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## Information Technology Ethics and Professional Responsibilities

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### Abstract

*In the present scenario worldwide, an obvious trending factor in the context of business organizations is the tremendous growth of Information technology (IT) in a significant way. Being marked in any industry, the application of the different components of IT is taking place for the purpose of attaining betterment in the procedures and operations, as the evolution in information technology made every procedure subject to be coded and executed easily. The most essential benefits that can be highlighted are improvements in the context of efficiency along with accuracy. However, it can be noted that the growth of the framework of IT within organizations is leading to the rise of different kinds of problematic situations for the employees. It can also be noted that the organizations even violate the ethical parameters for the drive to attain success and make betterment in terms of productivity. In the long run, these kinds of practices do not turn out to be fruitful since it leads to the downfall of dedication and motivation among the employees who are the major assets for attaining success. The maintenance of balance between the human employees and the use of IT is needed to be done for attaining success in the long run by maintaining the ethical aspects and policies. These are the major reasons why this paper will focus on figuring out the ethical values and needs linked to Information Technology (IT) together with professional responsibilities.*

**Keywords:** *Information Technology Ethics, Professional Ethics, Professional Responsibilities*

### 1. Introduction

Ethics refers to the moral philosophy that encompasses the parameters of systematization, recommending, and defending different concepts to present whether they are wrong or right [10]. The field linked to ethics remains concerned with different kinds of values and falls under the axiology branch related to philosophy. Ethics performs the task of resolving different kinds of questions related to the morality of human beings that aid in defining the concepts which are either evil or good. There are three major categories that can be linked to ethics and are described as follows:

**Meta-Ethics:** This branch of ethics stays concerned regarding the meaning of theoretical nature with reference to the moral propositions, and the manner in which the values of truth get determined [11].

**Normative Ethics:** The second category is normative ethics. In this typology, the consideration of the practical means for figuring out whether the morality of an action is maintained or not is done [1].

**Applied Ethics:** This is the third category falling under ethics. It demonstrates the factors towards which an individual remains obligated to. It is about performing certain tasks in a particular situation as per the demands of ethical and moral principles [12].

By going into further depth on the parameter of ethics, different kinds of principles can be highlighted which individuals and organizations require following to execute different operations in an ethically correct way. Seven renowned principles will be presented in the following section, which are:

**Beneficence:** It refers to the welfare and good health of the individuals.

**Nonmaleficence:** This principle can be linked to the harmful actions that are done intentionally.

**Confidentiality and Autonomy:** Confidentiality corresponds to privatizing the information. On the other hand, autonomy is about having the freedom for making decisions and having the right to refuse [13].

**Social Justice:** It concentrates on providing services and performing appropriate distribution of those. It also includes the promotion of activities together with providing services to all individuals without any kind of discrimination.

**Procedural justice:** It is about staying avoid by the rules and laws together with documentation.

**Veracity:** This principle consists of elements like education, qualification, truth-telling, and documentation.

**Fidelity:** This principle encompasses integrity, respect, and maintenance of professional relationships.

## 2. Professional Ethics

This section will include details regarding the parameters of professional ethics. It is basically the principles that focus on governing the behavior of individuals or groups within the environment of business. The professional ethics highlight on the rules that the employees within organizations need to act as per the policies and environment of the organization. Professional ethics also get regarded as business ethics [14].

It is basically the study regarding the policies of business along with the practices about the potential subjects of controversial nature. This includes the aspects of corporate governance, bribery, insider trading, discrimination, fiduciary responsibilities, and CSR. In general, it can be obtained that the law mainly drives the business ethics, however, at times the business ethics generate the fundamental guidelines that the businesses require choosing for gaining the approval of the public.

In the context of professional ethics, different examples can be highlighted which are the basic elements or the components of professional ethics. These components include trustworthiness, honesty, accountability, transparency, objectivity, obedience, respect, and loyalty [15]. These components sum up to generate a critical meaning regarding the practice of ethics in the professional environment and facilitates in the execution of the business practices without violating the parameters of ethics.

As time is progressing, it can be noted that globalization is becoming a trending parameter and resulting in changes to the external factors of the environment. In terms of coping with those, organizations all over the world are looking forward to making advancement in their technological framework and attain the best outcomes in the context

of productivity, efficiency, and accuracy. This facilitates them in acquiring a competitive edge. However, issues and controversies regarding the violation of ethics can be highlighted in this context.

### **3. Theoretical Foundation and History of Information Technology Ethics**

This section will present details regarding the theoretical foundation along with history linked to ethics corresponding to Information Technology. Since the 1940s the growth of IT has been taking place all over the world. Several fields are turning up to focus on the study of artificial systems. Werner had been the first scholar who focused on the aspects of ethics corresponding to IT [16]. He had prominently figured out the specific impacts of IT on human beings. In terms of doing so, he had been able to highlight quite a few negative aspects. These negative parameters can be directly linked to an ethical violation.

The ethical concern as highlighted had been initially ignored, but since the 1960s, the Information and Computer Ethics (ICE) body emerged with a new field corresponding to study that focused on the establishment of the principles for guiding the computer scientists in their practices on a regular basis [2]. From the 1980s, the ICE had started attracting different scholars who were majorly interested in terms of focusing on the ethical implications of information technologies.

Ethics in the field of Information Technology (IT) gets quarterly reviewed as per peers and consideration of scientific journals too. This covers the intersection between the communications as well as the information technology department along with the moral philosophy [3]. The ethics linked to IT gets regarded as the techno ethics that get incorporated within the communication and information perspective. This field gets linked to the parameters of internet ethics, and models of ethical and rational decision making. It also encompasses the concepts of information ethics. The most crucial area linked to ethics in the case of IT corresponds to the convergence in terms of technologies. The major problem that gets raised is the interdependent nature of technologies and providing multiple scopes to people in accessing information quite easily.

The area of problem that has been raised linked to ethics in the field of IT is that organizations are becoming more dependent on technologies and have started considering those to better replacements of the human employees for the last few decades [4]. This leads to the rise of insecurities among the employees and a lack of confidence and leads to the disturbance in terms of the balance between the proportion of technologies and human employees on the premises of the organizations.

### **4. Ethics in Information Technology**

It has been obtained that over the past quite a few decades, anonymity and privacy have started increasing by means of bearing law-makers and policy. It has also been assessed that privacy in the context of information gets defined in a clear manner for defining the appropriate right for controlling the information of personal nature [5]. It has been deeply interwoven with the dissemination and development of different technologies of communication. Ethics in IT falls under the subdivision of ethics that is 'Ethics in technology'.

It has been reckoned that technology turns out incapable in the context of acquiring the qualities corresponding to ethical and moral aspects. The reason behind it is that technology is basically a tool that solves different problems of humans. In another

perspective, it can be presented that in every perspective of IT. It remains completely endowed with ethical radiation together with commitments in every phase of action.

The communal ethics that remain linked to the frameworks of Information Technology are the principles that remain connected to the development and introduction of new technologies and generating innovation, and the questions of ethics that states about the curtailing of human importance and extending the technological priority. Considering the initial subdivision, the focused aspects remain to be computer viruses together with computer security. It is mainly about figuring out whether a specific task linked to innovation is ethically correct or not. In these contexts, the applications of the ethical theories take place like Utilitarianism together with Deontology to emphasize two different perspectives of judgment [6]. Moreover, IT has the capability of generating fantastic results and also negative results. One scientist can make use of the framework to execute fantastic inventions and innovations. On the contrary, it can also be implemented for establishing nuclear weapons as well.

On the other hand, considering the second subdivision that can be highlighted are several human endeavours by means of the alterations due to the inclusion of new technologies. The rise of IT led to the introduction of bioethics for raising different kinds of questions regarding the technologies for preserving life. Moreover, the technologies of cloning and further implementation of better technologies get done as well. However, these are leading to the rise of several issues regarding the violation of ethical principles. However, here also the ethical aspects that get regarded in terms of violation of privacy and continual attenuation. The tracing devices linked to biometric and RFID are both correct as well as incorrect on the basis of the theories. In terms of Utilitarianism, these measures are wrong. But as per Deontology, it can be regarded as the correct.

Furthermore, the measures of techno ethics can also be considered in this aspect as well. Techno ethics (TE) is mainly an area of interdisciplinary research. It focuses on drawing on the methods on behalf of several domains like communications, applied ethics, and technology studies for generating insights on the dimensions of ethics related to the systems of technology as per theory and practicing advancement on the basis of the technological society. Several types can be highlighted corresponding to ethics related to Information Technology in the following section:

***Rights Linked to Access:*** It refers to accessing the empowering technology in the form of a right.

***Accountability:*** This refers to the decisions that remain responsible in terms of highlighting the harm or success in the context of technology.

***Digital Rights:*** Protecting the property rights of intellectual nature together with privacy rights.

***Existential Risk:*** In this context, the threats that get represented in the case of extinction of the quality in terms of human life.

***Environment:*** It demonstrates the manner of producing technology that may lead to harming the environment.

***Safety & Health:*** The risks regarding safety and health that get increased due to the imposition of technologies. It may either be positive or negative.

***Freedom:*** Technology is all about controlling society by means of raising questions linked to independence together with freedom.

***Human Enhancement:*** It includes the integration of human machines, and genetic human engineering to leverage automation [7] [19]. This may lead to assisting human employees or replace human employees in organizations.

**Human Judgement:** Decisions can be acquired by means of artificial intelligence and machine learning. However, the decisions generally turn out to follow a single algorithm and pattern without many variations.

**Precautionary Principle:** It is about conducting a feasibility study corresponding to evaluating whether a technology development will turn out fruitful and generate positive impacts.

**Over-Automation:** Over-automation is about them over the implementation of the frameworks of Information Technology (IT) that leads to hampering the quality of human life along with negatively impacting on the society as well.

**Privacy:** It is about the protection of confidential information and data as per the rights of privacy. The inclusion of cloud servers and the encryption mechanisms get considered in this aspect. Violation of this may lead to unethical practices.

**Security:** It is about the diligence that is required for ensuring the parameter corresponding to information technology in a clear manner.

**Self-Replicating Technology:** The practice via IT is all about the replication of the activities as per different kinds of norms regarding ethics [3].

**Technology Transparency:** It refers to a clear explanation of different kinds of technology-oriented operations and the ethical aspects get judged on the basis of the intentions.

**Service Terms:** This ethical parameter gets assessed on the basis of the legal agreements and clear demonstration on the basis of this.

## **5. Information Technology Ethics Linked to Professional Responsibilities**

It can be presented on the basis of the above discussion regarding the practice of ethics in terms of information technology that is directly linked to the professional responsibilities of the individuals. It can be presented that the code corresponding to ethics demonstrates the formalization of all kinds of rules along with the expected behaviours that remain tied up with several issues linked to ethics. It can be stated that working with the frameworks of Information technology (IT) is not a controlled profession.

Quite a few professional works with the systems falling under the domain of IT and are expected that they will stay abide by the different codes linked to ethics. However, there are hardly a few organizations that mandate the aspect of ethical practices by means of practice and employment parameters [8]. The codes linked to ethics are quite valuable in the context or raising awareness in front of the ethical issues of different kinds. It can be noted that the individuals within the professional fields require facing different kinds of dilemmas in terms of the use of technology. This is where the principles linked to techno-ethics serve fruitful.

The codes linked to ethics may generate different kinds of clarification regarding acceptable conduct in the case of professional relationships. It sets a specific set comprising natural tendency and beliefs for bringing natural tendency for universalizing the behaviors in terms of ethics that is acceptable despite having any kind of evidence in a contrary aspect. In terms of professional responsibilities, ethical and social values vary significantly in different cultural aspects that get informed by multiple educational, social, and norms of politics [17]. In the case of professional responsibilities, it is essential to focus on following the different kinds of ethics linked to the business and professional

functions both by the management of the organization and the individuals linked to the business.

Another dimension that can be considered in this aspect is professional accountability in terms of the responsibilities of ethics. Professional accountability demonstrates a proper issue that remains closely assigned and tied to different kinds of codes related to ethical conduct. Ethics linked to the professional responsibilities remain to be quite diligent and also responsible in terms of the practices and establishing the foundations in terms of compensation and punishment in the cases the software fails to perform as desired. The professional advice at times becomes unreliable as well [9]. It can be noted that the maintenance of ethics in the context of computer software present in society. It has turned out to be an essential component in the systems of critical life-oriented aspects. It also includes the equipment of communication and radar oriented devices as well.

One more highlighting aspect in terms of ethics related to professional responsibilities is the maintenance of privacy in the case of data stored within the systems of IT. The capability corresponding to the systems of information for gathering, sorting, processing, storing, sorting, and distributing different types of information by focusing on the consequences of direct nature [9]. Erosion of confidentiality leads to the rise of a major level of ethical issues in the case of professional responsibilities and maintenance of rights linked to individuals aiming to protect the privacy of personal aspects. It also includes the principles for providing regulations of internal nature together with the privacy of individuals coming from different countries for maintaining the legislation of privacy data.

The professional responsibility is basically the ability corresponding to recognizing and interpreting and acting on the multiple principles together with values on the basis of the standards in terms of the considered field as per the context. Responsibility signifies the concept related to ethics and referring to the fact that the groups and individuals have morally figured out in terms of obligations together with duties for the moral and larger ethical codes as per the traditions and standards [18]. In terms of the business consideration and the professional environment, the moral responsibility remains to be the status for morally deserving the blame, praise, punishment, and reward for acting as per performed omission along with neglecting the moral obligations. It remains to be the major concern linked to ethics.

## 6. Conclusion

It can be concluded that ethics turns out to be highly essential and very crucial for organizations incorporating the use of Information Technology (IT) in a clear approach. As it has been presented that in the case of IT-oriented practices, maintenance of ethics gets regarded to be highly important for the proper execution of the operations in a clear approach. Information Technology ethics had commenced right from the 1940s and 1950s till now, as it has passed many sensitive times, when even the Information Technology violations used not be considered as crimes. Later on, it attained the necessary growth with time as it became significantly needed to govern both general and special practices. There should be ethics, above the rules and regulations for the execution of the advanced software together with the maintenance of balance between automation and human beings is highly recommended. Furthermore, professional responsibilities in several sectors like privacy maintenance, security, accountability, and rights also play key roles in this context and require to be prioritized for executing all the activities in an ethically correct manner.

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