Introduction to Electronic Media

Complementary Course of BA English

I SEMESTER

(CUCBCSS - 2014 Admission)

UNIVERSITY OF CALICUT

SCHOOL OF DISTANCE EDUCATION

Calicut university P.O, Malappuram Kerala, India 673 635.

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I Semester

Introduction to Electronic Media

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Books for Reference

1. Joseph A Devito : Communicology: An Introduction to the study of Communication, Harper and Row, New York, 1985.
2. Joseph R. Dominick : The Dynamics of Mass Communication, McGraw Hill, New Delhi.
3. Agee, Ault & Emery : Introduction to Mass Communications, Harper and Row, New York, 1985.
4. Spencer Crump : Fundamentals of Journalism, McGraw Hill Book Company.
5. Oxford : International Encyclopedia of Communications.
6. James Watson and Anne Hill : A Dictionary of Communication and Media Studies, Edward Arnold Group, London.
7. John Vivian : The Media of Mass Communication, Allyn and Bacon.
8. Andrew Boyd : Broadcast Journalism, Techniques of Radio and Television News, Focal Press, London.

Books for Further Reading

1. Uma Joshi : Textbook of Mass Communication and Media, Anmol Publications New Delhi, 1999.
2. Keval J Kumar : Mass Communication in India, Jaico Publishing House, New Delhi, 2005.
5. D S Mehta : Mass Communication and Journalism in India.
6. Dr. J V Vilanilam : Mass Communication in India.
7. Andrew Beck & Peter Bennet : Communication Studies.
8. Rogers and Singhal : India's Communication Revolution.

Module I

Introduction to Communication

Module I

Communication

The word communication is derived from the Latin noun 'communis' and Latin verb 'communicare' which means 'to share, to hold something in common'. Similar words such as communism, communalism etc, have the same etymological origin. Communication is essential to all human beings and it is as important as fresh air to breathe, good food to have and good clothes to wear. Human beings communicate from cradle to the grave. Dreaming, talking with someone, arguing in a discussion, speaking in public, reading a newspaper, watching a television programme etc. are different kinds of communication we are engaged in our day to day life. Any society or any individual cannot survive without communication.

Definitions of Communication

There are numerous definitions of communications. Oxford Dictionary defines communication as "the transfer or conveying of meaning". Wilbur Schramm gives a simple definition "sharing of meaning on the basis of shared experiences and commonness". But communication is more than mere transferring or transmission of ideas and thoughts.

Joseph A Deveto in his book communicology defines "communication is an act by one or more persons of sending or receiving messages that are distorted by noise, occur within a context, have some effect and give some opportunity for feedback"

James W Carey gives a cultural definition of communication. "Communication is a symbolic process whereby reality is produced, maintained, repaired and transformed".

Colin Cherry defines "human communication as essentially a social affair".

1. Communication is the exchange of meanings between individuals through a common system of symbols. (I.A.Richards).

2. The transmission of information, ideas attitudes, or emotion from one person or group to another or others primarily through symbols. (Theodorson and Theordorson)

3. Communication is the transmission and interchange of facts, ideas, feelings or course of action. (Leland Brown)

4. Communication is a social interaction through messages (Grabner, 1967)

5. The interchange of thoughts or information to bring about mutual understanding and confidence or good human relations. (American society of Training Directors).

6. 'One mind affecting another' (Claude Shannon)

7. 'The mechanism through which human relations exist and develop' (Wilbur Schramm)

8. 'Transmission of stimuli' (Colin Cherry)

9. Communication is the sum of all the things one person does when he wants to create understanding in the mind of another. It is a bridge of meaning. It involves a systematic and continuous process of telling, listening and understanding. (Louis Allen)

Functions of Communication

Communication is vital for human existence, and for the progress of humanity. No society can move ahead without interacting with others. It is difficult for a person to survive a single

day without interacting with others. Solitary confinement is the biggest punishment a person can ever receive in a lifetime.

Primary functions of communications are to inform, instruct, educate, entertain and influence or persuade people. Beside these primary functions communication has some secondary functions such as debates, discussions, cultural promotion etc.

1. **Information Function**
   Quality of life will be poor without information. The more informed we are the more powerful we become. Communication provides information about our surroundings. Information updates us on various matters related to our day today activities. Information related to health, wars, danger, crisis etc are important for the safety and well being of our life.
2. **Education and Instruction Function**
   Education starts early in life, at home and in school and continues throughout the life. Communication provides knowledge, expertise and skill for smooth functioning by people in the society. It creates awareness and gives opportunity to people to actively participate in public life.
3. **Entertainment Function**
   Entertainment is an essential part of everybody's life today. Communication provides endless entertainment experience through films, television, radio drama, literature, comedy, games etc.
4. **Persuasion function**
   Communication helps to change attitudes and also reinforce or strengthen existing values and beliefs. Communication helps in reaching a decision in public policy, so that it helps to govern people. Political leaders persuade voters to vote in favor of their respective political party through various campaigns, leaflets, booklets etc.
5. **Cultural promotion function**
   Communication provides an opportunity for transmission of cultural heritage; promotion and preservation of culture and tradition. It makes the people fulfill their creative urges.
6. **Integration function**
   It is through communication large number of people across the world come to know about each other's tradition and learn to appreciate their way of life. It develops integration and tolerance towards each other.
7. **Discussion Function**
   Debates and discussions clarify different view points on issues of interests to the people. Through communication we find out reasons for varying view points and impart new ideas to others.

   Types of communication

   The act of communication can be categorized on the basis of a) how many people are involved in the process, b) signs and symbols we use in communication.

   Based on the number of persons involved in communication, it is classified as follows,

   1. Transpersonal communication
      Transpersonal communication refers to a person communicating with spirit or God. It could be an evil spirit or a holy spirit but should be anything higher than

that of human being. Transcendental meditation is a part of this type of communication. This is a vital experience in religious and monastic life.

2. Intrapersonal communication
   Intrapersonal communication is individual reflection, contemplation and meditation. It means a person communicating with self. The message originates, transmits and ends within the person. It is important because before communicating with others we think in our minds. Our personality and self esteem are important factors.
3. Extra personal communication
   Communicating with animals other than human beings is termed as extra personal communication. Communicating with pet animals, birds etc are examples of these types of communication.
4. Interpersonal communication
   If communication takes place between two persons, it is called interpersonal communication. It is direct and face to face communication .It is the most perfect and effective form of communication situation because the sender can receive immediate feedback. Since two persons are involved in the communication process, they both act as senders as well as receivers. The receiver can clarify and emphasize many points through expression, gestures and voice. Functions of interpersonal communication are : gaining better understanding about ourselves, discovery of the external world, influencing attitudes and values, building relationships.
5. Group communication
   Group communication occurs within a group. A group consists of three or more people who share a common goal, and consider themselves as part of a group. The group could be a peer group of three or a larger group of more people. There are primary groups and secondary groups. Group communication is also a form of face to face interaction, but the intensity and proximity is less than interpersonal communication, however it is effective in resolving conflicts. The cohesiveness of the group, structure of the group, and the role of the group leader are important factors.
6. Mass communication
   Communicating to large number of people using mass media like newspapers, radio, Television, Internet can be called mass communication.

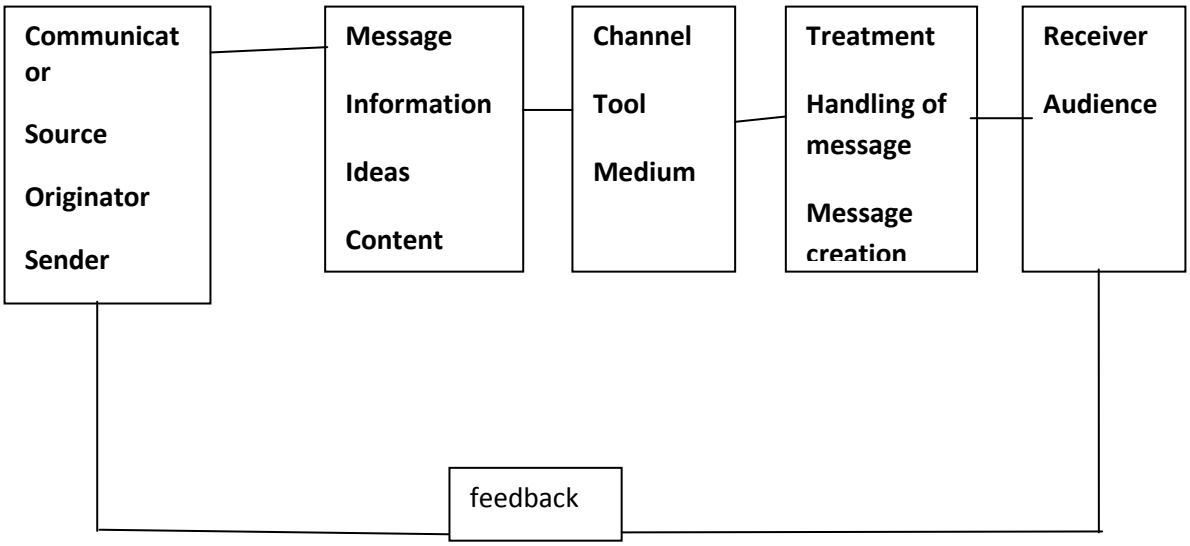
Elements of Communication

A series of action take place in the process of communication. The task of communication is crucial one. Success at this task required a thorough understanding of the principles and elements of communication and high level skill in their use on the part of all communicators.

According to Paul Legans successful communication requires a skillful communicator sending useful message through proper channel, effectively treated, to an appropriate audience, that responds as desired. The elements of communication can be graphically represents as follows.

Let us analyse Joseph A Devito's definition that 'communication refers to the act by one or more persons, of sending and receiving messages distorted by noise, within a context, with some effect and with some opportunity for feedback' to find out the essential elements of communication. According to his definition, communication has the following elements:

a) Sender



a)Source

b) Message

c) Channel

d) Receiver

e) Noise

f) Feedback

g) Context

h) Effect

Discussion on each of these elements with examples will give us more insight into the entire process of communication.

Sender

Sender is the idea generating component in communication process. In human communication, sender may be a person or persons who create or formulate the message to be sent to the receiver. Being the primary source of the message, sender is also termed as source. In mass media, for example, news reporter is the sender or source as he/she constructs the message (news story). In a musical performance, the singer is the sender as his message is enjoyed by the audience. Sender is a critical component in communication as his/her social background, personality status, education etc influence the quality of the message he/she creates. The message is created from the idea generated in the mind of the sender. The idea generation process is called encoding.

The source/sender has three functions:

a) To decide what is to be communicated

b) Encoding (Put the idea in such a way that the receiver understands it)

c) Transmitting the message to the receiver

Message

The message is any verbal or non-verbal method that produces meaning in the mind of the receiver. Simply, it is the meaning transferred from sender's mind to receiver's mind. This happens mainly in two ways: verbal and non-verbal methods.

Verbal message means written or oral messages. They are composed of words. Example: A newspaper report or a lecture by a teacher.

Non-verbal messages are those communicated through our behaviour, movements, actions, clothes, style of conversation, pitch of the sound etc. What is fundamental in message construction is the agreement between sender and receiver in the code used for it. If the receiver cannot identify the language or meaning of the message, the communication will be defective.

Channel

The channel means medium by which sender transmits the message to the receiver. Our five senses such hearing, touching, smelling , tasting , seeing are basic natural channels of human communication. Communication can be classified on the basis of five basic natural channels. They are: Tactile communication: Communication by touch or taste, Olfactory communication: communication by smell, Audio communication: Communication through soundwaves, Visual communication: Communication through visual elements or properties. We use any technically developed medium (like television, newspaper, books etc) with the help of one or more of these five senses. Similarly, sender uses one or more channels to maximize the communication effect. For example – multi-media class room where teacher uses projector, blackboard, lecture, gestures etc. simultaneously.

Receiver

Idea receiving end in communication process is called receiver. A person or thing may be at the receiving end. The receiver's role is as important as a sender's role. As in the case of a sender, receiver has also three roles to play:

a) To receive the message

b) To decode the message Decoding is the process of extracting a message from a code and interprets it. For this, sender and receiver should have knowledge about the code (for example: language) used in communication.

c) To respond to the message through feedback Receivers may be audience watching movies, persons listening to music, students hearing a lecture or a computer getting e-mail from a remote server. Communication fails or remains faulty when message is rejected or misinterpreted by the receiver.

Feedback

Information or message that is fed back to the source is called feedback. If you get clapping for your singing, clapping is the feedback. Questions raised by students in a class room for more information is another example for feedback. Feedback originated either from the sources' own message is called self feedback. Example: When you talk to somebody, you hear yourself and evaluate your tone, pitch etc.

Sometimes you may think that you could have sharpened or softened your tone or pitch or text, because of your own feedback. Another type of feedback is that originated from the receiver. It may be in the form of questions, applauses, puzzled look etc. Feedback may be

negative or positive, immediate or delayed. Receiver's indication to the sender that the message was not received well is called negative feedback. Eg. Looks of indifference, rejection or boredom may be considered as negative feedback. Receiver's favourable responses like acceptance, applauses etc.are positive feedback. Feedback at the time of the communication itself or just after it is immediate feedback. Eg. Applauses a singer gets during the performance. Receiver's response relatively much after the communication is delayed feedback. Eg. Letters to the Editor.

Noise

Noise or communication barrier is anything that distorts message. Noise may originate in any of the components of communication like source, message, channel, context, receiver etc. Noise is present when there is difference between the message sent and received. Communication is not possible without noise, but its effects may be reduced through various methods such as using good grammar, clear voice, simple language, quality signal etc. Noise is of different types depending on the nature and reasons of the distortion. They are: Psychological noise: Any communication error due to the psychological reasons. Eg. A fearful audience can't enjoy the musical programme. Semantic noise : Language related problems in communication. Eg. Poor grammar, complex sentence structure, rare vocabulary etc. Contextual noise: If communication takes place in inappropriate time or place, message is not conveyed well. Eg. Wishing compliments during a funeral function. Or An outdoor meeting at noon in a hot summer.

Channel noise : Medium related communication barrier. Eg. Poor signal affecting picture clarity of television.

Context

Communication takes place in a context. At times it is noticeable and at other times not. In other words, time, place, culture, physical and social condition and psychology of the participants are important in determining communication effect. If we try to interpret a message out of its context, we may get an entirely different meaning which may result in communication error. Rules and roles are two important factors related to communication context. We have physical context, social, psychological and temporal contexts.

Effect

Why do we communicate? It is a fundamental question. To make some effect on the receiver is the answer. Effect is consequence or result of communication. Every communication act makes some effect on the person/s. Effect may be positive or negative. Communication is said to be success when we achieve the indented effect. Communication effects are of three types: Cognitive effects: The consequences which take place in the receiver's intelligence due to communication. Example : Knowledge acquisition Affective effects: The consequences occurred in the emotions of the person/s due to communication. Eg. Compassion, love etc. Behavioral effects: The change in the receiver's behavior or actions due to communication. Eg. Political campaign and change in people's voting behavior or purchasing new products inspired by the advertisements. Using these elements, let us have a graphical representation of communication process. Graphical representation of communication process is also called communication models.

Models of Communication

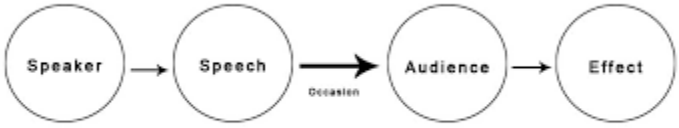
Using these elements, let us have a graphical representation of communication process. graphical representation of communication process is also called communication model

Communication is a dynamic process involving different elements. No element is static. Some or all of these elements make communication possible. It is not must for a communication act to have all these elements. Elements of communication are interrelated. Scope and Purpose of Communication Models are important. A model is a miniature, a highly selective visual representation of any reality. In that sense, communication model means graphical/visual representation of communication process using various elements involved. The best example is the above described graphic that visualizes various elements and processes in the communication process. According to Joseph A Devito, models are a graphic representation of any reality which help us to visualize the relationships among various elements of a structure, system or process; an object, event or act. Mc Quail and Windhal say that a model is a consciously simplified description in graphic form of a piece of reality. No single model can be expected to present a holistic picture of reality. Communication models help us to visualise, analyse and discuss various complex processes and issues that would be otherwise difficult to explain

Functions of models

Organizing function: Models help us by ordering and relating systems to each other by providing with images of whole that might not otherwise perceived Explaining function: Models help us study communication by providing simplified version which would otherwise be complex. Yet another function of communication is heuristic in nature. It means that in the study of communication, models guide researchers to the key points of the process or system Thus communication models help to (a) to assign probabilities to formulate hypothesis in research (b) to predict outcomes (c) to describe the structure of a phenomenon

Aristotle's Model of Communication



ARISTOTLE'S MODEL OF COMMUNICATION

The first known scholar who wrote about communication, though not directly, is Aristotle (384-322 BC). In his famous book, 'Rhetoric', Aristotle elaborated three elements within the process of communication. According to him, communication process composed of a speaker, a message and a listener. The Person at the end of the communication process holds the key to whether or not communication takes place.

In Aristotle's point of view,

• Communication is purposive;

• It is based on the intention of affecting others;

• Its effects can be evaluated and measured in terms of effect, and also in terms of the truth;

• Rhetoric considers not only what is or was, but also what might be. For this communicators need to develop five skills:

• Invention-ability to generate ideas;

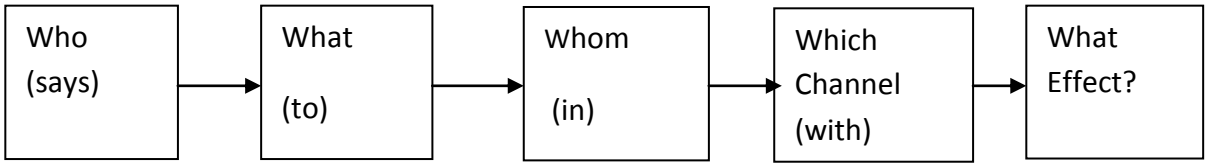
• Disposition-ability to organize ideas; • Style-use of appropriate language;

• Memory-ability to recall facts & ideas;

• Delivery-use of voice and gestures. From his observations, later scholars developed a model of communication using the elements he mentioned.

The model consists of four visible elements: Speaker or receiver, speech or message, audience or receiver(s) and effect of communication. And, context or occasion of the communication covers all the elements indicating that it has influence on other four elements.

Lasswell Model of Communication

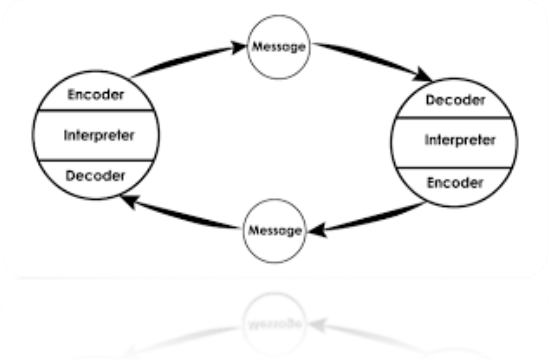


Harold Dwight Lasswell (1902-1978) is the proponent of famous question formula, which is otherwise called Lasswell formula of communication. We can't call his definition of communication which is presented in an array of question as a communication model in its strict sense. This American political scientist stated that the most convenient and comprehensive way to describe an act of communication was to answer the following questions: Who (says) What (to) Whom (in) Which Channel (with) What Effect?

Lasswell conceived communication as a linear process which starts from communicator and ends at receiver with some effect. The major missing elements of this basic model are feedback and context of communication. However, this model is said to be highly helpful for organizing communication research as audience analysis, content analysis, control analysis, reception analysis and effect studies which are respectively represented by communicator, message, medium, receiver and effect.

Lasswell was interested in studying political communication, and propaganda during the second world war,this linear model took shape during the period and envisaged communication as transmission of information.

Osgood and Schramm Model



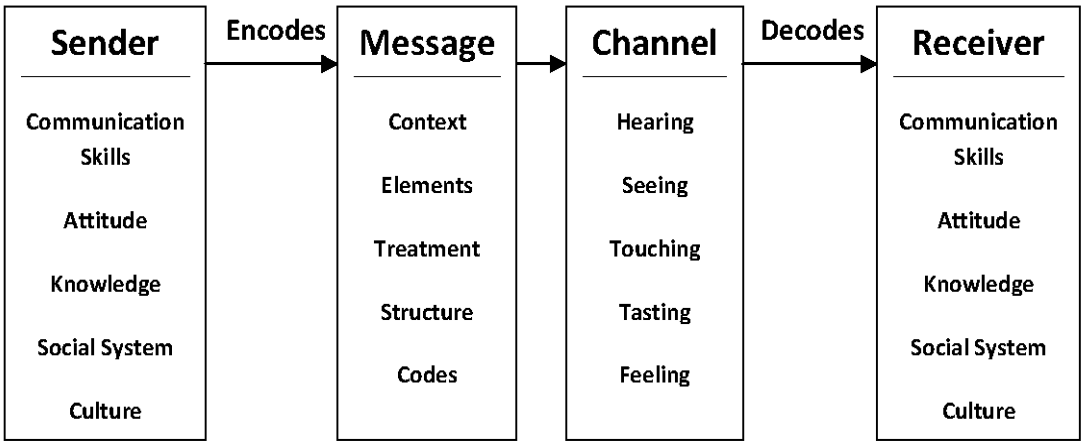
Osgood and Schramm envisioned communication as a circular process which has no beginning or end. Hence their model is called Circular Model. In their view, sender and receiver are interchangeable positions and though not specifically mentioned, feedback is an essential component of this model. There are three functions on each part of the

communication circle. They are: encoding, decoding and interpreting. Both sender and receiver are encoders, decoders and interpreters at the same time.

Encoder–Who does encoding or sends the message Decoder–Who receives the message Interpreter–Person trying to understand (analyses, perceive) or interpret. Merits of this model are:

1. Dynamic model-Shows how a situation can change
2. It shows why redundancy is an essential part
3. There is no separate sender and receiver, sender and receiver is the same person
4. Assume communication to be circular in nature
5. Feedback is a central feature.

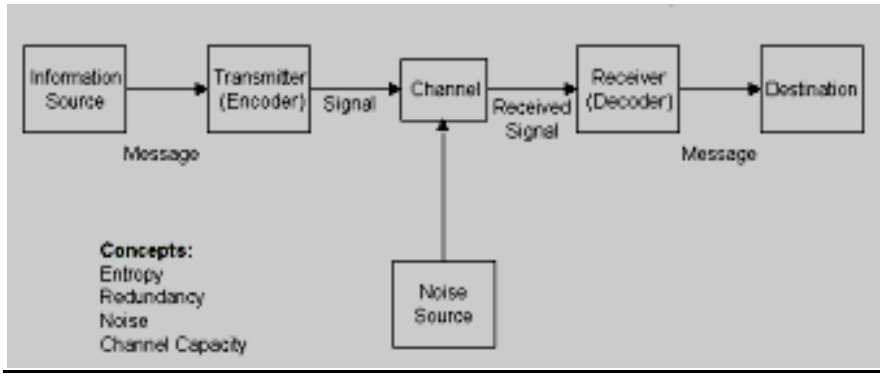
David Berlo's Model of Communication



David Berlo's model of communication has four major parts : source (S), message (M), channel (C) and receiver (R). It is conceived as a linear model. This model is otherwise called SMCR model denoting each element

Unlike other models SMCR model elaborates the sub sects of major components indicating the influence of external factors like culture, language, text and social system and sensory organs on communication process. Berlo's model has the following demerits: a. No feedback / don't know about the effect b. Does not mention barriers to communication c. No room for noise d. Complex model e. It is a linear model of communication f. Needs people to be on same level for communication to occur but not true in real life g. Main drawback of the model is that the model omits the usage of sixth sense as a channel which is actually a gift to the human beings (thinking, understanding, analyzing etc).

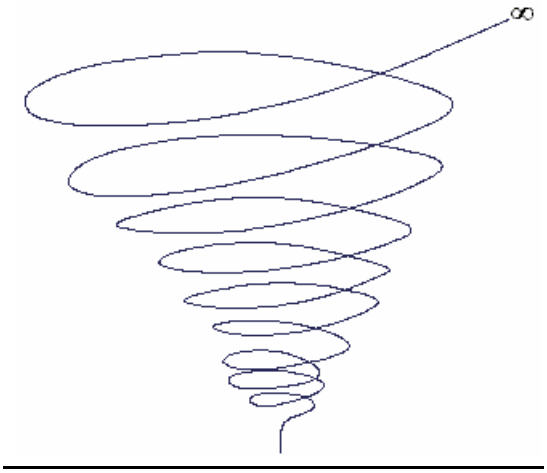
Shannon and Weaver Model of Communication



Claude Shannon, an engineer at the Bell Telephone Company, along with Warren Weaver developed the most influential of all early communication models. Their goal was to formulate a theory to guide the efforts of engineers to find out the most efficient way of transmitting electrical signals from one location to another.

As the prime concern of the developers of this model was to quantitatively maximize the signals transmitted, this model is also called Mathematical Model of Communication. The model is based on technical communication settings where information source transmits the messages after converting it to signals. These signals are captured using receivers and decoded. Communication through mechanical devices like telephone or television is a best example for this model. Noise has been given adequate importance here.

Dance Model of Communication



The Helical Model of communication was proposed by Frank Dance in 1967. A helix is nothing but a smooth curve just like a spring which if it goes upwards also comes downwards. Dance thought of communication process similar to helix. Dance's model emphasized the complexity of communication. He was interested in the evolutionary nature of the process of communication. According to him, once communication started, it develops gradually according to time. This model disagrees with the traditional concepts of linearity and circularity in communication and stresses the helical spiral nature of the process. According to Dance, earlier communication helps widen the nature and context of

further communication. To him, communication has a very simple beginning and it widens as time and context permit. Even as we move forward, occasionally we go back to our memories as depicted by the curve in the helix.

Mass Communication

The basic foundation of human society is communication and it takes place at different levels – within oneself, between individuals, between individual and a group, between groups, between countries and so on. Similarly, we use verbal and non-verbal forms of messages for communication. Communication is essential for development of the society. We attain cultural, social and economic prosperity by sharing our experiences. How can we share experience without better communication? Personal enjoyment is communication based. Just think of a person kept in isolation without any chance for communication with his friends and relatives. It is really a punishment, a prison life. Communication helps us interact with our surroundings, thus create positive relationships, share love, build friendship and depend on each other to enjoy life. Can you imagine a world without media? Not at all. The basic mission of mass media is to create ties in human society by sharing news. In modern world, media have some more roles to play. Media defines our political system, form public opinion, support public demands and set the agenda of our social life. In short, no social activity, be it marketing, business, education, politics, media, profession…, is possible without communication.

Mass Media

Mass media influence our daily life more than any other cultural institution. They are our main sources of news and entertainment. They define our purchase decision, voting behavior, academic achievement and so on. Because of this all-encompassing impact of mass media, politicians, businessmen and government agencies depend on media to influence people. During election time, we witness politicians spending millions of rupees for political campaigns through mass media. Business firms across the world spend billions of dollars to market their products with the help of mass media advertisements. We are informed of the policies of our governments through newspapers and electronic media. Likewise, we people need mass media to express our needs, complaints and wishes to the authorities. In short, role of mass media in our society is omnipresent.

According to Wilbur Schramm 'a mass medium is essentially a working group organized around some device for circulating the same message, at about the same time, to a large number of people'. From this definition, we know that there is a well organized system behind each mass medium. For example, a newspaper is produced everyday with the collective efforts of a lot of people using various information sources ranging from local reporters to international news agencies. Same is the case of distribution of the newspaper also. Everybody from circulation manager to local newspaper boy is actively engaged in smooth circulation of each copy of a newspaper. Moreover, every county has its own policy, laws, and telecommunication systems to facilitate mass media. In this sense, the production of a mass medium is the result of a well organized system.

And, the messages are disseminated to a large number of people ie mass. They are called the audience. No media can sustain without a sufficient audience. The definition again talks about devices of circulating messages. These devices are technological means through which messages are communicated to the audience. Devices include printed documents, television, radio, DVD, cassettes, the internet etc.

Types of Mass Communication

Considering the characteristics and forms, mass media has been categorized as print media, Electronic media and New media

Print Media

Johannes Gutenberg's invention of the moveable metallic type in the fifteenth century paved the way for proliferation of the print media. The printing press using movable types introduced the method for mass production of texts. Before the invention of the printing press, books were expensive materials affordable only for the aristocrats and royal families. Printing reduced the cost of books and made them available to the common men also. Rapid duplication of multiple copies of handy texts led to the innovation of modern newspapers. Print Media include

Newspapers

Magazines

books

other textual documents

Electronic Media

The history of electronic mass media starts with the invention of radio by Marconi. The first radio station was set up in Pittsburg, New York and Chicago in the 1920s. Following the USA, European countries also started radio stations for broadcasting news and entertainment content. The colonial powers like Briton and France set up radio stations in Asian and African countries in the early years of 20th century. The next step in electronic communication media history was the invention of cinema. Following cinema, television broadcasting was initiated in the US on experimental basis during 1920s. But, the dramatic impact of television as a mass medium began in 1950s. Parallel to these, recording industry also boomed in the western countries. In short, the term electronic media mainly include:

Radio

Movies

Television

Audio and Video records

New Media

Online and digital means of producing, transmitting and receiving messages are called new media. The term encompasses computer mediated communication technology. It implies the use of desktop and portable computers as well as wireless and handheld devices. Every company in the computer industry is involved with new media in some manner. The forms of communicating in the digital world include

CD-RoMs

DVDs

Internet facilities like World Wide Web, bulletin boards, email etc.

Social Media

Social Media or social networking media is a popular media emerged recently. The social media has changed the existing flow of mass communication that is from "few to many" communication. Social media has become a many to many communication process where

anyone who has a social media account can communicate the rest of the world. Unlike all the other media social media has worldwide reach. It is also the most democratic media in which anyone can communicate to the world and immediate feedback is possible in social networking media. But communication scholars see the lack of gate keeping as a problem which challenges the credibility of social media. Social networking sites such as Face book, Whatsapp, Myspace,Hi5,Friendster, etc and blogging sites such as Blogger and wordpress, micro blogging sites such as twitter are examples of social networking media.

Module 2

Introduction to Broadcasting

Definition of Broadcasting

Broadcasting is the distribution of audio and/or video content to a dispersed audience via any electronic mass communications medium. Broadcasting is defined as the dissemination of message through transmission over radio and television that provides for reception by the public.

Broadcasting is usually associated with radio and television, though in practice radio and television transmissions take place using both wires and radio waves. The receiving parties may include the general public or a relatively small subset; the point is that anyone with the appropriate receiving technology can receive the signal. The field of broadcasting includes a wide range of practices, from relatively private exchanges such as Amateur (ham) radio and Amateur Television (ATV) and closed-circuit TV, to more general uses such as public radio, community radio and commercial radio, public television, and commercial television.

Evolution of Broadcasting

During the course of the twentieth century, humankind has marched from the 'Guttenberg Galaxy' to the 'Global Village' ushered in by information technology. In the first half, we had radio and then Television and the second half took us to the space age, as the first international satellite systems, Intelsat and Intelsputnik were in place by the mid sixties. Since then innovations have brought convergence of mass media, telecommunications, informatics and optical electronics leading to a wide variety of communication tools like cellular telephones satellite TV and internet. The internet has revolutionized the communications world as never before. The invention of the Telegraph, Telephone, Radio and Computer set the stage for this unprecedented integration of capabilities. In fact, the internet has soon become a worldwide broadcasting capability, a mechanism for information dissemination, and a medium for collaboration and interaction between individuals and their computers without regard for geographic location.

The communications revolution has arrived and in fact, radio, television and Internet are fruits of the evolution of communication technology. Telegraphy was invented around 1840 by Sir Charles Wheatstone and Samuel Morse. The first telegraph message was transmitted in 1844. In 1876, Bell sent the first telephone message by wire. Around 1895, Marconi and Popoff succeeded independently of one another in transmitting and receiving wireless messages. In 1906, Fessender transmitted the human voice by radio. In 1839, Daguerre devised a practical method of photography. The first film was screened in 1894. Already in 1904, the first photographs were transmitted by photo telegraphic apparatus (Belin system), while the first picture was televised in 1923. The first radio broadcasting networks were installed in the 1920s, television broadcasting began in the 1930s and regular transmission of color television began in 1954. Rapid intercontinental communication was initiated with the underwater telegraph cable between America and Europe, laid in 1857. While the first transatlantic telephone cable entered into service only in 1957, the intercontinental radio telephone and telegraph systems were already functioning regularly by the 1920s ; teleprinting became operational at the start of the 1930s.Finally Early Bird,

the first commercial communication satellite was launched in 1962. Two big international satellite systems, Intelsat and Intelsputnic, were launched respectively in 1965 and 1971. The world's first domestic synchronous orbit satellite system for telecommunication purposes and for distribution and reception of TV programmes through low-cost earth stations and low power transmitters was inaugurated in 1973 in Canada. In 1977, the satellite system could carry voice facsimile and data directly to the end user. A gallium araenide laser which may enable numerous TV programmes to be transmitted along a fiber was tested in 1970. Optical fiber cables were field-tested in 1976.

In these analog technologies, the missing ingredient was processing. Digital systems, in contrast to analog, allowed one to work with and manipulate content. Information processing thus needed another ingredient that arrived in 1958 when Robert Noyce and Gordon Moore created the integrated silicon chip, following on the work of William Shockley who had invented the transistor in 1948. The invention of the silicon chip has reduced the space required to minute proportions. Binary codes of transmission have created a new language; virtually eliminating delays. The company they founded was Intel that really broke the computing barrier in 1974 with the 8080nchip. It was virtually an entire computer on a single chip. In 1977 Apple produced the Apple II, and the desktop computer was born.

To all these developments, add memory (which evolves even faster than the microchip) and the software and we have the final ingredients of the information Age.

A fiber optic interactive computer - controlled network was designed in Japan to carry two-way video information, to and from households. In another field, videocassettes were invented in 1969, audiovisual cassettes became a marketable reality in 1971 and a first video disk system was available to consumers in 1979.

Computer systems working in parity with communications have spawned the Internet and the advanced networks today that fully integrate satellites, telephones, wireless devices, broadcasting and cable over fiber-optic, broadband, and wireless networks. The result is what we now call convergence.

Satellite technology has brought about major changes in broadcasting since the transoceanic relay of TV programmes between the US and Europe in the early 1960s. The use of Intelsat system for international distribution of TV signals in this mode made it possible for a very large international audience to see the first step of a man on the moon.

A major quantum leap in satellite technology was marked by the US satellite ATS-6, launched in 1974 that enabled the direct reception of satellite relayed TV signals by simple, low-cost receiving systems. In effect, it replaced the high cost earth stations with cheap Direct Reception System (DRS). The ATS-6 was thus able to bypass the coverage constraints imposed by the need to have a TV transmitter. The Satellite Instructional Television Experiment (SITE) in 1975-76 was a field demonstration of the capabilities of this system in India and the same technology is now an integral part of the Indian Satellite System (INSAT). It is important for a TV network to gather programme material at a central location especially for the purposes of news and current affairs programmes. Satellite News Gathering (SNG) has made this possible.

India has tried Direct Broadcasting Satellite (DBS) service during SITE and it was expected that direct broadcast TV service to very small rooftop/home dish antennae will be cost-

effective in India in the 90s. The key to large scale introduction of DBS lies in establishing viable number of viewers. The concept is now called Direct-To-Home (DTH).

High Definition Television (HDTV) is now talked about as a part of ISBD (Integrated Services Digital Broadcasting) which integrates it with conventional Television, enhanced teletext, audio services and new forms of interactive multimedia services.

Digital Video Broadcasting (DVB) is being implemented for satellite, cable and terrestrial transmission. At the end of 1995, the European DVB project finalized the specifications for channel coding and modulation of the broadband, digital TV transmission channels.

Digital satellite systems are in operation in the US since 1995 and the digital cable delivery has started in late 1996.

Digital television service was launched in the US on 1 November 1998, and more than 50 per cent of the US population had access to terrestrial DTV signals within one year. Nowadays, all the existing analog systems were likely to be replaced by the digital systems with added capabilities like HDTV, interactive programmes, full Internet access and Telephone services.DVB promises great expectations: pay TV, pay-per-view TV (PPV), Near Video On Demand (NVOD), Interactive Video On Demand (IVOD), video games, Services On Demand (SOD) including anything from teleshopping, telebooking, telebanking, telelearning, and true interactive TV with teleworking.

The future is broadband, a lightning fast means of data transmission that could revolutionize the way we all send and receive information.

Broadcast Technology

Earth Station

The earth based communications station providing the communication link to a communications satellite. Thousands of earth stations around the world are an essential element in the global connectivity.

A ground station, earth station, or earth terminal is a terrestrial terminal station designed for extra planetary telecommunication with spacecraft, or reception of radio waves from an astronomical radio source. Ground stations are located either on the surface of the Earth or in its atmosphere. Earth stations communicate with spacecraft by transmitting and receiving radio waves in the super high frequency or extremely high frequency bands (e.g., microwaves). When a ground station successfully transmits radio waves to a spacecraft (or vice versa), it establishes a telecommunications link. The earth station itself is usually an antenna that includes a low noise amplifier, a down converter as well as an electronics receiver. The antenna itself can vary in size from at little at 3 to 30 meters, depending on its usage.

Specialized satellite earth stations are used to telecommunicate with satellites chiefly communications satellites. Other ground stations communicate with manned space stations or unmanned space probes. A ground station that primarily receives telemetry data, or that follows a satellite not in geostationary orbit, is called a tracking station.

When a satellite is within a ground station's line of sight, the station is said to have a view of the satellite. It is possible for a satellite to communicate with more than one ground station at a time. A pair of ground stations are said to have a satellite in mutual view when the stations share simultaneous, unobstructed, line-of-sight contact with the satellite

Telecommunications Port

A telecommunications port—or, more commonly, teleport—is a satellite ground station that functions as a hub connecting a satellite or geocentric orbital network with a terrestrial telecommunications network, such as the Internet.

Teleports may provide various broadcasting services among other telecommunications functions, such as uploading computer programs or issuing commands over an uplink to a satellite.

In May 1984, the Dallas/Fort Worth Teleport became the first American teleport to commence operation.

In telecommunications, a link is a communications channel that connects two or more communicating devices. This link may be an actual physical link or it may be a logical link that uses one or more actual physical links.

A telecommunications link is generally one of several types of information transmission paths such as those provided by communication satellites, terrestrial radio communications infrastructure and computer networks to connect two or more points.

The term link is widely used in computer networking to refer to the communications facilities that connect nodes of a network. When the link is a logical link the type of physical link should always be specified (e.g., link, uplink, downlink, fiber optic link, point-to-point link, etc.)

UPLINKING

The communication going from ground to a satellite is called uplink. Unlinking is a transmission path for data or other signals from an earth station to a communications satellite. It also referred as a communication channel through which a user transmits data to the internet.

The process begins at an earth station--an installation designed to transmit and receive signals from a satellite in orbit around the earth. Earth stations send information in the form of high powered, high frequency (GHz range) signals to satellites which receive and retransmit the signals back to earth where they are received by other earth stations in the coverage area of the satellite. The area which receives a signal of useful strength from the satellite is known as the satellite's footprint.

Pertaining to GSM and Cellular networks, the radio uplink is the transmission path from the mobile station (cell phone) to a base station (cell site). Pertaining to computer networks, an uplink is a connection from data communications equipment toward the network core.

DOWNLINKING

The communication going from a satellite to ground is called a downlink. When an uplink is being received by the spacecraft at the same time a downlink is being received by Earth, the communication is called two-way. If there is only an uplink happening, this communication is called upload. If there is only a downlink happens, the communication is called one-way.

In short, the transmission system from the earth station to the satellite is called the uplink, and the system from the satellite to the earth station is called the downlink.

Pertaining to Cellular networks the radio downlink is the transmission path from a cell site to the cell phone. Traffic and signaling flows within the Base Station Subsystem (BSS) and Network Switching Subsystem (NSS) may also identify as uplink and downlink. Pertaining to computer networks a downlink is a connection from data communications equipment towards data terminal equipment. This is also known as a downstream connection.

TRANSMISSION

The continued growth of communications technologies has given rise to a significant demand for mobility and for broadband data communications services. Satellites, particularly when engineered for broadband services, are playing an important role in this growth by providing cost effective long-distance connections and expanding the capacity and geographical coverage of terrestrial access technologies. Mobile Satellite Systems can provide a geographical extension to the terrestrial mobile systems such as GSM/GPRS, 3G/4G networks

and beyond.

Mobile Satellite Systems have an inherent advantage for delivering multicast and broadcast services, which can be used to provide complementary services for both terrestrial and satellite mobile networks. A Complementary Ground Component (CGC) can be added to provide improved coverage and increase capacity in urban environments.

Additional satellites capabilities include asset tracking and associated messaging services. High availability services, in particular for public protection and disaster relief. Satellite terminals may be handheld, portable, vehicle-mounted, semi-fixed or fixed equipment, used in one or more of the Land, Maritime and Aeronautical environments.

A satellite is any object that revolves around a planet in a circular or elliptical path. The moon is Earth's natural satellite at 240,000 miles distant. Other satellites that fulfill this definition are manmade and have been launched into orbit to carry out specific functions. These satellites are typically between 100 and 24,000 miles away.

Satellites have many purposes including data communications, scientific applications and weather analysis.

Cable, Terrestrial and Satellite Transmission

Cable Transmission

Cable networks are small organizations which invest equipment which can catch a range of TV broadcast-the terrestrial, satellite or any other. All the channels are brought to one point and through fiber optic or coaxial wires-which can carry a high number of signals put at different frequencies to any point in distance where an ordinary TV set can decode this signal.

With the arrival of cable service, through always a limited area operation, the viewers are in a position to enjoy TV transmissions of many dozen stations at a very nominal cost. But there have been problems with cable operators. They sometime miss a station, certain people want to see or run programs which people do not want to see. They sometime do breach laws, ethics and irritate people by sending in signals of recording programs which are high offensive. At times, during sporting events they run commercials at crucial points of the game.

Technically, the cable TV involves the distribution of a number of television channels received and processed in a central location (known as head-end) to subscribers within a community through a network of optical fibre and/or coaxial cables and broadband amplifiers.

The use of different frequencies allows many channels to be distributed through the same cable, without separate wires for each, and the tuner of the TV or Radio selects the desired channel from among all transmitted.

A cable television system begins at the head end, where the program is received (and sometimes originated), amplified, and then transmitted over a coaxial cable network..

The coaxial cable has a bandwidth capable of carrying a hundred television channels with six megahertz of bandwidth each, but the signals decay quickly with distance, hence the need to use amplifiers to "renew" the signals periodically to boost them.

Backbone trunks in a local cable network frequently use optical fiber to minimize noise and eliminate the need for amplifiers as optical fiber has considerably more capacity than coaxial cable and allows more programs to be carried without signal lost or noise adding.

Terrestrial Transmission

The very first form of broadcast is on-the –air. A transmitter high in the air would through the Electromagnetic waves carrying the TV signals which would travel on the principle of line-in-sight. This means the waves would move in a straight line. They would end or lose their energy after hitting the ground due to the curvature of the earth. So higher a transmitter, more distance it could cover to send signals which could be caught by the TV sets in most cases. The antenna has to be pointed towards the transmitter.

There are still a high number of tv stations around the world which are doing on-the-air or terrestrial broadcast, especially in the thickly populated urban areas. This mode of TV broadcast is very much in vogue and people can enjoy a TV broadcast without any interference or to depend on any other source for providing the TV service

Further the Terrestrially transmitted Television signal should preferably not interfere with other terrestrial transmissions such as those for wireless radio etc.One of the main developments in terrestrial broadcasting is the continuing evolution of digital broadcast technology, resulting in a considerable increase of the capacity in the transmitted bandwidth and enabling more services, better picture quality and improved coverage.

There are two main directions of these developments:

1. increased picture quality by means of HDTV, 3DTV and Ultra-HDTV

2. more efficient compression and transmission systems

DIGITAL TERRESTRIAL TV

Digital Terrestrial Television (DTTV or DTT) is an implementation of digital television technology to provide a greater number of channels and/or better quality of picture and sound using aerial broadcasts to a conventional antenna (or aerial) instead of a satellite dish or cable connection.

DTTV is transmitted on radio frequencies through the airwaves that are similar to standard analogue television, with the primary difference being the use of multiplex transmitters to allow reception of multiple channels on a single frequency range (such as a UHF or VHF channel).

The amount of data that can be transmitted (and therefore the number of channels) is directly affected by the modulation method of the channel.

DTTV is received via a digital set-top box, or integrated receiving device, that decodes the signal received via a standard aerial antenna.

Set Top Boxes (STB) or TV receivers are to be capable of decoding MPEG-4, and also be suitable to display HD signals.`

Satellite transmission

A communications satellite or Comsat is an artificial satellite sent to space for the purpose of telecommunications. Modern communications satellites use a variety of orbits including geostationary orbits, Molniya orbits, elliptical orbits and low (polar and non-polar) Earth orbits

Satellite Transmission requires an unobstructed line of sight. The line of sight will be between the orbiting satellite and a station on Earth. Satellite signals must travel in straight lines but do not have the limitations of ground based wireless transmission, such as the curvature of the Earth.

Microwave signals from a satellite can be transmitted to any place on Earth which means that high quality communications can be made available to remote areas of the world without requiring the massive investment in ground-based equipment.

The advantages of satellite communication over terrestrial communication are:

- The coverage area of a satellite greatly exceeds that of a terrestrial system.
- Transmission cost of a satellite is independent of the distance from the center of the coverage area.
- Satellite to Satellite communication is very precise.
- Higher Bandwidths are available for use.

The disadvantages of satellite communication are:

- Launching satellites into orbit is costly.
- Satellite bandwidth is gradually becoming used up.
- There is a larger propagation delay in satellite communication than in terrestrial communication.

For fixed (point-to-point) services, communications satellites provide a microwave radio relay technology complementary to that of communication cables. They are also used for mobile applications such as communications to ships, vehicles, planes and hand-held terminals, and for TV and radio broadcasting

NEW TRENDS IN BROADCASTING

Broadcasting Technologies have revolutionized human life today. Day-by-day new inventions are coming up all over the world. Satellites, 5G Speed, HDTV, Smart Phones etc. are coming together and this convergence has transformed the world to a small but global village.

Some of these trends are discussed in the 2014 Broadcast Industry Global Trend Index:

There are several emerging trends in broadcast technologies which are going to revolutionize the field:

-Multi platform content delivery (broadcast, web, mobile etc.)

-IP networking & content delivery

-File based or tapeless workflows

- 4K / UHD

- Cloud Computing / Cloud based services

-Transition to HDTV operations

-Improvements in video compression efficiency

-Video On Demand

- Move to automated workflows

-Targeted advertising

-Remote production

-Centralised operations (Playout, transmission etc.)

-Analog switch off

-Transition to 3GBPS (1080p) operations

-Transition to 5.1 channel audio

-Outsourced Operations (playout, transmission etc.)

-3D TV

-Reduction in carbon emissions / other green initiatives

Multi-Platform Content Delivery (MPCD)

MPCD has given rise to, on-demand video platforms, consumer mobility, and sales of smart phones and tablets.

For a number of years the transition to HDTV operations has been a major driver of end-user technology budgets, and therefore technology product sales. The HD transition continues to be and is likely to remain one of the strongest drivers of broadcast industry revenue, particularly in emerging markets

IP networking & content delivery

The move to IP-based infrastructure become increasingly important as broadcast technology buyers continue to look for efficiency in their transition to new technical platforms and business models. In 2014, the move to IP-based infrastructure took on a new sense of urgency as buyers began to seek ways to implement IP-based systems in broadcast operational environments.

With new standards, new market entrants, and a high-profile joint task force on networked media , the move to IP not only looks more and more inevitable, it is also likely to be a major industry driver over the mid to long-term.

The move to IP is driven by an ever-increasing desire for broadcast technology buyers to gain operational efficiencies. It is believed that this trend is set to accelerate, and will continue to be a strong macro driver of the overall industry for the next several years, as broadcasters continue to deploy new workflows.

File-based / tapeless workflows

It is another indication of the importance of increased efficiency for broadcast technology end-users. This trend has accelerated as the transition to HDTV begins to wind down in developed markets around the world.

Over the past several years, there would be a pattern whereby broadcasters, who have invested considerable time, effort, and money into transitioning their operations to HD, begin to shift their focus towards increasing the efficiency of their operations.

Over time, efficiency has become a key driver of broadcast technology purchasing. In fact, many researches shows that in many cases, increased operational efficiency and cost savings are more important than cutting-edge technology.

This is because the economics of the entire industry have changed – because of other factors – and as a result, end-users must change their cost structure (radically in some cases) in order to generate sustained profitability into the future.

This has implications for the broadcast industry in terms of both workflows and product procurement, and as a result, the importance of both file-based workflows and "IP networking & content delivery" has increased as broadcast technology buyers continue to look for efficiencies as they transition to new technical platforms and business models. The desire for broadcast technology buyers to gain operational efficiencies will likely continue to be a strong macro driver these days, as broadcasters continue to deploy new workflows.

4K / UHD

Although 4K / UHD is still in its early phases of deployment, many in the industry see it as the next major driver of infrastructure upgrades – similar to the transition to HD a decade ago.

While there is no doubt that 4K / UHD is a very important developments, we are skeptical that it will have the same impact on the industry as the transition to HDTV operations, which drove a massive wave of technology spending that lasted more than a decade.

Although episodic and documentary content has or will soon move to 4K/UHD acquisition and archive (because it extends the useful life of content assets), it will take time for 4K/UHD to move into mainstream live production environments such as news and sports. One reason for this is that it is still complex and expensive to create an entire live event in 4K/UHD, compared to today's HD broadcast. Uncompressed 4K/UHD requires real-time processing at 12 Gbps, and the full production chain is not yet widely available. Another critical issue is that most 4K/UHD capable cameras utilize large format single sensors and cine-style PL-mount lenses. While the shallow depth-of-field produced by these acquisition systems is a perfect match for theatrical or drama production, it causes problems in live sports production, where depth-of-field is important to keep critical action sequences in constant focus.

Nevertheless, there's no doubt that 4K/UHD is driving strong interest and excitement in the industry. However, it remains to be seen whether it will become a mainstream technology driver as HD has been, or whether it will go the way of 3D production.

Cloud computing / cloud based services

For the past several years, it was apparent that there was not a clear understanding of how cloud technology would be deployed in the broadcast environment, and what benefits it would bring.

Cloud computing is typically defined as a type of computing that relies *on sharing computing resources* rather than having local severs or personal devices to handle applications.

In cloud computing, the word cloud (also phrased as "the cloud") also used as a metaphor for *"the internet",* so the phrase cloud computing means "a type of internet based

computing", where different services- such as servers, storage and applications- are delivered to an organization's computers and devices through the internet.

Cloud Services / Cloud Technology is one of the fastest growing areas of project spending in the broadcast industry today.

Transition to HDTV Operations

The transition to HDTV has been a huge driver of broadcast technology spending for more than a decade. In 2014, the technology required for the transition to HDTV is well understood by the majority of the market.

The HD transition will continue to be one of the most important industry drivers over the coming years. There are a number of reasons for this, but the most important is that there is still a long way to go in the HD transition on a global basis. The total penetration of HDTV infrastructure has surpassed the 50% market for the global market nowadays.

Nevertheless, with the transition to HD having been a critically important driver for so many years, it begs the question of what's next —answer lies in products and services that facilitate increased operational efficiency, and new revenue streams.

Improvements in compression efficiency

With content distribution models having migrated from single linear broadcast channels, to multi-channel Pay TV playout, to a totally on-demand environment, high quality compression is a critical success factor for broadcasters and content playout platforms.

A plethora of new channels, and the desire for simultaneous bandwidth saving and increased image quality services have driven an increasing focus on high quality compression systems. For the past several years this has resulted in better MPEG-2 and H.264 compression products for primary distribution, contribution, and redistribution to consumers. H.265, aka HEVC compression technology holds the promise of further reducing the bandwidth required to deliver high quality images, particularly for 4K/UHD channels.

In addition to creating greater efficiencies, end-users are also looking for ways to increase their revenue in an environment where the economic model of the industry is changing dramatically. Thus **video-on-demand,** will continue to be a strong driver for content owners, media companies and broadcasters. The combination of MPCD, better compression technology, and an ever-increasing channel count, will continue to push video on demand deployment, whether via traditional broadcast and pay TV platforms, or over the internet or mobile networks.

Move to automated workflows

Better compression technology and lower cost integrated play out platforms will facilitate an ongoing proliferation of new TV channels. This will in turn drive a focus on bringing highly automated operations to channel play out and master control environments. Thus it is expected to continue to see a strong interest in the "move to automated workflows" over the next several years. Automated workflows are also seen as drivers of efficiency.

Targeted advertising.

While efficiency is undoubtedly very important to end-users, actually making money through the monetization of the new automated channels that are coming on-line has driven a significant increase in focus on content monetization.

Remote production

Through the use of remote production, broadcasters can lower their costs of producing live events, whether they are as small as a local soccer match or as large as the World Cup.

Centralizing Operations

Similarly, broadcasters and media companies can achieve enormous cost-savings through the Centralizing Operations, including play out and transmission

Analog switch-off

It is very important for those regions where it's happening today – primarily as mandated by local governments. Analog switch-off (also called "digital switch-over" in some territories) has driven huge waves in those markets where it has already occurred.

Ttransition to 3Gbps operations", **Transition to 5.1 channel audio**, **Outsourced operations**, **3D TV** and **Green initiatives** were also flourishing trends in broadcasting industry, nowadays.

Module: III

Radio: Characteristics

Radio is everywhere as its signals reach every nook and cranny. Radio is a different medium. Physically it is different from any other media. It is a medium for ears not of eyes.Programmes designed for radio is to hear. Discovery of portable radio transistors revolutionized the sector. After the discovery, radio became most popular companion of radio consumers. This unique medium shares certain characteristics.

1. Radio is a cost-effective medium

Radio sets are not at all a luxury now, unlike olden days, when radio sets were not affordable for common people. Advancement of technology made radio production and transmission less expensive. Unlike other media, production format is sound which can be produced at a minimum rate.

2. Radio is a public medium

Radio can be accessed by any number of people simultaneously without much technical paraphernalia.

3. Radio is a blind medium

Radio is a blind medium. But this medium stimulates the imagination. The listener tries to visualize the sound source in the mind of the listener. Any size pictures are created corresponding to the emotional context of the speaker. Being an audio medium, radio is accessible for visually challenged.

4. Radio is accessible for illiterates

Literacy is not a pre requisite for listening radio. In developing and less economically developed countries, it becomes a popular medium because of these characteristics. Majority of the population in these countries are illiterate. They show a special affinity towards radio as they can overcome the deficiency of illiteracy through radio programs.

5. Radio is a mobile medium

Specialty of a background medium is that it can be used while doing other jobs. Radio listeners can enjoy radio programs while they are at work. Convergent media environment helped radio to be more hands free.

We can listen to radio while we are moving. As Vivian explained earlier, we can listen to radio while driving car, jogging, walking or doing any job.

6. Radio is a transient medium

Words uttered in radio have gone forever. It cannot be retaken. So the radio is considered to be as a highly transient medium.

7. Radio needs less energy

Radio consumes very less energy. In that sense, it is an environment friendly medium. Since radio sets can also be operated with batteries, it became popular in remote villages where electricity is inaccessible.

8. Radio is a speedy medium

Radio is the fastest medium as it requires less time for preparation and transmission. Live broadcasting with a few equipments is possible in radio station.

9. Millions to hear

There is no patch of land and ocean surface untouched by the electromagnetic signals. Immediate reach and wide network make radio more popular. Irrespective of social, economic and cultural backgrounds everybody can enjoy radio programmes. The range of audience varies from downtrodden to the elite.

10. Infotainment

People use radio for different purposes like to attain news, to inform, for entertainments, for education, to propagandize and to persuade are some of them. It provides both informative and entertainment programs. So it is an infotainment medium. Universal appeal infotainments with low cost and wide reach make radio a real mass medium.

11. Round Clock

Radio is a round clock activity. Radio casting adds millions of words every minute to the air.

12. Easy operations.

Complex technicalities never becomes as a hindrance in radio operations. It is a medium which can very easy to handle and operate. Minimum technical knowhow is needed to switch on, to tune and to switch off the radio transistor.

Scope and Limitations of radio

Radio has played an important role in the communication industry and has also revolutionized it. Once, it was considered to be the back-bone of the industry and people used to tune to the frequencies and get the information from across the world.

Radio is an audio medium, so it does not require the listeners to be educated. Even an illiterate can listen and understand the information. This way, radio has made the whole communication process more effective and abstract.

Scope of radio

Cost-efficient

Radio is an affordable mass communication device. One need not invest much to buy a radio. This is a boon for those, who cannot spend much because of limited funds. Once a transistor radio is purchased, messages flow constantly and no cost is involved for reception of messages.

Easy to handle

The size of radio is not big, hence, can be accommodated easily at any place.

Mobility

One can take radio with him, if he wishes to go somewhere. It is mobile medium of communication. Radio does not require captivity. Listeners can receive messages even when they are working.

Does not require electricity

Radio can be operated using batteries. This was reason why it got wide acceptance even in rural India, where there is limited electricity.

Pan-Reach

Radio reaches virtually to everyone in many environments. Radio messages reaches to illiterates, neo-literates and highly educated receivers simultaneously

Greater reach

Radio has penetrated into the society at almost every level. Almost every family in the country has one radio set.

Pulse of community

Radio is more local than global. People listen to the radio to find out what is happening in their community such as special events, news, traffic updates, weather reports, sport, entertainment etc.

Influential

Radio influences consumers. It is the medium to build top-of-mind awareness

Theater of the Mind

Radio enables its listeners to picturise in their mind the scene according to vocal deliverance over it. The want of visual effect is compensated by sound effects, both natural and mechanical and so live effect is moderately high.The quality of voice and sound makes the communication fairly enjoyable.

A Competitive Medium

The growth of national talk and music station networks and growth in affair promotions has made radio more attractive to national advertisers and more competitive with national media. Radio can localize a national or even global issue.

Most Persuasive

Radio as a medium of communication has a great reach among the audiences and they rely upon the messages. Hence, it act as most persuasive medium for the people. Radio has the capacity to deliver instantaneous messages

Cost of Production

The production cost of a radio program is pretty less than the production cost of other media.

Limitations of Radio

- No visuals. News stories accompanied by visuals are considered more credible. Radio lacks it. It is also not suitable for visual art programmes like dance etc.
- Information cannot be retrieved. We would not keep the record to radio programs. Although now-a-days this has become possible to record radio programmes, but it is available with a small number of audiences.
- One cannot go back and re-listen the message
- Radio programmes have lots of commercial in a row due to which the listeners loses interest
- Possibility of Misinterpretation in high. It solely depends upon the intelligence and mindset of the listeners that how they perceive the messages
- Cluttered Information: Sometimes the audiences listen to messages on radio and get confused. Listeners need lot of imagination and therefore understanding of message depends largely on the charecteristics of the receivers.
- Communication is time limited and presents tiny fragments of topics in a haphazard mosaic. The medium has also limitations because of its audio nature
- Receivers cannot put off listening parts of message for subsequent listening at their convenience.

Brief History of Radio

Origin and growth of radio

Samuel Morse's invention of Telegraph in 1842 prompted scientists to find out ways to transmit messages over air. Italian inventor Guglielmo Marconi succeeded in it in 1895. For further development of the mechanism, he started the Marconi Company in England and started commercial production of radio transmitters for military purpose. Marconi's device was sophisticated by Reginald Fessenden and started transmission of sound over radio transmitters, instead of textual signals.

It was US inventor, Lee De forest who made radio transmission much clearer with his Audition vacuum tube. He also envisaged stations sending continuous music, news and other programs over radio waves. The idea came to be known as broadcasting.

The earliest broadcast of speech was done by Profession Reginald Fessender (US) in Brant Rock (Massachusetts) on December 24, 1906.In 1922, Dr. Albert H Taylor and Leo C Young (both of the US) invented the radar. During the years of 1930, radio broadcasting became a part of life in the West. The loudspeaker was invented by Rice Kellog (US) in 1940.In 1955; the radar was used for the first time by Sir Robert Watson-Watt (England)

The first radio stations were set up in Pittsburg, New York and Chicago in the 1920s. Following the USA, European countries also started radio stations for broadcasting news and entertainment content. The colonial powers like Britain and France set up radio stations in Asian and African countries in the early years of 20th century

Major Landmarks in the history of Radio Broadcasting

- Discovery of electromagnetic induction by Michael Faraday in 1831
- William Henry Ward in April 1872 ; received US Patent 126356 for radio development
- Maxwell equations were developed by James Clerk Maxwell and between 1861 and 1865; James Clerke Maxwell made experiments with electromagnetic waves. In 1873, as a result of experiments, Maxwell first described the theoretical basis of the propagation of electromagnetic waves in his paper to the Royal Society, 'A Dynamical Theory of the Electromagnetic Field'
- In July 1872, Mahlon Loomis received US Patent 129971 for a 'Wireless Telegraph'
- In 1878, David E Hughes was the first to transmit and receive radio waves
- In 1885, Edison took out US Patent 465971 on a system of radio communication between ships (which later he sold to Marconi)
- Between 1886 and 1888 Henrich Rudolph Hertz validated Maxwell's theory through experiment
- Nikola Telsa developed means to reliably produce radio frequencies, publicly demonstrated the principles of radio and transmitted long distance signals. He holds the US Patent for the invention of the radio, defined as 'wireless transmission of data'. Telsa was the first to apply the mechanism of electrical conduction to wireless practices.
- Oliver Lodge transmitted radio signals on 14th August, 1894 (one year after Telsa and one year before Marconi) at a meeting of the British Association for the Advancement of Science at Oxford University. On 19th August 1894, Lodge

demonstrated the reception of Morse code signaling *via* radio waves using a 'coherer' radio wave detector by adding a 'trembler' which dislodged clumped filings, thus restoring the device's sensitivity. In August 1898, he got US Patent 609154. 'Electric Telegraphy' that made wireless signals using Ruhmkorff coils or Telsa coils for the transmitter and a Branly coherer for the detector. This was key to the 'syntonic' tuning concept. In 1912, Lodge sold the patent to Marconi.

J C Bose and Radio

In November 1894, the Bengali Indian physicist, Jagdish Chandra Bose demonstrated publicly the use of radio waves in Calcutta, but he was not interested in patenting his work. Bose ignited gunpowder and rang a bell at a distance using electromagnetic waves, proving that communication signals can be sent without using wires. The 1895 public demonstration by Bose in Calcutta was before Marconi's wireless signaling experiment on Salisbury Plain in England in May 1897. In 1896, the Daily chronicle of England reported on his UHF experiments "The Inventor (J C Bose) has transmitted signals to a distance of nearly a mile and herein lies the first and obvious and exceedingly valuable"

Demonstration of Radio transmission

Alexander Popov was the first man to demonstrate the practical applications of radio waves. In 1894, the Russian physicist Alexander Popov performed a public demonstration of transmission and reception of radio waves used for communication at the Russian Physical and Chemical Society using his coherer. Around March 1896, Popov demonstrated in public the transmission of radio waves, between different campus buildings, to the Saint Petersburg Physical Society. (This was before the public demonstration of the Marconi system, around September 1896). In 1898, his signal was received 6 miles away and in 1899, 30 MILES AWAY.

In February 1893, Telsa delivers 'On Light and Other High Frequency Phenomena' before the Franklin Institute in Philadelphia. In 1895, Marconi receives a telegraph message without wires a short distance (below a mile), but he did not send his voice over the airwaves. In March 1895, Popov transmitted radio waves between campus buildings in Saint Petersburg, but did not apply for a patent. In 1896, Telsa detected transmissions from his New York lab of low frequency (50000 cycles per second) undammed waves with a receiver located at West Point, ' a distance of about 30 miles'.

Radio broadcasting in India

Broadcasting began in India kicked off with the formation of radio clubs and a private radio service in Madras, in 1924. After the advent of wireless telegraphy and a combination of a number of discoveries by technicians and scientists from different countries, several attempts or radio broadcasting were carried out.

Milestones

1927- Organised broadcasting started in India at Bombay and Calcutta by The Indian Broadcasting Company (IBC)

1930-Govt takes over and forms the Indian Broadcasting service (IBS)

1936- Name changed to All India Radio (Lionel Fielden was the first controller of Broadcasting in India during this period)

1939- External service division inaugurated

1957-Came to be known as Akashavani

1957- Introduction of commercial channel known as Vividh Bharathi

1977- FM broadcasts were introduced in Madras

1993- FM Channel was launched in Bombay

1997-Digital Audio broadcasting Technology was launched

2004- DTH service of AIR inaugurated

2012- Bangladesh recognizes Akashvani for its contribution in Bangladesh Liberation War

A I R and Doordarshan are presently functioning under the Prasar Bharati Broadcasting Corporation. In Kerala radio broadcast started on march 12. 1943 from Trivandrum, once a week. By 1947 august a daily transmission of two hours was started. Kozhikode station was started in 1950.

Module IV

TELEVISION

Television is the audio-visual media of communication. It offers a window to the outside world. Among all the mass media, television attracts the largest number of viewers. It is the most popular and has the greatest potential. This is because it is able to attract the audience of all age groups, literate and illiterate and of all the strata of the society. It is becoming increasingly available. Notar says P*eople who never would have had access to important cultural events now with a flick of button may enjoy opera, concerts, dance and theatre performed by great artists. They may take trips to faraway places or learn about many wonders of our universe. They may watch historical landmarks when they happen; the moon walk, successful and aborted space explorations, triumphal events or disastrous news flashed from around the globe.*

CHARACTERISTICS OF TELEVISION

- Attractive content: Television programmes are audio visual and attractive to watch.
- Audio visual medium: Includes both sound and visuals.
- Domestic medium: We can watch television in the comfort of our home with our family.
- Live medium: It is capable of being a live medium.
- Transitory medium: May be practically impossible to record every programme which appears on the television.
- Wide reach through satellite linkage: Satellite transmission makes it possible to reach for a wide geographical area.
- Immediate reach: Television transmission is immediately available to viewers.
- Can communicate with illiterates and deaf people: People who are unable to read, write or hear can watch television programmes.
- Facilitate live visual coverage: live visual coverage makes it more interesting.
- High receptivity of message content: Its visual appeal enables the viewers to remember things well.
- Informs, entertains and educates: Television programme gives information, entertainment and also educates us.
- No time limitations: 24 hour programmes are available.
- High cost and technology intensive: its cost is higher than the print media and radio. It is technology intensive.

SCOPE AND LIMITATIONS OF TELEVISION

Scope

- It has the intimacy of radio and believability of personal participation.
- It can be used to demonstrate process or physical skills.
- It can be used to show movements.
- It requires viewer's attention.
- It can be used by those lacking reading skills.
- It can be used to make distance learning process more personalized.
- It can be used to make teaching and learning more attractive.

- It is also called medium of communication for illiterates, as it is composed of both audio and visual content.
- It can be used as a socializing agent.
- It can be used for persuasion.
- It reaches a wide range of audience more effectively.

Limitations

- It lacks instant feedback.
- It demands audience attention.
- It is a costly medium of communication.
- The production process is very lengthy.
- The production and transmission of programmes are costly.
- It makes people idle and the sedentary lifestyle creates health problems for couch potatos. TV is called chewing gum of the eyes.
- It is not portable.

ORIGIN AND DEVELOPMENT OF TELEVISION

Television (TV) is a telecommunication medium that is used for transmitting and receiving moving images and sound. Television can transmit images that are monochrome (black-and-white), in color or in three dimensions. Television was invented by John Logie Baird, Philo Fransworth, Charles Francis Jenkins and Vladimir Kuzmich Zworykin. The first television with moving images was invented in 1925.

A television set, also called a television receiver, is a device that combines a tuner, display, and speakers for the purpose of viewing television. Introduced in late 1920's in mechanical form, television sets became a popular consumer product after World War II in electronic form, using cathode ray tubes. The addition of color to broadcast television after 1953 further increased the popularity of television sets in 1960's, and an outdoor antenna became a common feature of suburban homes. The ubiquitous television set became the display device for the first recorded media in the 1970s, such as VHS and later DVD. It was also the display device for the first generation of home computers (e.g., Timex Sinclair 1000) and video game consoles (e.g., Atari) in the 1980s. In 2010's flat panel television incorporating liquid-crystal displays largely replaced cathode ray tubes. Modern flat panel TVs are typically capable of high-definition display and can also play content from a USB device.

Mechanical televisions were commercially sold from 1928 to 1934 in the United Kingdom, United States, and Soviet Union. The earliest commercially made televisions sold by Baird called Televisors in the UK in 1928 were radios with the addition of a television device consisting of a neon tube behind a mechanically spinning disk with a spiral of apertures first mass produced television set, selling about a thousand units.

The first commercially made electronic televisions with cathode ray tubes were manufactured by Telefunken in Germany in 1934, followed by other makers in France (1936), Britain (1936), and America (1938). Television usage in the western world skyrocketed after World War II with the lifting of the manufacturing freeze, war-related technological advances, and the drop in television prices caused by mass production, increased leisure time, and additional disposable income. By late 1960s and early 1970s,

color television had come into wide use. In Britain, BBC1, BBC2 and ITV were regularly broadcasting in color by 1969.

By late 2000s, CRT display technology was largely supplanted worldwide by flat panel displays such as LCD. Flat panels television especially LCD has became all-dominant form of television since early 2010's.

TELEVISION IN INDIA

Television Broadcasting had a slow start in India where, initially it was regarded as an expensive toy for a developing country. On 15th September 1959 the television emerged in India. The first experimental transmission began at Delhi. The objective of the first transmission was to analyze as to what can be achieved with this tool of community development. The initial funding for the equipment was come from the United States. Within the range of 40 Kilometers of the transmitter 180 tele-clubs were set up. The television sets were provided by the UNESCO. The professional and engineering staffs were provided by the All India Radio. The Akashwani auditorium served as the studio from where regular programmes were put on air. Television programmes for teachers were started on 1961. In 1961 rural programmes like Krishi Darshan was started for the framers of the 80 tele-clubs in Delhi and Hariyana. The television services were extended to Mumbai in 1972. By 1975 the services were further extended to the cities of Calcutta, Chennai, Srinagar, Amritsar and Lucknow.

Satellite Instructional Television Experiment (SITE- 1975-1976)

The usage of satellite technology in India started with world's first techno-social experiment, SITE. This experiment beamed satellite TV programmes for 4 hours daily, based on education, health, family planning and agriculture to 2400 villages scattered around six states in India. The satellite was loaned to ISRO by NASA for one year.

The UNESCO expert group along with the India Government observed the utility of satellite TV for the national and educational development in the country . The analysis suggested that such an experiment should be conducted for the betterment of communication. In 1969, the Department of Atomic Energy of Indian Government had entered into an agreement with National Aeronautics and Space Administration to use the satellite for this objective. The main purpose of this agreement was to confer a satellite free of cost for a year. SITE came into operation during the mid-seventies. It was launched with the assistance of American satellite, ATS 6.

The SITE programme was terminated in July 1976 and NASA shifted its ATS6 satellite away from India though it was extremely demanded by the villagers, Journalists and others in the society. But the SITE experiment was considered as a failure. It was observed that there was high viewership in the early months, but gradually it deteriorated. This decline was the result of various glitches in developing suitable programmes for television, poor electricity supply, hardware defects, poor maintenance of TV sets and villagers more interested in agricultural and domestic chores. Also one year is considered a very short period to bring about a social transformation. However it is an important milestone in the development of TV.

Doordarshan

Television was separated from All India Radio on 1976 April 1st and constituted under a new body named as Doordarshan. It is one of the media units of the Ministry of Information and Broadcasting, Government of India. Regular satellite link between Delhi and other

transmitters were established to facilitate the introduction of national programme. Doordarshan was established with the motive of public service broadcasting. Its aim was to inform, educate and entertain the masses.

The following are some of the major land marks in the history of Doordarshan:

1976 January 1: commercials on TV

1976 April 1: Doordarshan separated from All India Radio

1982 August 15: color TV introduced

1984 July 15: First sponsored serial- *Humlog*

1984 November 19: Second channel at Delhi

1986 August 9: First regional network

1993 April 1: Metro entertainment channel

1993 August 15: Five DD Satellite channels

1994 August 15: Major restructure- DD1 to DD-13. Relay station service from state capitals.

1995 March 14: DD-India-International channel

1995 November 14: DD-3 Infotainment channel

Doordarshan has three –tier programme service- national, regional and local. The national programmes include news, current affairs, services, cultural magazines, sports, music, dance, drama, serial and feature films. DD4-4 to DD-13 channels is the 10 regional. Each channel telecasts two types of programmes. The channels DD-14 to DD-17 telecast programmes for the four Hindi speaking states. DD India comprises of 18 hours of transmission. The DD-CNI is the channel of news and current affairs.

Doordarshan started to appear in color during Asian Games. The success of 9th Asian Games and its live coverage by DD through satellite INSAT 1A led to the emergence of a new concept of live coverage in the nation especially regarding the sports events. After the accomplished reporting of Asian Games, DD also covered NAM summit in India. By the termination of 1970s decade the Cable TV has taken a lot of space in the entertainment sector. In order to give greater autonomy to Doordarshan, The Prasar Bharati Broadcasting corporation was formed.

Post Liberalization of Television

The economic reforms of the 1991 by the government allowed private and foreign broadcasters to engage in limited operations in India. Several foreign channels like CNN, Star TV and domestic channels like Zee TV, Sun TV started satellite broadcasts. The Cable TV industry witnessed a sharp ascent in the early 1990s. The time show the entry of foreign players like Rupert Mudoch's Star TV Network in 1991, MTV and others. Sun TV (1991) was launched in 1992 as the first private channel in South India. Five new channels like MTV, Star Plus, BBC, Prime Sports and STAR channel firmed its ground in the Indian market. Zee TV was the first private owned Indian channel to broadcast over cable. By 2001-2003 international channels like Nickeldon, Cartoon Network, VHI, Diseny and Toon Disney made quick impact in the Indian market.

Module V

NEWS

News is both a product and a point of view. It can be a tangible product like a newspaper or non tangible. Rudyard Kipling remarked *I know of six honest serving men. They taught me all I know. Their names are what, who, why, when, where and how."*

5 Ws and 1 H are the basic elements of a news story.

The word news is of relatively recent origin. In English it appeared as "newis" in 1493, "newyes" in 1485 and "newes" in 1523. It was after 1550 that it became "news".

The four letters of the word news can be described as representing four directions- North, East, West and South. The term can also be defined in another way. N stands for Newsworthiness, E for Emphasis, W for 5Ws and S for Sources of news.

News is important in all societies, particularly in a democracy. It acts as a link between people and government. It educates and informs people. Henry Ward Beacher remarked that *Newspapers are the school masters of the common people*. News has different dimensions and perspectives according to time, place, nature of publication and interests of the audience. *News is an account of a recent event or opinion which is important and interesting.* It gives immediate reward and delayed reward.

Definitions

Anything new is news.

Tomorrow's history done up in today's neat pages.

News is something revealed and something suppressed.

News is anything you did not know yesterday. It has three elements; event, report and audience.

According to Harold Evans, News is people

News can be described from different perspectives. In the backdrop of the Global village, focusing on the present day market driven media, Rupert Murdoch sarcastically described news as the commodity used to fill up space in between advertisements.

News Determinants

Numerous factors affect or determine what can be called "News". Importance and interest are often described as basic news values or news determinants. These are the criteria that distinguish news from non news. Identifying and measuring these determinants and news values are known as news sense. The increasing popularity of soft news, news you can use, celebrity news, health,travel, cuisine reflect the changing news values and priorities of the audience.

Timeliness: Timeliness strengthens a news story. News is a highly perishable commodity that must be used before it is worthless. So it should be the latest available.

Proximity: The geographic nearness or distance of an event can make a story more attractive or less attractive to the reader. People like to read about happenings nearby.

Eminence and prominence: Some happenings are newsworthy simply because well-known people are involved. Prominence is many a time built up by the media. Media makes some people popular or prominent. If they are worthy of the media attention, then it is ethically correct, but at times media spotlight is on people for trivial reasons.

Oddity and novelty: if a dog bites a man, it is not news. But if a man bites a dog, it is news. This old saying recognizes the news value for odd and new happenings. A cow with two tails, a tomato weighing ten kilos catches our attention.

Change: Everything is changing around us. Nothing is static. The bigger the change the more important it is from the news point of view.

Conflict: conflicts, if it involves people, governmental bodies or sports teams is often considered as newsworthy. People identify with the personalities or issues involved in conflicts and want to know more about them.

Disaster and progress: Disaster and progress are at the opposite ends of the scale. With human psychology it is disaster or bad news that usually triumphs over progress or good news.

Disaster can be the result of natural calamity like an earth quake or a man made event like Bhopal gas tragedy.

Progress is the positive result of efforts made by the society. It can be new inventions, new devices, new remedies etc.

Consequence: One important duty of the journalist is to keep readers advised on matters of consequence and importance that is developing around them. The more the immediate or long term consequence of an event more will be the news value. When a large number of people are affected the consequence will be greater. Fear of consequence of an event also makes news. Consequence also serves as a measure of conflicts, disaster and progress.

Cause: Every event has consequences and has its own causes also. The reason or cause behind an event will make it news worthy.

Human interest: Human interest stories often appeal to the emotions of the readers, pulling them in to the lives of others or into subjects of broad concern. Human interest content of stories is higher when ordinary people are involved in extra ordinary happenings like adventure, disaster, a tragedy, a triumph etc.

The taste of the audience is also an important news value. The demographic profile

of the audience is an important factor influencing their interests and taste.

TYPES OF NEWS

There are different types of news. We can broadly classify news into the following categories

1. Hard news and soft news
2. Expected news and unexpected news
3. Negative news and positive news
4. Hot news and spot news

1. **Hard news and soft news:** stories of primary urgent importance rate the "hard" news classification. Examples would include a key vote in India, police department breaking a crime ring, political issues, policies and programmes of government, disaster etc. these situations would provide "must" stories that readers would expect to see. Timeliness is important in hard news stories. Usually the language will be plain and direct. The news values in hard news stories will be very high.

   News of secondary importance is labeled as soft news and might concern such items as a school or church, social meeting that produced routine action, or a human interest story concerning a pet, hobby, personality sketch or club, residence association activity. Such stories would lack great consequences and would be optional stories that readers probably would not miss if omitted. These may be timely or timeless stories. The reporter may employ direct and plain language or flowery language depending on the content or angle of the story. Nowadays the importance of soft news is increasing. While hard news emphasizes the news value 'importance', the focus of soft news is on 'interest'.

2. **Expected news and unexpected news:** News stories about the incidents or events that readers have expected is known as expected news. News about budget, election, sports events are examples. These are important or timely stories, the readers would not want to miss. Such news may have high news value.

   Expected and unexpected things are happening around us in this world. News stories about the unexpected incidents fall in the category of unexpected news. Accidents, terrorist attack, disaster etc can be considered as examples. Unexpected news stories usually have high news value. The news value will be high depending on the intensity of the incident and the number of people affected by it.

3. **Negative and Positive news:** News about something that is unpleasant or undesirable falls in the category of negative news. News about financial crisis, accidents, disaster, crime etc is the examples. Negative news is also known as bad news. It may be expected or unexpected news. Importance of the story

depends on the intensity of the incident and people affected by it. Usually negative news is timely and will create a kind of fear and anxiety in the minds of readers. But according to the recent research people are more interested in negative news.

News about someone or something that is positive, encouraging, uplifting, desirable or the like is known as the positive or good news. News about rain water harvesting, sustainable development, new policies and programmes of government, various schemes, people who excelled in various fields, inventions, discoveries etc can be considered as examples. The nature of the event or the incident determines the news value. Now a days, many news websites and community radios are boosting positive news.

4. **Hot news and spot news:** Extremely new and exciting news is known as hot news. It may be the exclusive stories or scoop. The news value of hot news stories will be high. These will be timely stories and are also known as breaking news in visual media. The stories may be about a scandal, investigative news, political news etc.

   Spot news is the latest news that is reported immediately from the spot or place of action. Spot news are usually unexpected news like an accident, riots, sudden strike etc. spot news is timely stories that the readers do not want to miss. The number of people affected or involved in the incidents determines the news values.

   On the basis of subject news can also be divided as science news, sport news, political news, agricultural news, business news, film news, national news, international news, regional news.

NEWS STORY STRUCTURE

Journalistic writing requires a working knowledge of current English usage and a good vocabulary. Although journalistic writing utilizes fine points common to all. It is a form of expression that seeks to interpret a group of facts- frequently highly technical or confusing for the understanding of the reading audience.

The reporter becomes the interpreter or the translator linking the words and actions of a diverse group of people. He is the first editor to shift a story weighting facts to shift all sides of a situation are being presented, seeking the truth and discarding material which could be confusing because it is irrelevant. So how the story is structured is important.

There are no strict rules as such how the news story should be structured. It varies

from journalist to journalist and it is based on the creativity and requirements of the story and the target audience. The basic elements of the news story can be found by asking and trying to find out answers to the six basic questions properly known as 5Ws and 1H. They are

What?

When?

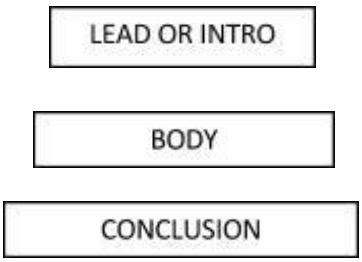
Where?

Who?

Why?

How

There are no hard and fast rules about the inclusion of these elements in the introduction or lead. Commonly a news story has three parts. They are lead, body and conclusion.



LEAD

The lead or introduction is the opening paragraph of a news story. This paragraph leads the readers to the story or introduces the story. So lead is an important element in a news story. Very often people decide whether the news story should be read completely or not depending on the quality of lead

Descriptive lead: This lead is also known as situation or picture lead which tries to paint a pen picture of an interesting person, place or a thing helping to create the mood of the story.

Parody lead: It attempts to play with words using widely known proverbs, quotations, song titles, currently popular sayings, book titles, and other expressions to establish immediate identity with reader and to bring a bit of sparkle to what otherwise might have been a routine story.

Staccato lead: it consists of clipped words, phrases, sentences sometimes separated by dots and dashes. It's casually descriptive and should not be used if the facts of the story do not justify it.

The suspended interest lead: The suspended interest lead contains no news element. It lures the reader into reading on. The reader must obtain the news by reading till the end of the story.

The cumulative interest lead: Beginning with a brief news fact reporters lead reader's interest to the end of the story.

The upright pyramid or sequence lead: some stories can be told effectively if narrated in the order in which the events occurred.

The 1-2-3-4 lead: Often a story situation contains a number of news making elements which the reporter would like to emphasize. By listing them in 1-2-3-4 order, the writer accentuates them all.

The dialogue lead: Closely allied to the direct quotation lead, the dialogue beginning can add flavor to many stories with a human interest or other strong people's angle.

The body

After intro or lead is written the body of the story will flow in the logical order. Mention of the source in the lead is inescapable, when the news point is controversial. The body of the story gives more information regarding the elements mentioned in the intro or lead.

In the body of the story choice of apt words is essential to ensure precision or better readability. The body should be concise and shorn of all verbiage. It should take notice of all material points concerning the news event, elaborate or background details where necessary, but should not be burdened with dispensable details.

Conclusion

The conclusion or tail of the story is the ending paragraph of the story. So the conclusion should be very attractive and thought provoking. In the case of inverted pyramid style, the concluding paragraph or the tail is the less important one. The editor can cut down the last paragraph if the space available for the news story is less.

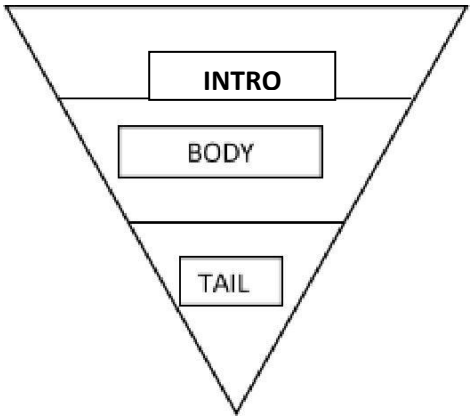
ORGANISING A NEWS STORY

News stories can be organized or structured based on the content of the story. The basic structures are the inverted pyramid style and the hour glass style. Apart from this there is diamond structure, equal fact stories, suspended interest approach, first person approach etc.

INVERTED PYRAMID STYLE

Journalistic stories can follow numerous formats, but the most commonly used one is the inverted pyramid or summery lead story because it presents the pertinent facts in the earliest paragraphs. These are followed by the facts in the descending order of importance or interest.

Most important stories are written in inverted pyramid style. It has an upside down pyramid structure. It consists of an intro or lead, body and tail.



INVERTED PYRAMID STRUCTURE

Intro or lead

The beginning of the story or the first paragraph is known as lead. It should answer 5W's and 1 H. they are what, when, where, who, why and how.

Leads, it must be emphasized not only give a good idea of the story's contents but

also are brief. A lead should be easily readable, to the point, informative and accurate. **Body**

After the lead, from second to final paragraph, an inverted pyramid story is structured to present the news in the order of descending importance. It is usually not built chronologically. The most important paragraph is the lead. The second important items are in the second paragraph, the third important in the third paragraph and so on. Each paragraph further explains or complements the one before it.

Tail

The tail is the last paragraph of a story which contains least important items like quotes etc. the editor can cut or delete this paragraph on the availability of the space of the news story is less.

Advantages of inverted pyramid style

- ➢ It helps the headline writer to grasp the story quickly.
- ➢ The format is suitable for the hasty reader.
- ➢ The Sub-editor can cut the paragraphs easily if there is lack of space.
- ➢ It helps the reader to decide whether he/she should read the whole story or not.

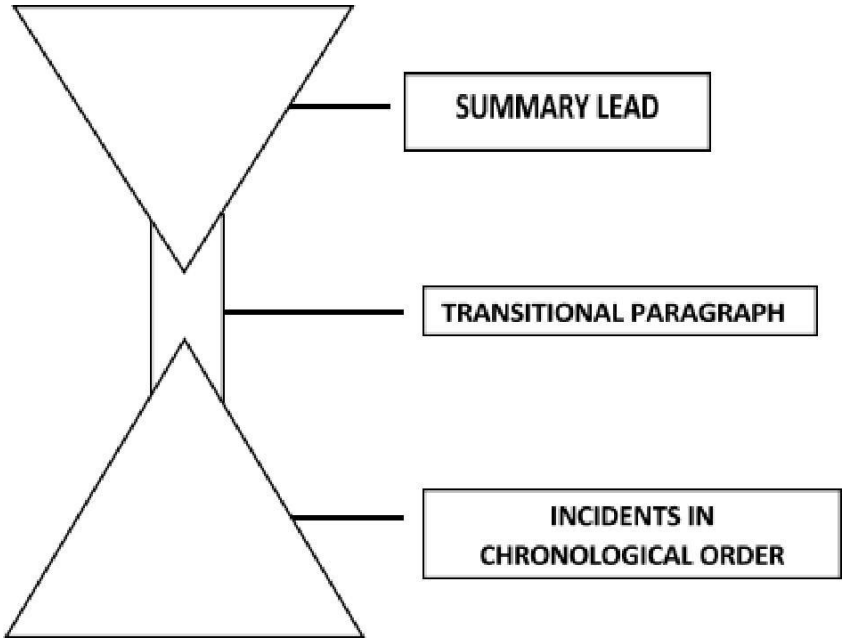
Guidelines to follow while organizing inverted pyramid style

1) Write a terse lead
2) Provide background

3) Use quotations
4) Use transitions
5) Do not editorializes

HOUR GLASS STYLE

Most stories are written in the traditional inverted pyramid style, but there are alternatives. Hour glass style is often used by the reporters covering trails or police and fire news. It is also used when a series of incidents are narrated in one news story. In hour glass style the writer provides the major news in the first few paragraphs of the story. The paragraphs are written in the order of descending importance. Then the writer uses a turn, a transitional paragraph to introduce a chronology of the events of the story. The transitional paragraph includes the police or authorities' account of the incident, the victims explanations etc. after the turn the rest of the details of the story are told in chronological order. The story is



HOUR GLASS STRUCTURE

Advantages of Hour glass style

- ➢ The important news is presented high in the story.
- ➢ The writer can take advantage of the narrative.
- ➢ The most important information is repeated in the narrative so that readers have a chance to absorb it.
- ➢ Unlike the top heavy inverted pyramid structure, the hour glass style has a balanced structure.
- ➢ It keeps readers in the story and leads up to a real conclusion.
- ➢ It discourages editors from slashing from the bottom.

HEADLINE WRITING

Headlines are the display windows or show windows of the newspaper. Bruce Westley defines headlines as *Any line or collection of lines of display type that preceeds a story and summarizes it or introduces it can be called a headline.* It plays an important role in a newspaper. They (1) give readers an idea of what the story concerns (2) provide variety in the newspapers design and make pages attractive (3) make a person select a newspaper from a news stand instead of a competing publication and (4) creates an identity or character for the publication through the use of distinctive types.

Writing headlines is a challenging and creative task. The Sub-editor has to handle space constraints. More over it must be suitable for the newspaper and for a particular news story. Headline writing has evolved over the years. Earlier headlines were not given for news stories. Then came label headlines in a single column. The single cross line was followed by double cross line, pyramid, inverted pyramid etc.

Functions of headline

- ➢ Attracts the attention of the readers
- ➢ Summarize the story
- ➢ Index the contents
- ➢ Create the mood of the story
- ➢ Give Typographic relief
- ➢ Helps to grade news
- ➢ Major source of news for the hasty reader
- ➢ Helps to sell newspaper at bus stand
- ➢ **Writing headline**

  Writing headlines is the art of selecting understandable words and phrases that will fit in the limited space of particular head counts. It is a skill that can be mastered best through supervised practice. Headline must be punchy and appealing and yet meaningful and truthful. They must be brief. Active

meaningful words are vital in headlines to reflect the freshness of news.

Sub-editors do not use articles in headlines. The reason is that it takes up valuable space. Despite limited space in heads, arbitrary or rare abbreviations are not acceptable. Splitting or dividing a word between lines is not permitted because of the difficulty that would come in reading headlines quickly. Headlines should end without a period or full stop.

Steps to write headline

1) Read and understand the tone of the story
2) Write rough headlines
3) Use specific and precise words
4) Reduce unnecessary words
5) Use action verbs and add some creativity
6) Write heads for running stories carefully
7) Do not repeat words
8) Use attributions when needed

Use present tense

9) Use abbreviations carefully

Types of headlines

Banner or screamer: Headlines in large fonts spread across all the columns of a page. It is used while sensationalizing the news stories. Now newspaper do not break news, so banner headlines are not needed often.

Eg: **After Epic Battle, Obama Claims the Nomination**

Kicker: it is usually an online heading with a second line above it in a different style and half the type size. It extends no more than midway above the main line. Kicker headlines are used to dress up a page by lending variety.

Eg: ***Homes receive personal touch*** → **KICKER**

Fix it store helps improve quarters

Hammer: it is the reverse of kicker but usually in all capital letters. The big type is the kicker and the smaller type the main headline. One word or two at the most will suffice of the hammer. By virtue of the size, hammers impress the readers with their importance.

Eg: **RELIGIOUS CONVERSIONS**

VHP all set for mega mela at Rajasthan & Maharashtra → **HAMMER**

Step or drop line: Here the first line is arranged flush left, the last flush right and the middle line centered. Here the headline has three parts of almost equal

length. It is difficult to write and inconvenient to read, but visually appealing.

Eg: Heavy rain Shuts down Goa beaches

Pyramid: The lines are arranged in triangle style.

Eg: Renewable energy firm to add 15,200 MW

We also have an inverted pyramid style in the shape of an inverted triangle.

Cross head: A single line of head line.

Eg: Few women Ministers

Double cross line: Two lines of headline indented both sides.

Eg: Israel Defence Minister to visit India this week

Flush left: it has one or more lines which are set flush to the left. This should not touch the column rule. It is one of the most commonly used headline style, popular for the ease of writing and convenience for the reader.

Eg: Israel Defence Minister to visit India this week

Flush right: each line is pushed against the right-hand margin to create a stepped effect on the left.

Eg: Israel Defence Minister to visit India this week

Centered: In this type of arrangement each letter of headline type is centered on the white of the column.

Eg: Counting of Srirangam by-poll votes today

Hanging indention:This head is composed of 2 or 3 lines, the first line is full set out and the others indented flush left.

Eg: Mumbai earthquake awaiting rescue, help

Square indention: The first line is set full out and other indented usually right.

Eg: Israel Defence Minister to visit India this week

Skyline: Headline running above the name plate across the top of the page. It is also known as over-the-roof.

Eg:


FALCON JOSLIN KILLS FRIEND ACCIDENTALLY!

5 HOME EDITION

The Seattle Daily Times

MAYOR BROWN CHARGES PLOT TO INDICT HIM

CITY EXECUTIVE WILL DEMAND HEARING BEFORE GRAND JURORS

PROMINENT RANCHER OF KITITAS IS GUN VICTIM

ATTACK OF MINISTER IS BLAMED TO POLITICIANS

20 DEAD!

CABINET IN FRANCE OUT BECAUSE OF RADICALS

Colonel Mitchell Is Prepared to Offer Strong Objections

At Least Two Challenges Contemplated by Defense

TROUBLESOME QUESTIONS TO GO TO CONGRESS

Books for Reference

- Spencer Crump : Fundamentals of Journalism, McGraw Hill Book Company
- KM Shrivasthava: News Reporting and Editing, Sterling Publishers

Bruce D Itule and Dogulas A Anderson: News Writing and Reporting for Today's Media, Mc Graw Hill Inc. **References**

- Arlington, VA, The First Amendment Handbook.: The Reporters Committee for Freedom of the Press, 2003.
- Campell, Richard : Media and Culture, An Introduction to Mass Communication, 2nd Edition, Bedford/St.martine's, Boston.
- Dominick, Joseph R: The Dynamics of Mass Communication, Harper and Row, New York
- McQuail, Dennis: McQuail's Mass Communication Theory, Vistaar Publications, New Delhi.
- kumar,Keval J,Mass communication in India, Sage,New Delhi
- Hassan, Seema, Mass Communication, Principles and Practices, Jaico, New Delhi
- Lister, Martine: New Media: A Critical Introduction, MIT Press • Mamer, Bruce : Film Production Techniques, Thomson Warsworth, Singapore.
- Turow, Joseph: Media Today: An Introduction to Mass Communication, 3rd Edition, Routledge, London, 2010
- Vivian, John: The Media of Mass Communication, 5th Edition, Allyn and Bacon, Singapore, 2008
- Joshi Uma: Textbook of Mass Communication and Media Studies, Anmol Publications Pvt. Ltd.
- Crump Spencer : Fundamentals of Journalism, McGraw Hill Book Company
- Shrivasthava K M: News Reporting and Editing, Sterling Publishers
- Bruce D Itule and Dogulas A Anderson: News Writing and Reporting for Today's Media, Mc Graw Hill Inc.
- Chester,G, et al Television and radio, Prentice Hall
- Saxena Sunil, Broadcasting News: The craft and technology of online journalism
- Zettl Herbert, Television production handbook, Wadsworth, USA.