

資訊管理導論 (Introduction to Information Management)

■ 授課老師

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■ 教材

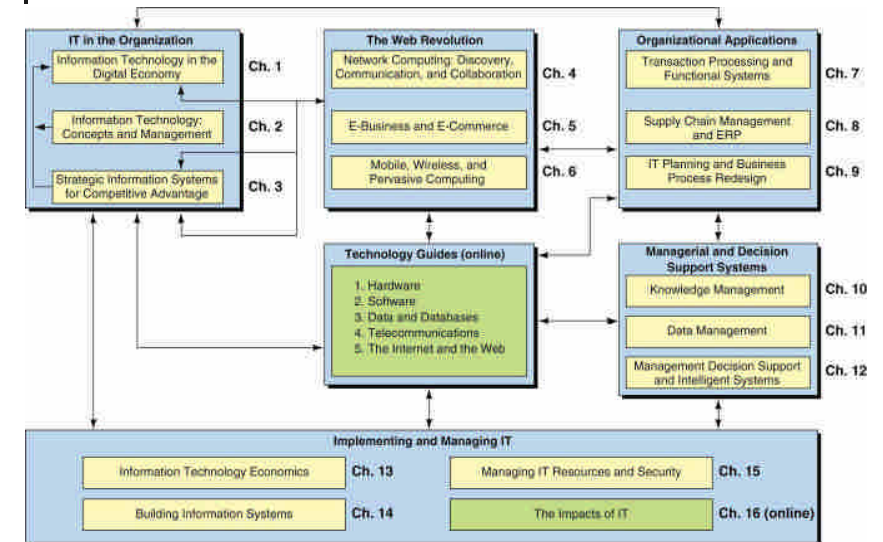
➢ 教科書

- Information Technology for Management, Efraim Turban, Ephraim McLean, and James Wetherbe, 4th edition, John Wiley & Sons (智勝, 02-23886368)

➢ 參考書目

- 資訊管理—理論與實務，謝清佳、吳琮璠著，智勝

Plan of the textbook



教學與考核

■ 教學方法

- 以授課與個案研討的方式交叉進行，個案由同學分組報告，並進行課堂互動討論。同學分組原則上以3-4人（四技4-6人）為一組

■ 成績考核

- 個案報告25% (包括書面報告與口頭報告)
- 期中考 30%
- 期末考 30%
- 作業與課堂討論 25%

Chapter 1

Information Technology

in the Digital Economy



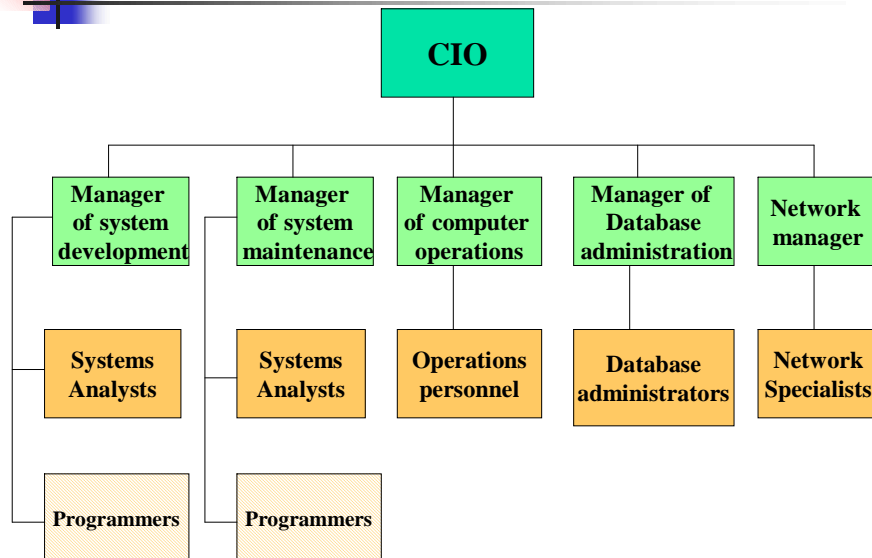
Information management

- Basic concept
 - Information resource management
 - IT product
 - MIS organization
- Data & Information
 - Decision making
 - Uncertainty
- IM
 - Information
 - IT
 - Organization
- The Scope

Chapter Objectives

- Describe the characteristics of the digital economy and e-business.
- Recognize the relationships between business pressures, organizational responses, and information systems (IS).
- Identify the major pressures in the business environment and describe the major organizational responses to them.
- Define computer-based information systems (CBIS) and information technology (IT).
- Describe the role of IT in supporting the functional areas, public services and specific industries
- List the new technology development in the areas of generic and networked computing and Web-based systems.
- Understand the importance of learning about IT.

The MIS organization



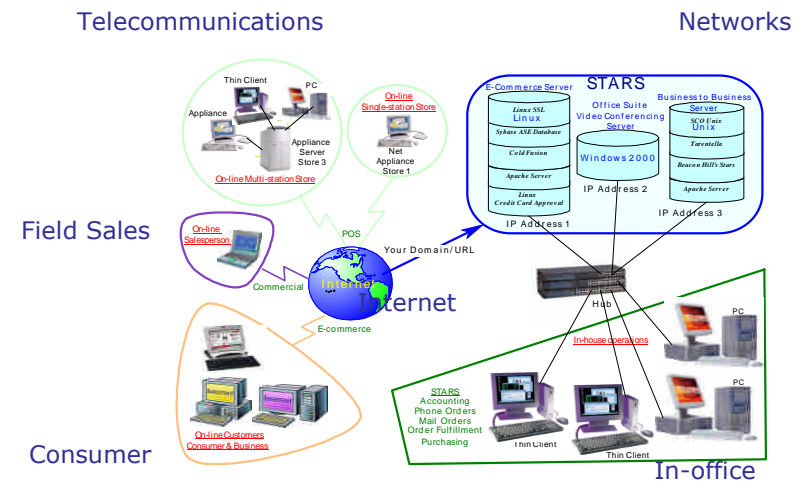
EC & Networked Computing

- EC & Networked Computing
 - EC - the use of Web-based systems to support buying, selling, and customer service
 - Click-and-mortar companies add some EC activities to their regular business
 - Networked computing connects several computers and other electronic devices via telecommunication networks
 - Internet, Intranet, & Extranet
 - IT - the collection of computer systems used by an organization

Major Capabilities of IS

- Perform high-speed, high-volume, numerical computations.
- Provide fast, accurate, and inexpensive communication within and between organizations.
- Store huge amounts of information in an easy-to-access yet small space.
- Allow quick and inexpensive access to vast amount of information, worldwide.
- Increase the effectiveness and efficiency of people working in groups in one place or in several locations.
- Vividly present information that challenges the human mind.
- Automate semiautomatic business processes and manually done tasks.
- Speed typing and editing
- Accomplishes all the above much less expensively than when done manually.

Digital Business



Digital Economy – “New” Economy

Overview

- an economy that is based on digital technologies, including digital communication networks, computers, and software
- Refers to the convergence of computing and communication technologies on the Internet and other networks, and resulting flow of information and technology that stimulating EC and vast organizational change.
- *Internet economy, New economy, Web economy*
- **E-Business:** The use of electronic technologies to transact business.
- **Collaboration:** People and Organizations interact, communicate, collaborate and search for information
- **Information Exchange:** Storing, processing and transmission of information.

Old vs. New Economy

Examples

- Photography
 - New economy
 - ✓ 1st Generation Digital Photography - Old economy except 6 and 7 were replaced by using a scanner and emailing
 - ✓ 2nd Generation Digital Photography - Use a Digital Camera, no film, no processing
 - ✓ 3rd Generation Digital Photography - Your Digital Camera is now your mobile phone, in your binoculars or a palmtop computer
- Crossing international borders
- Supplying commercial photos
- Paying for transportation in New York city.
- Shopping from home.

Business Models

- A **business model** is a method of doing business by which a company can generate revenue to sustain itself. The model spells out how the company adds value to create a product or service. (**Value Chain**)
 - Nokia makes and sells cell phones
 - A TV station provides free broadcasting. Its survival depends on a complex model involving advertisers and content providers.
 - Internet portals, such as Yahoo, also use a complex business model.
- Digital Age Business Models
 - Name-Your-Own Price
 - Reverse Auctions
 - Affiliate Marketing
 - E-Marketplaces and Exchanges
 - Electronic aggregation (buying groups)

Changing

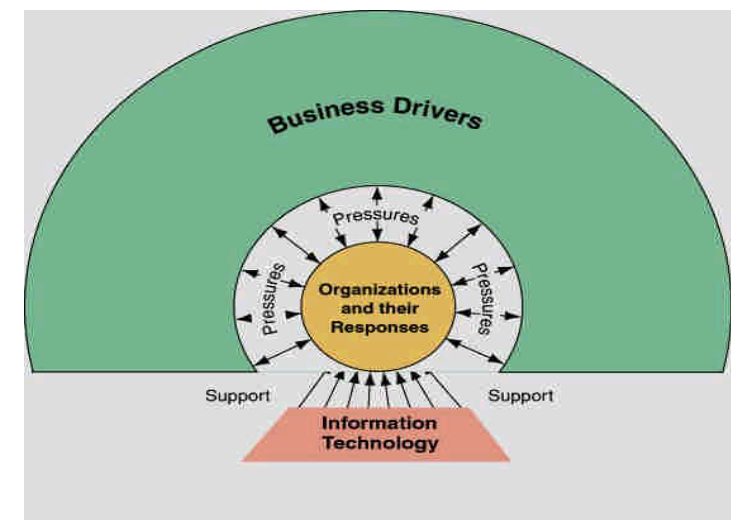
Drivers Forcing Changes In Business Models

- Business Pressures
 - Environmental, organizational, and technological factors are creating a highly competitive business environment these factors or forces can change quickly, sometimes in an unpredictable manner.
- Business Critical Response Activities
 - Therefore, companies need to react frequently and quickly to both the threats and the opportunities resulting from this new business environment. A response can be a reaction to a pressure already in existence, an initiative intended to defend an organization against future pressures, or an activity that exploits an opportunity created by changing conditions.

Digital Economy Business Models

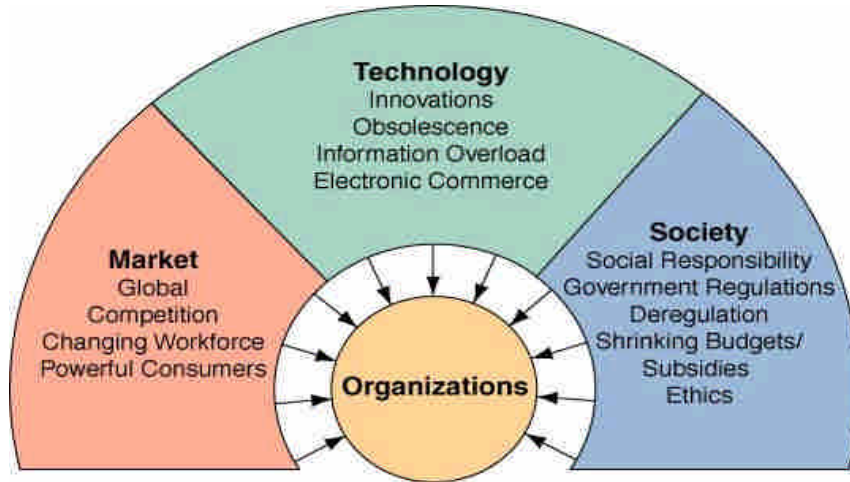
- **Name-Your-Own-Price**
 - Pioneered by Priceline.com, this model allows customers to state a price they are willing to pay for a product or service
- **Dynamic Brokering**
 - customers can specify requirements for a service or a product. These specifications are broadcast over the Internet (“Webcasted”) to service providers in an automatic invitation to submit bids.
- **Reverse Auctions**
 - Electronic reverse auctions are fast, they reduce administrative costs by as much as 85 % & products’ prices can be 5 - 20 % lower.
- **Affiliate marketing**
 - is an arrangement in which marketing partners place a banner of a company, such as Amazon.com, on their Web site.
- **Group Purchasing**
- **E-marketplaces and Exchanges**

The New World of Business

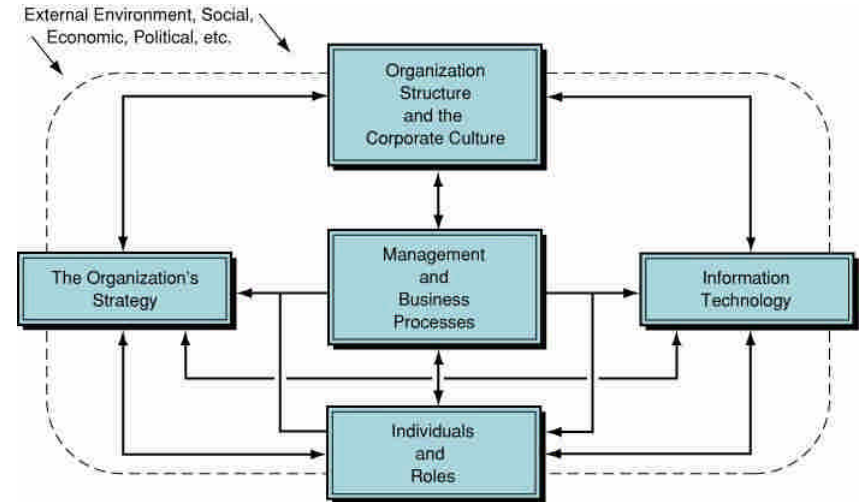


Business Pressures

- Business Pressures on an Organization that force change.



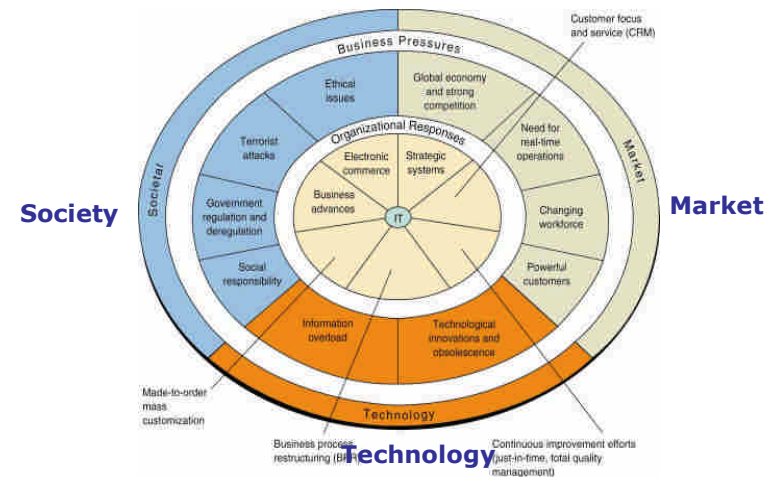
Framework for organizational & societal impacts of IT

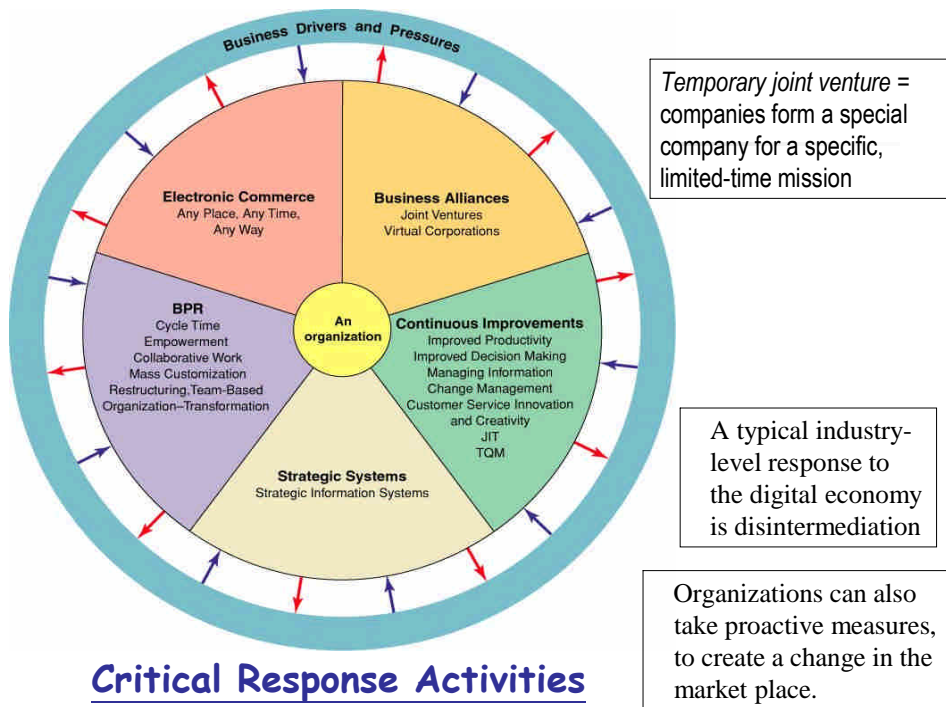


Market Pressures

- Global Economy & Strong Competition**
 - Global competition is intensified as governments become involved through the use of subsidies, tax policies, import/export regulations & incentives.
 - Rapid and inexpensive communication and transportation modes increase the magnitude of international trade even further.
- Changing Nature of the Workforce**
 - The workforce is becoming more diversified, with more females, single parents, minorities, and handicapped persons working in all types of positions.
- Powerful Customers**
 - Consumer sophistication & expectations increase as customers become more knowledgeable about the availability and quality of products and services

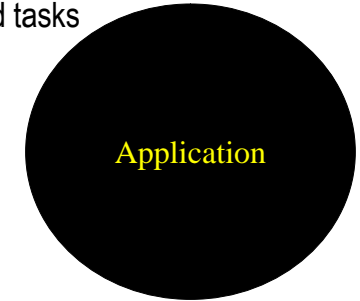
The Drivers of change Continued





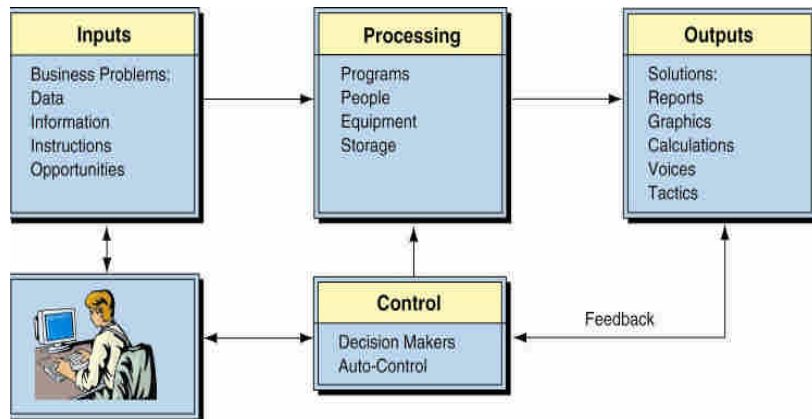
CBIS

- A computer-based information system (CBIS)
 - an information system that uses computer technology to perform some or all of its intended tasks
 - Components
 - Hardware
 - Software
 - Database
 - Network
 - Procedures
 - People
- What is the difference between computers and information systems?
- What is information technology?



Information Systems & IT

- Information system (IS) - collects, processes, stores, analyzes, and disseminates information for a specific purpose
 - Formal & informal IS



Examples of Information Systems

- Managing Accounting Across Asia
 - **Problem:** Le Saunda Holding Company (Hong Kong) is a shoe manufacturer that manages 32 subsidiaries in four Asian countries. Their financing and cash flow is a very complex process.
 - **Solution:** To cope with the rapid growth of the company, a sophisticated accounting software package was installed.
 - **Results:**
 - The system is much more reliable & internal/ external auditing is easier.
 - All these improvements have led to a substantial growth in revenue and profits for the firm.
- Seattle Mariners using technology for profitable operation of a stadium.
- The success story of Campusfood.com
- State-of-the-art human resource management in China

Information Systems Failures

- Case I: the US Presidential Election 2000 (IS failures)
 - 20-to-30 year old machines were used to count votes and generated the greatest election confusion ever encountered
 - How can such election confusion be avoided in the future?
 - Perhaps the solution lies in digital-age voting machines, which displays a person's vote on a computer screen and asks them to verify their choice.
- Case II: the dot-coms

Information Systems - Functional Perspective

■ Finance

- Financial Assets
- Investment management
- Banking
- Long term budgets

■ Accounting

- Accounts Receivable
- Disbursements
- Payroll
- Depreciation
- Earned Coop and Rebates

■ Human Resources

- Employee wages, salaries & benefits
- Long term labor requirements
- Tracking vacation, sick,
- Track employee skills
- Interview and review employees

Information Systems - Functional Perspective

■ Marketing

- Identify customers
- Determine what they want
- Planning products
- Advertising and promoting products
- Determine prices for products

■ Sales

- Contact customers
- Sell the product
- Take the order
- Follow-up on the sale
- 5 year sales forecast

■ Purchasing

- Which vendors
- Quantity to purchase
- Coop, rebate tracking
- Handle delivery discrepancies
- Generate the purchase order

■ Manufacturing

- Control Equipment and machinery
- Design new products
- When and quantity of products to produce
- New production facilities
- Generate the work order

IT Developments - General Trends

- Cost-performance ratio - *Improvement by a Factor of at Least 100*
 - Moore's Law - Gordon Moore, the co-founder of Intel, predicted in 1965 that the processing power of silicon chips would double every 18 months
 - According to McGarvey & tenornetworks.com, states that the performance of optical communication networks is growing by a factor of 10 every three years
- Storage and memory
- Object-oriented environment, components, and web services
 - *Object technology* enables the development of self-contained units of software that can be shared, purchased, and/or reused.
 - Document management
- Self-healing computers
- Quantum computing
- Nanotechnology

IT Trends - Networked Computing

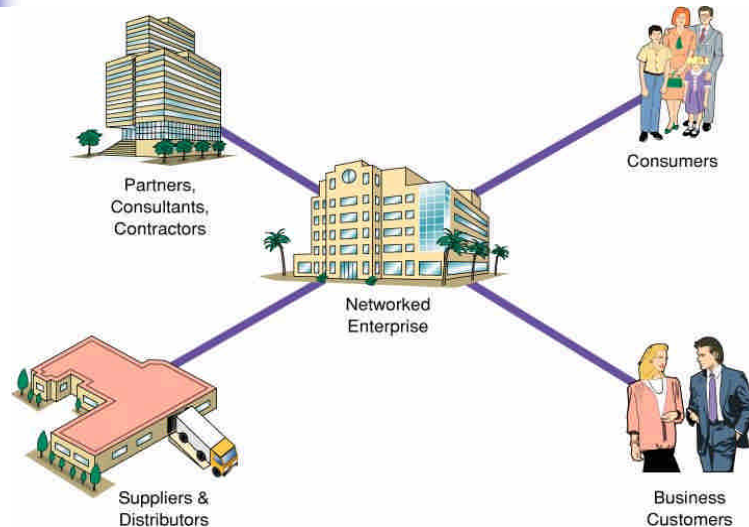
- Networked Computing - *Metcalfe's Law & Kelly's Extension*
 - *Optical Networks* - high capacity telecommunication networks that convert signals in the network and transmit these over fiber optic filaments
 - *Corporate Portable* - a company's Web site that is used as a *gateway* to the corporate data, information, and knowledge
 - *Wireless networks*
 - *Mobile Computing & Mobile-Commerce* - the conduct of e-Commerce via wireless devices. It is the commercial application of *mobile computing* which is based on wireless networks
 - *Location-based commerce (L-commerce)* is an application of m-commerce that offers customers the location information of anything they want to purchase
 - *Pervasive Computing*
 - *Smart appliances* refer to home appliances that are connected to the Internet
 - *Storage Networks*
 - *The Internet, Intranets and Extranets*
 - *The Networked enterprise*
 - *The Network Computer*
 - *Web Services*

MANAGERIAL ISSUES



- Why Study Information Systems?
 - *Developing "Computer" Literacy will only enhance your "Information" Literacy*
- Managerial issues
 - Recognizing opportunities for using IT & Web-based systems.
 - Who will build, operate, and maintain the information systems.
 - This is a critical issue because management wants to minimize the cost of IT while maximizing its benefits. Some alternatives are to outsource portions, or even all, of the IT activities, and to divide the remaining work between the IS department and the end users.
 - How much IT?
 - This is a critical issue related to IT planning. IT does not come free, but not having it may be much costlier.
 - How important is IT?
 - In some cases, IT is the only approach that can help organizations. As time passes, the comparative advantage of IT increases.

The Networked enterprise



MANAGERIAL ISSUES (cont.)



- Is the situation going to change?
 - Yes, the pressures will be stronger as time passes. Therefore, the IT role will be even more important.
- Globalization.
 - Global competition will have an impact on many companies. However, globalization opens many opportunities, ranging from selling and buying products and services online in foreign markets, to conducting joint ventures or investing in them. IT supports communications, collaboration, and discovery of information regarding all the above.
- Ethics and social issues.
 - The implementation of IT involves many ethical and social issues that are constantly changing due to new developments in technologies and environments. These topics should be examined any time an IT project is undertaken.
- Transforming the organization to the digital economy.
 - The transformation can be done on several fronts. Management should study the opportunities, consider alternatives and prioritize them