Some considerations on ethical and unethical issues originating from information technology revolution

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Abstract

One of the main concerns of 21th century is relation between information technology and ethical issues, or to be precise, unethical challenges faced by citizens of all societies. That is why, the purpose of this article is to identify information technology impacts as ethical issues on society especially its individuals. In this respect, it refers to some major issues namely, intimacy, accuracy, intellectual property, privacy, accessibility, pornographic issues, plagiarism and so on. In conclusion, some recommendations have been offered.

Introduction

Technology is relentlessly overtaking us[1] [1] and recently, computer-based information and communication technology, as one of the most known manifestations of technology, has been constantly transforming the delivery and dissemination of information and how people, organizations and even governments interact with each other. It is probably no exaggeration that modern jobs would be almost inconceivable without the use of information technology. While information technology certainly has the potential to improve the quality and efficiency of various services, it also raises important social and ethical issues. Apparently, it has become ubiquitous, invading all aspects of human existence. Most organizations and institutions have become reliant on their information technology infrastructure to a large degree. Indeed, information technology is seen by many as a cost-efficient way to solve a multitude of problems facing our complex contemporary society. That is why, we need to

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[1] Heidegger, 1977; quoted in Feenberg, 1996

understand the impact that information technology has on society as it is taken up and used in everyday practices. In this regard, many scholars such as (Bijker, Pinch, and Hughes 1987, Bijker 1995, Law 1991 and Latour, 1991)[1] argue that it is not only technology which impacts on society; technology itself is already the outcome or artifact of complex and subtle social processes; in other words it is socially constructed [2]. According to viewpoint of some scholars including Heidegger 1977, Borgmann 1985, Winograd and Flores 1987, Ihde 1990, Dreyfus 1992, 2001, technology is not just the artifact. Rather, the artifact already emerges from a prior "technological" attitude towards the world. In the other words, technology is already the outcome of a technological way of looking and relating ourselves to the world. For the phenomenologists, society and technology co-constitute each other.

Summarizing above opinions, Kastenberg et al (2003) believe that science, technology and society are seen to be connected to each other by a set of complex and nonlinear feedback loops [3].

In 1970, Gregory Bateson (quoted in Kastenberg et al, 2001), wrote that there were three factors contributing to ecological damage:

1) *World population growth,*

2) *Acceleration of technological progress (new technologies),* and

3) *Certain errors in the thinking and attitudes of Occidental (Western) culture* [4].

In addition to ecological damages, this paper assumes that new technologies especially information technology have ethical influences on society. Translated out of Heidegger's own ontological language, he seems to be saying that technology constitutes a new type of cultural system that restructures the entire social world as an object of control. As Heidegger[2] explained in his last interview, *only God can save us* from the juggernaut of progress. In this regard, Gotterbarn (1991; quoted in Maner, 1996) told "there are clearly many devices that have had a significant impact on society over the centuries. The invention of the printing press was a pivotal event in the history of the transmission of culture, but there is no such thing as Printing-press Ethics. The locomotive revolutionized the transportation industry, but there is no such thing as Locomotive Ethics. The telephone forever changed the way we communicate with other human beings, but there is no such thing as Telephone Ethics. The tractor transformed the face of agriculture around the world, but there is no such thing as Tractor Ethics. The automobile has made it possible for us to work at great distances from our local neighborhoods, but there is no such thing as Automobile Ethics". But obviously, there is such thing as Technology Ethics [5]. The application of information

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[1] Quoted in Introna, 2005

[2] Heidegger, 1977; quoted in Feenberg, 1996

technology presents some new changes as well as challenging social, cultural, and ethical issues that are just beginning to be realized and addressed in many global arenas. Because of this, irrespective to aforementioned perspectives of some scholars, the present paper aims to identify some of these issues and discuss them. Of course, ethical problems cannot be solved a priori, but have to be carefully discussed at an international and intercultural level.

Background and definition

Ethics has been defined as ". . . inquiry into the nature and grounds of morality where the term morality is taken to mean moral judgment, standards, and rules of conduct". Its performance involves "the general conception of right and wrong in the attitudes of individuals and the communities of which they are part". Economic, social, legal and political events are often known as other profound effects that could change the moral performance of a society [6].

In information technology (IT), IT ethics involves the nature and grounds of moral judgment, standards and rules of conduct in using IT for decision making. IT users encounter more ethical challenges in the age of
IT because using IT to do something that is not illegal does not imply it is ethical[1]. The use of a computer-based personal information system is a good example. Mason (1986) suggests that *privacy*, *accuracy*, *property*, and *access* are the main areas of ethical focus of study when using computer-based personal information [7]. In line with the IT age, IT users (including makers, distributors, owners, and managers) should be ethically responsible to the products and services that they own, sell, manage, and use. IT users are obliged to observe their ethical issues including privacy, piracy, safety, data security, data integrity, competence, honesty, loyalty, and fairness. Researchers such as Cottrell (1999) [8], Charlesworth and Sewry (2002) [9] and Mason (1986) put forward issues mentioned above. Here, some of main ones are debated.

Intimacy

The emergence of the Internet and the subsequent extension of computer networks into all domains of everyday life have stimulated much assumption about the way in which this information technology will change human existence, especially our notion of sociality and community. Much of this assumption suggests that the virtualization of human interaction will lead to a multitude of new possibilities for humans such as cyber communities, virtual education, virtual friendships, virtual organizations, virtual politics, and so forth. Borgmann (1992; quoted in Feenberg, 1996) introduces the term "*hyperintelligence*" to refer

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[1] Goldsborough, 2000; quoted in Chow, 2001

to such developments as electronic mail and the Internet. Hyperintelligent communication offers unprecedented opportunities for people to interact across space and time, but, paradoxically, it also distances those it links. No longer are the individuals "commanding presences" for each other. The person as a focal thing has become a commodity delivered by a device. This new way of relating has weakened connection and involvement while extending its range. What happens to the users of the new technology as they shift from face-to-face contact toward hyperintelligence? [1].

The relation 'face to face' is, according to Emmanuel Lévinas [10], the basic ethical relation (Lévinas 1968; quoted in Capurro, 2000). Information society, as one of information technology consequences, is based on the interface. Therefore, we live in a non-ethical society in which intimacy and face to face or intimate relations are in jeopardy.

Privacy and confidentiality

Privacy is a fundamental human right and a cornerstone of a democratic society. It roots in the foundation of the rule of law, the secret ballot, doctor-patient confidentiality, lawyer-client privilege, the notion of private property, and the value our society places on the autonomy of the individual. Unfortunately, the growth of electronic technologies has challenged the ability of countries to ensure the privacy rights of their citizens. Many countries concerned about the protection of their citizens' personal information have adopted privacy laws and fair information practices. So, the ethical challenge is how to create institutions and procedures that foster this virtue as an individual and social one without falling into Big Brother nightmares [10]. In this regard, Mason (1986) warns that "more than 60,000 state and local agencies, for provide information to the National Crime Information Center and it is accessed by law officers nearly 400,000 times a day. Yet studies show that over 4% of the stolen vehicle entries, 6% of the warrant entries, and perhaps as much as one half of the local law enforcement criminal history records are in error. At risk is the safety of the law enforcement officers who access it, the effectiveness of the police in controlling crime, and the freedom of the citizens whose names appear in the files. This leads to a concern for accuracy".

Accuracy and safety

Safe and accurate information can increase quality of information which in turn, leads to better consequences for both individuals and organizations. In fact, lack of accurate and safe information (misinformation) results in wrong and inaccurate decisions as well as low quality performance and contrarily, existence of it results in good outputs.

When a society plans for meeting its cultural, economic and social goals, it requires comprehensive reliable information in each stage of development [11]. It is important to note that economists also emphasize on information accuracy and safety. If a company has precise information about price of products and rivals' services, it can make opportune decisions on changing prices and market fluctuations. In the other words, accurate and safe information causes company to make a profit. The report released by US Department of Transportation (1999) indicates that knowing what other organizations have done or how they have confronted similar challenges is invaluable when making technical or policy decisions. But as technological facilities and information exchange increase, information crimes are being reinforced which threats information accuracy [12]. In the other words, information technology offers a variety of ways for persons to misuse computers and electronic communications. Some of them are computer sabotage, creating and disseminating computer viruses, computer fraud and other economic crimes, unauthorized entry into or use of computers, trafficking in passwords, hacking and so on. So, as long as we can not overcome these problems, living in unethical environment and information manipulation would be inevitable. In this regard, Mason (1986) writes "it is our responsibility to be vigilant in the pursuit of accuracy in information.
Today we are producing so much information about so many people and their activities that our exposure to problems of inaccuracy is enormous".

(Intellectual) Property versus plagiarism

In 1999, McFarland indicates that technological developments ignore the social role of the creator and of the work itself, thus overlooking their ethically significant relationships with the rest of society. The balance is lost. One can conclude that he emphasizes on necessity of a more balanced view [13]. In this respect, WIPO[1] (2002) has published a report entitled "Intellectual property on the Internet: A survey of issues" that addresses the far-reaching impact that digital technologies- the Internet in particular- have had on intellectual property (IP) and the international IP system [14].

By definition, *plagiarism* which has high negative impact on intellectual property is "the act of stealing another person's intellectual property which includes ideas, inventions, original works of authorship, words, slogans, designs, proprietary information, etc. and using them as your own without proper acknowledgment and/or permission of the original author or inventor"[2]. As "plagiarism" is a serious matter with important legal and ethical implications,

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[1] **W**ORLD **I**NTELLECTUAL **P**ROPERTY **O**RGANIZATION
[2] http://www.answers.com/topic/plagiarism

academic, industry, government and private institutions should establish guidelines for avoiding theft of ideas or works under the umbrella of intellectual property in their respective environments.

In association with copyright and intellectual property, Mason (1986) believes that "nowhere is the potential threat to human dignity as severe as it is in the age of information technology".

Access and equity

The rapid growth of electronic technology as a means of accessing information has led to increased concern over differences in access to information for various social, economic and ethnic groups. Without adequate access to the technologies that enable a user to gather and use information, citizens become less informed and our democracy suffers. Lor and Britz (2003)[1] describe the right of freedom of access to information as essential, because without it, it is impossible to establish sustainable development. Access to information is thus a "common good, which must be distributed equally and according to developmental needs of people" [15]. Confirming low accessibility and inequity, Baker (2003) concludes that "in a world where globalization, technological evolution, and fierce competition have led to the creation of new elite- those who are information rich, the knowledge workers- the vast majority of the world's population stands to be left behind. The failure to develop a new form of "social contract", which takes into account the information needs of citizens in developing countries, will have disastrous results for humanity as a whole. So, it is recommended that technological tools are used to facilitate equitable access to information until such time as the imbalances can be equalized, and everyone has .instant universal access".

Pornographic issues (Internet addiction)

The Internet is transforming the experience of growing up in America. It is also transforming the job of being a parent in America. The Internet brings the world- the good, the bad, and the ugly- to the American family's doorstep. It brings the ruins of ancient Athens to that doorstep, but it also brings the red light district of Bangkok (Third Way Culture Project, 2005) [16]. Technological developments especially Internet has ushered in an age of unprecedented access to pornographic images, and teenagers are jumping in head first for the ride, i.e., *family ethics* is in jeopardy. Following this, *pornography addiction*[2] which is defined as a condition resulting from the overuse or abuse of pornography seems to be

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[1] Quoted in Baker, 2003
[2] Pornography addiction (2006)

possible [17]. In this case, Samson and Keen (2006) believe that pornography is among phenomena which are categorized under Internet addiction including net-gaming, cyber-relational addiction, information overload, computer addiction and cyber-sexual addiction [18].

Clearly, further research is needed in this area, and while it may be unethical to deliberately expose people to pornography to examine its effects, it might be operational to conduct more longitudinal studies of the outcomes of users who were known to be exposed to pornography or compile more extensive qualitative case-study research.

Concluding remarks and recommendations

It is self-evident that there are additional ethical and moral issues influenced by new information technologies which should be addressed.

Considering above issues, it can be concluded that only identifying such problems is not solution but through providing strategies and recommendations, global especially information or digital society will hope to witness equity, justice, accessibility, privacy, accuracy, safe family, and low pornographic problems. In addition to identification of these challenges, Chow (2001) suggests that "one way to maintain a higher standard of ethics in IT practice is to develop codes of conduct. The codes of conduct could assist professionals to resolve ethical conflict between parties and also to maintain a higher ethical standard of individuals". Also, with an emphasis on that global ICT ethics should have the understanding of the information professions steering [developing countries including] Africa into the knowledge cyberspace, Shibanda (2001) recommends such understanding and knowledge need include:

- Balanced decision making between the north and south to bear upon the information "have" and "have not" and work towards reducing information gap among people.
- ICT standardization for ease of connectivity.
- Acceptance of differing cultural values across the world and incorporate local knowledge.
- Help to build global networking and strengthen global partnerships via casual friendship and acquaintances.
- A visionary better world built on solidarity, social justice and ecological sustainability.
- Approve freedom of information as underlined through national legislation and international charters and international institutional programs devoid of censorship and propaganda [19].

Jingxia (2002) states that if we accept information literacy skills are not only sorts of information skills and techniques, but also the ethics of information use, the rational and precise use of information, the evaluation of information and so on, launching the information literacy education can encourage citizens to recognize the significance of information and information technology in our social life, and also enhance their sense of responsibility for information. They can resist information pollution and standardize their own information behavior, adhering to certain principles of information ethics [20].

In conclusion, making a reference to "*moral developments in the information age*" [21] mentioned by Willard in 1997 seems to be useful:

1. Respect for property

Respect for property issues include: system security issues, such as computer hacking and respect for intellectual property rights, such as copyrights.

2. Respect for territory and privacy

Respect for territory and privacy issues also include system security issues as well as the dissemination and/or gathering of private information.

3. Respect for others and common courtesy

Respect for others involves respectful communication and the avoidance of irresponsible speech. Irresponsible speech includes defamation, harassment, flaming /abusive language, and spamming. A related problem is the use of e-mail forgery to disguise the source of the irresponsible speech.

4. Respect for institution

Respect for the institution addresses the use of a limited purpose Internet account in accord with its limited purpose. The activities that are permitted through a particular Internet account may be restricted due to the source or institution providing that account, such as limited purpose accounts provided by educational institutions and business or government employers.

5. Respect for Self

Respect for self issues includes those activities that generally do not have an impact on others but can be injurious to the self, such as addiction, personal safety, "garbage" activities [as well as pornographic and unethical searches via Internet].

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