

Ethical Dilemmas and Use of Code of Ethics in Software Project Management

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Abstract: Software project management refers to a compilation of methods and ways to develop and deliver a wide range of software products. Although software project managers use a variety of methods to create and update software, only a few of these methods consider ethical issues that arise during the software planning and development processes. This is despite software project managers being involved in situations that give rise to serious ethical concerns. In view of this, this paper will address ethical dilemmas in software management and give the ways that ACS codes of ethics can be used to address these ethical concerns.

Keywords: Ethics, Project Management, Codes of Ethics

I. INTRODUCTION

Ethics describes the principles or codes of behavior expected of an individual by a group, the nation, profession, or a particular organization to which the individual belongs (Rogerson, Weckert, & Chris Simpson, 2000). These rules articulate how people should conduct themselves, and mutually build the moral code by which the society lives. Ethics in IT represent an evaluation of the nature and social effects of IT technology and the consequent formulation and validation of guiding principles for the ethical use of such technology. Many ethical dilemmas are usually complex and decision making on the most appropriate course of action is usually difficult (Lin, 2007).

You make ethical decisions through judgment and justify by rational application of a variety of set principles. An ethical decision is more than a choice between two courses of action (Gotterbarn & Rogerson, 1997). Identification of what is an ethical issue is the most important thing in ethical decisions. Identification of; those affected, an ethical issue as well as the ones likely to win or lose in a given situation, is not always easy even if one understands the issue (Thong & Yap, 1998). This is especially true in software management where an application is in use in ways than the ones intended.

Ethical decision calls for rational examination of alternative options then making wise choices on the correct options among the alternatives (Gotterbarn & Rogerson, The Ethics of Software Project Management, 1997). This does not imply that everyone will agree with the decision but, by having rationalized the different points of view, individuals can be confident of their choice as being the most considerate of parties affected by it (Wagner & Sanders, 2001). To simplify this decision, most professional bodies have a code of ethics that guide their members in making ethical decisions. These codes of ethics help people to determine what the right course action is for ordinary situations. In addition, codes of ethics help a project manager to make decisions on those situations where black and white moral judgment may not be applicable (Johnson, 2005).

IT project managers are in charge of creating and updating computer programs, which perform most of the normal computer tasks (Schwalbe, 2008). The manner in which these computers perform tasks has moral consequences that have impact on human interests. Due to this, IT managers require a code of ethics in order to help them make ethical choices (Duquenoy, Jones, & Blundell, 2008).

The Australian codes of ethics that software managers should adhere to is the ACS Code of Ethics, 2005. This code lays the ethical rules that the members of the Australian Computer Society must deal with. These codes cover all the responsibilities that a project manager has on the various stakeholders of IT projects (ACS, 2005). The ACS code of ethics is very useful to software project managers since it allows the manager to argue not as merely as an ordinary moral agent but as a professional. For instance, a manager can say 'As a professional, I cannot place personal, business, or sectional interests above the interests of the public' (ACS, 2005). This paper will address the various ethical dilemmas in software management and give ways that ACS codes of ethics can be used to address these issues.

II. ETHICAL ISSUES IN SOFTWARE PROJECT MANAGEMENT

Ethical decisions are very important in our private and professional lives. We generate trust and respect with those we relate to when we make ethical decisions (Schwalbe, 2008). According to Duqueno, Jones, & Blundell (2008), ethics in IT is concerned with the nature and social impact of information technology and the consequent formulation and validation of guiding principles for the ethical use of such technology (Duqueno, Jones, & Blundell, 2008). Software project managers regularly face a number of ethical dilemmas in their professional lives. These are discussed below.

Gleason (1998)'s work was concerned with the planning process of a software management project, and the ethical issues it raises. According to the author, poor project planning raise serious ethical issues since projects that are poorly executed lead to wastage of money and resources. An example of this is the Denver airport automated luggage handling system which cost the company more than one million dollars in interest a day due to failures of the programs to work as a result of bugs and mechanical problems caused by faulty software program. This is in contrast to the NASA space program that, despite having more than 50 times the number of codes in its program, worked on a first trial (Gibbs, 1994). Gleason (1998) attributes the success of this mega Software development work to the meticulous planning and execution applied into the project. Gleason (1998) further gives the two areas where ethical issues may arise, namely. The first is specification of the project to the user, technical, and management requirements. The second aspect is planning the project with as much care as would go into execution of the project (Gleason, 1998). According to the author, when either of these elements is lacking, ethical issues creep in. To deal with these issues, ACS codes of ethics require that all IT professionals work in a way that is in the best interest of the community, is dignified, and honest so as not to misguide the client (ACS, 2005).

Secondly, ethical issues may arise where the values of the manager and the company policies disagree (Schwalbe, 2008). For example, in order to keep an IT project within budget and time, a company may resort to use of illegal copies of software package or software that does not follow the licensing rules. The company's use of pirated software as a standard approach to conduct their business brings about this ethical question (Reynolds, 2009). The project manager may deem this as unethical and strongly disagree with this policy. The project manager will state that the ACS code of ethics demands him to enhance the integrity of the society and the respect of its members (ACS, 2005). If he supports the software piracy, it means that he is against the codes of ethics as well as the law.

Thirdly, development of military weapon or nuclear weapons is a tough ethical dilemma to project manager especially if the manager is personally opposed to the development of such weapons (Schwalbe, 2008). The project manager will need to undertake a rational examination of alternative options and make a wise choice of which among the options that go well with him or her. For instance, the manager may use the ethical theory of consequentialism (Lin, 2007). Consequentialism assesses the moral worth of an action based on the extent of its contribution to the welfare of others (Duqueno, Jones, & Blundell, 2008). Development of nuclear weapon will have a great impact on several lives and therefore the project manager will be justified to refuse to manage such a program.

Fourth, ethical issues may arise where company's policies that address the implications for a manager's failure to anticipate an error are unfair or unethical. For example, In order to meet the deadlines the software programmers may skimp on quality assurance testing and as result the quality assurance testing misses to find the major errors in a software or major

errors that are discovered fail to be fixed because there is no time left to retest the fix. If this takes place, the company policy may hold the project manager accountable for the mitigations of costs and effects of errors. (Gido & Clements, 2008)

The fifth area that may raise ethical concerns to a software manager is in the issue of privacy violation. For instance, a project manager who finds himself or herself works with an employee who misuses company resources during working hours. The manager may find him or herself with the ethical question of whether to obey management directions to monitor employee's communications and in effect violate the worker's right to privacy or respect the employee's right to privacy and disobey the employer (Kelkar, 2009). Privacy issues can also occur when a software manager gets access to confidential information from client's database during the course of their work. ACS code provides a guideline to deal with such issue. They prohibit a project manager from placing personal, business or sectional interest above those of public or clients (ACS, 2005).

III. REAL-LIFE CASES WHERE ETHICAL ISSUES INFLUENCED SOFTWARE DEVELOPMENT

Case 1

Working for a company that uses other people's software-A senior software system by the name Jim Warren was working for a startup company known as NewSoft to help in the development of a new program. He immediately learned that the product he was to develop was because of proprietary software for which the company (NewSoft) did not have a license. Assuming that this could be an error, Jim reported the matter to the company's president. The president of the company assured him that he would look at the matter. Time passed but nothing happened. Instead, Jim was surprised to discover other similar instances of the same illegal practice. Repeated efforts to get NewSoft to legalize its operations failed and Jim, after threatening to notify the victimized companies the company discharged him. Later, the law enforcement and lawyers on all sides were involved in negotiations. At this point, there is no clarification of whether they should file charges against NewSoft or not. Nevertheless, there is a great probability of out-of-court settlement among the companies involved (Unger, 2000).

Case 2

Dealing with Unethical Project clients- Brad Egeland is an IT/Project Management consultant and author with over 25 years of software development, management, and project management experience leading initiatives in Manufacturing, Government Contracting, Gaming and Hospitality, Retail Operations, Aviation and Airline, Pharmaceuticals, Start-ups, High Tech and general IT. It happened that he had a client with whom he had misgivings about early on but decided to move forward with the work because he had maintained a relationship with this potential client trying to get to the point where they needed his consulting. When it finally happened, he ignored all his misgivings and moved ahead. Bad call- they took in clients and lied to them, took them out partying and then discussed the lurid details during the face-to-face client sessions with them. Too much Las Vegas fun, not enough professional work – and that is not Brad's style of delivering his services. In the end, they abruptly ended the consulting engagement owing him more than \$2000 in consulting fees (Egeland, 2012).

IV. APPLICATION OF CODES OF CONDUCTS IN SOLVING ETHICAL DILEMMAS

Software project managers face several ethical issues. Nevertheless, the impact of these dilemmas are not that big if a manager observes the code of conducts provided by a country's law, organization, or IT professional societies such as Australian Computer Societies (ACS).

Professional code of conducts represents the commitment to professionalism made by members of that profession (Reynolds, 2009). Codes of conducts guide the members on ethical decision-making. In addition, they offer guiding principles that address the moral issues inborn in new application possibilities. Code of ethics facilitates accountability in project managers. This means that a project manager take actions based on the best interest of the society, the safety of the public and

the environment. Furthermore, the project manager takes responsibility and ownership for all the decisions they make (ACS, 2005).

Thoughtful consideration of codes of ethics addresses ethical dilemmas. These codes influence project manager to consider the impact of their work and examine if they are treating other stakeholders with respect. Furthermore, the manager considers how the public would analyze their judgment and whether they would judge their behavior worthy of their profession. Codes of ethics ensure that in all these judgments concerns for health, welfare, and safety of the public care of appropriately (Wagner & Sanders, 2001). The ACS codes of ethics deal with the issues of value, honor, ideals, priorities, competence and concern for social implications of IT projects. As such, these codes apply in all the ethical areas of privacy, piracy, planning and dealing with potentially dangerous military projects identified.

V. CONCLUSION

In conclusion, ethical decision is very important in our private and professional lives. We generate trust and respect with those we relate to when we make ethical decisions. Software project managers face several ethical issues. Nevertheless, the impact of these dilemmas is not great if a manager observes the code of conducts provided by a country's law, organization, or IT professional societies such as Australian Computer Societies. ACS code of ethics is very useful to software developers. This is because ACS codes serves as a collective recognition of responsibilities of software developers. Codes of ethics will help the project managers to stay determine on the right course of action for ordinary situations. In addition, codes of ethics will help them make decisions on those situations where black and white moral judgment may not be applicable.

REFERENCES

- [1] ACS. (2005). *Code of Ethics (ACS)*. Commonwealth of Australia.
- [2] Duquenoy, P., Jones, S., & Blundell, B. G. (2008). *Ethical, Legal and Professional Issues in Computing*. United Kingdom: Cengage Learning EMEA.
- [3] Egeland, B. (2012, 2 6). *PROJECT insight community*. Retrieved 9 27, 2012, from Best Practices of Project Management: <http://www.projectinsight.net/community/blogs/online-project-management/archive/2012/02/06/dealing-with-unethical-project-clients.aspx>.
- [4] Gido, J., & Clements, J. P. (2008). *Successful Project Management*. Belmont, CA: Cengage Learning.
- [5] Johnson, A. (2005). Codes of Ethics, Orientation Programs, and the Perceived Importance of Employee Incorruptibility. *Journal of Business Ethics*, 61(1), 45-53.
- [6] Kelkar. (2009). *Software Project Management: A Concise Study 2Nd Ed*. New Delhi, Delhi 110092, India: PHI Learning Pvt. Ltd.
- [7] Lin, H. (2007). The Ethics of Instructional Technology: Issues and Coping Strategies Experienced by Professional Technologists in Design and Training Situations in Higher Education. *Educational Technology Research and Development*, 55(5), 411-437.
- [8] Reynolds, G. (2009). *Ethics in Information Technology*. Belmont, CA: Cengage Learning.
- [9] Rogerson, S., Weckert, J., & Chris Simpson. (2000). An ethical review of information systems development – The Australian Computer Society's code of ethics and SSADM. *Information Technology & People*, 13(2), 121 - 136.

- [10] Schwalbe, K. (2008). *Information Technology Project Management*. Belmont, CA: Cengage Learning.
- [11] Thong, J. Y., & Yap, C.-S. (1998). Testing an Ethical Decision-Making Theory: The Case of Softlifting. *Journal of Management Information Systems*, 15(1), 213-237.
- [12] Unger, S. H. (2000). Examples of Real World Engineering Ethics Problems. *Science and Engineering Ethics*, 6, 423-430.
- [13] Wagner, S. C., & Sanders, G. L. (2001). Considerations in Ethical Decision-Making and Software Piracy. *Journal of Business Ethics*, 29(1-2), 161-167.