
EVOLUTION OF COMMUNICATION TOOLS IN INDIA

Mrs. Asha Yadav, Faculty, School of Vocational Education and Training, Indira Gandhi National Open University, New Delhi (INDIA); Email: ashayadav@ignou.ac.in

Anna Sandra Sebastian, Freelance Content Writer, Cochin (INDIA); Email: annasandra2000@gmail.com

Dr. Mrityunjay Kumar, Faculty, Dept. of History, ShaheedBhagat Singh College, University of Delhi, New Delhi(INDIA);Email: mrityunjaykumarhistory@gmail.com

Dr. Vandana, Faculty, Dept. of English, Satyawati College, University of Delhi, New Delhi(INDIA);Email: vandanayadav82@gmail.com

ABSTRACT

“Communication is the solvent of all problems and is the foundation for personal development.”

-Peter Shepherd

This research article is about the gradual process of change and development of communication over many thousands of years from simple forms to more advanced ones. We can communicate our ideas, feelings and needs to others using words. In the same way, others come to know our ideas, feelings and needs by the medium of words. The capacity to communicate distinguishes human beings from other animals. Communication is a basic need of our existence just like food and shelter. From early days itself communication has evolved from cave paintings, to symbols, to pigeons, to postal, print, radio , telegraph, telephone, television, smartphone and to the current world of virtual reality and technology. Technology and artificial intelligence have made a drastic change in the communication industry. The meaning of communication is changing from day to day but the basic purpose of interaction remains the same. The main objective of the study is to know the evolution process of communication tools. As we know secondary data means data collected by someone earlier. It is past data in refined form & can be processed in quick & easy manner. It may be Govt. publications, websites, books, journals, articles, internal records etc. Though accuracy & reliability of this data is relatively less but it can be collected in short time. Hence, ‘secondary data’ is used for this study.

Key words: Communication, Cave paintings, Smoke signals, Carrier pigeons, Symbols, Internet

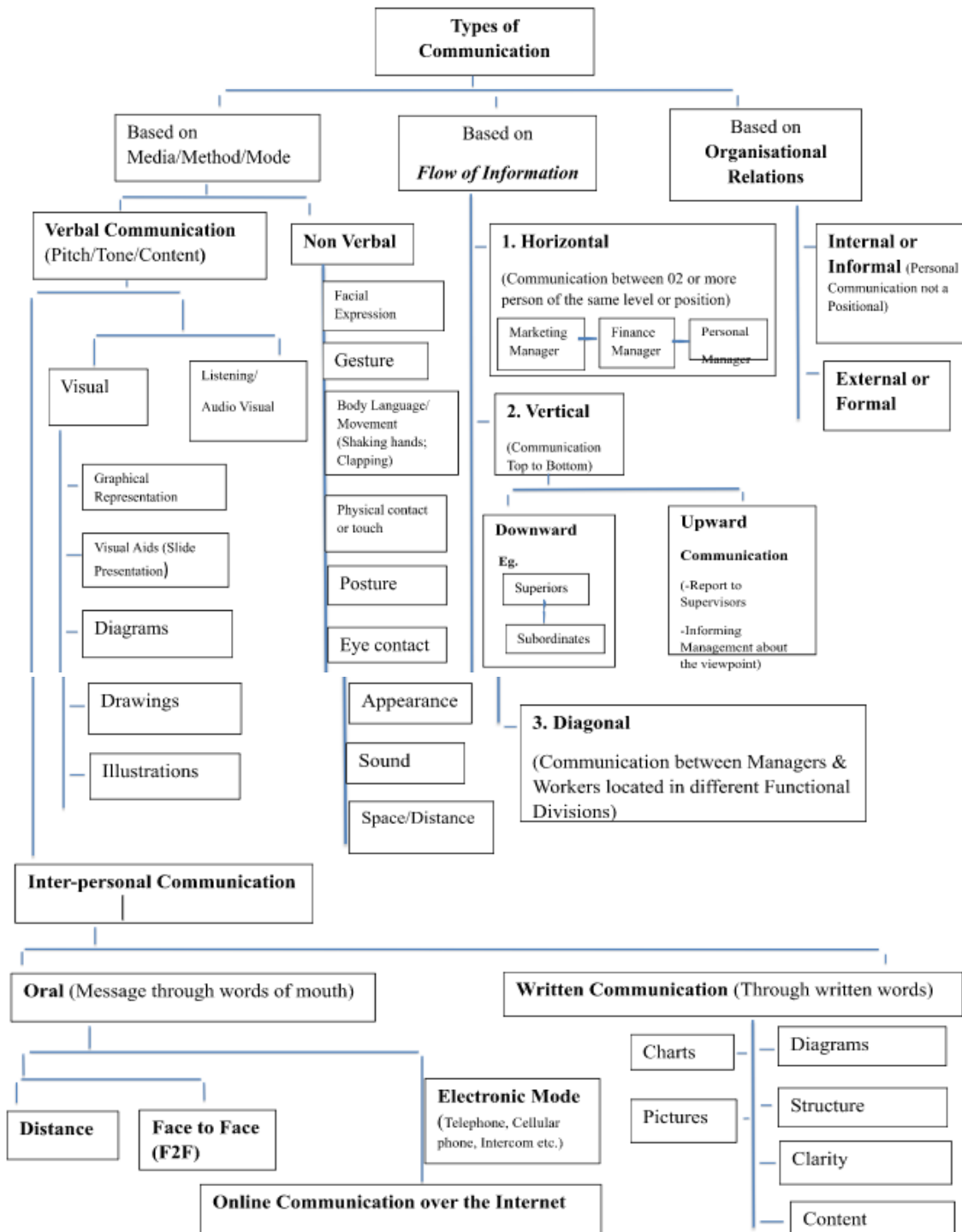
INTRODUCTION

Communication is something that has been there since human beings were created. The form, types and medium of communication have changed over time but communication in itself remains the same. Communication in its simplest sense, is a human relationship involving two or more persons who come together to share, to dialogue and to commune, or just to be together, say, at a festival or a time of mourning. Communication came through a long way. First early men in the Stone Age communicated their thoughts and feelings through gestures or signs. They send signals through fire, whistle and drums. Later human beings communicated through cave paintings, a parietal art found on the walls and ceilings of caves. After that camel messengers were used where people send messages to a person who delivers a message by riding on a camel. Other forms of communication were messenger pigeons which were first used in 776 BC. After that came the first postcard service. Later in 1867 Alexander Graham Bell developed the prototype of electric telephone. With the invention of internet communication further developed and in 1989 World Wide Web was started using. And now drastic changes are taking place in the communication sector with AI and the internet.

Sl.No.	Older Communication Tools	Modern Communication Tools
1.	Cave paintings	Television,
2.	Smoke signals,.	Cell Phones,
3.	Symbols	Internet,
4.	Carrier pigeons	E-mails,
5.	Telegraph	Social media,Text messaging etc.

Here older and modern forms of communication tools will be discussed.

Types of Communication can be classified as follows:



Main two types of communication that are verbal and non- verbal communication, is discussed here.

Verbal communication

It refers to spoken communication. And it may include face to face interactive. Communication through radio, television and other media comes under this communication type. This type of communication play a major role in maintaining a positive and successful relationship. Formal communication like emails, reports, letters, etc comes under this.

Non-Verbal Communication

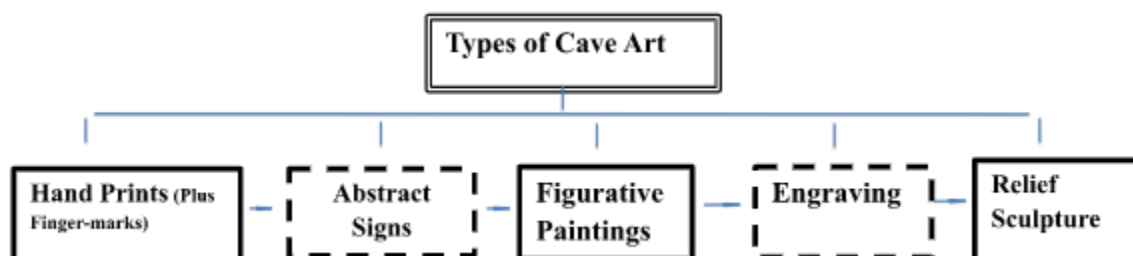
Communication through body language and gestures are called non-verbal communication. Spoken language is not used in it. This is important when one appears for an interview as it can make or break the relationship between the people interacting.

EVOLUTION IN THE COMMUNICATION METHODS

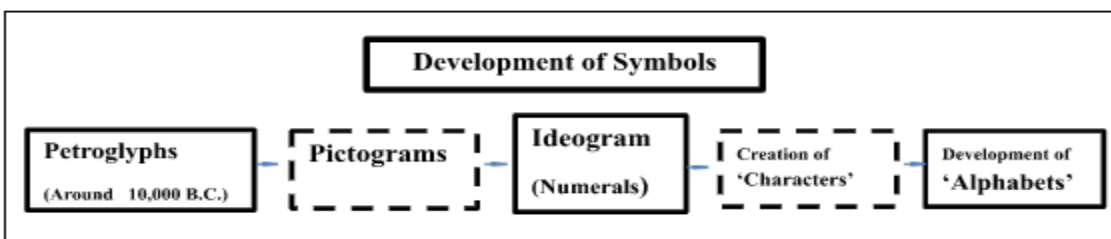
Communication through Cave Paintings

With the ability to draw, ancestors find it easy to communicate through paintings on caves, tree trunks, or on the ground. Different symbols were used to communicate. This is considered as one of the oldest forms of communication. They were even used to mark territories. The drawing were mostly related to their daily lives and religion and rituals they follow. **UNESCO** preserved '*Prehistoric Paintings of Altamira's Cave*' of Spain in 1985 as a heritage site.

Five types of Cave Art is as follows:



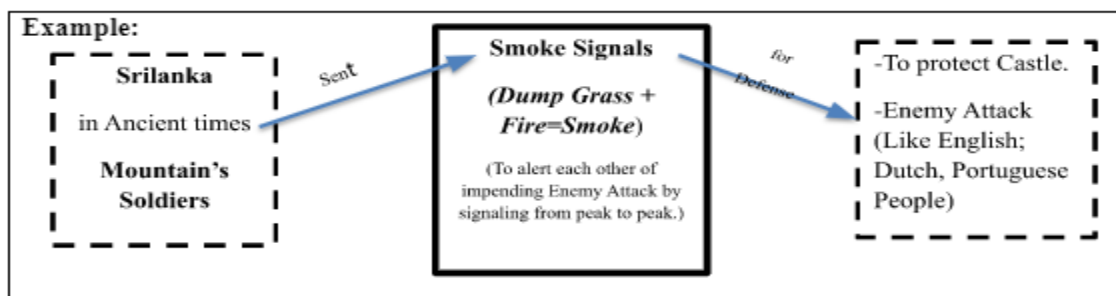
Communication through Symbols



After some years a new method of communication arises which is through carving on rocks. It is known as **petroglyph**, carving into **rock surfaces**. It was after twenty thousand years that we were able to make the first petroglyphs after making the first cave painting. Later variations of cave paintings emerged into **pictograms**. Pictograms are images that represent simple objects and places. They are like proto- writing where ideas are transmitted through drawings. Later ideas were represented through Pictograms, **ideograms, graphical symbols**, etc. Pictograms do not directly portrays things or situation but it indirectly conveys the meaning it holds. Abstract ideas conveyed through Ideogram.

Smoke Signals

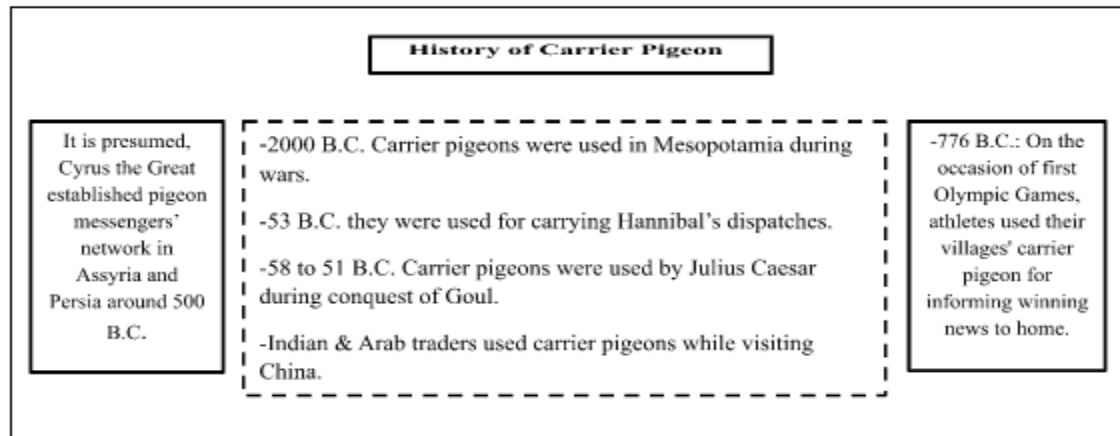
In earlier time transmission of information, news was done through smoke signals in order to protect their castle from different dangers. **For example:** "In ancient China, soldiers along the Great Wall used to send smoke signals on its beacon towers to warn one another of enemy invasion."



Carrier Pigeon

Birds are known for their capability to remember and understand directions. Pigeon was a bird used to send messages in earlier days. They can understand location even after travelling long

distance. Letters were attached on the neck portion of these birds and they were send to long distance locations.



In the beginning 'Stone and Clay Tablets' were used to express thoughts. Papyrus rolls and early Parchment paper which was made of dried reeds in China (500-170 B.C.) was the first portable and light writing surface. And after that 'Tsai Lun of China' invented paper in 105 B.C.

Postal System

With the evolution of communication people came to know about postal letters and they started using it. It gave a personal touch to the message sent as it could be written by self. These letters will reach the hands of receiver through post office. The system first came in India in 1163. Mailboxes were kept in different location and later post man used to carry these letters and give it to the concerned person through the local post office.

Print medium

With the emergence of the printing press system by German Johannes Gutenberg in 1440, newspapers became a medium of communication. It is still a wide form of communication which most of the houses read on an everyday basis. These newspapers help people to know about what is happening around them and news of national and international importance.

Radio

Radio came after the emergence of print media. It arises as a medium of news as well as for entertainment. Different experiments were carried out and tests were done in detail. Scientists

used wireless mode to transfer content. And currently mobile phones and car systems have radios in them. It is an important medium which makes available news and entertainment accessible to rural and other inaccessible areas where electricity is not available.

Telegraph

Telegraph, the first electrical communication system was a game changer to the communication system that existed till those days. Until then the process of writing and receiving letter was a long process and took the major productive time of people. It helped in sending information faster across the country.

Telephone

Conceived in the early 20th century as a possible medium for education and interpersonal communication, it became by mid-century a vibrant broadcast medium, using the model of broadcast radio to bring news and entertainment across the country. Alexander Graham Bell in 1876 introduced the first telephone and it was a new thing for the man then. Later with time it became a major device of every home and workspace. With this device people to speak for more time with no restricting like space which was a concern when it comes to letter and the delay it had to go through before receive a letter. Message could be send long distance on timely basis, even the death of your close ones could be made known to the other person through a call. In 1900s landline telephone service came and long hour of talks became a habit began in the 1900s. Through telephones, it is very easy to talk someone for hours sitting on very long distances.

Television

In 1926, Baird gave the world's first public demonstration of a television system at Selfridge's department store in London with the use of imagery. It is a mode of indirect communication to a huge audience. Early television displayed black and white pictures but with the technology colour images were transmitted through television. Today television is a main media platform which is improving its features day to day with the advancing technology and functioning as an information and entertainment platform.

Internet

In 1969, ARPANET, a U.S. military project started Internet service and it as the foundation stone of what we could experience today. The term “internet” as used for primarily in 1973. The first internet service was provided by ‘Telenet’ internet services. Later the introduction of World Wide Web (www) lead to the modern day internet browsing system.

History of Telecommunication Development

Timeline			
1.	1970	Semaphore	Claude Chappe
2.	1809	Crude Telegraph	Samuel Soemmering
3.	1835	Telegraph	Samuel Morse
4.	1843	Fax Machine	Alexander Bain
5.	1876	Telephone	Alexander Graham Bell
6.	1895	Wireless Telegraphy	Guglielmo Marconi
7.	1946	MTS Car Phone	AT & T; Mobile telephone service (MTS) by the American Telephone & Telegraph Company (AT&T)
8.	1969	ARPANET	Advanced Research Projects Agency Network; ARPANET's main use was for academic and research purposes. ARPANET) was the first public packet-switched computer network.
9.	1973	Mobile Phone	Martin Cooper
10.	1976	Mobile Communication Satellite MARISAT	First maritime telecommunications satellites for commercial shipping.
11.	1979	INMARSAT	Inmarsat is the leading mobile satellite communication service provider, and delivering reliable, seamless global connectivity.
12.	1991	2G Commercially Launched	2G or second generation of wireless technology was first launched commercially in Finland in 1991. It utilised digital signals for voice transmission.
13.	2000	3G	3G is the third generation of wireless mobile telecommunications technology.
14.	2006	4G	4G is the fourth generation of broadband cellular network technology.

DISCUSSION

BASIC COMMUNICATION TOOLS

Communication is the basic necessity for the success of any relationship. It is the building blocks of a business.

Mail

Even with the advancement of technology, the conventional mail system is still considered as a major tool for business communication. Moreover, it creates a personal touch. It also helps in secured delivery of materials.

Email

Email is a tool used by business entities and persons to communicate in an immediate manner. Even though you have a personal email id, then also an official email id is used for business communication. Daily checking of mail is important for ensuring that you receive information at the right time. Email also provides you a facility to send the same message to multiple persons or entity. You can also postpone sending outgoing email, set-up automatic responses and filter incoming email with different types of accounts. Some of the popular email platforms are Gmail, Yahoo and Outlook.

Telephone

The core of any business is internal and external communication which is easily handled through telephone. In a business entity it is always better to have a telephone which can receive messages even if you were not able to answer the call.

Some telephone tips:

- Answer the calls in timely manner (within three rings if you can)
- Have a separate telephone number for your office use and personal use.

➤ **Landline**

Landline works on a system which is different from the present day smartphone. It uses physical wires for transmission. If one like to add additional services such as voicemail, multiple lines, and conference calling, research the options offered by your service provider and you don't need to switch to another service provider to add the benefits.

➤ **Cell Phone/ Mobile Phone**

A smartphone is a wireless phone which has advanced functions like email, google, internet and social media. It has got a camera and video capturing and messaging facilities. Smartphones have many features that can be seen in a computer. You can do most of the tasks through a smartphone like sending mail, using GPS, online transactions, editing, scanning documents, accessing social media. Some of the popular smartphones are Apple Iphone and Samsung Galaxy, many other brands are also providing competitive smartphones.

➤ **Internet Calling: Google Voice and Others**

There are many service providers that provide internet calling facilities. One of the popular service providers is Google Voice. Voicemail, Short Message Service (SMS) and texting, and a local phone number, etc are provided by Google Voice. Features like free text messages, customized voicemail, read voicemail text transcript, and more are provided to users. It is a service provided freely to all Gmail users. Other Internet calling facilitators are Grasshopper, MightyCall, Nextiva, DingTone, Telzio, Freedompop, Line2, Voiceably, and OnSIP, to name a few. They have their own weakness and strengths.

SMS / Text messaging

It is a basic feature in mobile phones. Not all mobile phones are smartphones so every mobile phone cannot send video and voice messages. SMS / text messaging is a feature which helps to communicate. These are text messages of less than 160 that include letters, numbers and symbols. Companies use this texting feature to remind customers about offers, sales, and other announcements.

Cell and Data Plans

Mainly there are two types of data plans: Prepaid and Postpaid.

Prepaid allows you to pay the amount before you start consuming the data. While postpaid allows you to pay the bill after you use the monthly data. In postpaid the user signs a contract with the company. Unused data may or may not roll over to the next month. It means that you have to pay for the data even if you use it or not.

Check before choosing a plan as violation of the contract may lead to penalty. Also decide based on your business needs and choose either prepaid or postpaid service to choose.

Video and Web Conferencing

Video conferencing is a way of communication which enables communication in a personal way with the customers outside the organization and even with the employees within the organization working outside the office space. It also helps in overcoming the barrier of time and space as people could interact virtually. Face-to-face meeting is possible through video conferencing technologies and in this real time audio and video is transmitted between the receiver and the listener. While during web conference one could even share documents more over the features provided in video call. Some web and video conferencing platforms are Google Meet, Skype, Zoom, Ring, etc.

Social Networking Sites

A social network is an online networking system which helps us to connect with people all over the world. It helps us to connect with our friends and relatives at anytime from anywhere when you have a smartphone with good internet connection. It breaks the barrier of time and space. In this way we could connect to people having similar interest of ours, which without this sites is difficult to connect. In this way business entity connects with their suppliers and customers and grow their relationship. Facebook, Twitter, LinkedIn, Instagram, and YouTube are some popular social networking sites.

Online Collaboration Tools

G Suite and Microsoft

Microsoft office and Google Workspace are suites of productivity tools and they help us in performing common business tasks in cloud using a web browser or desktop. They help in managing calendar, creating spreadsheets, videos, presentations, etc. In 2013 Microsoft moved their office suite to online mode with naming it Office 365. Later office was renamed to Microsoft365 in 2020. The first collaborative tools of Google as called Google app for your domain. In 2016 Google renamed it G Suite and it was again renamed it as Google Workspace in 2020.

COMPUTERS

With a computer a person could convert raw data's to meaningful information. A computer is a programmable machine. In this way it convert some input into some output using the instructions provided. In a well-defined manner it responds to specific instructions. It helps in running a business smoothly. It is available in various price range. For performing basic business functions like sending e- mail a basic computer with not too many specification itself is sufficient. Based on functions different varieties like laptop, desktop, tablet, etc are available.

❖ Desktops

The earliest form of computer are desktop computer. It is a non-portable variety and could be used by keeping at a particular place. It also need to be connected to multiple devices like CPU, monitor, keyboard, mouse, speaker, etc for its proper functioning. It is mostly used in business atmosphere where there is a specific work place for all.

❖ Laptop

Laptop are portable computers and nowadays many business personalities use this as they could carry it and work from different places even when they are travelling. Laptops are mostly easy to manage when compared to desktop and it is lighter in weight and smaller in size. One of the disadvantage of laptops are mostly their battery need to be replace fast as it may have low battery life. It also have small screen size and small keyboard, which may be difficult when it comes to performing daily business duties which requires more functions to be performed using laptop. Some popular laptops are Chromebook, Surface Pro, and MacBook Pro.

❖ Notebooks

Notebooks are smaller computers which is lightweight, small and less expensive. This are mostly used to access websites and for performing smaller functions .They are mostly used by YouTubers, Social Media Influencers, students and business owners. They are less expensive when compared to laptops and computers, but due to high branding and promotion activity, the products have become much expensive.

❖ **Tablets**

A tablet is a wireless, portable personal computer having a touchscreen interface. The main advantage of it is that it need less space to occupy and therefore can be carried to most of the places easily. It is smaller than a computer and notebook bur bigger than a smartphone in size. Some of the advantages of tablets are it is smaller in size, handy, can perform multiple functions that a laptop can and also some functions which a smartphone can perform. Some of the disadvantages are less comfortable to do big jobs compared to traditional desktops, screen size too small, which is difficult to check and work on data's on a daily basis as it may increase work stress and strain, etc.

❖ **Software**

Software are a set of instructions that are used to operate computers and execute specific tasks. Every task a user wish to perform by a computer is done with the help or direction of the software within a computer. System Software, Programming Software, Application Software, etc. are some of the examples of software based on its functionalities.

❖ **Auxiliary Products**

These are products that can be used to improve the functionality of a product. It functions like a catalyst in a reaction. It makes the job easy and therefore highly preferred in business. Mostly these auxiliary products need certain software's to run it properly.

• **Printer**

Printers are devices which helps in producing a hard copy of some files which are available in soft copy format. Some printers are all in one which means with the same printer one could perform the task of printing, photocopying and scanning files. Printers are available at different price ranges, based on the brand and its function and quality price varies. Some of them are wired and some have wireless connection. Check what your requirements are before purchasing a printer. Some are coloured printers, while some others are black and white printers. Printers are a great help in office and business environment to perform daily tasks.

- **Digital Camera**

Visual images could easily communicate message than text. Therefore a good digital camera is an advantage for a business organization. Many smartphones have digital cameras but it is always better for a business to have a dedicated digital camera for its own purpose. These days digital camera comes with the feature of being able to connect directly to a computer and pictures can be edited and uploaded easily. Also some advanced digital cameras come with a wifi facility which enables the user to directly upload the image to online sites.

- **Hard Drive and External Storage**

Storage of datas is a very important subject when it comes to a business. It is always necessary to have a backup storage option so that the information is available even if your primary device crashes due to some technical issues. Commonly backups are stored on USB flash drives, external hard drives and even on cloud based storage systems. Most of the secondary storage options are less expensive.

INTERNET

The Internet is a great platform which helps a business to grow tremendously when compared to other mediums. It helps in creating a lead for our business, and helps in reaching our potential customers and establishing your business. It is better to take the support of crowd sourced business reviews and to register with search engines to reach target audience faster. The Internet helps you to build a relationship with your customers on a daily basis and also to know their likes and dislikes which helps in designing your products and services accordingly.

ANALYSIS AND CONCLUSION

From analyzing the evolution of communication we can understand that social media has played important role to revolutionized communication. Earlier pigeons were used to send messages and camels with men were also used to communicate messages. At present the text& audio-video messages are used to send messages like video call, etc. The world has gone too far from where it started. Every communication medium was used with an objective that the receiver should understand it properly and clearly. Today, within seconds, with the tip of your hand we can send

messages to people across different countries. And, there may be lack of the personal touch in those messages, one which was received in face-to-face (F2F) communications mode. But, it serves the meaningful purpose of interaction with people and that too with ease. The meaning of communication may change but the objective of communication will remain same i.e. 'interaction' and it will not change.

SUGGESTIONS AND RECOMMENDATIONS

Communication is an essential part of our lives and through communication instruments we can understand and perceive the world & make our lives meaningful & interacting with people. We used the cave paintings, smoke signals, symbols, carrier pigeons, and telegraph, as an older forms of communication. Now in the modern times we use more comfortable, handy, suitable and efficient tools like, Internet, E-mails, Social media, Television, Cell Phones and Text messaging. Evolution of communication is growing day by day with the advancement of the technology..

So it is always good to adapt with the change so that you will not get lost in the journey. As with technology and time everything will change and for you to continue your communication it is important for you to adapt with the technology and changes to ensure that your basic need of communication which is interaction with people is met.

Recommendations

1. Some historians are of the view that carrier pigeons can detect magnetic field & navigate their way back to their destination. Keeping in mind this quality of pigeon Odisha police still keep 100 Belgian Homer Carrier Pigeons to send messages. This practice is followed from the time of British Colonial Rule. Odisha police kept the pigeons for their heritage value & carrier pigeons services are still used during cyclone, flood etc.,. Such services can be used by other states' police too.
2. Cave Paintings have historical significance. Hence, awareness programmes about this heritage should be conducted time to time for our people, students, NGOs' & others. It's our duty to preserve our ancestors' communication-tools for future generations to know about the evolution of communication effectively.

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3. Teacher should use more communication tools in classroom teaching-learning process so that they can make their teaching more effective in order to achieve learning outcomes from students' sides. As we know the more communication tools we use during teaching, the more effective learning outcome would be.

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