

SOLVED PAST PAPER OF INFORMATION SYSTEM 2016

Q2: SHORT QUESTIONS.

(1). Define Information and enlist the activities of INFORMATION SYSTEM?

A: Data that is (1) accurate and timely, (2) specific and organized for a purpose, (3) presented within a context that gives it meaning and relevance, and (4) can lead to an increase in understanding and decrease in uncertainty.

Information is valuable because it can affect behavior, a decision, or an outcome. For example, if a manager is told his/her company's net profit decreased in the past month, he/she may use this information as a reason to cut financial spending for the next month. A piece of information is considered valueless if, after receiving it, things remain unchanged. For a technical definition of information see information theory.

Information is organized or classified data, which has some meaningful values for the receiver. Information is the processed data on which decisions and actions are based.

For the decision to be meaningful, the processed data must qualify for the following characteristics –

- ☐ **Timely** – Information should be available when required.
- ☐ **Accuracy** – Information should be accurate.
- ☐ **Completeness** – Information should be complete.



The major activities of an information system are:

- ☐ Input of Data Resource. Data about business transactions and other events must be captured and prepared for processing by the input activity.
- ☐ Processing of Data into Information.
- ☐ Output of Information Products.
- ☐ Storage of Data Resource.
- ☐ Control of System Performance.

Information System Activities

The major activities of an information system are:

1. Input of Data Resource:

Data about business transactions and other events must be captured and prepared for processing by the input activity. Input typically takes the form of data entry activities such as recording

and editing. End users typically record data about transactions on some type of physical medium such as paper form, or enter it directly into a computer system. This usually includes a variety of editing activities to ensure that they have recorded data correctly. Once entered, data may be transferred onto a machine-readable medium such as a magnetic disk until needed for processing.

For example, data about sales transactions can be recorded on source documents such as paper sales order forms. (A source document is the original formal record of a transaction). Alternately, salespersons can capture sales data using computer keyboards or optical scanning devices; they are visually prompted to enter data correctly by video displays. This provides them with a more convenient and efficient user interface, that is, methods of end user input and output with a computer system. Methods such as optical scanning and displays of menus, prompts, and fill-in-the-blanks formats make it easier for end users to enter data correctly into an information system.

2. Processing of Data into Information:

Data is typically subjected to processing activities such as calculating, comparing, sorting, classifying, and summarizing. These activities organize, analyze and manipulate data, thus converting them into information for end users. The quality of any data stored in an information system must also be maintained by a continual process of correcting and updating activities.

For example, data received about a purchase can be

- (1) added to a running total of sales results,
- (2) compared to a standard to determine eligibility for a sales discount,
- (3) sorted in numerical order based on product identification numbers,
- (4) classified into product categories (such as food and nonfood items),
- (5) summarized to provide a sales manager with information about various product categories, and finally,
- (6) used to update sales records.

3. Output of Information Products:

Information in various forms is transmitted to end-users and made available to them in the output activity. The goal of information systems is the production of appropriate information products for end users. Common information products messages, reports, forms, and graphic images, which may be provided by video displays, audio responses, paper products, and multimedia. For example, a sales manager may view a video display to check on the performance of a salesperson, accept a computer-produced voice message by telephone, and receive a printout of monthly sales results.

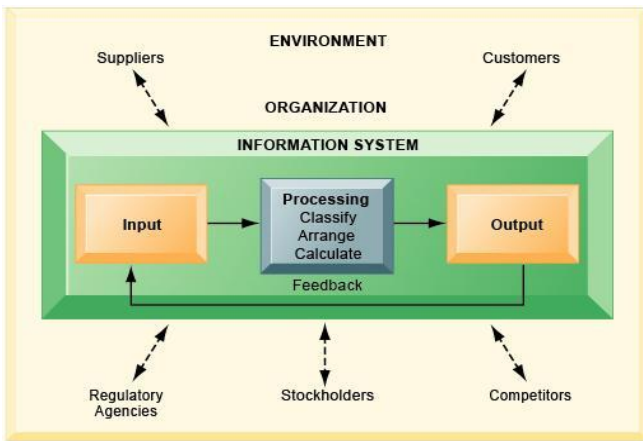
4. Storage of Data Resource:

Storage is a basic system component of information systems. Storage is the information system activity in which data and information are retained in an organized manner for later use. For example, just as written text material is organized into words, sentences, paragraphs, and documents, stored data is commonly organized into fields, records, files, and database. This facilitates its later use in processing or its retrieval as output when needed by users of a system.

5. Control of System Performance:

An important information system activity is the control of its performance. An information system should produce feedback about its input, processing, output, and the system is meeting established performance standards. Then appropriate system activities must be adjusted so that proper information products are produced for end users.

For example, a manager may discover that subtotals of sales amounts in a sales report do not add up to total sales. This might mean that data entry or processing procedures need to be corrected. Then changes would have to be made to ensure that all sales transactions would be properly captured and processed by a sales information system.



(2). Briefly explain the dimension of Information System?

A: An **information system** is a set of interrelated components that work together to collect, process, store, and disseminate **information** to support decision making, coordination, control, analysis, and visualization in an organization.

2. INFORMATION SYSTEM

- An information system is a set of interrelated components that work together to collect, process, store, and disseminate information to support decision making, coordination, control, analysis, and visualization in an organization.

3. DIMENSIONS OF INFORMATION SYSTEM

- ☐ ORGANIZATIONAL DIMENSION
- ☐ MANAGEMENT DIMENSION
- ☐ TECHNOLOGY DIMENSION

4. ORGANIZATIONAL DIMENSION

- The organization dimension of information systems involves ↯organization's hierarchy ↯ functional specialties ↯business processes ↯culture ↯political interest groups.

5. MANAGEMENT DIMENSION

- The management dimension of information systems involves ↯ leadership ↯strategy ↯management behavior.

6. TECHNOLOGY DIMENSION

The technology dimension of information system involves ↯computer hardware ↯ software ↯data management technology ↯networking/telecommunications technology (including the Internet).

Groups of activities	Activities
Information Systems Planning	Strategy analysis
	Strategy definition
	Strategy implementation
Information Systems Development	System analysis
	System design
	System development
	System deployment
	System maintenance
Information Systems Exploitation	System operation
	Information technologies management
	Human resources management
	Procurement of services and resources
	Other, diversified activities
Information Systems Management	Structure and control

TECHNOLOGY DIMENSION

The technology dimension of information system involves

- computer hardware
- software
- data management technology
- networking/telecommunications technology (including the Internet).

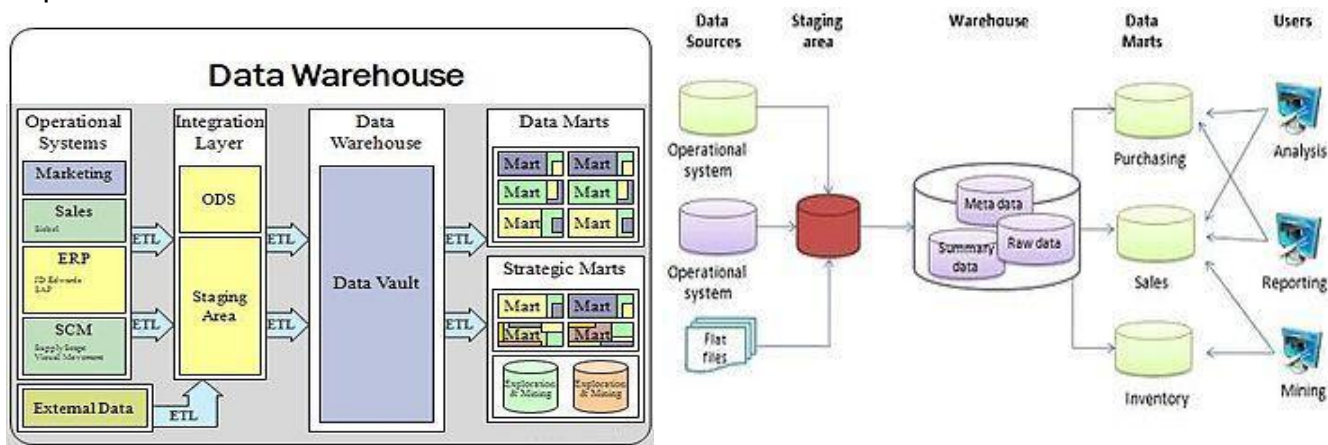
(3). Differentiate between DATA WAREHOUSING and DATA MINING?

A: Data warehousing is an electronic method of organizing information. A data warehouse essentially combines information from several sources into one comprehensive database. Massive database (typically housed on a cluster of servers, or a mini or mainframe computer) serving as a centralized

repository of all data generated by all departments and units of a large organization. Advanced data mining software is required to extract meaningful information from a data warehouse.

A data warehouse (DW) is a collection of corporate information and data derived from operational systems and external data sources. A data warehouse is designed to support business decisions by allowing data consolidation, analysis and reporting at different aggregate levels. Data is populated into the DW through the processes of extraction, transformation and loading.

In computing, a data warehouse (DW or DWH), also known as an enterprise data warehouse (EDW), is a system used for reporting and data analysis, and is considered a core component of business intelligence. DWs are central repositories of integrated data from one or more disparate sources.



Detailed note on DWH:-

A data warehouse is a subject-oriented, integrated, time-variant and non-volatile collection of data in support of management's decision making process.

Subject-Oriented:

A data warehouse can be used to analyze a particular subject area. For example, "sales" can be a particular subject.

Integrated:

A data warehouse integrates data from multiple data sources. For example, source A and source B may have different ways of identifying a product, but in a data warehouse, there will be only a single way of identifying a product.

Time-Variant:

Historical data is kept in a data warehouse. For example, one can retrieve data from 3 months, 6 months, 12 months, or even older data from a data warehouse. This contrasts with a transactions system, where often only the most recent data is kept. For example, a transaction system may hold the most recent address of a customer, where a data warehouse can hold all addresses associated with a customer.

Non-volatile: Once data is in the data warehouse, it will not change. So, historical data in a data warehouse should never be altered.

Ralph Kimball provided a more concise definition of a data warehouse:

A data warehouse is a copy of transaction data specifically structured for query and analysis.

This is a functional view of a data warehouse. Kimball did not address how the data warehouse is built like Inman did; rather he focused on the functionality of a data warehouse.

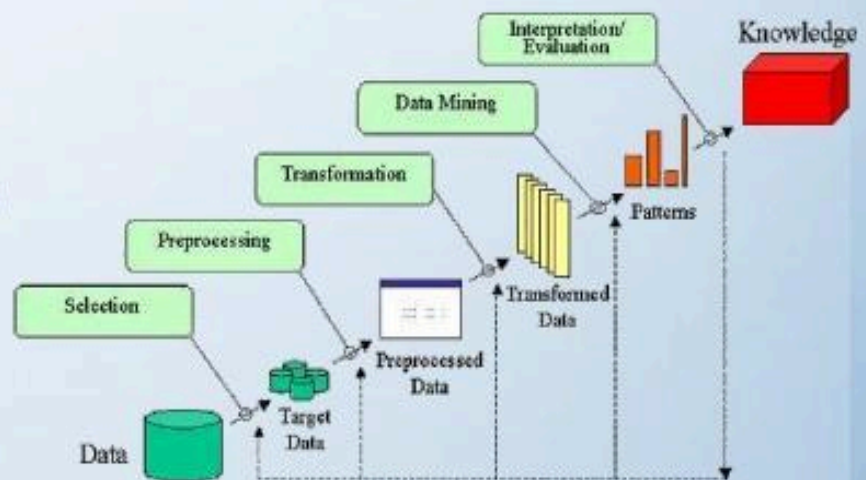
DATA MINING:

Data mining is the computing process of discovering patterns in large data sets involving methods at the intersection of machine learning, statistics, and database systems. An essential process where intelligent methods are applied to extract data patterns. It is an interdisciplinary subfield of computer science. Data mining automates the process of locating and extracting the hidden patterns and knowledge. In simple words Searching for new knowledge. Data mining is the process of finding patterns in a given data set. These patterns can often provide meaningful and insightful data to whoever is interested in that data. Data mining is used today in a wide variety of contexts – in fraud detection, as an aid in marketing campaigns, and even supermarkets use it to study their consumers.

Data mining is the process of sorting through large data sets to identify patterns and establish relationships to solve problems through data analysis. Data mining tools allow enterprises to predict future trends.

Steps involved in Data Mining

- Data integration
- Data selection
- Data cleaning
- Data transformation
- Data mining
- Pattern evaluation
- Knowledge presentation



(4). Discuss relationship between Information System and Database System?

A: IS (information system) is the collection of technical and human resources that provide the storage, computing, distribution, and communication for the information required by all or some part of an enterprise. A special form of IS is a management information system (MIS), which provides information for managing an enterprise.

IS (information services) is a common name for an organization within an enterprise that is responsible for its data processing and information system or systems. A combination of hardware, software, infrastructure and trained personnel organized to facilitate planning, control, coordination, and decision making in an organization.

“Information systems (IS) is the study of complementary networks of hardware and software that people and organizations use to collect, filter, process, create, and distribute data.”

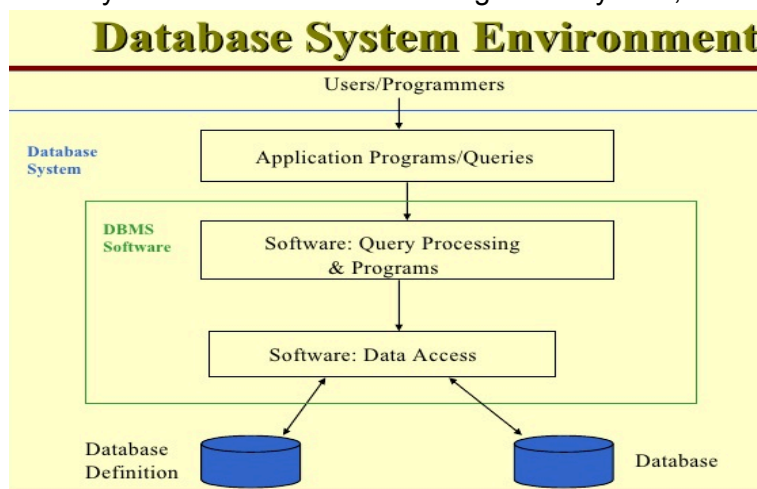
“Information systems are combinations of hardware, software, and telecommunications networks that people build and use to collect, create, and distribute useful data, typically in organizational settings.”

“Information systems are interrelated components working together to collect, process, store, and disseminate information to support decision making, coordination, control, analysis, and visualization in an organization.

DATABASE SYSTEM:

A database system is a high-level definition of the structure and relationship between stored data, a database or databases, users and the hardware or operating system used for the storage. A database system aims to achieve a highly organized collection of data along with appropriate tools and applications that facilitate processing and access to that data.

Most people confuse a database system with a database management system, but the two are different.



Information System:

- identify the type and purpose of a given information system
- represent an information system using a systems representation tool
 - identify the purpose, information processes, information technology and participants within a given system
 - represent diagrammatically the flow of information within an information system

Database System:

- identify participants, data/information and information technology for the given examples of database information systems
- describe the relationships between participants, data/information and information technology for the given examples of database information systems

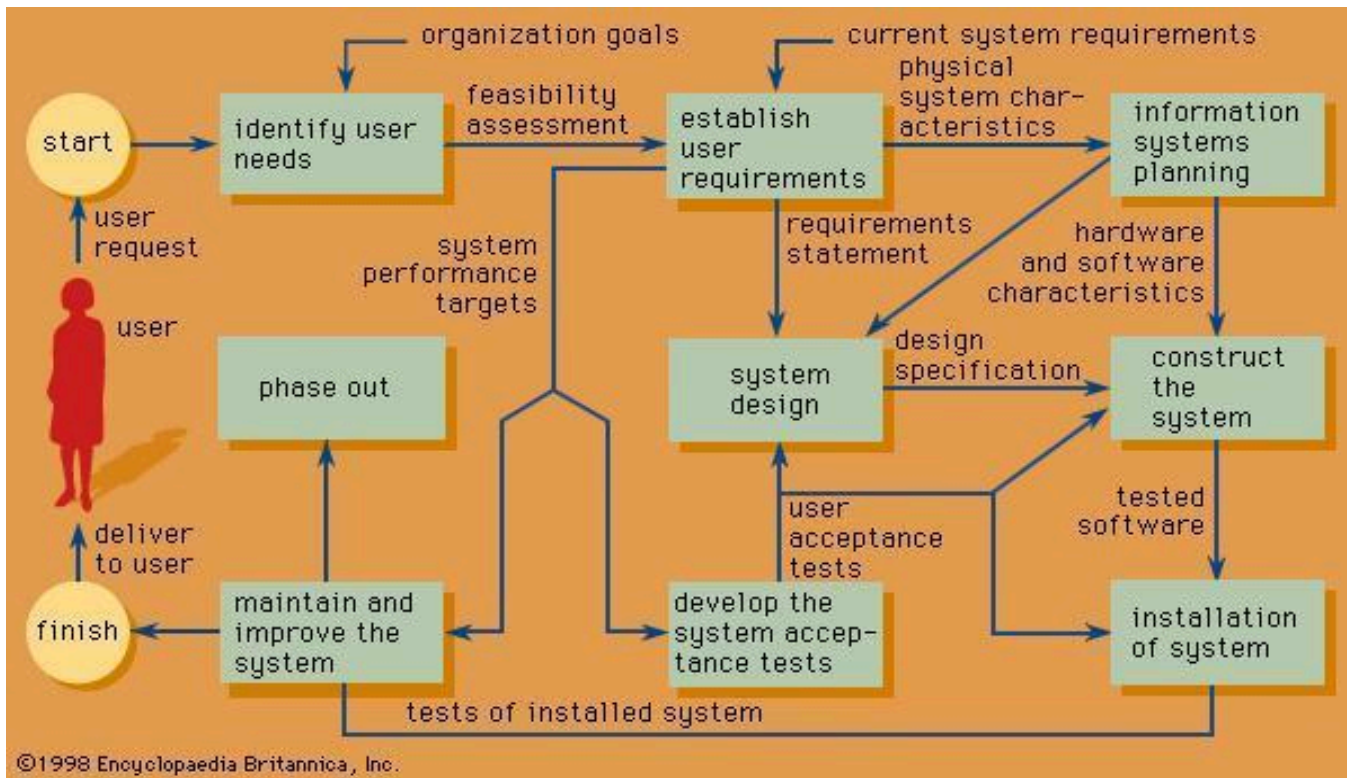
(5). What are major components of Information System?

A: Following are the components:

- ☐ Computer hardware
- ☐ Computer software
- ☐ Telecommunications
- ☐ Databases and data warehouses
- ☐ Human resources and procedures

Components of information system	Definitions
Data	Input the system takes to produce information
Hardware	A computer and its peripheral equipment: input, output and storage devices; hardware also includes data communication equipment
Software	Sets of instructions that tell the computer how to take data in, how to process it, how to display information, and how to store data and information
Telecommunications	Hardware and software that facilitates fast transmission and reception of text, pictures, sound, and animation in the form of electronic data
People	Information systems professionals and users who analyse organisational information needs, design and construct information systems, write computer programs, operate the hardware, and maintain software

Procedures	Rules for achieving optimal and secure operations in data processing; procedures include priorities in dispensing software applications and security measures
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(6). Write the characteristics of a Digital Firm?

A: Digital firm. The **Digital Firm** is a general term for organizations that have enabled core business relationships with employees, customers, suppliers, and other external partners through **digital** networks.

Digital firm can upgrade the existing systems effortlessly without any manual intervention. Significant relations with the customers and partners can be maintained/stored/mediated digitally. The processing of the core business can be achieved through a computerized network spanned across the organization.

- ☐ Operate business continuously ("Time Shifting")
- ☐ Operate business in a global workplace ("Space Shifting")
- ☐ Adapt business strategies to meet market demands
- ☐ Create business value from technology investments
- ☐ Drive efficiency improvements in inventory and supply chain
- ☐ Enhance the management of customer relationships
- ☐ Improve organizational productivity

(7). Differentiate Data and Information and Information System?

A: DATA:

In computing, data is information that has been translated into a form that is efficient for movement or processing. Relative to today's computers and transmission media, data is information converted into binary digital form. It is acceptable for data to be used as a singular subject or a plural subject. Raw data is a term used to describe data in its most basic digital format. **Data** are basic values or facts. Note that the term 'data' is considered plural in the scientific community, as in 'the data are collected', not 'the data is collected'; however, not everyone follows this, so sometimes you'll see data used as singular. Every task a computer carries out works with data in some way. Without data, a computer would be pretty useless. It is, therefore, important to understand how to represent and organize data. This lesson will look at different types of data used in computer systems, how they are represented in digital form, and how they are organized in databases.

Data can be defined as a representation of facts, concepts, or instructions in a formalized manner, which should be suitable for communication, interpretation, or processing by human or electronic machine.

Data is represented with the help of characters such as alphabets (A-Z, a-z), digits (0-9) or special characters (+, -, /, *, <, >, = etc.)

Data is raw, unorganized facts that need to be processed. Data can be something simple and seemingly random and useless until it is organized.

Information:

When data is processed, organized, structured or presented in a given context so as to make it useful, it is called information.

Information is stimuli that has meaning in some context for its receiver. When information is entered into and stored in a computer, it is generally referred to as data. After processing (such as formatting and printing), output data can again be perceived as information. **Information** about someone or something consists of facts about them.

Information consists of the facts and figures that are stored and used by a computer program.

Information System:

An information system (IS) is an organized system for the collection, organization, storage and communication of information. More specifically, it is the study of complementary networks that people and organizations use to collect, filter, process, create and distribute data.

Information systems is defined as the process of and tools for storing, managing, using and gathering of data and communications in an organization. An example of information systems are tools for sending out communications and storing files in a business.

An information system is software that helps you organize and analyze data. This makes it possible to answer questions and solve problems relevant to the mission of an organization. Information Systems: Help and Review / Business Courses.

A combination of hardware, software, infrastructure and trained personnel organized to facilitate planning, control, coordination, and decision making in an organization.

(8). Differentiate between MIS and ESS?

A: A management information system (MIS) is a computerized database of financial information organized and programmed in such a way that it produces regular reports on operations for every level of management in a company. It is usually also possible to obtain special reports from the system easily. The main purpose of the MIS is to give managers feedback about their own performance; top management can monitor the company as a whole. Information displayed by the MIS typically shows "actual" data over against "planned" results and results from a year before; thus it measures progress against goals. The MIS receives data from company units and functions. Some of the data are collected automatically from computer-linked check-out counters; others are keyed in at periodic intervals. Routine reports are preprogrammed and run at intervals or on demand while others are obtained using built-in query languages; display functions built into the system are used by managers to check on status at desk-side computers connected to the MIS by networks. Many sophisticated systems also monitor and display the performance of the company's stock.

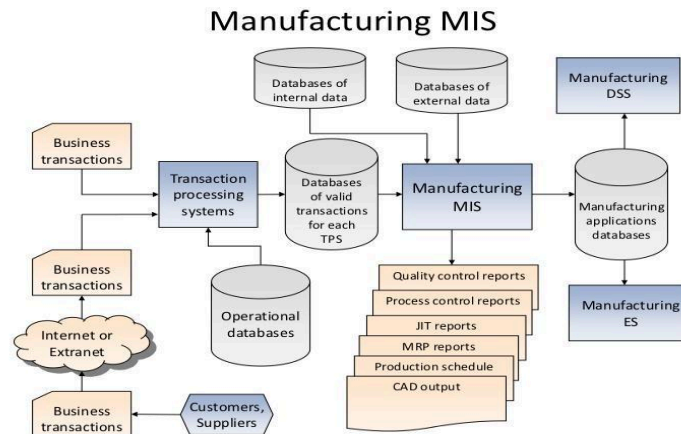
Employee self-service

Employee self-service (ESS) is a widely used human resources technology that enables employees to perform many job-related functions, such as applying for reimbursement, updating personal information and accessing company benefits

information -- which was once largely paper-based, or otherwise would have been maintained by management or administrative staff. **Employee self-service (ESS)** is web-based applications that provide **employees** with access to their personal records and payroll details. ESS features include allowing **employees** to change their own contact details, family members and banking information and benefits.

A secure web-based system provided by some employers that enables employees to manage their personnel and payroll information. The system provides access to information related to earnings, taxes, benefits and vacation leave balances and it allows employees to update information for their tax withholding, direct deposits, and retirement fund allocations.

A service that allows employees to access their own payroll details, benefit information, and time records, usually through a web-based application. This system may allow employees to make some changes to personal information only.



(9). what is Transaction Processing Cycle in IS?

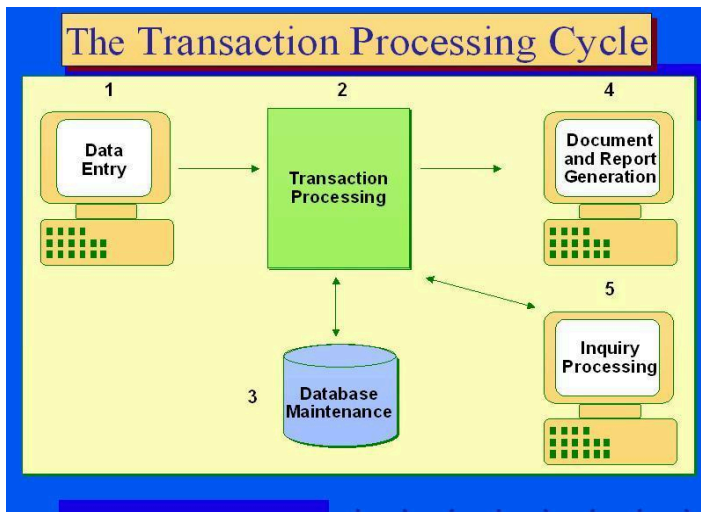
A: Transaction processing systems capture and process data describing business transactions. Then they update organizational files and databases and produce a variety of information products for internal and external use. Transaction processing systems generally go through a five-stage cycle of

- 1). Data entry activities
- 2). Transaction processing activities
- 3). File and database processing
- 4). Document and report generation
- 5). Inquiry processing activities

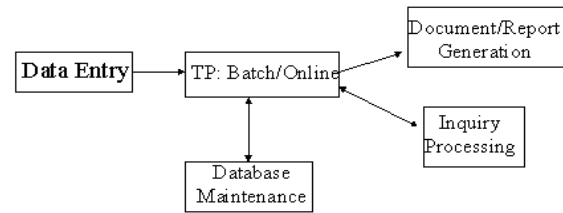
Transaction processing is a basic activity in organizations. It is a routine and repetitive activity that triggers a few other activities like updating database and generation of documents forming a cycle. The transaction processing cycle consists of six steps such as:

- a. Data entry
- b. Input data validation
- c. Transaction processing and validation of results
- d. File and database maintenance
- e. Document and report generation, and
- f. Inquiry processing

The transactions are measured in some convenient unit for recording such as money unit for expenses, hours in case of labor etc.



Transaction Processing Cycle



15 (10).

Explain Levels of Managerial decision making that must be supported by IT in good Organization?

A: Using good judgment and being objective is essential to **making** excellent **decisions**. Wise **decisions** impact companies, employees, profit and the success of **managers**. While **decisions** are made by all **levels of management**, critical **decisions** are made by top **management**.

Decision making is central to all the managerial activities, be it planning, organizing, staffing, directing or controlling.

Decision making is a process of making choices from alternative courses of action, based upon factual and value premises with the intention of moving towards a desired state of affairs. Once a decision is taken, it implies commitment of resources.

The decision that a manager has to take may range from setting of goals and targets for the entire business enterprise to specific decisions regarding day-to-day activities. Some of them may have only short-term implications, while others may have long-term implications on the enterprise. From these points of view, managerial decisions can be broadly classified into three categories, namely, strategic, tactical and operational decisions.

1. Strategic decisions:

Strategic decisions are major choices of actions and influence whole or a major part of business enterprise. They contribute directly to the achievement of common goals of the enterprise. They have long-term implications on the business enterprise.

They may involve major departures from practices and procedures being followed earlier. Generally, strategic decision is unstructured and thus, a manager has to apply his business judgment, evaluation and intuition into the definition of the problem. These decisions are based on partial knowledge of the environmental factors which are uncertain and dynamic. Such decisions are taken at the higher level of management.

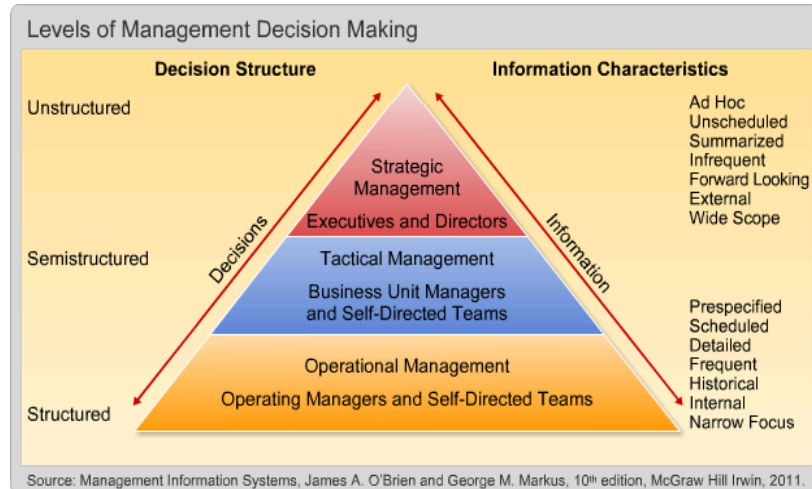
2. Tactical decisions:

These decisions relate to the implementation of strategic decisions. They are directed towards developing divisional plans, structuring workflows, establishing distribution channels, acquisition of resources such as men, materials and money. These decisions are taken at the middle level of management.

3. Operational decisions:

These decisions relate to day-to-day operations of the enterprise. They have a short-term horizon as they are taken repetitively. These decisions are based on facts regarding the events and do not require much of business judgment. Operational decisions are taken at lower levels of management. As the

information is needed for helping the manager to take rational, well informed decisions, information systems need to focus on the process of managerial decision making.



Q3: LONG QUESTIONS:

(1). Explain "Revenue Models" of E-Commerce with Examples?

A: A term, known and used by billions of people all over the world, but yet no common definition for the term of e - commerce exists yet. Maybe the most popular definition is made by the World Trade Organization (WTO): "E - commerce is understood to mean the production, distribution, marketing, sale or delivery of goods and services by electronic means."¹ So e-commerce can be seen as a mode of vectoring business through electronic means.

Selling products online can be a profitable business. As e-commerce has developed, many options have emerged for creating revenue online. An **e-commerce revenue model** is a plan for generating revenue for an online business. While e-commerce revenue models share many similarities with brick-and-mortar businesses, they also enable you to reach customers around the globe and offer more diverse methods of generating sales. These models can be helpful in determining how to structure your e-commerce business.

Revenue Models



In business, revenue typically consists of the total amount of money received by the company for goods sold or services provided during a certain time period.¹ Therefore, revenue models are a part of the business model.² Many online companies generate revenues from multiple income streams such as advertising, subscription, affiliate marketing etc. Online models not only sell goods or services but also contacts (e.g. banner) and information (e.g. user-data).

Five primary revenue models are described below. Since there are possibilities of multiple variations, many companies do not use one single revenue model. They combine for example subscription fees with advertising and/or sales.

Advertising Revenue Model

Typically, fees are generated from advertisers in exchange for advertisements, which is ultimately the classic principal among the revenue models besides sales. Even if representatives of major media companies complain about earning less money with online advertising than with advertising in print or TV, the figures indicate steadily rising revenues.

The advertising revenue model is based on contacts making it one of the indirect sources of revenue. The conventional version is display-marketing - for example wallpaper, super banner, rectangle, skyscraper which is paid according to traffic (invoice per CPC/cost-per-click or CPX/cost-per-action). The main online advertising variations are besides display-marketing, affiliate-marketing (advertising on many websites, CPX) and search-engine-marketing (CPC). Special models are e-mail-marketing and social-media-marketing. For advertisers with a lower budget for example the New York Times created a self-booking-tool for display-ads on a CPM(Cost-per-mile)-basis. And there are still rising new opportunities.

Examples

- Google (e.g. Ad Words and Ad Sense)
- Face book
- New York Times (Marketing)

Subscription Revenue Model

Users are charged a periodic (daily, monthly or annual) fee to subscribe to a service. Many sites combine free content with premium membership, i.e. subscriber- or member-only content. Subscription fees do not depend on transactions. Subscribers use the content as long and often as they want.⁶⁾

Examples

Publishers and content services, e.g. newspapers, magazines, TV channels - they provide text, audio or video content to users who subscribe for a fee to get access to the service or to download the new issue: New York Times, Spiegel Online, Tattoo, Netflix

- Networks offer premium memberships to find business partners or former classmates, subscribers can use all services, i.e. they get any information about their account via short notifications or newsletter, receive and send e-mails, get job offers: Xing, Linked in, Stay friends
- Internet service providers offer the connectivity (e.g. via broadband) and services around (security software for download, e-mail-services): T-Online, AOL
- Special services: Companies offer security and payment services to internet service providers and online retail customers: PayPal, VeriSign. VeriSign's subscription fees depend in case of SSL Certificates on the level of security and the validity period which varies from one to three years.

Transaction Fee Revenue Model

A company receives commissions based on volume for enabling or executing transactions.⁷⁾ The revenue is generated through transaction fees by the customer paying a fee for a transaction to the operator of a platform. The company is a market place operator providing the customer with a platform to place his transactions. During this process the customer may be presented as a buyer as well as a seller. To actively participate in this e-market, customers must register, so both parties of a transaction taking place are identified. From a business perspective, the offer is determined by others as customers offer their goods online and are acting as sellers. The amount of the transaction fee can be both – fixed and percentage calculated.

Examples

- e Bay
- Amazon

Sales Revenue Model

Wholesalers and retailers of goods and services sell their products online. The main benefits for the customer are the convenience, time savings, fast information etc. The prices are often more competitive. In terms of online sales there are different models such as market places as common entry points for various products from multiple vendors.

Examples

- the shops of single companies, sometimes based on web-catalogs (combines mail, online and telephone-ordering): Otto
- e- tailors operating solely over the web: Amazon
- marketplaces: Buy.com, Espy
- live shopping: iPod, guut.de, wood
- shopping clubs: brands4friends, vente-privee.com

Affiliate Revenue Model

The affiliate program is an online distribution solution which is based on the principle of commission. Merchants advertise and sell their products and services through links to partner-websites. It is a pay-for-performance model: Commissions are only paid for actual revenue or measurable success. An affiliate-link includes a code, which identifies the affiliate. That's how clicks, leads or sales are tracked. The affiliate therefore acts as the interface between merchants and customers. This model leads to a win-win situation: the merchants sell their products or services and the affiliates get their commissions. Variations include banner exchange, pay-per-click and revenue sharing programs. The affiliate model is well-suited for the web and therefore very popular.

Examples

- ☐ Amazon
- ☐ affilinet

(2). While using IT in business which kind of security and Ethical challenges in Society?

A:The use of information technology in e-business has major impacts on society, and thus raises serious ethical issues in the areas such as:

- ☐ Crime
- ☐ Privacy
- ☐ Individuality
- ☐ Employment
- ☐ Health
- ☐ Working Condition

1-Computer crime

is a growing threat to society by the criminal or irresponsible actions of computer individuals who are taking advantage of the widespread use and vulnerability of computers and the Internet and other networks. It thus presents a major challenge to the ethical use of information technologies. E-computer crime poses serious threats to the integrity, safety, and survival of most e-business systems, and thus makes the development of effective security methods a top priority. The Association of Information Technology professionals (ATIP) defines computer crime as including:

The unauthorized use, access, modification, and destruction of hardware, software, data, or network resources.

- ☐ The unauthorized release of information
- ☐ The unauthorized copying of software

Denying an end user access to his or her own hardware, software, data, or network resources

Using or conspiring to use computer or network resources to illegally obtain information or tangible property

2-Privacy Issues

The power of information technology to store and retrieve information can have a negative effect on the right to privacy of every individual. For example:

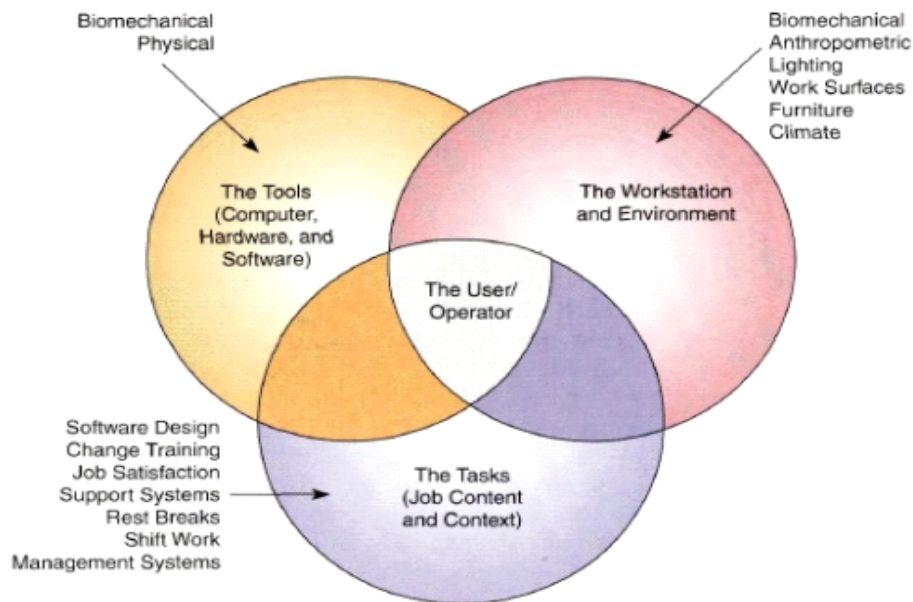
Confidential e-mail messages by employees are monitored by many companies. Personal information is being collected about individuals every time they visit a site on the World Wide Web. Confidential information on individuals contained in centralized computer databases by credit bureaus, government agencies, and private business firms has been stolen or misused, resulting in the invasion of privacy, fraud, and other injustices. Unauthorized use of information can seriously damage the privacy of individuals. Errors in databases can seriously hurt the credit standing or reputation of individuals. Some important privacy issues being debated in business and government include the following: Accessing individuals' private e-mail conversations and computer records, and collecting and sharing information about individuals gained from their visits to Internet websites and newsgroups (violation of privacy). Always "knowing" where a person is, especially as mobile and paging services become more closely associated.

Challenges to Individuality:

A frequent criticism of e-business systems concerns their negative effect on the individuality of people. Computer-based systems are criticized as: Being impersonal systems that dehumanize and depersonalize activities, since they eliminate the human relationships present in noncomputer systems. Humans feel a loss of identity. Humans feel a loss of individuality as some systems require a regimentation of the individual, and demanding strict adherence to detailed procedure.

Health Issues :

Health Issues: [Figure 11.12]



The use of IT in the workplace raises a variety of *health issues*. Heavy use of computers is reportedly causing health problems such as:

- Job stress
- Damaged arm and neck muscles
- Eye strain
- Radiation exposure
- Death by computer-caused accidents

(3). What is DSS and explain the DSS components in Detail?

A: Three fundamental components of a DSS architecture are:

- ☐ the database (or knowledge base),
- ☐ the model (i.e., the decision context and user criteria)
- ☐ the user interface.

OR

This article throws light upon the six main components of decision support system. the components are: 1. Hardware Resource 2. Software Resource 3. Data Resource 4. Model Resource 5. People Resource 6. Decision Support System Packages.

☐ **Decision Support System Component # 1. Hardware Resource:**

Executive workstations, connected through networks to other computers provide the primary hardware resource for the DSS.

Personal computers can be used as a stand-alone basis or connected through network to larger computer system to access DSS software.

☐ **Decision Support System Component # 2. Software Resource:**

DSS software packages are called DSS generators. They contain models of databases, model, and creation, interrogation, and maintenance of the DSS database, A model base management module provides the ability to create, maintain, and manipulate the mathematical models in the models base using capabilities provided by modeling packages.

A dialogue generation and management module provides an attractive user interface that support interactive input and output by managers.

☐ **Decision Support System Component # 3. Data Resource:**

A DSS contains data and information extracted from the databases of the organization, external databases. It includes summarized data and information most needed by the manager for specific type of decision.

☐ **Decision Support System Component # 4. Model Resource:**

The model base includes a library of mathematical models and analytical techniques stored in a variety of program modules and files. The model base management software to create an integrated model to support a specific decision can combine components of models.

☐ **Decision Support System Component # 5. People Resource:**

The managers or their staff specialists to explore decision alternatives can use a decision support system. Such end users can also develop decision support system.

☐ **Decision Support System Component # 6. Decision Support System Packages:**

Many decision support system generators are available from independent consulting firms and computer manufacturers. PC/FOCUS, IFPS- Personal (Interactive Financial Planning System) and ENCORE are popular packages. SAS system and SPSS-X are used as DSS generators for decision support that requires extensive statistical analysis.

Model of the electronic spreadsheet packages such as LOTUS-123, EXCEL, and VP-Planner is a limited DSS generator.