

# 3

## Modern Technology and Communication

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### 3.1 GLOBALISATION OF BUSINESS

The world order is changing dramatically because of the advancement in information technology (IT). The rate of globalisation in the past few years has been nothing short of phenomenal. *Globalisation means the ability to produce and/or sell goods/services in global markets in open competition, with others.* 'Only the fittest will survive' in the open competition, *i.e.*, those who can satisfy the customers in respect of quality as well as price of products and/or services. The increasing expectation has made this phrase irrelevant and now the buzzword is 'Survival of the most competitive'.

There exists comprehensive foreign competition with respect to almost every product all over the world. For instance, in recent years, the viability of North American business has been severally threatened by Japan. This is particularly true of automobiles, consumer electronics and motor cycles. Likewise, the world textile market to dominated by countries such as South Korea and Taiwan where

labour costs are lower than elsewhere. This necessitates efforts to evolve measures for equaling, or surpassing the quality and productivity levels accomplished by Japan and the Asian 'Tigers'. Although much can be done by improved production technologies, there exists a wider scope to accomplish this goal through innovative approaches to organising and managing business in a down-to-earth, competitive manner.

Production of goods and services is fast becoming globalized as manufacturers around the world put manufacturing facilities where they will be most advantageous. Thus, the Toyota Company – what many would claim is “obviously” a Japanese car – is produced in Georgetown, Kentucky and contains almost 80% U.S. made parts. At the same time, the Pontiac LeMans (“obviously” a U.S. car) actually contains almost two-thirds foreign-made parts.

The globalization of markets and manufacturing has vastly increased international competition. Throughout the world, firms that formerly competed only with local firms—from airlines to auto-makers to banks—now find that complacency must give way to an onslaught of foreign competitors. This calls for cost reduction and quality improvement on a continuing basis. To achieve the twin goals, dynamic firms have followed several strategies including starting of production in those countries where cheap labour and materials are available, acquisition of latest technology and skilled professional, strategic alliances with firms in different countries and so on.

### 3.2 ROLE OF INFORMATION TECHNOLOGY

The world has entered the information age surpassing the industrial age which has been made possible by the ever increasing developments in the field of information technology (IT). The way we access and assimilate information and the emergence of new methods of packaging information have given birth to a revolution more complex and powerful than the liberation of the printed word that started in the Middle Europe around the 15th century. The IT revolution is about real-time access and sharing of digital information, consisting of visual images, sound and virtual worlds, made possible by core information technologies like digital networks, information databanks and computer graphics.

We are now in the information age where everything revolves around information. In this age, the computers and communication technologies combine to form information technology (IT), by which the use of information becomes far more efficient. This more efficient use of information can affect society and management. In fact, this will have an effect on all aspects of life. Information Technology is one of the most pervasive technologies and hence, has effects on practically everything we do. In the field of communication, the impact of *internet*, *e-mail*, *voice mail*, *multimedia*, *tele-conference*, etc. on business, educational and other organisations has been tremendous.

### 3.3 INTERNET

Internet is a vast computer network of many different computer networks existing in the world. It is a collection of interconnected networks. Hence it is called "Internetwork" or in short "Internet". Through an internet connection, one can communicate with any other subscriber of internet throughout the world. Internet service is provided in India by many companies including VSNL, Essar, Bharti Telecom, and MTNL. They are known as Internet Service Providers (ISP).

Any individual or organisation can open an account with any Internet Service Provider (ISP) who will give an Account Number for a monthly or yearly fee. Then the user may have access to the Internet and the e-mail through it. The user needs his own computer, "modem" and a telephone line to send and receive messages. He can also have access to the World Wide Web (WWW). The user can also send e-mails through the internet if the e-mail software (called a mailer) is installed on the user's computer.

**World Wide Web (WWW).** It is an architectural framework of information system on the Internet. It contains millions of electronic documents called Web Pages. A web page contains text and graphics (drawings) which are linked to related information.

**Modem.** It is a communication device or apparatus that enables a computer to transmit information over a standard telephone line. It converts signals from analog to digital and from digital to analog. Thus, the combination of the terms 'modulate' and 'demodulate' creates the term "Modem".

#### 3.3.1 How to Use Internet Service?

An individual can have access to the internet via an *Internet Service Provider* (ISP) as shown in Fig. 3.1. If he has a telephone connection, he needs a computer and a modem to connect to the ISP's server. Telecom providers and cable companies are increasingly providing digital services and open-all-the-time connections which give increased speed and convenience of access.

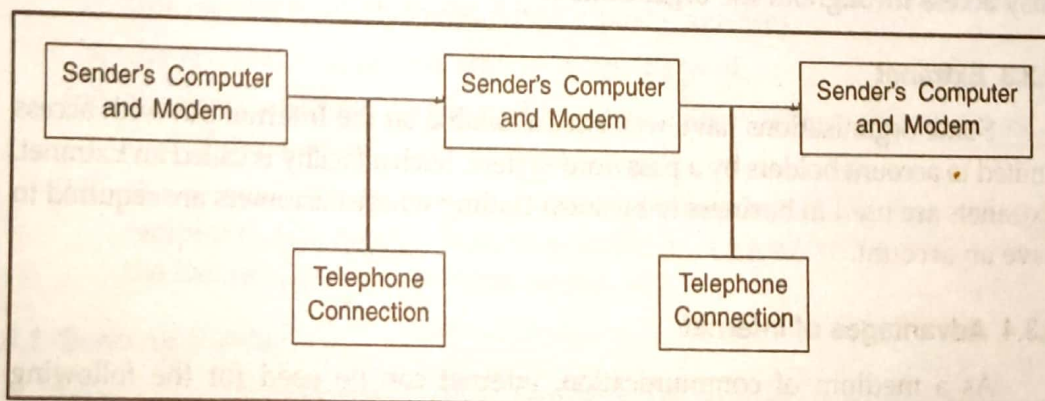


Fig. 3.1 : Communication through Internet

The ISP provides access to the web, an e-mail address and very possibly user space for the client to set up his own home page. Some ISPs specialise in hosting business sites with services designed to meet the need of that market. The provision of Internet services has become very competitive and users have taken to shopping around for the best package. Users of the service get the ISP's home page displayed when they log on. This gives the service provider an opportunity to create revenue from advertising and hosting links to commercial sites. Many ISPs use the advertising revenue to support a free access service to the users.

A large organisation may be wired with its own Local Area Network (LAN) and access to the internet via the Server. A *server is a computer system linked with the internet that could be accessed by the clients*. There are two internet server applications :

(a) **Web Server.** It is a software that takes requests from client browsers, searches the web and passes back the resultant pages to the browser. The server will store a number of home pages that are available to local users and other Internet users.

(b) **Mail Server.** It is a software that acts as a 'post office' for the e-mail system. Mail created on the client sites is passed to the appropriate post-box within the system or sent out over the Internet to its intended destination. Mail from outside is stored in post-box files and uploaded to the users machine when requested by the mail client.

### 3.3.2 Intranet

Also known as private internet, an intranet is a web site designed for use by the employees of an organisation—a private Internet. The Intranet can be used to replace documents such as staff manuals, internal telephone directories and office notices. Their advantage is that they are (hopefully) always readily available and that they can be easily updated. Intranet systems can include application systems where scripting languages give access to databases and the use of a browser gives easy access throughout the organisation.

### 3.3.3 Extranet

Some organisations have web sites available on the Internet but with access limited to account holders by a password system. Such a facility is called an Extranet. Extranets are used in business to business trading where customers are required to have an account.

### 3.3.4 Advantages of Internet

As a medium of communication, internet can be used for the following purposes :

- (i) Sending messages to and receiving messages from the other internet users.
- (ii) Getting information stored on other computers.
- (iii) Reading newspapers, magazines and newsletters.

- (iv) Reading latest news about sports, stock market trends, etc.
- (v) Having access to the libraries connected with the internet.
- (iv) Downloading articles and other materials of interest.
- (vii) Downloading of specific computer software.
- (viii) Participating in e-banking, *i.e.*, operating one's bank account through e-mail facility.

### 3.4 E-MAIL

Electronic Mail or e-mail is a system of electronic correspondence by which users send and receive messages over a network of computer and telecommunication links. The messages may consist of short notes and greetings, or extensive (huge) text files plus graphics (drawings) and photographic images, video clips, or sound. Thus, e-mail is an "electronic post office". It provides a "store-and-forward" service. It lets people communicate even in the absence of the receiver at the other end. It means that you can send e-mail message whenever you want. The person to whom you have sent the message, can read the same (after opening his computer) whenever he wants. Thus, the sender and the receiver don't have to connect themselves at the same time to communicate.

For availing e-mail facility, one has to obtain membership with an Internet Service Provider (ISP) such as VSNL, MTNL or Tata Info Service. In addition to internet access, the user also needs a computer, a modem and a telephone line on which he can call the subscription service. He should have his own e-mail address and the recipient's (receiver's) e-mail address for two-way communication.

The elements of e-mail are as follows :

- (i) **the sender** : A person who composes and sends e-mail messages.
- (ii) **the mail agent** : A programme the sender uses to do so; (for regular mail, this might be a pen or typewriter).
- (iii) **the message** : A computer representation of what the sender wanted to say (for regular mail, this would be paper and its envelope).
- (iv) **the mail transport subsystem** : A system that delivers the message (for regular mail, this would be the postal service).
- (v) **the recipient** : A person who receives the mail.
- (vi) **the recipient's mail agent** : It might be a different programme from that of the sender.
- (vii) **the e-mail address** : A text string used to identify senders and recipients; (for regular mail, this would be the text for the address of the locality, city, country and so on).

#### 3.4.1 Sending E-mail

For availing e-mail facility, a person must have an internet connection through the telephone line or cable network. In addition to internet access, he should also have a computer and a modem. He should have his own e-mail address and the receiver's e-mail address for two-way communication. An e-mail address is typically in this form : "username @ location organisation type country"

An individual's e-mail address may be like this: "Sun India, Delhi @usa.net." Sun India is the name of the user based in Delhi, the Internet Service Provider is USA which is a network administration. The symbol "@" is pronounced as "at". The symbol "." is pronounced as "dot." The symbol "-" is pronounced as "underscore".

In sending the e-mail message, the following steps should be taken :

- (i) Start an e-mail message, through any one of the popular packages like Outlook Express, etc. on your computer.
- (ii) Type on the computer keyboard the e-mail address to which you want to send the message.
- (iii) Type the message in the provided place.
- (iv) Type sender's name and his e-mail address.
- (v) Take the mouse pointer at the "Send" button and click the mouse once.

Then, the message is transferred to an SMTP server (Simple Mail Transport Protocol Server) which is a mail server that accepts outgoing e-mail. The POP3 server collects and processes the incoming e-mail. Both these servers are run by the Internet Service Provider (ISP).

It may be noted that the user can send the same message to several receivers by typing in their addresses one after another at the place against the letters "Cc" (carbon copy)—a list of the receivers. If you type the list of receivers against the letters "Bcc" (Blind carbon copy), then the list of the receivers is not visible to the person who receives this message. Further, 'attachments' may be sent with the message. It means that other data files or documents may be attached (enclosed) with the e-mail message.

## EXHIBIT 1

### Composing of e-mail

**The header :** It more or less corresponds to the envelope of postal mail. It consists of a sequence of tagged header lines; tags are defined by an Internet and include things like.

**To :** Denotes to whom the mail is to be sent, *i.e.*, you have to write the recipient's mail address.

**CC :** CC or carbon copy is used to specify the addresses of all the recipients who will also receive copies of the same mail.

**BCC :** BCC or Blind carbon copy is used to send messages to several addresses without showing everyone all the addresses.

**Subject :** Subject of the message as specified by the sender.

**Attachment :** This link is used to send files, created with other programmes such as MS word or a zip file, alongwith the e-mail.

**The body :** The main part of the message; a simple text message with zero or more attachments; in fact the attachments are encoded as text via a protocol called MIME (Multipurpose Internet Mail Extensions)

### 3.4.2 Reading Incoming E-mail

The user of the Internet service can check his mailbox in his computer to read the incoming e-mail messages in the Inbox folder.

You may choose to reply to a message while you are reading it. Then, click on the "Reply" button.

When you start your mail agent, it usually checks with the mail server to see if any new mail has arrived. When the server reports that there is new mail, the agent typically copies all new messages from the server into the 'incoming messages' or 'inbox' folder and removes them from the server. The agent usually keeps track of which messages you have read and which remain unread. It may give you some way to move messages from your inbox to other folders.

### 3.4.3 E-mail Abbreviations and Acronyms

In order to keep e-mail messages short, people sometimes use abbreviations for common expressions such as :

ASAP	As soon as possible
AFAIK	As far as I know
BFN	Bye for now
BTW	By the way
BBL	Be back later
FYI	For your information
IAE	In any event
IMO	In my opinion
IOW	In other words
LOL	Laughing out aloud
NBD	No big deal
NRN	No reply necessary
OTOH	On the other hand
WYSIWYG	What you see is what you get.

### 3.4.4 Popularity of E-mail

Electronic mail or e-mail has gained popularity in modern business organisations. The companies around the world are now using e-mail to enhance their effectiveness. E-mail is fast replacing the telephone and the Fax as the primary mode of communication. Its cost is lower as compared to the size of message and distance of the receiver. Its cost is even much less than that of Fax or Telex. It has a very high speed of travel. It takes only seconds to reach the receiver at any distance in the world. It does not disturb the receiver who might be busy in meetings or otherwise, or even sleeping at night. The receiver can open his e-mail at his convenience and download the messages.

E-mail offers the following advantages :

- (i) It facilitates sending to and receiving messages from others having e-mail addresses.
- (ii) It transmits the message almost instantaneously. Thus, its speed is very fast.
- (iii) It directly reaches the concerned individual's electronic mailbox.

- (iv) It does not require the presence of the receiver of the message at the other end. The message is delivered into his mailbox and can be obtained by the receiver by opening his mailbox.
- (v) It ensures a higher degree of secrecy of the message.
- (vi) It is a very cheap medium of communication. Hard-copy letters and memos can often be replaced.
- (vii) Messages can be sent at any time, day or night, decreasing problems brought about by differences in time zones.
- (viii) Messages can be sent to many people simultaneously.

#### 3.4.5 Limitations of E-mail

Some of the glaring weaknesses of e-mail are as follows :

- (i) E-mail does not guarantee secrecy.
- (ii) E-mail messages may be taken less seriously than traditional business letters.
- (iii) Senders of messages have no assurance that the intended receivers will check mailboxes or respond to messages.
- (iv) Space available on an e-mail screen is less than that of a single-spaced typewritten page. Multiple screens are likely to be more annoying than a long typewritten letter or memorandum would be.
- (v) Messages are not always delivered because the intended receiver's computer system may be down. E-mail users must observe "undeliverable" messages and attempt to resend.
- (vi) Incompatibility of electronic mail systems prevents the sending and receiving of messages between these systems.
- (vii) Senders are more likely to make errors in facts and approach, in addition to errors in logic, grammar, and spelling, because messages are prepared more quickly than most letters and memorandums.
- (viii) The ease with which messages can be sent results in large amounts of junk and unnecessary communication, which wastes time. **Spam** is the term used in e-mail to denote unnecessary mails that keep coming into one's inbox. Spam is useless for the receivers and it only results in filling up of the mailbox.

#### 3.4.6 Ensuring Smart e-Mail

The following guidelines should be followed to ensure smart and safe e-mail :

**1. Ensure Correct e-mail Address :** In case of e-mail, there is no postman to make enquiries and deliver the e-mail even when postal index number is wrong. E-mail bounces back even with change of a single digit, letter or a punctuation mark in the address. There is also the possibility that the mail goes to somebody else's mail box. Therefore, double check the spellings before clicking on the receiver's address.

**2. Keep Business and Personal e-mail Separate :** It is very risky to use the same box for personal and professional mails. Your employer might monitor the



mail in your mail box because he believes that job related mail is company property. Moreover, when you are on leave from the office your mail may remain unanswered. Unless you have a separate box for personal mail, your colleagues might access your personal mail.

**3. Manage Your Mail Box :** Open your mail box twice a day as speed is essential in e-mail. Scan the mail in the box, reply the urgent one, delete the junk mail. The mail which cannot be replied immediately should be acknowledged so that the sender does not keep sending reminders.

Delete any messages that are no longer required. Use sub-folders for incoming and outgoing mails for future reference. Sub-folders will make it easier to access the stored mail.

**4. Do not Put Confidential Information :** World Wide Web is a glass house as the mail on it is not fully safe. Hackers can access even heavily guarded networks of banks and governments. Do not ever put sensitive information such as your credit card number as the same could be misused.

**5. Invest in the Subject Line :** Use brief and precise subject line to tell the reader clearly what the mail is about. Otherwise the receiver might delete your message without reading it. A smart heading attracts attention towards the e-mail message. Example : "Urgent—Computer Breakdown".

**6. Keep Your Mail Brief :** E-mail message should be like skirts—short enough to be interesting and long enough to cover all the vital points. Reading from the monitor screen is harder and slower than reading a print out of the same text. If the e-mail message is long, it might not be read at all or read too casually.

**7. Show a Clear Thought Structure :** The ideas should be in a sequence so that the message is easy to understand and accept. The text should be divided into different paragraphs with plenty of space between the paragraphs.

**8. Mind Your Tone :** Be sensitive to the needs of the reader and your relationship with him. Poor tone may offend the reader and the message may fail to get the expected response.

**9. Mind Your Language :** Use proper grammar, punctuation and correct spellings to avoid any misunderstanding. If any e-mail message provokes, you might be tempted to pump your anger in your reply. Do not send the reply immediately. Wait for some time and reread your replay before sending it.

### 3.4.7 E-mail Etiquettes

To be an effective e-mail communicator, the following etiquettes should be observed :

- (i) Respond to e-mail messages in a timely manner.
- (ii) Provide clearly worded subject lines for all messages.
- (iii) Use shorter lines and shorter paragraphs than in regular word processing documents.
- (iv) Be complete and concise and avoid rambling.
- (v) Use upper and lower-case letters. This is easier to read; also, all caps is considered "Shouting", which should be avoided.

- (vi) Use text editors and spell checkers when available.
- (vii) Use jargon carefully—consider background of a reader or readers.
- (viii) Avoid inappropriate and possibly offensive language.
- (ix) Avoid trivial responses; they just clutter the e-mail system.
- (x) Avoid firing angry messages back to the sender (flaming).
- (xi) Avoid sending "junk" mail.
- (xii) Avoid adding too many attachments to your message.
- (xiii) Avoid use of emotions (typewritten symbols such as: - that represent feelings) unless you are absolutely certain your reader will interpret the symbol as you intended.
- (xiv) Always provide a personal name if your mail system allows it – a personal name attached to your address identifies you better than your address can on its own.
- (xv) Always include a subject line in your message. It is often the only clue the recipient has about the contents while filing and searching for messages.
- (xvi) Do not type your message in all uppercase – it is extremely difficult to read (although a short stretch of uppercase may serve to emphasise a point heavily). Try to break your message into logical paragraphs and restrict your sentences to sensible lengths.

## EXHIBIT 2

### Guidelines for Writing E-mail Message

While writing e-mail message, the following guidelines should be kept in mind :

1. E-mail messages are not private like conversation. They can be checked by other persons. Therefore be careful about e-mail messages.
2. All the principles of good writing like you-attitude, positive emphasis, clarity of the message, considerate attitude, conciseness of the language, completeness of the message, etc. apply to e-mail messages.
3. Use spell check for correct spelling and ensure that the message is grammatically correct.
4. Reread and proofread the message before sending.
5. Do not write when you feel anger. First cool down and then draft the message.
6. Subject lines should be appropriately written.
7. Use full caps only to emphasize a single word or two. Putting the whole message in caps is considered as rude as shouting.
8. Find out how your recipient's system works and adapt your messages to it. Most people would rather get a separate short message on each of several topics, so that the message can be stored in different mail boxes.
9. When you respond to a message, include the essential part of the original message and delete the rest.