Module 1 - Lecture

Definitions

Computer-based information system (CBIS) An information system that uses computer technology to
perform some or all of its intended tasks.

Dashboards (or Digital Dashboards) A special form of IS that supports all managers of the organisation by
providing rapid access to timely information and direct access to structured information in the form of reports.

Database A collection of related files or tables containing data.

Electronic Commerce (e-Commerce) System A type of interorganisational information system that enables
organisations to conduct transactions, called business to business (828) electronic commerce and customers to
conduct transactions with businesses, called business to consumer (82C) electronic commerce.

Enterprise Resource Planning (ERP) Systems Information systems that correct a lack of communication among the FAISs by tightly integrating the functional area 1Ss via a common database.

Functional Area Information Systems (FAISs) ISs that support a particular functional area within the organisation.

Hardware A device such as a processor, monitor, keyboard, or printer. Together, these devices accept data and information, process them and display them.

Information Data that have been organised so that they have meaning and value to the recipient.

Information System (IS) Collects, processes, stores, analyses and disseminates information for a specific purpose.

Information Technology (IT) Relates to any computer based tool that people use to work with information and support the information and information processing needs of an organisation.

Information Technology (IT) Services IT personnel use IT components to perform these IT services: develop information systems, oversee security and risk, and manage data.

Informed User A person knowledgeable about information systems and information technology.

Interorganisational Information Systems (IOSs) Information systems that connect two or more organisations.

Knowledge Data and/or information that have been organised and processed to convey understanding, experience, accumulated learning and expertise as they apply to a current problem or activity.

knowledge workers Professional employees, such as financial and marketing analysts, engineers, lawyers
and accountants, who are experts in a particular subject area and create information and knowledge, which they
integrate into the business.

Network A connecting system (wireline or wireless) that permits different computers to share resources.

Office Automation Systems (OASs) Typically support clerical staff, lower and middle managers, and knowledge workers to develop documents, schedule resources and communicate.

Procedures The set of instructions about how to combine the components of information technology in order to process information and generate the desired output.

Software A program or collection of programs that enable the hardware to process data.

Supply Chain The flow of materials, information, money and services from suppliers of raw materials through
factories and warehouses to the end customers.

Transaction Processing System (TPS) Supports the monitoring, collection, storage and processing of data from the organisation's basic business transactions, each of which generates data.

Why Become an Informed User?

- You will quickly be in a position to recommend, or participate in, the selection of IT applications that your organisation will use.
- You will be able to keep up with rapid developments in existing information technologies, as well as the introduction of new technologies.
- You will understand the potential impacts that new and improved' technologies will have on your organisation and, therefore, will be qualified to make recommendations concerning their adoption and use.
- You will play a key role in managing the information systems in your organisation.
- You will be in a position to use IT if you decide to start your own business.

Different Types of Computer-Based Information Systems in an Organisation

- Transaction processing systems (TPS) support the monitoring, collection, storage and processing of data from the organisation's basic business transactions, each of which generates data.
- Functional area information systems (FAISs) support a particular functional area within the organisation.
- Interorganisational information systems (IOSs) support many interorganisational operations, of which supply chain management is the best known.
- Enterprise resource planning (ERP) systems correct a lack of communication among the FAISs by tightly integrating the functional area ISs via a common database.
- Electronic commerce (e-commerce) systems enable organisations to conduct transactions with other organisations (called business-to-business electronic commerce) and with customers (called business-to-consumer (B2C) electronic commerce).

- Office automation systems (OASs) typically support the clerical staff, lower and middle managers, and knowledge workers, by enabling them to develop documents (word processing and desktop publishing software), schedule resources (electronic calendars) and communicate (email. voice mail, video conferencing and groupware).
- Business intelligence (BI) systems provide computer-based support for complex, non-routine decisions, primarily for middle managers and knowledge workers.
- Expert systems (ESs) attempt to duplicate the work of human experts by applying reasoning capabilities, knowledge and expertise within a specific domain.

How IT can impact an Organisations

- Reduce the number of middle managers.
- It managers are provided with real-time information, giving them less time to make decisions.
- Change the nature of work-force, computers replacing people resulting in job losses.
- Employee's health and safety, result in injuries and stress.

Societal Effects of IT

Positive
- Provide opportunity for people with disabilities.
- Flexibility in work.
- Robots can take over labor jobs.
- Improvement in health care.

Negatives
- Health problems.
- Enables employee's to be on constant call.
- Provide false information.

Module 2 - Lecture
Tuesday, 7 March 2017
9:51 AM

Definition

Business Environment The combination of social, legal, economic, physical and political factors in which business conduct their operations.

Business IT Alignment The tight integration of the IT function with the strategy, mission and goals of the operation.

Business Processes Related activities that produce a product or service of value to the organisation, its business partners and/or its customers.

Competitive Advantage is an advantage in some measure such as cost, quality, or speed that is not easily imitable by competitors...leads to control of a market.

Competitive Forces Model A business framework devised by Michael Porter that analyses competitiveness by recognising five major factors that could endanger a company's position.

Competitive Strategy A statement that identifies a business's approach to compete, goals, and plans and policies required to carry out those goals.

Digital Divide The gap between those who have access to information and communications technology and those who do not.

E-Business Buying and selling of goods and services as well as servicing customers, collaborating with business partners and performing electronic transactions within an organisation.

Electronic Commerce (E-Commerce) The process of buying selling, transferring or exchanging products, services or information via computer networks.

Entry Barrier Product or service feature that customers expect from organisations in a certain industry.

Globalisation The integration of economic, social, cultural and ecological facets of life, enabled by rapid advances in IT.

Make-to-Order The strategy of producing customised products and services.

Mass Customisation A product process in which items are processed in large quantities but are customised to fit the desires of each customer.

Strategic information system (SIS) Provides competitive advantage by helping an organisation implement its strategic goals and increase its performance and productivity.

Value Chain Model Model that shows the primary activities that sequentially add value to the profit margin; also shows support activities.

Value System Includes the producers, suppliers, distributors, and buyers.

Strategy, Competitive advantage & IS

Information Systems are critically important:

- Supporting organisation business strategies
- Help organisations respond to business pressures
  - Any information system can be strategic, meaning that it can provide a competitive advantage.

Competitive advantage

- acquiring competitive advantage is essential for an organisation's survival
- responding to business pressures effectively leads to competitive advantage.
- e.g.; Coca-Cola Amatil is using M2M technology to improve productivity in its vending machine operations and better service to customers through business intelligence.

Strategies for Competitive Advantage

- Cost leadership Produce products and/or services at the lowest cost in the industry.
- Differentiation Offer different products, services, or product features.
- Innovation Introduce new products and services, add new features to existing products and services, or develop new ways to produce them.
- Operational effectiveness Improve manner in which internal business processes are executed so that a firm performs similar activities better than its rivals can.
- Customer orientation Concentrate on making customers happy.

Business Pressures

Market Pressures

- Globalisation
  - The integration and interdependence of economic, social, cultural, and ecological facets of life, made possible by IT, greatly increasing competition.

- Changing Nature of the Workforce
  - Workforce is becoming more diversified. Women, single parents, minorities, and persons with disabilities.
  - ICT helps integrate all employees into traditional workforce.

3. Powerful Customers
  - Consumers are more knowledgeable, increased customer intimacy: organisation are required to 'know' their customer, to be able to predict their needs.

Technology Pressures

1. Technological Innovation & Obsolescence
  - Today's state-of-the-art products may be obsolete tomorrow.
  - Rapid changes force businesses to keep up with consumer demands.

2. Information Overload
  - The amount of information doubles almost every year.
  - Organisations need tools that can handle these data processing demands.

1. Social Responsibility
   - Social issues that affect businesses and individuals range from the state of the physical environment, to company and individual philanthropy, to education.
   - Some corporations and individuals are willing to spend time and/or money to address various social problems.
   - These efforts are known as corporate organisational social responsibility or individual social responsibility.

2. Compliance with Government Regulations
   - Government regulations regarding health, safety, environmental protection and equal opportunity.
   - Businesses tend to view government regulations as expensive constraints on their activities.

3. Protection against Terrorist Attacks
   - IT can help protect businesses by providing security systems and possibly identifying patterns of behaviour associated with terrorist activities, including cyberattacks.

4. Ethical Issues
   - General standards of right and ,wrong. Information ethics relates specifically to standards of right and wrong in information-processing practices.
   - Ethical issues are very important because, if handled poorly, they can damage an organisation's image and destroy its employees' morale.

Porter's Five Competitive Forces

1. The threat of entry of new competitors.
2. The bargaining power of suppliers.
3. The bargaining power of customers (buyers).
4. The threat of substitute products or services.
5. The rivalry among existing firms in the industry.

Value Chain Model

Value Chain Identifies specific activities where organisations can use competitive strategies for greatest impact.

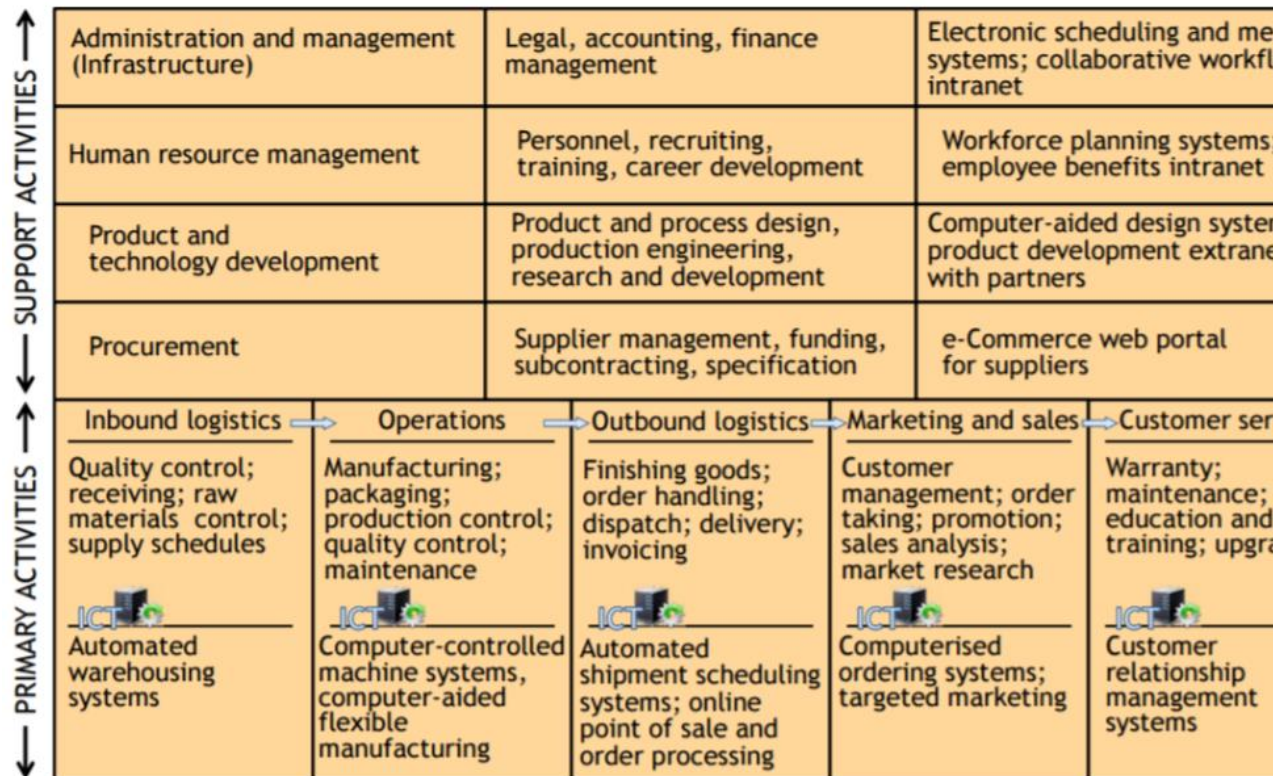*Primary Activities*
- Relate to production and distribution of the firm's products and services, creating value for which customers are willing to pay.
- Examples: Inbound logistics, operations, outbound logistics, marketing and sales, and services.

Support Activities
- Do not add value directly to a firm's products and services, but support the primary activities.

- Examples: Infrastructure (accounting, finance, management), human resources management, research and development, procurement.

Administration and management (Infrastructure)	Legal, accounting, finance management	Electronic scheduling and me systems; collaborative workfl intranet
Human resource management	Personnel, recruiting, training, career development	Workforce planning systems; employee benefits intranet
Product and technology development	Product and process design, production engineering, research and development	Computer-aided design syster product development extrane with partners
Procurement	Supplier management, funding, subcontracting, specification	e-Commerce web portal for suppliers

SUPPORT ACTIVITIES ↑ ↓

PRIMARY ACTIVITIES ↑ ↓

Inbound logistics ⇒	Operations ⇒	Outbound logistics ⇒	Marketing and sales ⇒	Customer ser
Quality control; receiving; raw materials control; supply schedules	Manufacturing; packaging; production control; quality control; maintenance	Finishing goods; order handling; dispatch; delivery; invoicing	Customer management; order taking; promotion; sales analysis; market research	Warranty; maintenance; education and training; upgra
ICT	ICT	ICT	ICT	ICT
Automated warehousing systems	Computer-controlled machine systems, computer-aided flexible manufacturing	Automated shipment scheduling systems; online point of sale and order processing	Computerised ordering systems; targeted marketing	Customer relationship management systems

Six Characteristics of Good Business-IT Alignment

1. Organisations view IT/ICT as an engine of innovation that continually transforms the business, often creating new revenue streams.
2. Organisations view their internal and external customers and their customer service function as supremely important.
3. Organisations rotate business and IT/ICT professionals across departments and job functions.
4. Organisations provide overarching goals that are completely clear to each IT/ICT and business employee.
5. Organisations ensure that IT/ICT employees understand how the company makes (or loses) money.
6. Organisations create a vibrant and inclusive company culture.

Threats	High	Low
New competitors	Market entry is easy	Significant barrier to enter the market
Suppliers (bargaining power)	Buyers (companies) have few choices	Buyers (companies) have many choices
Customers (bargaining power)	Buyers (customers) have many choices	Buyers (customers) have few choices
Substitute products/services	There are many substitutes	There are few substitutes
(Established) competitors	Intense competition among many firms	↓intense competition among few firm