Citita Malist of the Cities in ICT

#### Introduction

Information and Communication Technology, popularly known as ICT refers to all the technologies providing access to the information through the telecommunications. It is a broader form of Information Technology or IT. The technologies referred here include the internet, the computers, software, the wireless networks, cell phones, social networking, and other media services. In simple words, 'Information and Communication Technology' can be stated as an extension of the Information Technology. The best use of ICTs can be seen in various sectors these days such as the education sector, industries, health sector, banking sectors, and also in the scientific research. Thus, this analysis is based on the issue that can arise or that arises from the use of information and communication technologies in various sectors. The ethical issues from the usage of the information and communication technology towards its users are studied from the technical as well as philosophical point of view in this analysis. Also the pros and cons of the ethical issues are pointed out and are discussed in the analysis for better understanding.

#### **Analysis**

ICTs or Information and Communication Technologies are an extensional term for the Information Technology or IT. Before analyzing the issue associated with the implementation of information and communication technology, we must first know more and better about the advantages and disadvantages of ICT or information and communication technologies. Thus, the pros and cons of ICT are as follows:

## a. Pros or advantages:

Speedy Communication: Information and communication technology has enabled the
 mass to communicate the information much quicker and in less money. With the usage of

- ICT, the user can now send or receive the information at lesser time. People now can send a single message to many receivers in one go and at saved money (Fabris, 2018).
- <u>Effective Cost</u>: Not much proven but the use of ICT is cheaper and cost effective than any other medium. Like, sending e-mails are cheaper than making phone calls.
- Wide Methods to Communicate: With the introduction of the information and communication technologies, the scope of communication and the communication methods have been also evolved. Now, the sender and the receiver have multiples of methods to communicate information to each other. The technologies such as texting, mailing or video-conferencing have made the work of various sectors easy. This has even reduced the paper work, and the accuracy can also be maintained here. The use of mails to communicate the information is more preferred than a phone call.
- <u>Availability</u>: Information and Communication Technology or ICTs are widely available to the users.
- Reducing the Cultural Gap: The information and communication technology plays a crucial role in the reduction of the cultural gaps. With the use of ICTs devices or techniques we can easily transfer our cultural values with the others and can receive other cultural values and ethics. Thus, with this the information and communication technology is contributing considerably in removing the barriers to the cultural values in the society.
- Globalization: Another advantage of ICT which is must to mention is the facility of globalization it has provided to the world. Now, with the help of information and communication technology, people can communicate each other's information easily on a global basis. A person of India can communicate freely and easily to the person living in United States of America. They can communicate either through mails, or video

messages or video calls or voice messages to transfer the thoughts or information to each other.

- Education Sector: ICT being an extension of the information technologies are contributing in an excellent mode to the education sector. Since, we are aware of the pandemic situation faced by the world. In this the information and communication technology has played a great role in helping the education sector to provide its services to the students. Schools and colleges have opted for the tools offering the video-conferencing services to teach students. Thus, the ICT has enabled the education system to provide its services to the students without interruption even during the covid-19 outbreak (Capurro, 2009).
- <u>Complexity Solved</u>: In the education sector, the information and communication technology has enabled the teachers to teach the complex structures and problems easily to the students. Teachers can now use animations or 3D images to teach the students about the lessons. With the use of ICT, the teachers are able to make the lessons more enjoyable and the classrooms more interactive.

## b. Cons or Disadvantages:

• Technological Reliance: ICTs benefits the society but at the same time it has the drawbacks associated with. The people now days have relied more on the technology and less on their own memory. Now, people save their data in cell phones or mobiles and rely more on them rather than relying more on their memory. Thus, with the increase in the use of information and communication technology, the reliance of the society on such technologies has also increased. This is a drawback for the upcoming generation because they will rely more on technology and will use their brain less. For example, people now

- don't rely on what they have leaned but rely on what the technology is saying. Like, writing a word and using the spell-check for the correctness and not your own learning.
- Lack of Privacy: Privacy is term which can be lacked in every field either we do works on paper or on the computer. The privacy can be hacked by the hackers. Thus, the ICT also lack the privacies. Although many tools have been designed to safeguard the important and personal data of the people but yet there are cases of privacy hacking. It is either the mobile signal or your mail box, the hackers can easily find access to them because they also have the access to the information and communication technology.
- Threatening the Job Security: The innovations can be witnessed fast in the field of technology. Thus, the information and communication technology have threatened the job security of individuals. With the continuous change in technology, the continuous training is also required, but this training is not offered in every sector. The outcome of this is lack of jobs.
- Computer Viruses: The use of information technologies can only be performed on the
  machines like computer or cell phones or tablets. Thus the viruses, worms, malware,
  Trojans and spam attack the computers and affect the effective and efficient working of
  it.
- Circulation of Irrelevant Information: Since, the information and communication
  technology is a great mode which is used to communicate or forward information. But
  sometimes, the wrong or irrelevant or even provoking information gets circulated, which
  creates chaos and wrong conception in the society.

Lack of Knowledge: Sometimes it becomes difficult to use these technologies for the
people who are not much aware about it. You need to learn first, and then work on such
technologies to avoid problems.

Now, as we know the information and communication technology, we can analyze the issue associated with it. We must also know;

# What are Ethical issues of information and communication technology?

Ethical issue in general or in simple terms means a conflict arose due to the decision given or taken or activity created by the society's according to their moral principles. Similarly in the technological world an ethical issue in information and communication technology consists of the conditions associated with the human attitudes, the actions and the behaviors. The ethical issues associated under the technology can be the issues of patents, copyrights, personal privacy, harmful actions, disclosure of trade secrets, etc (Floridi, 2013).

One of the issues associated with the ethics of the information and communication technology is the issue of Security. The security issue can be highlighted in every way where the technologies are being used. Although information and communication technologies or ICT is a great contributor in enhancing the security of the personal data of the users. But there are drawbacks also which are associated with such technologies. These Security issues are further divided into the two aspects namely, the technical aspect or issue and the philosophical aspect or issue. Thus, the analysis defines the four broad issues of security in the use of ICTs.

# **Security Issue**

The Information and Communication Technologies are contributing to several sectors by contributing at fullest in solving the problems and in achieving the goals. These tools of ICTs considerably contribute in finding the solutions of the complex situations which are beyond the human decisions. It is difficult for the human brain to create good solutions of complex problems, but this problem has been solved by the use of information and communication technologies. For an example, we can consider the issues associated with the financial transactions. ICTs provide speedy and accurate solutions which can be difficult for the human decision takers. Likewise, in case of stock-market crisis, the volume of financial transactions is high that the human decision takers fail to get the speedy and accurate results. But the results can be achieved in the correct manner by the use of ICTs.

The issue of security in the information and communication technology is a very common and non-curable issue. As the technology is taking a step further for the better and fast working, the frauds are also emerging with it. Since, the information technologies are contributing much to remove the security issues but still there are many drawbacks which are faced by the users of information and communication technology regarding their data (Introna, 2005).

The security issues associated with the use of ICTs can be broadly divided into two major forms to analyze in a better way.

a. Technical aspect or Issue: The technical issues or technical aspects of an issue refer to the problems or difficulties associated in the terms of technicality. For, example if we talk about a cell phone, then the technical issue that can arise in it can be the charging issues or the earphone plugging slot issues. Similarly here, under the security issue of information and communication technology the technical aspects can arise due to the lack of security of the

patents or the copyrights or the trade secrets. These data of a personal can be stolen by the use of technical knowledge. The two technical issues or aspects of Security can be as under:

- Unlicensed Software: The technical security issue associated with the use of information and communication technology is the use of unauthorized or unlicensed software. In simple words, it the restriction on the distribution of the licensed software. This distribution includes downloading, installing or selling of number of copies of the licensed software (De George, 2008).
- **Data Gathering:** Technically if we see, our information's are not safe on the platforms of technologies. From the general information to the personal messages, all are being gathered by the authorities and are being looked over for the security basis. Thus the gathering of data can be another technical issue associated with the use of information and communication technology.
- b. Philosophical aspect or Issue: The philosophical aspects or issues are those problems or difficulties which are associated with the lack of knowledge or not knowing what is wrong or right. Thus in simple terms the philosophical knowledge is associated with the human brain more and less to the technology. It is different from the technical issues. It can be termed as an opposite of technical issues or aspects. The two philosophical issues or aspects of Security can be as under:
  - **Harmful actions:** Harmful actions in reference to the information technologies mean the damage or negative effect to the personal data of an individual. The consequences refer to the loss or theft of the property, ownership or the destruction of the property or the theft or loss of important or personal information. This is a philosophical issue associated with the use of information and communication technology.

• **Piracy:** Piracy can be defined as the illegal distribution of the copyright material. Thus, information technologies lack the system to prevent the data from piracy.

#### The Pros and Cons of the Issue

There are several of pros and cons which are associated with the above mentioned ethical issue of Information and Communication Technology, that is, Security Issues. Therefore the benefits or advantages and the drawbacks or disadvantages of the security issue of the information and communication technology are as follows:

## a. Benefits or Pros:

• Awareness: The issues of security are associated with all the information technologies and so with the ICT. Information and communication technology also lacks in providing 100 percent security to its users. But with the emerging knowledge and awareness among the people, it is becoming difficult for the hackers to crack the security of the personal. Thus, somewhere or other the security issue has helped the society to learn more about the risks and frauds associated with the use of ICTs.

# b. Drawbacks or Cons:

• Lack of Reliability: The information and communication technology can lack the confidence and reliability of the people due to the issues associated with it. Since, the security is a huge term when it comes to the safeguarding of the personal data. If the ICTs lack in providing the securities to the people, the people will not rely on it. Individuals' share important and secret data which can be hacked by the hackers, thus the individuals' loose reliability on the information technologies (Capurro, 2018).

#### Conclusion

The analysis above is based on the ethical issues associated with the use of information and communication technology. ICTs or information and communication technology is an extensional term of the information technology. It is a form of technology that provides information through the telecommunication channels. Thus, in simple term, information and communication technology is a source or medium which uses the various internet communication methods to transfer information from the sender to the receiver and from the receiver to the sender. Examples of ICTs are internet, computers, wireless networks, mailings, texting, voice messages, video conferencing, etc. Thus, it is clear that information and communication technology is a broader form of information technology or IT. Under this analysis, various pros and cons of information and communication technology are evaluated. These pros and cons help in the better understanding of the ICTs. By this analysis, one ethical issue associated with the use of the information and communication technology evaluated is the issue of Security. The issue of security is associated with every technological outcome and so does with the ICTs. This, analysis also includes the study of the security issue from two broad aspects, that is, technical aspects of issues and the philosophical aspects of issues. According to this analysis, the critical advantage of this ethical issue is the spread of awareness among the users and the disadvantage of it is that people will rely less on such technologies. Though this analysis is only focusing on the security issues associated with the use of information and communication technology. There are various other ethical issues that are connected with the use of ICTs. The issues of high cost, the maintenance of the information and communication as well as the replacing and the operating issues cannot be ignored.

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