

# Unit-7

## Office information system

- Nature of office
- Types of office information systems
- Client server computing

### Office information system/ Office Automation System

- The Office Information System (OIS) is an advanced word processing system of the hardware, software and processes that provides the technical support and services for the timely retrieval of accurate information by computerized systems to enable effective planning, operation and monitoring of services.
- It is an information system that uses hardware, software and networks to enhance work flow and facilitate communications among employees.
- With an office information system, also described as office automation; employees perform tasks electronically using computers and other electronic devices, instead of manually.
- An office information system supports a range of business office activities such as creating and distributing graphics and/or documents, sending messages, scheduling, and accounting.
- All levels of users from executive management to no management employees utilize and benefit from the features of an OIS.
- The software an office information system uses to support these activities include word processing, spreadsheets, databases, presentation graphics, e-mail, Web browsers, Web page authoring, personal information management, and groupware. Office information systems use communications technology such as voice mail, facsimile (fax), videoconferencing, and electronic data interchange (EDI) for the electronic exchange of text, graphics, audio, and video.

### Nature of office

An office is a place where staff and line professionals, secretaries, and clerk perform management and administrative tasks. The work performed by office workers is often called white collar work.

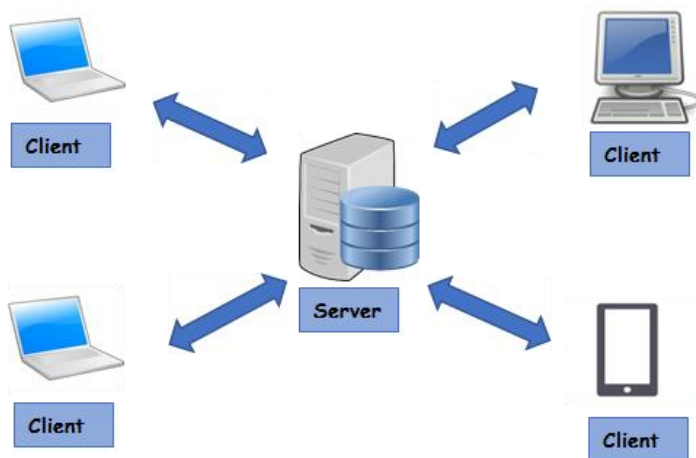
There are five types Office workers found in the office:

- 1. Managers** – Managers generally spend most of their time in planning, coordinating and controlling the activities of other people. Some examples are examinations controller, chief executive officer, operations manager, head of marketing research, and the principal of the college.
- 2. Staff professionals** – Staff professionals support the activities of manager. These professionals have no direct line responsibility, i.e., their role is mostly one planning analyzing, and informing management of their finding.
- 3. Line professionals** – Line professionals includes sales persons and purchasing agents. They typically interact daily with such outside groups as the organization's customers and suppliers.
- 4. Secretaries** – Secretaries are normally assigned to one or more knowledge workers in an office. They perform such support tasks as typing, filling, answering phones, and keeping appointment calendars.
- 5. Clerical personnel**- Clerical personnel are usually not assigned to anyone in particular. They support the entire department/section/division. Typical tasks of clerks are filing, typing, and assisting in report preparation.

### Client-Server Computing

- In client server computing, the clients request a resource and the server provides that resource.
- A server may serve multiple clients at the same time while a client is in contact with only one server.

- Both the client and server usually communicate via a computer network but sometimes they may reside in the same system.
- This computing model is especially effective when clients and the server each have distinct tasks that they routinely perform.
- In hospital data processing, for example, a client computer can be running an application program for entering patient information while the server computer is running another program that manages the database in which the information is permanently stored.



## Characteristics of Client Server Computing

The salient points for client server computing are as follows:

- The client server computing works with a system of request and response. The client sends a request to the server and the server responds with the desired information.
- The client and server should follow a common communication protocol so they can easily interact with each other. All the communication protocols are available at the application layer.
- A server can only accommodate a limited number of client requests at a time. So, it uses a system based to priority to respond to the requests.
- Denial of Service attacks hinder server's ability to respond to authentic client requests by flooding it with false requests.
- An example of a client server computing system is a web server. It returns the web pages to the clients that requested them.

## Advantages of Client Server Computing

The different advantages of client server computing are –

- All the required data is concentrated in a single place i.e., the server. So, it is easy to protect the data and provide authorization and authentication.
- The server need not be located physically close to the clients. Yet the data can be accessed efficiently.
- It is easy to replace, upgrade or relocate the nodes in the client server model because all the nodes are independent and request data only from the server.
- All the nodes i.e., clients and server may not be built on similar platforms yet they can easily facilitate the transfer of data.

## Disadvantages of Client Server Computing

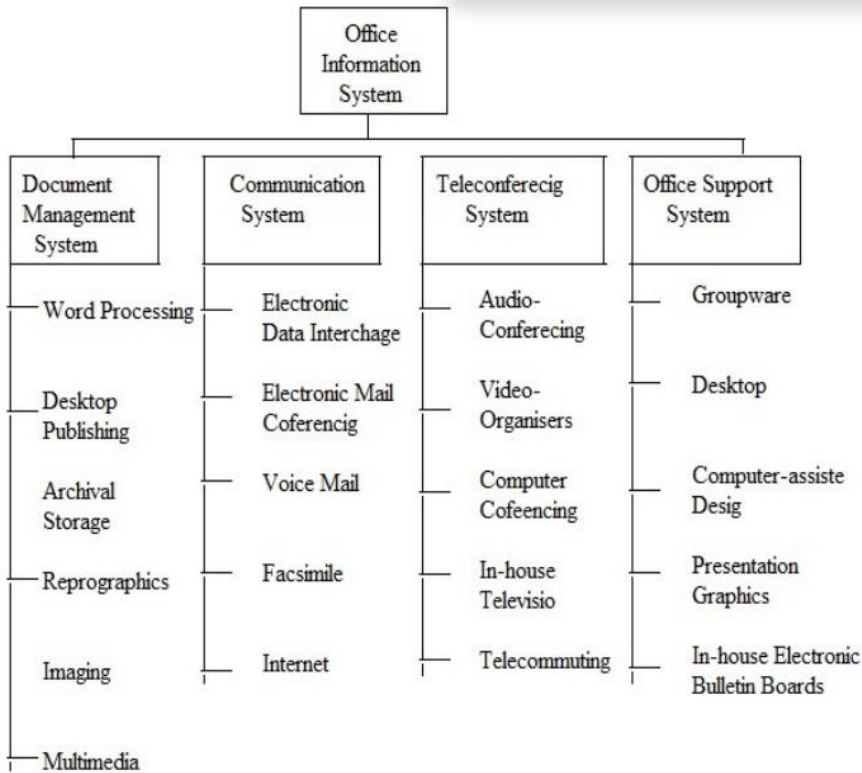
The different disadvantages of client server computing are –

- If all the clients simultaneously request data from the server, it may get overloaded. This may lead to congestion in the network.
- If the server fails for any reason, then none of the requests of the clients can be fulfilled. This leads to failure of the client server network.
- The cost of setting and maintaining a client server model are quite high.

## Types of office information systems

There are four types of office automation Systems:

1. Document management systems
2. Communication systems
3. Teleconferencing systems
4. Office support systems



### 1. Document Management Systems

- Document management systems are computer-based tools that provide access to a repository of data, regardless of their form or location.
- The retrieved document can be displayed in different formats, edited, distributed, and integrated using other communication systems.
- The applications of management systems are:

## Word Processing

- The most widely used and recognized office-system technology is word processing.
- It involves hardware and software tools that allow the computer system to become more than a powerful typewriting device.
- The word processor enables documents to be created and edited electronically, with the assistance of the computer system 's processor memory, and display device.
- When the document is finished, it can be stored in secondary storage (typically on disk) or output the systems printer in a variety of formats.
- Today word processing packages that run on general-purpose computers is in the micro computing area, where such packages as word perfect, Microsoft word, WordStar, MS-office are among the current leaders.

## Desktop Publishing

- Desktop publishing is the use of a computer to prepare printed output.
- It consists of a microcomputer configuration.
- The configuration includes a high-resolution cathode-ray tube screen and a laser printer, and is driven by DTP software.
- The screen display looks exactly like the hard copy that will be produced by the laser printer.
- The DTP software permits the selection of type fronts and size, hyphenation and write margin justification, the addition of horizontal and vertical lines, and lay out of pages (including graphics).

## Archival Storage

- One of the key functions in an office is storage.
- To save the expense associated with storage space, handling, and paper costs, archival data was traditionally placed onto various media and stored off-line.
- Common technologies used to store archival materials are magnetic tape, CD/DVD, flash drives, HDD, SSD etc.

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## Reprographics

- Reprographics is the process of reproducing multiple copies document.
- Office personnel are usually responsible for making more than one copy of a report, letter, and other documents are widely distributed, either internally or externally, reprographics often in includes collating, folding, binding, and related tasks.
- Most of the time, however, a photocopier is use for multiple copies.

## Imaging

- Imaging is a type of document management system that converts paper, microfilm and electronic data into digital image that can be printed, faxed, or viewed on a computer screen.
- LAN based image-processing system, nowadays common in use, include several servers, each dedicated to a specific function such as database management, scanning or printing.

## Multimedia

- Multimedia encompasses a group of computer-based technologies that integrate different types of media, such as text, graphs, animation, audio and video, to generate information.
- Multimedia is made possible by integrating audio and video capabilities into personal computers.
- Besides the usual CPU and peripherals, for a computer to have multimedia capabilities it should also have a CD-ROM drive, stereo speakers, a microphone for voice input, a sound card, a video card, and a video compression card.

## 2. Communication Systems

Various communication systems being used in office automation systems are:

**Electronic Data Interchange:** It is the transfer of electronic data from one organization to another. The data being structured in a commonly agreed format so that it is directly usable by the receiving organization's computer system.

**Electronic mail:** electronic mail is known as E-mail. It is a system that allows a person or a group to electronically communicate with others through a network, in written form, at any time, from anywhere in the world.

**Electronic mail services.** When an organization decides to implement electronic mail, it has two basic choices. It can acquire its own hardware and software and install an in-house system, or it can subscribe to an electronic mail service that provides the necessary computing and communication facilities for a fee. In the latter case, a subscriber need only furnish the terminals to tie into the network.

**Voice mail:** Voice mail facilitates oral communication. In this system, the sender dictates a message by speaking them over the telephone rather than typing them. A special device, called a codec, converts the analog signal of the sender's voice into a digital message. The message is transmitted over the network and stored in a server at the receiver's end. A blinking light on the receiver's phone indicates that he/she has a voice message.

**Facsimile:** Facsimile is known as fax. Systems are commonplace in most organizations today. Fax technology uses telephones, modems, and scanners to transmit text and graphics to an individual or organization anywhere in the world.

**Internet:** It is a global network of millions of smaller computers networks linked by communications channels. The most significant business promise of the internet lies in the potential for global electronic commerce known as e-commerce. The internet is a relatively inexpensive business resource that permits small organizations to compete with large organization because of the absence of any measure cost or competition constrains of using the web.

## 3. Teleconferencing Systems

- It consists of tools and techniques of both computer and non-computer-based.
- These techniques allow a group of people, separated by time and distance, to exchange ideas using audio, video and other teleconferencing media.
- The main feature of this system is that they reduce operating costs and increase productivity because decision makers do not have travel to attend face to face meeting.

### Audio conferencing

- Audio conferencing is the use if voice communication equipment to establish on audio link between geographical dispersed persons for conducting a conference.
- The conference call allows more than two people to participate telephone conversation.

### Video conferencing

- Videoconferencing is another type of teleconferencing systems that uses telephones, TV monitors, computers, and networks to link geographically separated decision makers to hear and see each other.
- A computer digitizes sound and video images, then converts them to analog signals and transmits them over the telephone lines to the receiver's computers, which reconverts the analog signals to digital signals.

### Computer Conferencing

- Computer conferencing is the use of a networked computer to allow members of a problem-solving team to exchange information concerning the problem that is being solved.
- In this system, a group can consist of a large number of participants.
- It differs forms audio and video conferencing in that it can be used within a single geographic site.
- A person can use computer conferencing to communicate with someone in the next office.
- Teleconferencing includes all three forms of conferencing-audio, video and computer.

### In-house Television

- It is a relatively new technology. In this system, an organization invests in a studio, a period of time on a satellite and a satellite transmitter for broadcasting.

- Company sites or even customers are given satellite dishes so that they can view the broadcast.

#### **Telecommuting**

- With telecommuting, people use communications technology to work at home or in a remote city and to avoid the usual physical commute to work.
- Using a remote communications terminal or a microcomputer work station, a person can do his/her work at home instead of at the office.

## **4. Office Support Systems**

In this system some important systems for managing documents, exchange messages and holding meeting are discussed. In addition to these systems, various applications help to coordinate and manage the activities of work groups.

#### **Groupware**

- Groupware consists of software packages design to support the collaborative efforts of a group of co-workers.
- Such packages often provide integrated support for many of the typical activities of work groups.
- This includes: word processing services, E-mail, voice mail, fax, computer conferencing, video conferencing, project management, group decision support system, electronic bulletin board systems and electronic calendars and schedulers.

#### **Desktop organizers**

- Desktop organizers are software package that provide users with the electronic equivalents of the organizing and coordinating tools found on a typical office desk.
- Among many features, it includes electronic calendar, card file, notepad, clock and calculator.

#### **Computer Aided Design**

- Computer aided design (CAD) refers to computer systems that enable designers to work with a display-screen and specifications database to design various products.
- It is widely used in engineering environments.

#### **Electronic Bulletin Boards**

- Electronic bulletin boards allow members to post their ideas and elicit responses from other group members.
- Primary benefits are increased responsiveness to market forces and significant improvement in the quality of business processes such as product development, account management, and customer service.