INFORMATION SYSTEMS CONCEPT- ELECTRONIC COMMUNICATION AND INFORMATION SYSTEMS APPROACH

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Introduction

In classical communication process there are two parties. And between these two parties there is a medium called “channel” or “communication channel” in order to establish an interaction.[1]

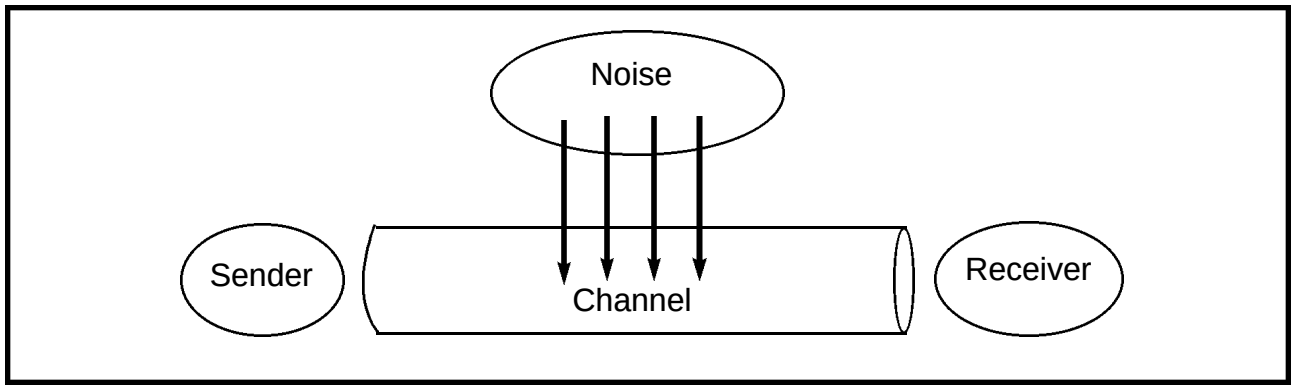


Figure 1. Classical Communication Process

This process is so generic so that you can easily adapt to almost any situation. For example, sender may be a very hot cup of coffee and receiver may be your hand. And air is the medium or so called channel. When you get your hand close to the cup you feel heat.

The meaning of data is “fact”. This implies circumstances related to things happening around us. When we consider communication process from the viewpoint of data and information, we see that data is a function of sender.[2] That means without the sender there are no data. For example, we cannot feel the heat without a very hot cup of coffee. The “thing” transmitted from sender through the channel to receiver is called “message”. Message is a function of “Channel”. We cannot feel the heat without air. Air molecules carry the heat from sender to receiver. This is called transmission.

“Information is the meaning of data for receiver. In other words, information is a function of receiver. As soon as you feel the heat you withdraw your hand. Because you do not want your hand got burned. “Getting burned” is the meaning of the heat for you. Once you have this information, you do not get closer to the hot cup.

Humans, throughout their lives, compile “knowledge” by connecting the information they acquired with the information they already have. In other words, knowledge consists of relations among information. For example, we choose our credit card password from most known numbers like our birthday or school number. An Information is forgotten when its relation to other information get weakened or gets broken. But in time, by adding new information, knowledge become different than before and get condensed on some subject areas.

Tools that help us to perceive information are very diverse. Our hands are such a tool. On the other hand, a barcode reader at the cashier is such a tool either. There is an important consequence of diversity of tools used to perceive information. During the process of perception or transmission, noise occurring in the environment (channel) or collision occurring when trying to perceive information about a different subject at the same time causes the same data to be perceived in different meanings by

different receivers. And when humans relate the information they just received to the information they already have, their knowledge differentiates from one another.[3]

Humans with similar knowledge comprise a common culture. Differentiations in knowledge help emerging of different cultures.[4] Throughout the history, it is observed in clarity that increased communication among people creates common ties between cultures.

Communication and Information Systems

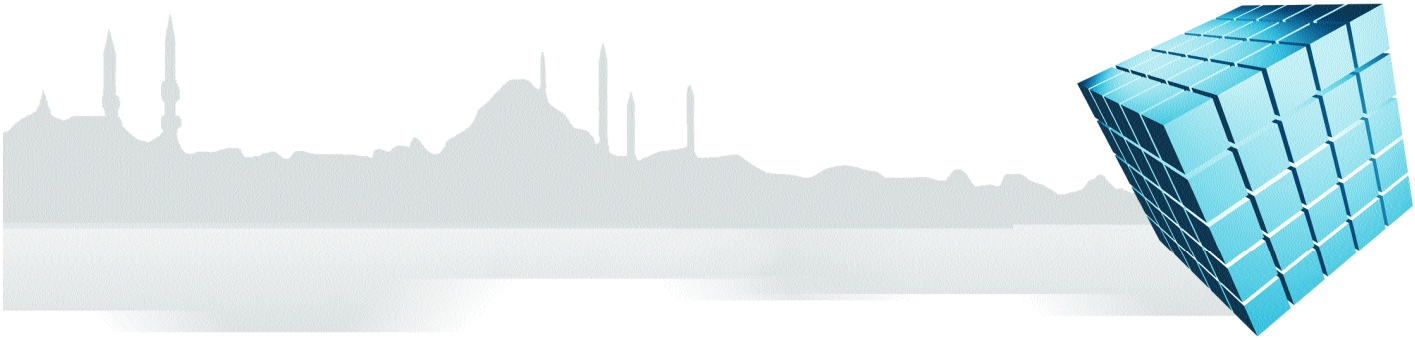
A communication system is for establishing a communication between parties and an information system is for exchange of information between parties. A communication system is a body of system which comprises of physical, technological electronic and social structures that maintains message exchange between two or more parties. Even, face-to-face communication happens in such a system. On the other hand, an information system is a body of system which comprises of physical, technological electronic and social structures that maintains information exchange between an individual and an information system or two or more information systems. Interpreting the communication process from the viewpoint of Informatics gives clues about Information theory. Informatics is "information science". This science deals with the issues of collecting, processing, transmitting, storing, broadcasting, publishing data for defined purposes, and functions that transforms data into information and methods, devices and systems to accomplish these functions and effects of these systems on individual and the society. Information Scientist on the other hand, is brain (information) force to develop informatics products and systems and work for implementing them to the life of individual and society in an effective way.

eCIS brings a new approach between these two systems and this makes the views of "traditional" communication experts obsolete who ignore human-computer interaction in creating, presenting messages. Besides, it is getting more difficult to differentiate between message and information, communication between humans and communication between information systems. In order to maintain a point of view on use and impact of new technologies, Communication Science must accept the interaction between humans and information systems.[5]

Although information systems technologies are similar to communication systems technologies, their usage make the difference. Information systems are not developed for person-to-person communication. Person can interact with the information system and make changes on the data in that system. For example, when you connect to a cinema's web site you can make reservations. In this way, you both surf some web pages and also you make some changes on cinema's database. This is the usage of an information system and a sub-research area of human-computer interaction.

Some scholars are suspicious about a successful model to integrate communication systems and information systems. Basically, communication is different than usage of information systems. But this difference is getting more and more blur. In complex information systems, for example, when you query flight arrival-departure dates you can get answers by voice. For a lot of people this feels like talking to someone on the phone.

More importantly, all communication systems expect their users what information systems demand from their users. For example, when you are typing an e-mail we use the system by help of some commands. In this case, one can ask when communication occurs. Either when you sent the e-mail, or when someone received the e-mail, or someone answered the e-mail? In either way e-mail system is considered as a communication system. Even in a phone call, user must interact with the system before the conversation begins by dialing the numbers. Moreover, telco centrals and complex databases connected to those telco centrals help you reach the person you are calling and at the same time allow that person to see who is calling. All these constitute an information system. As a Result we can say that all electronic communication systems require use of information systems.



Subject areas in Informatics base on rapid technological, dimensional and content changes that modern communication tools, systems, and organizations passing through. Moreover, base on social changes influenced by those changes. [6]

Electronic Communication and Information Systems (eCIS)

Increasing importance of electronic communication in daily life contributes to the development of mass communication. And this development, has also contributed to the development of "communication", so called "new media" emerging as a science in last twenty years. Appearance of a new communication system mostly brings new research areas including capacity, application, and usability issues. At early stages, it is noticed by researchers that studies related to eCIS were not the type that are guided by the theory. One reason for this is that researchers working on eCIS were insisting on that the theories of traditional mass communication and interpersonal communication must be updated to include communication issues implemented on electronic systems. Besides, efforts trying to have a theoretical frame for eCIS were expressed by unitary concepts like social phenomenon and information richness. These concepts have limited contribution but not sufficient for showing the genuine attributes of various communication systems. In addition to these warnings stating that studies of eCIS must have a theoretical base, in 1980s there is a general tendency saying that these studies should not be guided by technology. In those years, this view is accompanied by the growing interest in variables not related to technology, like variables related to social context.

Unfortunately, these warnings caused eCIS studies not to go beyond the studies examining models of technologies used for communication. Researchers studying eCIS usually deal with new technologies by abstracting them form other systems. Thus, the CIS literature about the technologies related to voice mail, virtual reality, ATM machines and internet have very few things to say about similarities and differences of these technologies and their impacts on humans. Issues of Information technology were treated as issues of engineering. And psychological, economical, administrative and artistic changes brought into life of an individual and into the society were not well noticed.

To constitute a theory about the effects of a "continuously" changing system becomes difficult if the information about the system cannot be organized in a meaningful manner. In this case, the need to create research agenda on constituting theory about new technology clears the complexity of CIS and defines interactivity between new technologies. This can be considered as aims of Information Systems Departments in Communication Faculties in Turkey.

Conclusion

It is well noticed that communication is developing in a parallel way as social life develops and gets more complex. It is obvious that besides the developments in production, technology and commerce, developments in cultural, artistic, political areas make communication functions more comprehensive.

While subject areas discussed after first half of 20th century concentrated on radio, television, cinema, and press, today we are facing various, complex and amazing communication systems. Among these systems, the definitive role is played by computer aided technology that can address eyes, ears and brain. For example, those four subject areas can be merged on the Internet. In this way, by having only a computer and an internet connection, people can listen to radio, watch TV and films and read newspapers on the same media.

All those developments make it quite right that our era is called "information era". Starting from the communication services, and reaching to every subject and location, computer networks created an "information society". [7]

While information technology is solving very important problems, at the same time, creating problems in developing countries, as well as in developed countries. In developed countries, problems are scattered around issues like information garbage, security, decision support,

estrangement. On the other hand, in developing countries, in addition to these problems, increasing technological, economical, cultural and political dependency, functional use of imported technology need to be solved. In this case, in Turkey, public and private sector need to determine their point of view and work together in coordination to create an information society. [8]

At this point an important duty goes to institutions giving or intending to give informatics education in social sciences area. Using informatics concepts properly, and suitably, forming the content of this education according to the internationally accepted norms, will make this multidimensional scientific area bring more productivity into life of the individual and the society.

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