-Business[1]

The term ‘e-business’ is defined here as the use of electronic means to conduct an organization’s business internally and/or externally. Internal e-business activities include the linking of an organization’s employees with each other through an intranet to improve information sharing, facilitate knowledge dissemination, and support management reporting. E-business activities also include supporting aftersales service activities and collaborating with business partners, e.g., conducting joint research, developing a new product, and formulating a sales promotion.

In spite of the distinct terminology that is used, e-business should not be viewed in isolation from the remaining activities of a firm. Instead, an organization should integrate online e-business activities with its offline business into a coherent whole. The FT article ‘It’s too early for e-business to drop its “e”’, provides a further discussion of the importance of the ‘e’ in e-business.

1.1.2 Electronic commerce

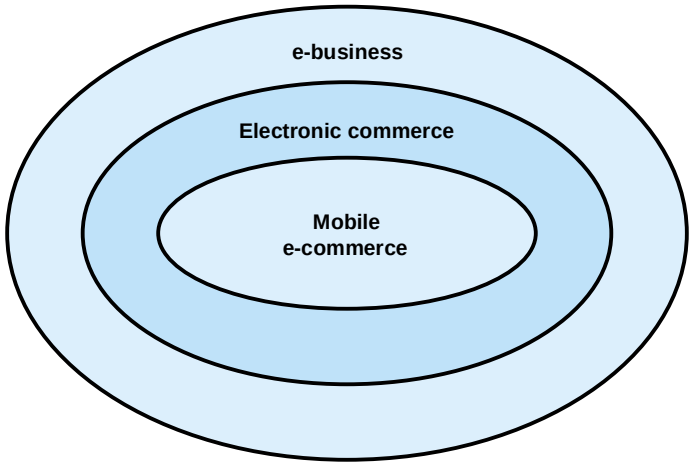
Electronic commerce, or e-commerce, is more specific than e-business and can be thought of as a subset of the latter (see Exhibit 1.1). Electronic commerce deals with the facilitation of transactions and selling of products and services online, i.e. via the Internet or any other telecommunications network. This involves the electronic trading of physical and digital goods, quite often encompassing all the trading steps such as online marketing, online ordering, e-payment, and, for digital goods, online distribution (i.e. for after-sales support activities). e-Commerce applications with external

orientation are buy-side e-commerce activities with suppliers and sell-side activities with customers.

1.1.3 Mobile e-commerce

Mobile 'e-commerce', or m-commerce, is a subset of electronic commerce. While it refers to online activities similar to those mentioned in the electronic commerce category, the underlying technology is different since mobile commerce is limited to mobile telecommunication networks, which are accessed through wireless hand-held devices such as mobile phones, hand-held computers and personal digital assistants (PDA).

Exhibit 1.1 Electronic business includes electronic commerce and mobile electronic commerce



Source: adapted from D. Chaffey, *E-Business and E-Commerce Management*, FT Prentice Hall, 2002, p. 9.

It's too early for e-business to drop its 'e'

Jargon is used to make the banal sound Now, 'e' is on its way out. Yet, despite everyenthralling, the simple sophisticated. It is often thing I have said, this is bad news. The 'e' has used to disguise the fact that the speaker, or been chased away by the dotcom crash, which writer, does not know what he is talking about, transformed it from magic drug to kiss of or cannot be bothered to find a more precise stock market death. But, even before that, it word. In the past five years, one letter has come was going out of fashion. One senior consultto symbolize the worst of jargon. The fifth letter ant told me in 2000 that the 'e' would be in the Roman alphabet, it has been used in front dropped by his organization within a year or of business, commerce, finance, procurement, two (it was). His argument – widely accepted – learning, enablement, government. Almost any was that internet-based business would noun you can think of has probably been an e- become so pervasive that it would be pointless, noun. Companies have used 'e' liberally to give indeed damaging, to talk about it as a separate themselves a buzz on the stock market.discipline.

E-business would and should disappear into business. And so it should; but not yet. At the Richmond Events e-forum last October, several hundred senior managers from blue-chip companies gathered on a cruise ship to be assaulted by a mixture of cabernet sauvignon and hard sell from vendors of e-services of various sorts. There was a 'last days of Rome' feeling about it, as delegate after delegate let slip that he or she had either just left their e-job, or was about to.

What was particularly interesting was that people were revealing their 'real selves' beneath their e-titles: they were either information technology people, or they were something else. While a few could talk strategy and technology with equal fluency, most gave their backgrounds away. They were happy speaking about marketing and strategy, or about integration issues; not both.

I have since received a letter from Richmond Events announcing the death of e-forum, saying that its functions would be rolled into either the IT directors or the marketing forum. The divide that was apparent at the event has been formalized.

Why does this matter? Because, even as it has crumbled, the value of the letter 'e' has become ever more clear. It is, or has been, a bridge between technical and non-technical managers.

From the earliest days of the commercial internet, proponent after proponent of the strange new medium said the same thing: 'Don't let the IT people run it.' They believed the effective use of the internet depended not on the technology but on a strategic understanding of what it could do.

Technologists were, of course, vital for implementing the strategy, but they often knew too much about the trees to be able to see the wood. Also, most IT directors had a 'supplier' role to an organization; they were rarely involved in strategic decision-making.

As the commercial internet became e-commerce and then e-business this view held, though there were tensions. Many companies put their trust in new media consultancies led by marketing people who loved to talk strategy. 'Leave your strategy to us; we understand it better than you can,' they would tell their openwalleted clients. They hired technical people – indeed, the real skills shortage was at the technical end – but they kept control.

Sadly, these agencies also sowed the seeds of their own destruction, because they could not match either the technical skills of systems integration specialists, or the strategic skills of the big consultancies. Meanwhile, a sizeable minority of organizations kept their e-business strategy inhouse and under the control of their IT departments. Add to this the rush by boards to pour money into Internet ventures simply for the sake of tickling the share price and it is not surprising that so much was wasted so fast by so many.

How is it, then, that any companies managed to exploit the new technology effectively? How did Cisco, Dell, Electrocomponents, General Electric manage it?

Largely, because people at the summit saw that the secret was in bringing technologists and non-technologists together and making them work together – and often they used the banner 'e' as a marshalling-point. The good e-business managers I have met are (or were) either technologists on the way to becoming strategists, or non-technologists with an increasing understanding of IT. On the way, I stress; rarely close to achieving fluency in both.

The new media agencies, for all their arrogance, were also attempting to master both skills. Again, they had a long way to go; so it is a shame that they have been humbled so brutally. The danger, as the e-bridge crashes into the river, is that the great unrealized possibilities of the internet will be swept away with it. When an organization has a cadre of managers with a real understanding of both strategy and technology, fine – let the bridge collapse. But until then, some form of e-business department and function – labeled with whatever jargon – should remain essential to any intelligent group's structure.

1.1.4 The concept of strategy

In addition to e-business, strategy is the second key thrust of this book. More specifically, we analyze and illustrate how firms develop and implement

strategies for their e-business activities and draw lessons and guidelines from the studied practices. However, we should recognize that the term 'strategy' means different things to different people. To get a clear understanding of the meaning of strategy the way it is used in this book, let us first consider the following definitions of strategy and then suggest a common foundation. Strategy is:

> … the direction and scope of an organization over the long-term, which achieves advantage for the organization through its configuration of resources within a changing environment to the needs of markets and fulfill stakeholder expectations.
>
> Gerry Johnson and Kevan Scholes[2]

> … the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out theses goals.
>
> Alfred Chandler[3]

> … the deliberate search for a plan of action that will develop a business's competitive advantage and compound it.
>
> Bruce Henderson.[4]

> … the strong focus on profitability not just growth, an ability to define a unique value proposition, and a willingness to make tough trade-offs in what not to do.
>
> Michael Porter[5]

Based on the above definitions, we would like to stress the following aspects that are crucial for strategy formulation:[6]

Strategy is concerned with the *long-term direction* of the firm.

Strategy deals with the *overall plan for deploying the resources* that a firm possesses.

Strategy entails the willingness to make *trade-offs*, to choose between different directions and between different ways of deploying resources.

Strategy is about achieving unique positioning vis-à-vis competitors.

The central goal of strategy is to achieve sustainable *competitive advantage* over rivals and thereby to ensure lasting profitability.

Having defined the concept of strategy, we can now differentiate it from the concept of *tactics*, a term that is often used interchangeably with strategy. Tactics are schemes for individual and specific actions that are not necessarily

related with one another. In general, specific actions can be planned intuitively because of their limited complexity. A firm can, for instance, have a certain tactic when it launches a marketing campaign.

Strategy, on the other hand, deals with a more overarching formulation that affects not just one activity at one point in time but all activities of a firm over an extended time horizon. To achieve consistency between different activities over time, intuition is generally not sufficient; it also requires logical thinking. Drawing an analogy with warfare, we could say that while tactics are about winning a battle, strategy is concerned primarily with winning the war.

Furthermore, it has often been argued that the increasing importance of technology reduces the need for clear strategies. Firms should instead focus primarily on getting their technology to work. This is especially true for the technology underlying e-business and electronic commerce. Yet, technology is not, and cannot be, a substitute for strategy. In fact, overlooking strategy and how a firm can create sustainable competitive advantage is a likely recipe for failure. Just because certain activities are feasible from a technological perspective does not mean that they are sensible from a strategic perspective. Ultimately, IT and the Internet should be used not for the sake of using them but instead to create benefit for customers in a cost-efficient way.

Formulating long-term strategies has become more difficult due to the continuously changing business environment. How long-term can a strategy be when the technological environment is permanently changing? This is obviously a difficult question that has no clear-cut answers to it. When a disruptive innovation emerges and redefines the basis of competition, previous strategies become all but worthless. This was the case, for instance, when Amazon.com entered the book-retailing market with its online bookstore and when Napster launched its file-sharing platform for online music distribution. Nonetheless, it is important to be aware of the trade-offs that arise when a firm gives up long-term strategy in return for short-term flexibility.

Within organizations, we typically recognize the following three different levels of strategy (see Exhibit 1.2). They are (1) *corporate-level strategy*, (2)

business unit strategy and (3) *operational strategy*. It is important to note here that most of the cases featured in this book deal primarily with issues related to the first two levels of strategy.

Corporate-level strategy

The highest strategy level, i.e., the corporate-level strategy) is concerned with the overall purpose and scope of the firm. It typically involves the chief executive officer (CEO) and top-level managers. Corporate strategy addresses issues such as how to allocate resources between different business units, mergers, acquisitions, partnerships and alliances.

Consider, for instance, the merger in 2000 between AOL and Time Warner, where the CEOs of both firms looked across all the businesses of their respective companies before deciding to merge the two corporations. Another example of corporate strategy that is important in the e-business context is the choice of distribution and sales channels. For example, the top management of Tesco plc first made the decision in 1995 about whether to use the Internet to sell groceries online and then on how to set it up organizationally (see Section 9.3 for a discussion of the different ways of organizing e-commerce ventures). Only then was the responsibility delegated from the corporate level to the Tesco.com business unit.

Business unit strategy

Business unit strategy is concerned primarily with how to compete within individual markets. Dell, for instance, operates distinct business units that target large corporate customers, private households and public-sector customers. Since these are very separate markets, with differing needs and preferences, it is also necessary to formulate a distinct business unit strategy for each one of these markets (see Section 4.1.2 on market segmentation for e-commerce).

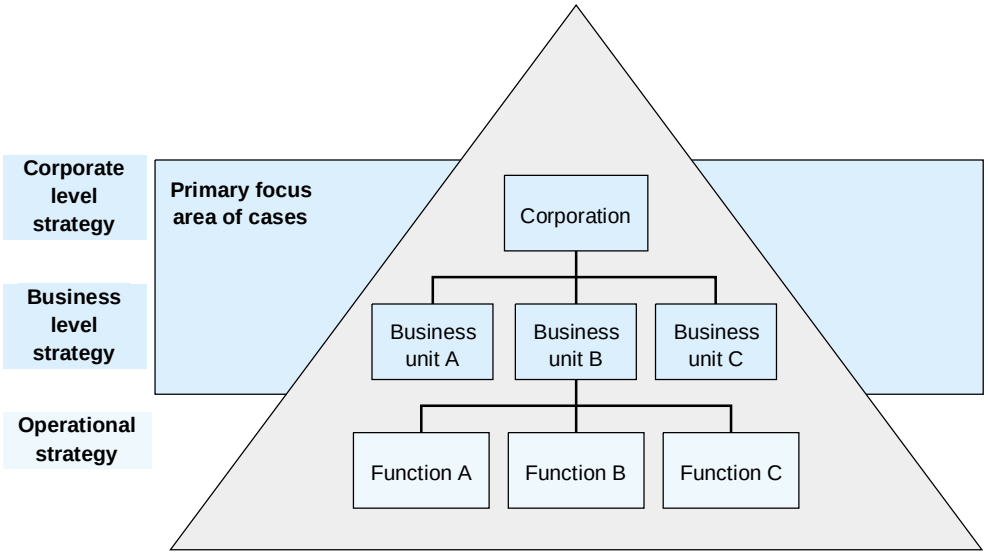
At a more detailed level, a business unit strategy deals with issues such as industry analysis, market positioning and value creation for customers. Furthermore, when formulating a business unit strategy, it is also necessary to think about the desired scale and scope of operations.

Operational strategy

Operational strategy deals with how to implement the business unit strategy with regards to resources, processes and people. In the context of e-business, this includes issues such as optimal website design, hardware and software requirements, and the management of the logistics process. Furthermore, this also includes operational effectiveness issues, which are addressed by techniques such as business process reengineering (BPR) and total quality management (TQM).

Although these approaches are important, they do not belong intrinsically to strategy formulation, since, as stated above, strategy is about making trade-offs; that is, about deciding which activities a firm should perform and which ones it should *not* perform. Operational issues are of high importance for any organization; however, they are not the primary focus of this book, and covering them in-depth would overextend the scope of the book.[8]

Exhibit 1.2 The focus area of the cases is on corporate level and business unit strategy



1.1.5 The concept of value creation

The ability of a firm to create value for its customers is a prerequisite condition for achieving sustainable profitability. In the context of e-business strategies, the concept of value creation deserves special attention because many Internet start-ups that ended up in bankruptcy at the end of the Internet boom years did

not pay enough attention to this issue. Instead, they were frequently concerned mainly with customer acquisition and revenue growth, which was sustainable only as long as venture capitalists and stock markets were willing to finance these firms.

Nowadays, however, in a harder and more turbulent business environment, it is imperative that strategies focus on what value to create and for whom, as well as how to create it and on how to capture the value in form of profits. In economic terms, value created is the difference between the benefit a firm provides to its consumers and the costs it incurs for doing so. Because of the importance of value creation, we devote all of Chapter 5 to this topic and address the various issues related to this concept.

1.2 The evolution of e-business

Before discussing e-business from a structural perspective through the e-business strategy framework presented in Part 2, we first want to analyze the evolution of ebusiness over the past decade and compare it with the life cycle of other *technological revolutions*. Carlota Perez defines them as a 'powerful and highly visible cluster of new and dynamic technologies, products and industries, capable of bringing about an upheaval in the whole fabric of the economy and of propelling a long-term upsurge of development'. [9]

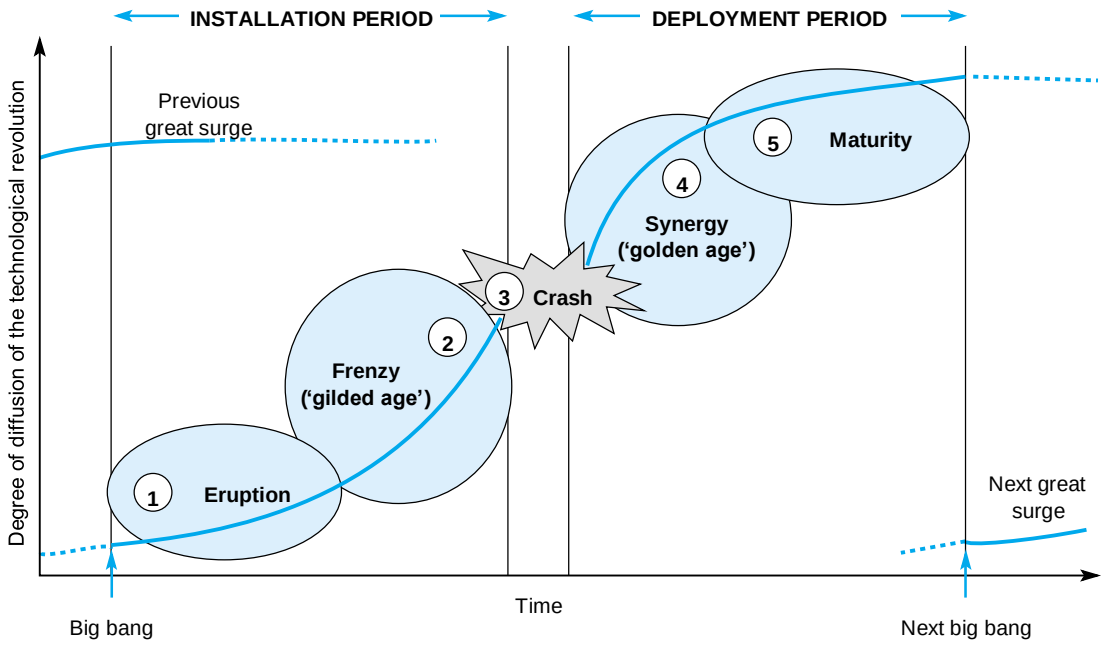
Whether the printing press, steam engine, railway or car, all technologies have gone through similar surges. Perez divides the surge of a technological revolution into two consecutive periods: (1) the *installation period*, which consists of an *irruption* stage and a *frenzy* ('gilded age') stage, and (2) the *deployment period*, which consists of a synergy ('Golden age') stage and a *maturity* stage. These stages are typically separated by a downturn or crash, as shown in Exhibit 1.3.

Below, we describe in more detail each stage of a typical surge of a technological revolution:[10]

Irruption (1). The irruption stage takes place right after a new technology is introduced to the market. Revolutionary new technologies, also called 'big bangs', include the mechanized cotton industry in the 1770s, the railway construction in the 1830s, and, more recently, Intel's first micro-processor in 1971. During the irruption stage, innovative products and services based on the new technology appear and start to slowly penetrate the economy, which is still dominated by the previous technology.

Frenzy (2). The frenzy stage, also called the 'gilded age', is characterized by a sense of exploration and exuberance as entrepreneurs, engineers and investors alike try to find the best opportunities created by the technological big bang irruption. Using a trial-and-error approach, investors fund numerous projects, which help to

Exhibit 1.3 Technological revolutions move through different stages as their diffusion increases



Source: Adapted from C. Perez, *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages*, Edward Elgar, 2002, p. 48.

quickly install the new technology in the economy. However, as investors become increasingly confident and excited, they start considering themselves to be infallible. Depending on the technological revolution, they have financed digging canals from any river to any other river, building railway tracks between every city and village imaginable, and, more

recently, creating online retailing websites for every conceivable product, be it pet food, medicine or furniture. This process typically continues until it reaches an unsustainable exuberance, also called 'bubble' or 'mania'. At that point, the 'paper wealth' of the stock market loses any meaningful relation with the realistic possibilities of the new technology to create wealth.

Crash (3). The gilded age is followed by a crash, when the leading players in the economy realize that the excessive investments will never be able to fulfil the high expectations. As a result, investors lose confidence and pull their funds out of the new technology. Doing so sets off a vicious cycle, and, as everyone starts to pull out of the stock market, the bubble deflates and the stock market collapses.

Synergy (4). Following the crash, the time of quick and easy profits has passed. Now, investors prefer to put their money into the 'real' economy, and the successful firms are not the nimble start-ups but instead established incumbents. While, during the frenzy stage, there were many start-ups competing within an industry, the crash led to a shake-out where most of these ventures went out of business. During the synergy stage, few large companies start to dominate the markets and leverage their financial strength to generate economies of scale and scope. Now, the emphasis is no longer on technological innovation but instead on how to make technology easy to use, reliable, secure and cost-efficient.

In order for the synergy stage to take hold, governmental agencies need to introduce regulations to remedy the fallacies that caused the previous frenzy and the ensuing crash and, by doing so, to regain investors' confidence. For instance, following the stock market crash in 1929, the US government set up separate regulatory bodies for banks, securities, savings and insurances, and also established protective agencies including the Federal Deposit Insurance Corporation (FDIC) and the Securities and Exchange Commission (SEC).

Maturity (5): The maturity stage is characterized by market saturation and mature technologies. Growth opportunities in new and untapped markets are

becoming scarcer, and there are fewer innovations resulting from the new technology. During this stage, companies concentrate on increasing efficiency and reducing costs, for instance through mergers and acquisitions. In today's mature automobile industry, for example, large global manufacturers such as Daimler Benz and Chrysler, and Renault and Nissan, have merged or established strategic partnerships in order to generate scale effects and expand market reach.[11]

For a more extensive example of a surge of a technological revolution, consider the evolution of the railway industry in England. Railroads started to become popular in the 1830s. Many entrepreneurs, financed by eager investors, started constructing railway routes throughout the country, which culminated in an investment bubble in 1847. Initially, when building railway tracks, investors sought out those projects that showed a clear need and were easy to build. As the bubble kept growing, investors, searching desperately for investment opportunities, started to fund projects for which there was hardly any demand and that were complicated and costly. Ultimately, railway companies were even building tracks that were running in parallel to one another, even though it was obvious that only one track could be operated profitably in the long term.

Inevitably, the railway bubble burst; after the dust had settled, the stocks of railway companies had lost 85% of their peak value. After the crash in 1847, when a large number of railroad companies went bankrupt, the industry bounced back, rapidly increasing mileage and passengers, and tripling revenues in just five years after the bust. After 1850, railways drove much of England's economic growth, and they continued to dominate the transportation market until the automobile became a medium of mass-transportation in the middle of the twentieth century.[12]

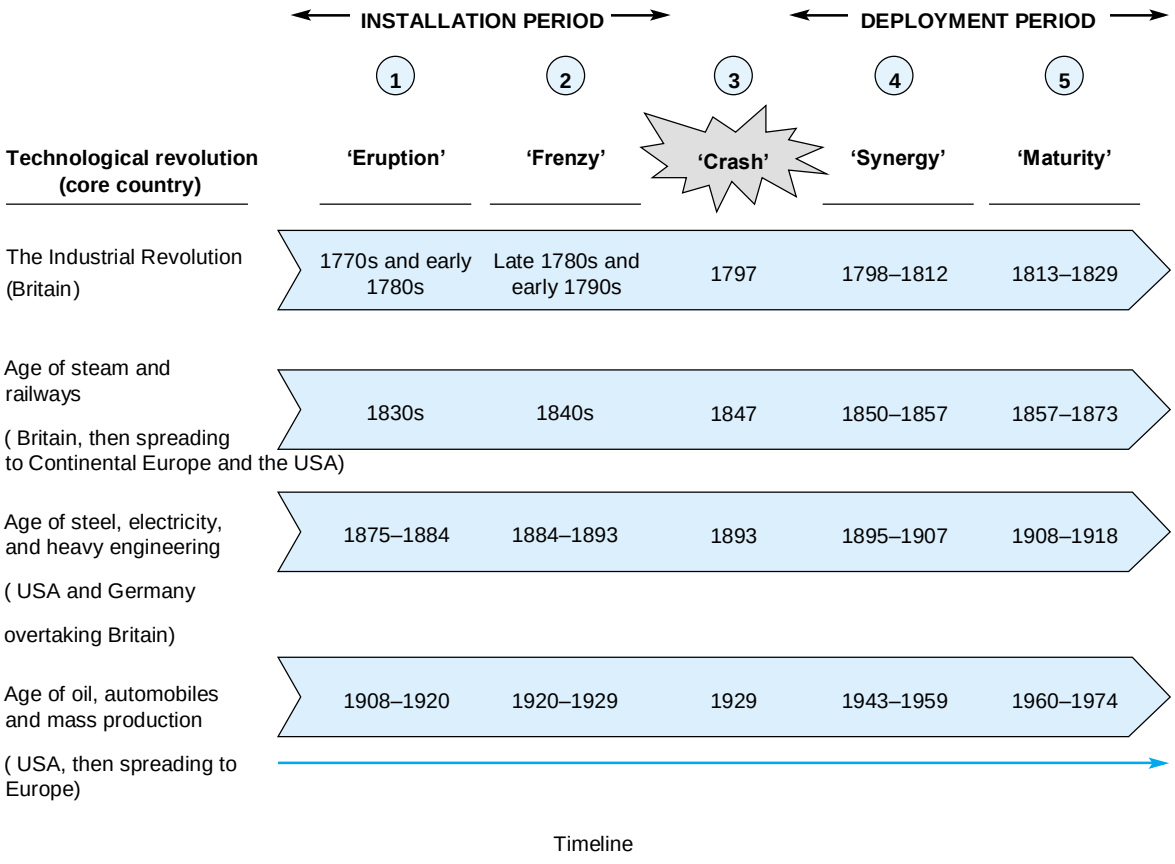
We can observe similar evolutions with other technological revolutions, such as steel production, steam energy and, more recently, the automobile (see Exhibit 1.4). The above perspective illustrates that the time from the first commercial usage of a new technology to its widespread application can stretch over a periods lasting up to 50 years. Within these long periods, their diffusion

and growth are not continuous. Instead, they are often marked by a crash, when the initial exuberance and optimism about a new technology fades.

One of the main reasons for these long gestation periods between the irruption and the synergy stages is that it is not sufficient to just have the appropriate technology in place. In addition, managers need to be willing and able to abandon previous ways of doing things and start using the new technology in such a way that it actually creates value. This takes time and requires a lot of experimenting and fine-tuning.

The development of e-business has been quite similar to that described above. During the past decade, e-business has changed dramatically, evolving through the

Exhibit 1.4 Major technological revolutions during the past two centuries show similar patterns of evolution



Source: Adapted from C. Perez, *Technological Revolutions and Financial Capital:The Dynamics of Bubbles and Golden Ages*, Edward Elgar, 2002, p. 57.

following four periods (shown in Exhibit 1.5), which mirror the evolution of the National Association of Securities Dealers Automated Quotations (NASDAQ)[13] during the same time period.

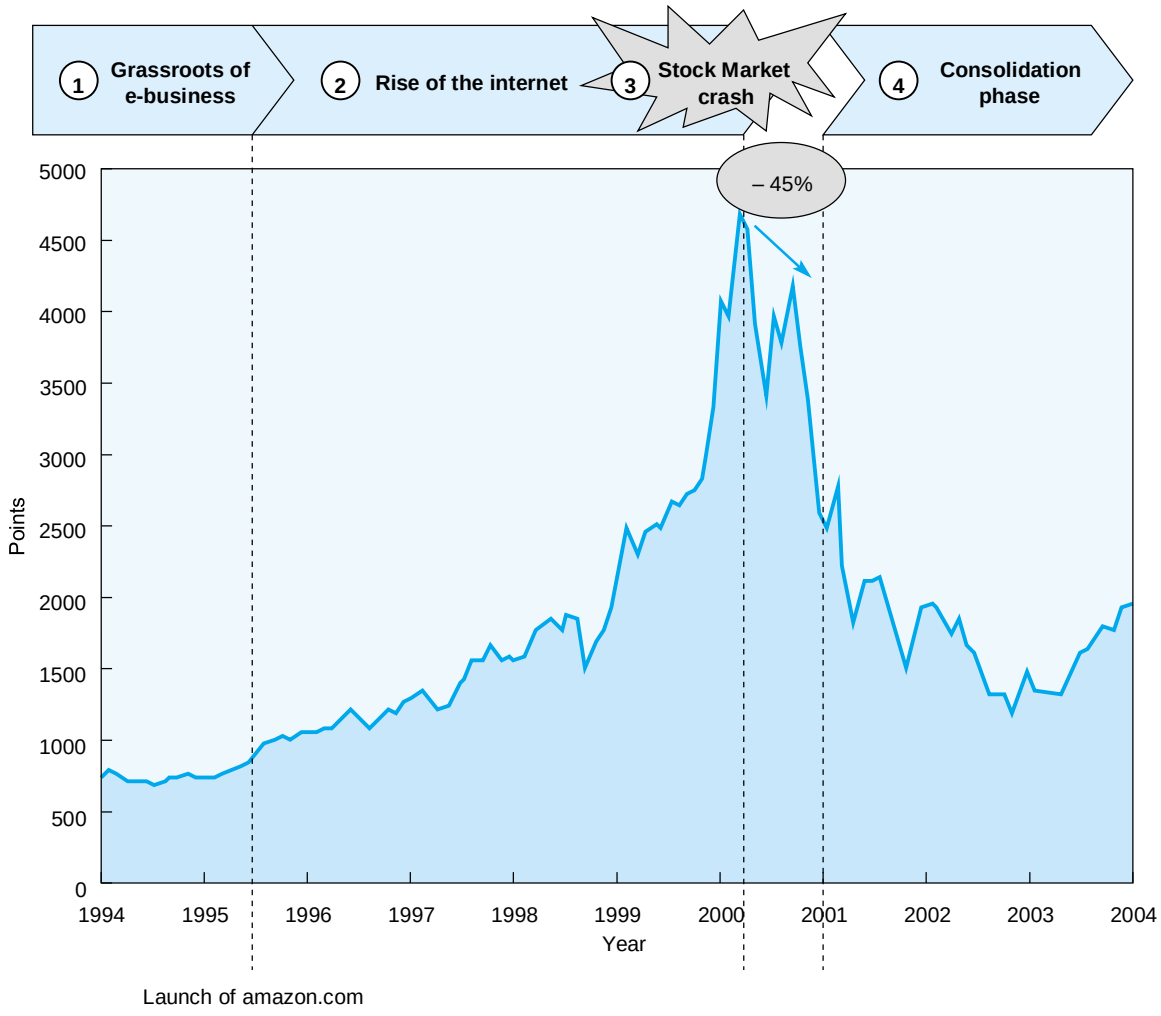
Grassroots of e-business (1). Before the widespread commercial use of the Internet, the NASDAQ showed only modest increases. Between 1983 and 1993, it hardly doubled from 350 to 700 points. We refer to this period as the grassroots of e-business which corresponds to the irruption stage in the Perez model.

Rise of the Internet (2). Even though the beginning of the dot.com boom cannot be determined precisely, we chose 1995, the year when Amazon.com was launched, as the starting point of the rise of the Internet period.[14] The year 1995 also saw the going public of Netscape, the maker of the Netscape Navigator Web browser, which presented the first initial public offering (IPO) of a major Internet company. This period, which corresponds to the 'gilded age', finds its reflection in the strong rise of the NASDAQ, especially during the late 1990s. At the peak of this frenzy stage, the NASDAQ traded at price/earning (p/e) ratios of 62, after it had not exceeded p/e ratios of 21 in the years between 1973 and 1995.[15]

Crash (3): The bubble burst in March and April of 2000, when the NASDAQ crashed. Between 10 March and 14 April 2000, the NASDAQ dropped 1727 points or 34%. By the end of 2000, it had fallen by 45%.

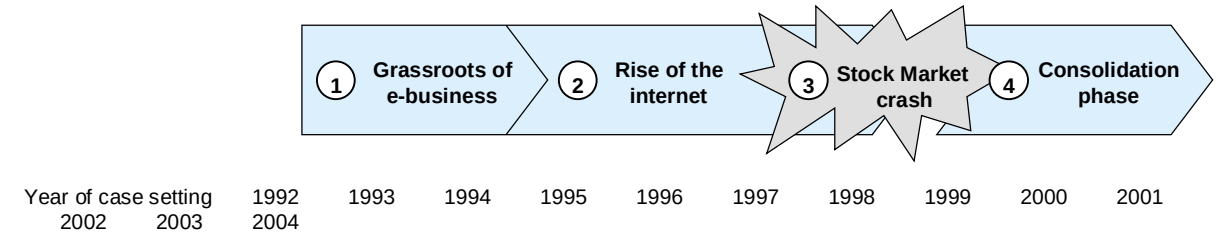
Consolidation phase (4). The subsequent consolidation has been characterized by a more sober approach to e-business and a refocusing on the fundamental drivers of value creation. The NASDAQ continued its decline for another two years, albeit at much slower rates, until it bottomed out in early 2003. At the time of the writing of this book in autumn 2003, we are witnessing signs of an e-business revival, as is reflected in the rise of the NASDAQ during the second half of 2003. If this trend continues, it would mean that this consolidation phase presents the beginning of the synergy stage ('golden age'), mentioned in the Perez model.

Exhibit 1.5 During the past decade, e-business companies have passed through four distinct periods, as reflected in the evolution of the NASDAQ



Source: NASDAQ quotes taken from Factiva.com.

Exhibit 1.6 The case studies in the book cover the four periods of the e-business evolution



B2C in financial services				Advance Bank	e-purse		Nordea Bank
B2C in manufacturing						Ducati	Ducati *v*. Harley
B2C in media	Terra Lycos DoubleClick						Google
B2B in e-commerce and B2B e-marketplaces	BrunPassot	CitiusNet	Mondus	Covisint			
C2C e-commerce							eBay
P2P e-commerce							Online file sharing
Mobile e-commerce	Paybox			12 Snap			NTT DoCoMo

Source: NASDAQ quotes taken from Factiva.com.

In the following sections, the above three time periods are discussed in more detail. The purpose of doing so is twofold:

First, to provide a longitudinal context for the case studies that are presented in Part 3 of this book (see also Exhibit 1.6). Each case study presents unique insights into the main characteristics of each specific period. These are demonstrated by the content of each case and also the quotes provided by the top management of the companies featured in the case. For instance, the following statement, made by Jeff Bezos, CEO of Amazon.com, in 1998, was perfectly acceptable at that time, but it would hardly be welcomed by investors in today's business climate: '*We are going through a critical stage right now. We want to extend our offer on a global scale and we want to invest even more in customer service; that's all very expensive. This would be a miserable moment to make profits*.'

Also, the chief technology officer of 12 Snap, a German start-up company offering mobile marketing services, would have probably made a more exuberant statement during the boom years than the one he made in 2001, when he commented on the strategy of his firm: '*In the next couple of quarters, there is no such a thing as a high growth, high-risk business model.*

It's our job to create money and a viable business, and that's the focus for now.' Thus, while focusing on the content issues of the cases presented in the book, we also find it particularly revealing to notice how different economic situations influence the actions and statements of the executives and managers who are portrayed throughout the cases.

Second, to explain with hindsight some of the underlying characteristics of each time period using concepts such as the five forces industry framework, value creation and capturing, and economies of scale and scope. These concepts are explained in more detail in Part 2.

1.2.1 The grassroots of e-business

Before the Internet became a widely used platform for conducting e-business transactions, companies were already using other information and communication technologies (ICT) infrastructures. These included electronic data interchange (EDI), inter-organizational information systems (IOS), and public IT platforms such as the Minitel videotext system in France. They enabled companies to internally connect their business functions and also to reach out to their suppliers, customers and third-party partners.

However, the value-creation potential of these technologies was limited due to the high costs involved and the limited benefits that were achieved. System implementation costs were high since most of these ICT infrastructures were more or less proprietary and had to be adapted extensively to the individual needs of each company.

The benefits of these systems were limited due to two factors. First, the number of companies using these IT systems was relatively low compared with today's ubiquitous Internet, thus limiting the number of potential partners. Second, even if a company used an ICT infrastructure, its IT systems and applications were not compatible with those of its business partners. This made it difficult at best, and if not impossible, to inter-connect different 'islands of technology'. As a result of the above factors, e-business existed to only a

limited extent within and across companies or even beyond national boundaries (see the FT box ‘Minitel proves a mixed blessing’).

The case studies of Brun Passot, a French paper manufacturer and office supplies distributor, and of CitiusNet, a horizontal e-marketplace, illustrate how in the late 1980s e-business enabled and early 1990s electronic trading between companies. At that time, the Internet was not yet available for commercial use. These companies leveraged an alternative platform, the Minitel system, which was developed by the French government and rolled out nationwide in 1982.