

Unit 4

Information Communication and Barriers

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4.0 Overview and Description:

This chapter will create basic concept of information, its related term as data, knowledge and wisdoms, general communication process and the barriers of communication.

- Knowledge and skills outcomes:
 - (i) Fundamentals of data, information, knowledge, and wisdom
 - (ii) Interrelationship of data, information, knowledge and wisdom
 - (iii) Information Theory

(iv) Concept of Communication

(v) Barriers to communication

● **Resource Materials:**

- (i) Kamalavijayan, D. Information & knowledge management. Delhi: Macmillan India, 2005.
- (ii) Vickery, Brian and Vickery, Alina. Information science: in theory and practices. London: Bowke Saur, 1987.
- (iii) Khanna, J.K. and Vashisht, K.K. Knowledge: evolution, structure & research methodology. New Delhi: EssEss, 1985.
- (iv) Aftab, Cheung, Kim, Thakkar, Yeddanapudi. Information theory: information theory and digital age. 6933-final paper. Available at <http://mit.edu/6.933/www/Fall2001/Shannon2.pdf>
- (v) Weissinger, Thomas. Information as a value concept: reconciling theory and practice. Library philosophy and practice. Vol.8, No1(fall 2005). Available at <http://www.webpages.uidaho.edu/~mbolin/weissinger.pdf>

Durations: 20 Hours

Learning outcomes

Units	Leaning Outcomes You will be able to know and understand:
4.1 Introduction	Concept of information Related concept of information
4.2 Data	Basic Concept Definitions Features, value
4.3 Information	Basic Concept Definitions Theory Characteristics, value and nature Types
4.4 Knowledge	Basic Concept Definition Features Types of Knowledge

4.5 Wisdom	Definition Elements
4.6 Interrelationship of data, information, knowledge and wisdom	Relationship Relationship model
4.7 Information Theory	Shanon theorem Weaver theorem Ackoff theorem
4.8 Communication	Concept Definition Evolution Types
4.9 Barriers of Communication	Concept Definition Types Overcoming barriers
4.12 Practical	Identification of information sources & its categories Searching information from Dictionaries and Encyclopaedias Identifications of Barriers to Communication Make chart of communication models

Assessment Plan (for teachers)

Units	Assessment Method	Time Plan	Remarks
4.1 Introduction	Discussion		
4.2 Data	Discussion Exercise: Question & answer		
4.3 Information	Discussion Exercise: Question & answer		
4.4 Knowledge	Discussion Exercise: Question & answer		
4.5 Wisdom	Discussion Exercise: Question & answer		

4.6	Interrelationship of data, information, knowledge & wisdom	Discussion Exercise: Question & answer		
4.7	Information Theory	Discussion Exercise: Question & answer		
4.8	Communication	Discussion Exercise: Question & answer		
4.9	Barriers of Communication	Discussion Exercise: Question & answer		
4.12	Practical	Identification information sources and its categories Searching information from Dictionaries and Encyclopaedias Identifications of Barriers to Communication Make chart of communication models		

4.1 Introduction

Information has played a vital role in the development of the civilization. Since the inception of the civilization, to the present knowledge society, it has been remain at the centre, in the evolution process. People from different fields of studies; have tried to understand information with the background of their own area of expertise. Hence, there is no universal acceptability of meaning of information, but, it can be better understood when it would be discussed with its associated terms which are data, information, knowledge and wisdom in sequence. Let's discuss the concept of data, information, knowledge and wisdom, their association as well as their independent existence.

Review Questions

Fill in the blanks:-

- Information has played a vital role in the development _____.
- _____ has been remain at the centre is the evolution process.

4.2 Data

Data is a Latin word which means 'anything that is given'. It is the plural form of datum but used as a singular collective noun. It is defined differently in various sources. Let's examine few definitions.

The Oxford English Dictionary defines it as "facts or information, especially when examined and used to find out things or to make decision".

The Webster's Third New International Dictionary of the English Language has defined it as "something that is given either from experientially encountered or from being admitted or assumed for specific purpose; a fact or principle granted or presented: something upon which an intellectual system or any sort is constructed".

The Random House Dictionary of the English Language has defined it as "facts, information, statistics or like, either historical or derived by calculation or experimentation; any fact assumed to be a matter of direct observation; any proposition assumed or given, from which conclusion may be drawn".

According to United Nations Education, Scientific and Cultural Organization (UNESCO) data is "facts, concept or instructions in a formalized manner suitable for communication, interpretation or processing by human or automatic means". The Committee on Data for Science and Technology (CODATA) defines data as "crystallized presentation of the essence of scientific knowledge in the most accurate form".

After analyzing above mentioned definitions facts or figure or attributes of any phenomenon or incident collected for the any purpose can be termed as data. The definition of UNESCO put emphasis on its value also as the interpretation, processing and communications. The CODATA also put emphasis on its value which is 'accurate'.

The value of data is another aspects but here we draw basic concept about data. We can say that "any facts, figure or attributes of any phenomenon, incident or event whether scientific, sociological or literary gives complete information after interpretation or processing can be considered data".

The value of data depends on its quality. Above mentioned definition and other literature say us that, the data should have following qualities:

- (i) Accuracy: Data should be accurate on the basis of its variable,
- (ii) Clarity: Data should have clarity towards the objectives of its collection,
- (iii) Currency or recency: Data should be have current or recently collected for the purpose its collection,
- (iv) Compressibility: Data should compressed on the basis of some logic or algorithm
- (v) Amenability to use or for decision making
- (vi) Refinability: Data can be generalized or simplified
- (vii) Aggregation : Data could be cumulated on the basis of time frame like daily, weekly, monthly, etc.

We must understand that when data is collected, stored, grouped, analyzed and interpreted, it creates information. The data of high value creates authentic information as it is the building blocks of information.

Review Questions

1. Define data?
2. What is variable?
3. What are the features of data?
4. How values of data effect the value of information?

4.3 Information

Information is a core term for librarianship though; it has multiple meaning and perceptions. It is an intermediary between data and knowledge, hence sometimes it is being used synonymously. A few definitions have used intelligence and news synonymously as building blocks of information. With the help of different definitions and perceptions, we will be able to understand the precise meaning of the term, information.

We can understand the meaning of information provided in some of the important dictionaries. After analyzing these definitions, we can identify the core concept commonly presented and different terms used synonymously.

- (i) The Oxford English Dictionary has defined information as “that of one is appraised or told; intelligence; news”
- (ii) The Webster's Third New International Dictionary of the English Language has defined it as “something received or obtained through informing: as (a) knowledge communicated by others or investigation, study, or instruction; (b) knowledge of a particular event or situation: intelligence, news, advices; (c) facts or figures ready for communication or use as distinguished from those incorporated in a formally organized branch of knowledge: data”.
- (iii) The Random House Dictionary of the English Language has defined it as “knowledge communicated or received concerning a particular fact or circumstances; any knowledge gained through communication, research, instruction, etc; the act or fact of informing”.

Further, in the same section, the Dictionary states that the information is synonymous to data, facts, intelligence, advice. It says that “information, knowledge, wisdom are terms for human acquirements through reading, study and practical experience. Information applies to facts told, read, or communicated which may be unorganized and even unrelated. Knowledge is an organized body of information, or comprehension and understanding consequent or having acquired and organized a body or facts. Wisdom is a knowledge of people, life and conduct, with the facts so thoroughly assimilated as to have produced sagacity, judgment, and insight.

We have now got some idea of data, information, knowledge and wisdom and their relationship, especially from the Random House Dictionary.

After analyzing the definitions given in different dictionaries we can understand that:

- (i) Information is a related concept. It gets created through data processing and/or analyzing and further creates knowledge. Hence data creates information, information creates knowledge and knowledge creates wisdom

- (ii) Sometimes news, intelligence and advice, are used synonymous. Further we will discuss the circumstances where these terms are used synonymously.
- (iii) Sometimes data and/or knowledge are/is used synonymous to information, but, their meaning has well defined boundary. We be able to understand the boundary of these terms as we will proceed in this chapter.

We may define Information as “the factual data, ideas and other knowledge emanating from any segment of society that are identified as being of value, sometimes gathered on a regular basis, organized in some fashion, transmitted to others and used in some meaningful manner”. In other words we can say that information is a core value or entity; gathered on a regular basis and collected in organized manner, have some accurate value and a part of distribution or transmission of the values. These values can be used for decision making.

Information gets generated as a result of processing data of various human or cosmic activities, events or incidents taking placed purposefully or naturally. Nature as a factor of creating data is automatic in nature but human factors are purposeful most of the time. Human factors involve both, individuals and corporate bodies.

4.3.1. Value of Information

Information is a vital resource in growth and development of different sectors of knowledge. People in different subject area require information on various subjects in different forms and with different emphasis, approaches and explanations. It applies in various ways in day-to-day usage as well as in research and studies. For researchers, it can be considered as a thing, resource or a commodity that can be produced, purchased, replicated, distributed and communicated. Ultimately it becomes factors or attributes in creating knowledge.

4.3.2. Characteristics of Information

Good information relevant for its purpose, sufficiently accurate for its purpose, complete enough for the problem, reliable and targeted to the right person, communicated at right time for its purpose, contains right level of detail and communicated by an appropriate channel. A few characteristics can be illustrated as:

Availability/Accessibility: the information, relevant to the problem of decision making should be obtained or accessed easily in user friendly format.

Accuracy: information needs to be accurate enough for the use to which it is going to be put.

Reliability or Objectivity: reliability deals with the truth of information or the objectivity with which it is presented. When you are sure about its reliability then, only you can use it with confidence and it can add value to your knowledge or make your decision effective.

Relevance or Appropriateness: the information should be appropriate to the purpose for which it is required.

Completeness: the information should contain all the details required by the users, otherwise it may not be useful for making the decisions.

Level of details or Conciseness: the information should be in the form that is short enough to analyze, evaluate and use.

Presentation: The information should be presented in the format from which the user can easily understand and assimilate.

Timing: the information must be available at the time when it is required. Information received too late will be useless and in some cases it may be incur lose too.

Value of information: the relative importance of information for decision making can increase or decrease its value to the user.

Cost of Information: the cost of information should be within the approach to the users. if the cost is beyond the paying capacity of the user then it would be useless for its purpose.

4.3.3. Types of Information

As we know that the information has no single universally accepted definition, so there is no single way to categorize it. The categorization may be done on the basis of different characteristics of Information. We may group the information as:

(a) By Source

On the basis of source as a characteristic of categorization information can be grouped as Signal, Text and Graphics. Message in the form of signs, symbols, words and numbers as mathematical formulae, statistical and factual data, etc can be called signals. Written or printed records in natural language can be called text. And, photographs, map, chart, pictures, etc, can be called graphic information.

(b) By Source or Channel

On the basis of channels through which information is disseminated can be group as (i) Primary (ii) Secondary and (iii) tertiary literature.

- (i) **Primary Information:** The literature which contain new, original, or new interpretations of known facts and ideas, unorganized, scattered in different sources and unassimilated into the general body of knowledge and be called primary literature. Like, articles of new research, details of new inventions, standard, patent, reports, etc.
- (ii) **Secondary Information:** Information derived from primary source of information, in logically organized fashion, collected and repositories of assimilated and digested knowledge can be called secondary. For example, reference book, bibliographies, etc.
- (iii) **Tertiary Information:** Compilation of information from primary and secondary sources, organized and arranged in well defined plan and works as a tool in searching primary and secondary sources, can be called tertiary information. For example- Bibliography of bibliographies, yearbook, etc.

- (c) **By Media:** on the basis of physical media as a characteristic for categorization, the information could be oral and recorded. The oral category contains the information communicated orally person to person in one to one, or one to many mode. The recorded information contains written, printed, microform, audio, visual, multimedia, or electronic/digital information.

More categories of types of information can be identified depending upon the identification of the characteristics.

Review Questions

1. Define information?
2. List different categories of information.
3. What is primary information?
4. What is secondary information?
5. List the characteristics of information?

4.4 Knowledge

Knowledge is an organized statement of facts or ideas, presenting a reasoned judgment or an experimental result, which is transmitted to others through communication in some systematic form. Information becomes knowledge when it is assimilated and shared to others. As we have studied above, data as raw facts and figures; information assimilates the data and organized in a meaningful manner and when this information widespread, distributed or shared among the people through communication becomes knowledge.

Let's go through the definitions given by some renowned dictionaries of English language.

- (i) The Oxford English Dictionary defines it as “the information, understanding and skills that you gain through education or experience; the state of knowing about a particular fact or situation”
- (ii) The Webster's Third New International Dictionary of the English Language has defined it as “the fact or condition of knowing something with a considerable degree of familiarity gained through experience of or contact or association with the individual or thing so know; acquaintance with or theoretical or practical understanding of some branch of science, art, learning or other area involving study, research or other practice and the acquisition of skills”. The dictionary has given many definitions on the basis of different approaches also. Out of which, one of the definitions is worth full to mentioned is “the sum total of what is known: the whole body of truth, fact, information, principles, or other objects of cognition acquired by mankind”.
- (iii) The Random House Dictionary of the English Language has defined it as “acquaintance with facts, truth or principles as from study or investigation; familiarity or conversance, as with a particular subject, branch of learning, etc; the body of truths or facts accumulated by mankind in the course of time”.

Analysis of these definitions put more emphasis on state of knowing by individual or society. Dr. Ranganathan has also defined knowledge with more or less same degree. He says that “knowledge is a sum total of information conserved by civilization”. But the sharing aspect of knowledge is hidden. Until it is not shared, we will not be able to understand the state of knowing. Preservation also needs sharing or recording on media to make it assets of the society and wealth of the civilization. Hence communication is an important aspect.

If we analyze the genesis of the term knowledge then, we find that it has its root in the Greek word 'gnosis'. The term 'recognize' also has the same root. Hence, we know what we recognize. Under this approach, we can say that, the human mind process the experience, shape it and give it mental or intellectual form which we can identify. This understanding supports the definition of Random House Dictionary.

Daniel Bell has defined knowledge as “knowledge is an organized set of statement of fact or ideas, presenting a reasoned judgment or an experimental result, which is transmitted to others through some communication medium in some systematic form. Knowledge consists of new judgments (research and scholarship) or presentation of older judgments as exemplified in text books, teaching and learning and collected as library and archival material”.

Alvin Toffler in his book 'Future shock, Third Wave and Power Shift' has defined knowledge as “knowledge is fluid mix of framed experience, value, contextual information and expert insight that provides and environment and framework for evaluating or incorporating new experiences and information. It originates and is applied in the mind of knows. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, process, practices, and norms”.

The definition of Bell and Toffler is a comprehensive interpretations in the context of present days, of the definitions, given in dictionaries and Dr. Ranganathan.

Knowledge is diversified in nature, comprising numerous subjects, multidisciplinary approach, and moving in multidimensional ways. The traditional approach under the universe of knowledge is evident to the nature of knowledge. As per the nature or the characteristics of knowledge, it has various properties. These are:

- (i) Knowledge is diversified
- (ii) Knowledge is infinite
- (iii) Knowledge is dynamic and a continuous process
- (iv) Knowledge becomes obsolete
- (v) Knowledge is ever expanding

Knowledge can be viewed in different ways and can be categorized broadly as personal and public knowledge. The personal knowledge is the knowledge of an individual which may be communicated to others, through that individual only. The public knowledge is possessed collectively by the society. It is available for all in the society. The information products and services, deals largely, in this category of

knowledge. Other scholars have also tried to categorize knowledge on the their perceptions. Michael Polayani has given two categories as tacit and explicit knowledge. Tacit knowledge is the knowledge of an individual which may or may not be expressed or shared while, explicit knowledge that which is expressed to others orally, in a recorded form or through any communication channels. You may read more philosophical and advanced aspects of the categories in higher studies.

Review Questions

1. Define knowledge?
2. What is personal knowledge?
3. What is public knowledge?
4. What is tacit knowledge?
5. What is explicit knowledge?

4.5 Wisdom

Wisdom is the highest form of knowledge which can be acquired not transferred. It is an individual trait or expertise acquired though the application of sound knowledge, ability to see far ahead in future and capability of selecting right things from the alternatives and taking right decision.

Review Questions

1. What is wisdom?
2. What are the building blocks of wisdom?

4.6 Interrelationship of data, information, knowledge and wisdom

After analysis of Data, information, knowledge and wisdom, we can say that these concepts have well established relationship. In this series the data possess least value while the wisdom the highest one. There is a popular model for understanding this relationship as:

Data	Raw Material	Cotton
Information	Intermediary	Yarn
Knowledge	Finished Product	Cloth
Wisdom	Value Addition	Dresses

In this model, data is the raw material a cotton. As spinning of cotton provides yarn, similarly data provides information when it interpreted. The weaving of yarn provides cloth, similarly assimilation of information provides knowledge. Further, intelligence coupled with ability to use proper materials at proper place make dress so the application of knowledge leads to wisdom.

We can understand the relationship in another model as:

Data → Processing → Information → Processing → Knowledge → Processing → Wisdom

In this model 'processing' between data and information may be scrutinisation, tabulation, analysis ,

etc depending upon the nature of data, and extracting information. The 'processing' between information and knowledge may be interpretation and authentication of information extracted from data, on the basis of existing knowledge of an individual or community, and digestion of such information become the knowledge or increase the existing knowledge of an individual or community. The 'processing' between knowledge and wisdom may be applications coupled with human intelligence and expertise for the sake of individual, community or society as a whole.

These models have been given to make you to understand the interrelationship of data, information, knowledge and wisdom. From these interpretations, it is clear that the data, information, knowledge and wisdom have well established relationship and one acts, as building block for another.

Review Questions

1. How data creates information?
2. How information creates knowledge?
3. How knowledge creates wisdom?
4. Illustrate a suitable model representing interrelationship of data, information, knowledge and wisdom?

4.7 Information Theory

Information theory is at the base of information science. The theory was initially developed by Claude Shanon and E. Weaver in 1949. Their theorem was more physical in nature is suitable for communication process of signal transmission. They proposed mathematical model for examining the effects of transmission of message. They say that, amount of information in a message is related to what one could say in other words, the size of vocabulary available is a key factor.

Shanon in his theorem focussed on the mathematical law that determines the probability of individual part of message. For example, if one is restricted to say 'yes' or 'no' then the recipient has 50 percent chance of guessing it correctly. But, if the vocabulary gets ten signals, then the recipients has chance of guessing hence, the amount of information in the message get increased. So his focus is more on mathematical law that determine the probability of the individual parts of the message to be transmitted without distortion. For him, the message constitutes a string of symbols. He took the symbols and their choice as major concern. He was not concerned about the effect of those symbols or the message constituting them.

Weaver says that the communication has three facets:

- (i) Technical aspects deal with the accuracy with which symbols are transmitted;
- (ii) Semantic angle covers precision with which the transmitted symbols convey the desired meanings; and
- (iii) Effectiveness facet addresses to the success with which the meaning of the message leads to the desired behaviour in the recipient.

The Shannon and Weaver model is more appropriate for communication engineers but their works were initial efforts in establishing information theory. Their approaches toward the information is more physical, mechanical and mathematical. The third scholar who had a major contribution towards the information theory is R. L. Ackoff (1958) who put emphasis on the psychological aspects of information.

Ackoff proposed that the value an individual puts on purposeful communication depends on three factors:

- (i) Probability that the individual will take a particular action from a number of options he or she has;
- (ii) Each course of action has some efficiency to achieve a possible result; and
- (iii) Value that each individual places with each outcome or result.

Hence, we can derive that, the net value of communication is proportional to the information, instruction and motivation, provided by a message. Therefore, the action produced by the message is considered as a dynamic force of the information.

Review Questions

1. Discuss the Shannon theorem of information?
2. Discuss the Weaver theorem of information?
3. Discuss the Ackoff theorem of information?

4.8 Communication

The word communicate is derived from the Latin word 'communis' which means sharing or common. Sharing information, ideas, feelings and attitudes between two or more than two people can be called communication. The communication takes place through words, sign, symbols, gesture and/or body language. In this process one who communicates is known as source or communicator, to whom communicated is known as audience or receiver and what is communicated is known as message. One more factor to be mentioned here is media or channel. Here, words, sign, symbols, gesture and/or body language can be called media. Apart from this physical media like, electronic, digital media, etc., are the part of this process as they become necessary when receiver is at distant place from the source. For example, when you talk with someone through phone, then the telephone technology becomes your channel for communication. Similarly, when you send text, photographs, or anything through electronic mail then the internet becomes the channels of your communication.

We can understand the communication process in a simple model including the elements mentioned above as:



In sophisticated communication model, physical, mechanical or electronic channels are used to send the message to receiver. Such a situation occurs when source and receiver are physically at distant place

or when the receivers are more than one spread over wide geographical area. When receivers or target audiences are more and wide spread then the media used to send the message known as mass media, like radio, television, newspaper, etc. Since, the message reached to the receiver through mechanical or electronic channels so it is being converted into channel compatible form and at the receivers end the this is converted into the original message. Now, to convert message into channel compatible format at receivers end and again reconverting them from channel compatible format to original message format, needs special device which is called encoder and decoder. On the basis of this description we can illustrate a communication model as:

The communication has been defined differently by different reference sources and scholars. The Oxford English Dictionary define it as “the imparting, conveying or exchanging the ideas and knowledge whether by speech, writing or signs”. While, the Webster’s Dictionary defines it as “a process by which information is exchanged between individuals through a common system of symbols, signs, or behaviour”. Such definitions may be found in other dictionaries also. Some of the concept can be also found in relevant literatures and reference sources as ‘act or instance of transmitting; imparting or interchange of thoughts, opinions, or information by speech, writing, etc. These definitions state that the communication refers to the transmission or exchanging information. The transmission process could be oral, images or icons, text, sound or combination of all these modes of communication. A sophisticated communication model which uses channels for transmitting message can be given as:

Source/Communicator	→	Message	→	encoder/decoder	→	Channel	→
encoder/decoder	→	Message	→	Audience/Receiver			

Here given all the elements are the part of design and needed for communication. At the time of communication an unwanted element come in the channel or in the devices used in this process, is known as noise. The noise creates disturbance in the process and distort the form of message. For example, thundering and lightening disturbs the signals of radio and television. Hence, thundering and lightening can be termed as noise in the radio and TV communication.

4.8.1. Evolution of Communication

We can say that society has developed with the pace in development of communication methods, form, media and channels. After the study of the history of civilization you will find that, initially sign languages and body languages were the medium of communication. Then the languages evolved and the spoken words become the common form of communication. Further development of scripts and writing paved the way for written communication. Afterwards, invention of printing technology strengthen the written form of communication and provided means for recoding the knowledge and communicate through generations. Further, invention of postal services, telephone and telegraph provided support to overcome the physical distance between source and receiver. The invention of radio, television, internet and/or other electronic media have overcome the physical distance between sources and receivers as well as disseminating the message to a large size of receiver(mass). The present age is ruled by the media which targets the mass hence, it is designated as mass media.

4.8.2. Types of communication

The communication can be categorized on the basis of different characteristics. On the basis of mode of communications, it can be vocal and non-vocal communication. On the basis of the number of receivers, it could be categorized as intrapersonal, inter-personal and mass communication.

Non-vocal Communication

Non-vocal communication is such a process in which sign, symbols, gesture, signals, etc., are being used as the mode of communication. We can say in other words, as the communications which use anything as a mode but not the sound. Written communication also falls under this category as it uses scripts, which come under the sign and symbol category. We can take a few other examples as, facial expression, shaking head in acceptance or denial, etc.

Vocal Communication

Vocal communication is such a process in which human vocal chords or sound is being used as the mode of communication. The human sound is the main mode in this category. It could be any thing from simple speeches to shouting. The example of such communication can be illustrated from anywhere in the society. For example, communication between teacher and students in the class room while teacher is making you understand any topic or you ask anything from your teacher in your voice in natural language.

Non-verbal Communication

Non-verbal communication is a process of communication in which body language, gesture, facial expression, sign, symbol, and other iconic or behavioural gesture are used. Even those communications can come under this category in which vocal chords are used but not in the form of words.

Verbal Communication

Verbal Communication is a process in which vocabulary (words) are used as a mode of communication. It could be vocal or written both.

Intrapersonal Communication

Intrapersonal communication is such a communication in which an individual communicates with oneself. Here the source and receiver both are the same person. Talking or questioning to oneself, trying to reach to some decision in mind, reading, digesting or authenticating, collected information, all are this kind of communication.

Inter-personal Communication

Inter-personal communication is such a communication which takes place between or more persons. It could be face to face or in the case of physical distance between the participants, with the help of some media as telephone, internet, etc. The involvement of persons in this category of communication is on one-to-one basis.

Mass Communication

Mass communication is such a communication which takes place between one person and a group of person. Here, the source is one and the receivers are many. In this category of communication, depending upon the size of the receivers and the nature of the message, media or channels are selected. Broadcasting on radio, telecasting on television, etc are a few examples of this category of communication. Sometimes, mass communication is being termed as public communication also.

Review Questions

1. What is communication?
2. What are the elements of communication in a channel based communication?
3. What do understand by noise?
4. What is encoder and decoder?
5. List the all types of communications?

4.9 Barriers of Communication

The communication process achieves its objective when the message from the source reach to the receiver and the receiver understand the message with same value which was perceived by the source. But, from source to recipient, message gets affected by all those elements which comes in, between source and recipient. The impact of the message depends on many characteristics of the recipient. All those factors which create hindrance or disturbance in receiving the message as it was designed at source end and understanding with the same value as it was perceived are known as barriers to communication. The barriers can be put in two groups, (i) Human factors and (ii) Mechanical or technological barriers.

Under the category of human factors, the barriers of communication could be listed as:

- (i) **Linguistic Barrier:** Linguistics barrier includes the factors related to language as common language, vocabulary, use of syntax, etc. If the communication takes place in the language in which the recipient is not proficient or the vocabulary used are jargons for the recipient then the language becomes a barrier.
- (ii) **Socio-cultural Barrier :** Communication between two different groups based on any characteristics class, community, economic group, religious groups, etc. Because of socio, cultural, and or economic differences the recipient does not receive the message as source wants.
- (iii) **Intellectual or knowledge Barrier:** Existing intellectual capacity or knowledge of an individual becomes barrier when the source try to communicate advance knowledge to receiver.
- (iv) **Physical and health barrier:** Under this category, the state of physically handicapped, sickness, or any health problem become the barriers as they create disturbance in communication.

- (v) **Psychological barriers:** Lack of motivation, emotional disturbance, intelligence quotients, etc., are few psychological factors which work as barriers to communication.

Mechanical or Technological barriers: The technology becomes barrier when communication takes place through mechanical, electronic or any other media. The limitations of the recipient in accessing the technology, skill set required to handle media and infrastructure may become barriers in receiving the information. For example, while watching television, if there is no electricity then a large number of audience would not be able to receive the message delivered through TV while there was no electricity in a particular area. Even there are areas where electrification has not been done yet. In those areas it is very difficult to use devices or systems which needs electricity to run. Similarly, if some message has been disseminated through internet and an individual has not skills to access of this technology the skills become barriers in the process of communication. Sometimes, the disturbance in media also becomes barriers as, you might have noticed that, while running any electrical gadget like juicer, mixer, etc, the television signals get distorted and the audience is not able to proper sound and image. This creates hindrances in receiving the message by recipient.

Overcoming Barriers of Communication

Understanding the barriers of communication is important as, it provides base and understanding for reduce them from the communication process. Reducing the barriers of communications from the communication process completely is near to impossible. But, we can reduce the impact up to a certain level, we would be able to know their nature and reasons. Many a barriers could be reduced with the design of message if, the source or the generator of message understands the linguistics and intellectual level, physical and mental conditions of the target audience. We can also overcome the barriers of communication to a certain extent through selecting proper communication channels keeping target audience in consideration.

Review Questions

1. What is barrier of communication?
2. What are different categories of barriers of communication?
3. How barriers can be reduced from the communication process?
4. Why knowing barriers of communication are important?
5. List all barriers of communication may occur in the communication process.

4.10 Summary

Information is one of the most important resources for the development of human society. It has understood by the professional and scholar of different fields of study differently. Information is an associated term and it has its own identity. It could be understood better with its associated concept, data, information, knowledge and wisdom in sequence. Data is the base for creation of information, information creates knowledge and knowledge supported with human intelligence, experience and expertise creates wisdom. Information has its value depending upon its nature, characteristics and utility as well as the capability of the user to use effectively.

Data, information and knowledge are shared with the individual or community. For sharing we use communication process. Hence, communication becomes important in dissemination of information or its associated concepts. While disseminating or transmitting information, data or knowledge towards recipients, it is called message. In the process of communication, we need media or channels depending upon the physical distance between the source and recipient as well as the size of the recipient and types and nature of message. While using media or channels for communication, some barriers also come in the process which create disturbance in the process. Because of the barriers, the receivers do not receive the message as it was perceived by the source or creator of the message. The barriers may be any things like, language, vocabulary, physical and mental health, technology, channels, noises in channels, and so on. Overcoming the barriers is necessary as it reduces the impact of communication and defeat the purpose of disseminating the message.

4.11 Exercise

1. How data, information, knowledge and wisdom are interrelated? Give an example, other than the example (cotton, yarn, etc) given in the book, to show the relationship among them.
2. How communication has evolved?
3. What are different channels of communication? Define each channel in brief.
4. How does communication take place in the society? Identify each elements of channel communication.
5. Explain role of each elements of a sophisticated communication model.
6. What is barrier of communication? Make a note on each barriers of communication.
7. Illustrate examples of each barrier that, how do they create barrier to communication.

4.12 Practical

1. Find definitions of data from 5 dictionaries and 5 encyclopedias write in the practical book.
2. Find definitions of information from 5 dictionaries and 5 encyclopedias write in the practical book.
3. Find definitions of knowledge from 5 dictionaries and 5 encyclopedias write in the practical book.
4. Find definitions of wisdom from 5 dictionaries and 5 encyclopedias write in the practical book.
5. Make chart of at least two mass media.

4.13 Glossary (Meaning of Terms, Jargons and Abbreviations)

Channel: A means of communication or expression; as a path along which information passes.

Communication: Sharing information, ideas, feelings and attitudes between two or more than two people can be called as communication.

Data:	Raw facts and figures or attributes of any phenomenon, incident or event whether scientific, sociological or literary gives complete information after interpretation or processing can be considered data.
Information:	The factual data, ideas and other knowledge emanating from any segment of society that are identified as being of value, sometimes gathered on a regular basis, organized in some fashion, transmitted to others and used in some meaningful manner.
Knowledge:	It is an organized statement of facts or ideas, presenting a reasoned judgment or an experimental result, which is transmitted to others through communication in some systematic form.
Media:	A medium of expression or to convey the message.
Message:	Data, information or knowledge is designated as message while it is being disseminated or transmitted towards recipients.
News:	The information mostly related to different events or incident taking place in this universe, and said to be more episodic and short lived.
Recipient:	One that receives (receiver) the message or information.
Sign:	A mark having a conventional meaning and used in place of words or to represent a complex notion. It is physical in nature.
Signal:	Something (as a sound, gesture, or object) that conveys message or information.
Symbol:	A visual object which represents some invisible concept.
Wisdom:	It is the highest form of knowledge which can be acquired not transferred.