Importance of Ethics Among IT Professionals

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Abstract—Ethics has been a widely discussed topic in the IT(Information Technology) profession recently and has had significant implications on the IT industry. We aim at discussing about the implications of ethics, ethical dilemmas and the importance of promoting ethics among IT professionals. We have researched on the available literature and presented it in order to elaborate on the importance of ethical values. As the conclusion we present the significant role played by professional bodies in promoting ethical standards and also the benefits that can be gained through ethical behaviour in the IT industry.

I. INTRODUCTION

Many philosophers agree that ethics are the ideals that dictate moral behavior. From the very beginning of the civilization, humans have understood the concept of ethics. As Richard Paul and Linda Elder [1] states, humans have the capacity to understand that behavior has consequences and in effect will affect others. Moreover, humans are able to empathize and feel how one will be affected if someone were to act towards them as they are acting towards others. This gave rise to the expectation of humans behaving morally as individuals in the society.

Throughout history, many professions have emerged and evolved. Professionals enjoy a higher status and are expected have higher responsibility than other agents in the society. As Kohen [2] in his book remarks, why should clients of medical and legal professional trust them with their lives if they are driven only to seek status and wealth? One can argue that common motive for practicing a profession is to earn income. Then why should a professional have more ethical responsibility? Following the famous quote "With great power comes great responsibility", A professional by learning a profession accrues knowledge and has advantage over a laymen and with that knowledge one gets power and consequently responsibility. Professional ethics is not a modern concoction; even in historical time many professions had code of conduct and ethics as seen by Hippocratic Oath taken by medical personnel. Professional bodies publish code of ethics and conduct which must be upheld by all the professionals practicing that particular profession.

In this paper we have elaborated the importance of ethics in IT (Information Technology) industry along with some of the ethical dilemmas faced by IT professionals. Moreover, we have discussed the roles of professional bodies in the development of professional code of ethics.

II. ETHICAL DILEMMAS (CASE STUDY)

In order to identify the importance of ethics in the IT industry, its essential that we recognize cases where certain ethical dilemmas may occur. Its also important to realize the implications that they have on the employees, employers, clients and the society at large.

Ethical Dilemmas are the situations in life where we have to make a choice between two or more options, but all of those options will not resolve the situation in morally and ethically acceptable manner. In those situations, all of the decision making guidelines will not do much help for the decision maker to make a satisfactory outcome. There can be some situations where the correct and legally acceptable decision is not the ethically correct decision at all. When it comes to Information Technology professionals, making correct decisions is a must with fast moving technologies and the industry. The ability of a professional, to cater such ethical scandals and the response will vary depend on the individual characteristics and his/her job role as well [3].

There are number of ways to analyze and evaluate computer related ethics but the most popular approach is called "Ethical Scenario" [4]. The real world scenarios related to computing and information technology will be taken as case studies and will be analyzed for their ethical and moral perspectives. [5]

The paper [5] analyze number of ethical scenarios which related to the field of computing and information security. The use cases can be presented with different parameters related to the use case. Term *"Situation"* is used in paper [5], to give the overview impression about the use case without presenting any underlying informations. Term *"Scenario"* is used to describe the in-depth details about the use case. And term *"Action"* is used to analyze possible outcomes and reactions of the personnel who faces the particular use case.

Use Case from paper [5]

Situation : Having the opportunity for unauthorized access.

Scenario : An employee of an IT based company eventually discovered a loophole in the company internal system which can be used to access employee database of that company. As a responsible employee he/she reports about the loophole to the IT section of the company but the process of covering the loophole will take some time to fix.

Possible Actions :

1) He/She uses the existing loophole until the IT staff fix the issue to dig into some of his competitive co-workers profiles to get a upper-hand in the upcoming promotion for a particular position.

2) He/She make some other friend in the same company to get the information for him/her by using the loophole, since his/her access might get monitored by the company after his/her knowledge on the loophole.

3) He/She will not going to use the known loophole for any illegal or unethical purpose.

Analysis : Considering the job role of the particular employee, inform about the loophole to the IT section might not be his/her scope. But he/she did that because thats the ethically correct action to take in that time. Considering the identified possible actions, the first two actions might not be illegal depending on the company policy, but those are ethically incorrect actions to take. And the 3rd action is the most ethical action he/she can take regarding the particular scenario. In terms of personal perspective of the employee, taking the most ethical action (action 3) might not be the most beneficial for him/her. But as the responsible professional in the IT industry, he/she should take the action which is most ethical action to take within his or her legal restrictions. In this scenario, action 3 is the ideal choice for him/her since it helps the betterment of the industry, society although it is not the most beneficial action in terms of individual perspective.

III. IMPORTANCE OF ETHICS AND INFORMATION TECHNOLOGY

Having looked at the ethical dilemmas, it is essential that we look at the benefits provided to everyone in the society through the ethical behaviour of professionals. This section elaborates on the importance of ethics in IT.

With the development of Information Technology people tends to solve their day to day problems using information technology. Today most people and most of the organizations use information technology to make their lives easy. Almost everyone who does not have any involvement in development of the IT solutions, do not know the dark side of Information Technology. They do not know how hard it is for engineers to design, implement and test these solutions before the end customer use this. [6] But the use of information technology in society is creating a rather unique set of ethical issues that requires the making of new moral choices on the part of society. This has spawned special implications for its members.

Some of the ethical issues which can be caused by software engineers are plagiarism, piracy, hacking, development of computer viruses, computer crimes etc. Due to the lack of knowledge about information technology, most end users are unaware of the troubles they step into. As an example let us think about a client "X" who has asked for a software solution from the software vendor "Y". Engineers in company "Y" developed the software using someones design without the acknowledgment of the owner "Z" of the design. Later the owner "Z" gets to know about his/her solution is used by "X" so "Z" files a court case against "X". Both "X" and "Z" parties has to pay consequences of "Y"s action due to the unethical implementation. This scenario leaves a black mark to the software company as well. As a result, it would prevent clients from seeking solutions from company "Y". Hence altogether all three parties are affected harmfully due to the unethical decision. If company "Y" decided to ask permission or to buy the design from "Z", this would not create the discussed bad impression on "Y". So external parties will recognize "Y" as a reliable company as an IT solution provider. Therefore the potential risks that makes the company unprofitable would reduce. Ultimately, both the client and the vendor would develop an ethical trust bond which makes it more beneficial to the company itself.

There are many instances where Software Engineers become the victims of ethical issues. Most frequently employers expect maximum output from their employees. Employers tend to replace the employees for better performance if expected output was not gained. As new employees in the IT field are full of knowledge about new technology, it will be very challenging for old employees to survive in the job market. So this will cause employees to work hard which can cause stress, depression and also illnesses regarding sight. So it is important for employers to work ethically for the sake of employees. If the employer did manage human resources properly employees would be satisfied with their jobs. Therefore employees would tend to love their jobs more and this will help to increase the throughput of the employee. Due to perfect and ethical decisions, the company would have a good reputation among employees. Ultimately, both parties would build a higher reputation and benefit due to the ethical behaviour on human resource management.

It is highly important for all the parties in the field of Information Technology to take decisions in an ethical manner. [6] Choosing unethical decisions would benefit a company or an individual for a short time, but the consequences may lead to larger problems in the long run. As a professional it is important to understand that they also have a duty towards the society.

IV. ETHICS AND PROFESSIONAL BODIES

Although the importance of ethics among professionals in IT has been recognized, without proper coordination among professional bodies, there would not be an incentive for professionals to act ethically. This section recognizes the role played by Professional bodies in IT in establishing ethical standards.

As Software Engineering evolved Professional bodies have also played a significant role in recognizing the importance of ethics and ensuring that professional ethics are valued upon. [7] Most professional bodies have published "code of ethics" to acknowledge the broad ethical principles that have to be valued. The purpose of the code is to instruct practitioners about the standards society expects them to meet, about what their peers strive for, and about what to expect of one another. The code also aims at informing the public about the responsibilities that are important to the profession.

Software Engineering is maturing as a field and a profession. [8] A study done in 1995 by Gary Ford and Norman Gibbs of Software Engineering Institute evaluated the maturity of software Engineering. [9] The paper [8] tries to explore the reasons behind the perception that Software Engineering field is immature by considering different factors. The role of professional societies plays a great role. Two major bodies which are IEEE CS and ACM promotes professionalism. However, they do not agree on issues related to Software Engineering as a profession. Activities to develop a body of knowledge, accreditation, curricula, code of ethics are ongoing but rather proceeding at a slower pace.

"Software Engineering Coordinating Committee established the Software Engineering Code of ethics and Professional practice project to develop a code that Software Engineering community as a whole would find acceptable." [8] An international effort produced an addition to the standard engineering code of ethics. [10] The ACM and IEEE CS approved the draft code, with the intention of having it recognized as appropriate. [8] The efforts of the professional bodies have been commendable in establishing code of ethics in ensuring the importance of professional ethics in the IT industry.

Professional bodies have recognized the issues that could arise due to the ethical dilemmas and have taken the initiative in recent years to develop standard code of ethics to guide professionals. [11]

V. Conclusion

As the field of Information Technology has now moved to professional standards, it is highly important to keep the respected professional level of the field up to a standard. Ethics as well as rules and regulations provide IT professionals the standard the profession requires. Even though the rules and regulations guide a mannered profession it is the ethics that determine the good or bad behaviour of the profession and the individual.

Ethical behaviours in IT professionals benefit the profession itself, the individual and also a large set of the society. As a respected IT professional, it is much more beneficial to consider the consequences in the long run rather than stepping towards quick decisions.

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