

# **ETHICAL IMPLICATIONS CONCERNING THE ACCESS TO AND USE OF INFORMATION AND THE TECHNOLOGIES**

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## **1. INTRODUCTION**

Nowadays, much is commented on the importance of the access to and use of information. Information is considered one of the assets that provide users – considering everyone is an information user – with the most added value, and it is even quoted that it is one of the main goods of the developed countries as compared to the developing countries, in which mostly production of the primary sector of economy takes place: agricultural products and raw materials in general.

The age we live in is characterized by a series of changes in the way information is generated, distributed and obtained. We are witnesses of the transformation from printed to electronic media. The use of the Internet as an alternative to produce, broadcast and obtain information is becoming more common every day.

For a few decades now, “information” has been turning into a topic, as ubiquitous as imprecise, that seems to respond to the economical demands of a globalized society. It is used to satisfy specific needs that emerge in a person or a society.

Its use must follow certain lineaments that give credit to the authors of the available resources. This leads us to ethics. Today, ethics are an obliged reference about principles that should guide our actions. Even if the importance of theoretical discussion is accepted,

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it is necessary to visualize and understand the practical effects and implications that the admittance of ethical values at every level of our society comprehends.

But the very access to electronic information implies that any person can infringe copyright, moral or patrimonial.

## **2. INFORMATION AND THE TECHNOLOGICAL DEVELOPMENT**

Overall, technology has modified many of the social activities and relationships in recent years; particularly, computing and telecommunications have become remarkably popular. It is worth mentioning that the meaning of the word "technology" is understood as the compound of knowledge relating to the skills humanity has to produce and build goods; that is, the industrial arts at the disposal of a society. Technology is the most important source of change known to mankind. Its transforming force might overwhelm us if we do not know how to use it for our own benefit, something we could avoid if, instead of taking a resisting position, we decide to use it on our behalf.

The introduction of technology to the field of information storage and recovery, known as information technologies, has motivated innovative ways of organizing work. Its use, apart from inducing a new division to produce, distribute and save information and knowledge, has sprung a new criteria to determine their exchange value and has generated social processes in order to organize it and keep it. This generates a new paradigm of documental organization different in nature to the one created by the culture of printed media since the Enlightenment back in the 18th century.

In this sense, we might consider Estela Morales's words: *"Technology has been one of the areas that have shown more development, constant change and innovation this century. And information – its origin, representation, distribution and recovery – has been affected and benefited by its progress, to the degree that a section with own personality exists worldwide and it is known, precisely, as information technologies."* (Morales, 2003, p.33)

The use of these technologies is provoking the globalization of information. On its way to this globalization, the Internet plays a major role due to the immense possibilities with which it provides an ordinary user, receiver of information, turning him into a sender and administrator of his own information on the Web.

*"Through the years, a person's need of information was satisfied when visiting a library, by means of the orientation or reference of documental materials from the librarian. If literature already surpassed the individual then, the arrival of information and communication technologies caused a substantial change in our society, mainly in the way information is created, manipulated and distributed, to the extent that the ICTs are present in every productive process of the society we live in."* (Hernández, 2009, p. 1)

The Internet represents the most significant change concerning the creation and distribution of information, since it is a colossal web capable of storing and favoring the interchange of information nearly limitlessly. Mankind had never seen such a system capable of offering such a degree of interactivity before.

A few characteristics of the access to information via the Internet are:

- Easy access to all kinds of information, on any topic and in any format. Information is the raw material we need to create the knowledge with which we face the problems that arise everyday at work, at home, or while reflecting.
- Channels of immediate, synchronous and asynchronous communication, to spread information and contact any person or institution in the world by means of the edition and diffusion of information in web format, e-mail, instant messaging services, telematic forums, video conferences, blogs, and the wikis.
- Task automatization, by programming the activities we want computers to execute; these constitute the backbone of all ICTs. This is one of the essential characteristics of

computers, which definitely are "machines that process information automatically, following instructions from programs."

- Interactivity. Computers allow us to interact with document management systems, videogames, multimedia educational materials and specific expert systems. This interaction is the consequence of the fact that computers are programmable machines and it is possible to define their function determining the answers they should provide as a response to the users' different actions.
- Cognitive instrument that foster our mental abilities and allow the development of new ways of thinking.

During the first years of the 1990s, the emergence of one of the most popular Internet services, the WWW, favored the birth of a new battlefield, this time a virtual one. Big companies began competing for an adequate position among both the mass of cybernauts and the most important web search engines. The presence of the Internet started becoming indispensable in the business world.

Besides that, it could be said that a person's use of information depends on that individual's current task; this is to say, information can be used to fulfill certain activity. In many cases such activity is academic, so information is basically used to satisfy learning needs. Nonetheless, the user's autodidacticism that exists on many occasions should not be diminished; it is expected that information will be eventually useful for that person. According to Patricia Hernández (Hernández, 1997, p. 3), the motivation to search, recover and use information has an eminently utilitarian nature related to production. Even to the researchers who seemingly use information without practical, immediate purposes, this use is based on the necessity of producing knowledge, or simply support decision making.

*"People diversely aged, with different education levels and belonging to different social, political, and ethnical groups have access to information. They use it consciously or unconsciously, that is, they reach it because of necessity, interest, or curiosity through game programs and hypermedia; from that point, they might even become addicted to that*

*technology. This is the case of, above all, the new generations who are also users of information and libraries, and very often are more familiar with audiovisual and electronic media than with the one printed on paper.*" (Morales, en línea <<http://ifla.queenslibrary.org/IV/ifla61/61-more.htm>>)

There is no doubt about the fact that the way we work, study, amuse ourselves, relate to each other, and use information is being modified by technology ever since the appearance of computers. It is for that reason that the concept of ethics in relation to the use of information is traced back to the 1970s, when computers were first used massively for scientific and technical applications. Then, questionings about the storage and accessibility of documents included in bibliographical data bases sprang. Later, the concept was extended by the massive use of the Internet and the abuses of this technology.

Technologies propose new lifestyles and ways of thinking; they bring up new paradigms of relationships between individuals, the cause of ethical problems regarding the use of technologies and the need of research for solutions to achieve social wellbeing and to preserve an informatics culture in the organizations. The fast evolution of the information and communication technologies is perturbing, directly and indirectly, the moral values, and this entails the misuse information is given, thus provoking ethical dilemmas and threats to the behavior and conduct of the individuals, the society and the organizations.

The concern about understanding actions parting from ethical principles has been present for the most relevant philosophers. For example, Aristotle represents the culmination of an entire philosophical school for which ethics should determine the aim of our interests; this is what would make a man virtuous and wise, what would permit the true pleasure given to happy men. It is all about living morally in order to choose the practice of justice. In justice, men achieve the main ethical virtue and right, society and citizenship are based on it. Individuals should be endowed with basic and fundamental moral principles, universal obligations that make an optimal and fair social development possible for them.

Respecting the authorship of those who generate information is a universal obligation, named information ethics. Information ethics deal with all what is related to the proper and wrong uses of information; they consider aspects such as intellectual property, access to free or restricted information, censorship, use of information from public institutions, confidentiality and integrity of data, and the international flux of information, among others.

Apart from that, it could be said that it is not sufficient to acquire and organize information; it is necessary to keep it available when needed too. From the technological point of view, it is essential to provide all users with every chance of accessing information. However, gaining access is not that simple, for political and economical restrictions, normative deficiencies, and limitations imposed by powerful groups, such as censorship, manipulation and corruption present at every stage of the process, should not be ignored.

Also, information might be enriched or distorted due to the interpretation of the person who is selecting, analyzing, or summarizing it, who labels it and searches for it in a catalog or database, either because of the technical nature of their work or because it is convenient for a political system, economical group, or simply marketing factors.

Changes in the context of computing activity demand modifications to the ways work is dealt with and, subsequently, to the information user's ethics. These changes do not consist of variations in the moral essence but instead of the introduction of new ethical conducts that are necessary for a renewed environment. According to the Special Libraries Association (available at <http://www.sla.org>), nowadays information professionals require:

- Sense of commitment to service excellence.
- Capabilities to deal with and look for the challenge, as well as to identify new opportunities inside and outside the library.
- A wide perspective.
- A gift for searching links and associations.

- Skill to create respectful and friendly environments.
- Communication skills.
- Ability for team work.
- Leading spirit.
- To know how to plan, prioritize and approach critical aspects.
- To be committed to a continuous formation and development of their professional career.
- A gift for business and for identifying new opportunities.
- To recognize the value of cooperation and solidarity among professionals.
- To be flexible and to have a positive attitude towards constant change.

### **3. ETHICS, TECHNOLOGY, ACCESS AND USE OF INFORMATION**

In the middle of the age of information, the possibilities of the Internet as massive communication media have motivated many authors to use the web for promoting, publishing and distributing their works. After a single click, any user can have access to these intellectual works from home in a matter of seconds.

It is because of that that the production and reception of information should be articulated according to certain criterion relevance, such as: (Leme, 2001)

- Reach: Who would potentially be interested in knowing the information?
- Density: At what level information is articulated with the web of social knowledge and practices?
- Purpose: What effects could it cause? What consequences would it have on the web of knowledge?
- Impact: What would be the possible deployments at the historical moment in which it is produced or spread?
- Originality: To what extent is the information unknown to the audience who can have access to it or at whom it is aimed?

- Reliability: To what extent the information can be verified or confirmed?

The mentioned criterion should not be considered as permanent principles inherent to information, but as coming from the ethical, political and economical implications of its production and distribution. This means their pertinence depends on the analysis of the social milieu to which they are applied (scientific, artistic, journalistic, pedagogical, political, etcetera) and the circulation environment (public places, universities, social organizations, churches, etcetera).

The availability of the technology to access to and use information might bring up a great number of possibilities of use and abuse. It is not always possible to anticipate those cases in which ethics will be under scrutiny and many of these matters are analyzed generally once they have happened.

It is undeniable that the availability of technology tends to be associated with social groups with a greater economical power, and this provokes that, while such groups make an exhaustive use of technologies and dispose of more knowledge about them, groups with lesser resources tend to have limited knowledge and power on such technologies.

Likewise, information technologies change the lifestyles, habits and customs, thus allowing something that was unfeasible or unlikely before them. So it is worth questioning about the changes information technologies generate in the ethical values.

Laudon (2004, < <http://ellibrolibre.com.ar/descargas/laudon.pdf>>) proposes five moral dimensions to assess the age of information:

1. Rights and responsibilities: What are the individuals and corporations' rights regarding information and themselves? What are the legal means to protect that information? What are the responsibilities related to it?

2. Property rights: How are the classic concepts of patent and intellectual property moved into digital technology? What are those rights and how are they protected?
3. Responsibility and control: Who is responsible of controlling the use and abuse of people's information?
4. Systems quality: What data standards, information and processing programs must be required to guarantee the protection of individual and social rights?
5. Life quality: What values must be preserved and protected in a society based on information and knowledge? What institutions should protect them and which should be protected?

These five dimensions represent a good guideline on the considerations, questions and ethical answers that a person should make when accessing, recovering and using information in technological mediums.

The Internet provides us with a third world in which we can do almost everything we do in the real world; additionally, it allows us to carry out new activities, many of which are enriching for our personality and way of life (contact with telematics and people from around the world, instant localization of any sort of information, telecommuting, teleformation, teleleisure, among others). Now, people can distribute their time interacting in three worlds: present world, of physical nature, constituted by atoms, ruled by the laws of space, in which there are distances between people and things; the intrapersonal world of imagination; and the cyberspace, of virtual nature, made from bits, without any distances. It is to move throughout this third world that we must review and/or generate ethics.

It should be considered, once more, that technologies constantly change and things that used to be impossible or excessively costly, all of a sudden become accessible assets – first, for a more powerful minority, then, for the masses – with which come increased risks of legal and ethical violations yet again.

It is worth saying that it concerns each society to analyze and respond to these new dilemmas and to fix new moral rules according to their ethical principles, their own customs, their culture, and their moral system. There will be more prepared societies, those which demand technology, and less prepared too, the ones that adopt technologies. Nevertheless, it is undeniable that both will have to respond to these new ethical dilemmas. For that reason, it is so necessary to implement rules and regulations so free access to information during the age of information and communication technologies can find an equilibrium related to the correct use that information must be given.

#### **4. CONCLUSIONS**

Today we live in what has been dubbed the third technological revolution. One of its main foundations is the development of the new information and communication technologies, characterized by the integration of informatics, telecommunications and webs for electronic data interchange.

Technological development has caused such an impact on nowadays world essentially because of a phenomenon that goes beyond the amazement of technology; that is, the inexhaustible need for access to an essential raw material: information.

In the globalization process going on these days, information acquires key importance in ordering the various social structures.

It is not possible to make a universal discourse about technologies, since the problems that spring today regarding the access to information and the new information and communication technologies are not mainly scientific or technological. In science, we have knowledge; in technology, the tools. Problems are basically political, economical, social and cultural.

Neither a purely triumphalist attitude is applicable in relation to the wonder of technological progress. History shows us that the problem lies in the use everyone makes of technology. It is evident that not every goal we have assigned to it has dignified our existence. This is something that happens nowadays and, for obvious reasons, it will keep on being the pattern of human behavior, particularly because we exert our freedom in every act, this is no exception. In such sense, these words serve as a conclusion regarding the ethical questions in the field of technological development.

Ethics concerning the use of information in all social contexts are being seriously assessed. Moreover, in the process of globalization occurring these days, information acquires a key role in ordering the different social structures. We should remember a widely recognized question: the least the information, the more disadvantages in terms of development.

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