

INFORMATION TECHNOLOGY AND ETHICS IN THE UNIVERSITIES OF IRAN

Hassan Rangriz*

Abstract

Information technology (IT) has become the major facilitator of business activities in the globalized world. The information technology depends on the organizational strategy, organizational structure, corporate culture, management, business processes, individuals, roles, social responsibilities, and ethical issues are more important. Therefore, there seems to be significant differences amongst management information system (MIS) students in their perception of IT ethics in the private and public universities of Iran. The paper aims to empirically examine this difference. The study examined that the MIS students have the same ethical beliefs. A sample of 158 students from private and public universities in Iran responded to a questionnaire which measured the ethical beliefs. The principal research method employed included the sample and measurements tools, and data analysis concerning the IT and ethical beliefs by using SPSS package 18. It was very clear from the responses that there were no significant differences in ethical beliefs amongst MIS students in the private and public universities. Also, male and female MIS students in the private and public universities have the same ethical beliefs. The study was exploratory in nature. Further studies are needed on a large sample to examine some IT subjects like network computing, using IT, managing IT, technology guidelines, and etc.

Key Words: Information Technology, Ethics, Public, Private, University, Iran

INTRODUCTION

IT has become the major facilitator of business activities in the world today (Tapscott and Caston: 1993; Mandel et al.: 1994; and Gill: 1996). IT is also a catalyst of fundamental changes in the structure, operations, and management of organizations. According to Wreden (1997), support the following five business objectives: improving productivity (in 51% of corporations), reducing cost (39%), improving decision making (36%), enhancing customer relationships (33%), and developing new strategic applications (33%). It terms of productivity and reducing cost, improving decision making, enhancing customer, and developing new strategic applications, these changes have been mostly positive (Mujica, Petry, & Vickery: 1999). But what have been the costs? IT introduces a change that creates new ethical issues.

The interfaces between organizations and society are increasing and changing rapidly. Social issues on which business impinge range from the state of the physical environment to the spread AIDS. Corporations are becoming more aware of these problems and some are willing to contribute toward improvement (Turban, et al.: 1999). Such activities are known as organizational social responsibility:

1. Environmental control;
2. Equal opportunity;
3. Employment and housing;
4. Health, safety, and social benefits to employees;
5. Employee education, training, and retraining;
6. External relationships;
7. Marketing practices;
8. Privacy and ethics.

Scott- Morton & Allen (1994) suggested that the organizations must deal with ethical issues to their employees, customers, and suppliers. Also, what is ethical in one country may be unethical in another. Ethical issues are very important since they can damage the image of an organization as

* Corresponding author. Contact

hassanrangriz@yahoo.com, Assistant Professor, Department of Management, Allameh Tabataba'i University, No. 66, Roudsar Ave, Hafez Ave, P. O. Box: 15875-1111, Tehran, Iran

well as destroy the morale of the employees. The use of information technology raises many ethical issues, ranging from the surveillance of electronic mail to the potential invasion of privacy of millions of customers whose data are stored in private and public databases. Since IT is new and rapidly changing, there is little experience or agreement on how to deal with related ethical issues.

Within the literature, one area that has not received significant attention is when do individuals begin to develop ethical issues towards the use of IT. In this paper, we present a framework for a research study to determine: Do significant ethical differences exist amongst management information system students in their perception of IT ethics in the public and private universities of Iran?

THEORETICAL BACKGROUND

• Information Technology

The IT became widespread in the 1970s to describe—according to the most recent definition of the IT Association of America—“the study, design, development, implementation, support or management of computer based information systems, particularly software application and computer hardware.” The formative period of contemporary IT dates back to the mid-twentieth century, when developments in information theory, information science, and informatics laid the foundations of successive progress. However, the conceptual framework in which these developments took place predates this period. For example, the first efforts to build up information science into a specific body of knowledge can be found in the work of different figures—such as Charles Babbage (1792 - 1871), George Boole (1815 - 1864), or Paul Otlet (1868 - 1944) all of them working in the nineteenth and early twentieth century. Some seminal ideas—such as the vision of the world in binary terms that can be modeled, or coded, within a logical algebraic framework—can be traced back to Gottfried Wilhelm Leibniz. Nonetheless, in this field, too, the present-day definition entered into general academic use only during or after World War II. (Pastori, 2009)

According to Lucas & Olson (1992), while traditionally IT has been defined to include only "formal" information systems, such as reporting systems generated by a database; increasingly IT is utilized to facilitate informal interpersonal communication. The key technologies include computers, computer- controlled devices, and telecommunications networks; we also include electronic mail, teleconferencing, voice mail, and facsimile transmission as part of IT. IT consists not only of tangible pieces of equipment and programs; it represents the capacity of the organization to produce, disseminate, and digest information. IT has been used in a number of ways including the mechanization of information processing, the augmentation of knowledge work, and for supporting coordination in the organization.

A significant amount of investment in IT is for basic mechanization of the records of production and distribution of goods and services or the actions themselves. A centralized database makes it possible to produce and disseminate information for management control as a byproduct of mechanization. IT also contributes to the support of individual workers. Drucker (1964) identified "knowledge work" as a specifically human activity, distinct from physical labor which could be automated. The notion of augmentation was first defined by Englebart (1963) as "increasing the capability of a man to approach a complex problem situation, gain comprehension to suit his particular needs and to derive solutions to problems". Today, personal computers are used widely by individuals to augment knowledge work.

Increasingly IT is being used to increase the ease of connection between individuals, organizational units, and even different organizations. Applications such as electronic mail, voice messaging, and facsimile transmission facilitate the communication and coordination of information required for organizational processing. Some terms used for this class of applications are: interpersonal computing (Goldberg, 1987), coordination technology, groupware, and computer supported group (Johansen, 1988).

Lately, according to Castells (2008), IT widespread diffusion deepened the gap between

the core of the world economy and its periphery. The role of less developed countries (LDCs) in IT, negligible since the beginning, dramatically decreased over the past years. Asia (besides Japan, Singapore, Hong Kong, Taiwan, Malaysia, and South Korea), Australia, Africa, and Latin America account for less than 10 percent of the world IT market. With few exceptions (such as the Brazilian hub of Campinas, or the Indian hub of Bangalore), the LDCs use few technologies, and offer few products on the IT's market.

- **Ethics**

According to Turban, et. al. (1999), ethics is a branch of philosophy that deals with is considered to be right and wrong. In one of the oldest codes of ethics, the Ten Commandments, clear specifications are given about what an individual should and should not do. Over the years, philosophers have proposed many ethical guidelines, yet what is un-ethical is not necessarily illegal. Thus, in most instances, an individual faced with an ethical decision is not considering whether or not to break the law. In today's complex environment, the definition of "right" and "wrong" are not always clear.

A code of ethics is collection of principles intended as a guide for members of a company or an association. An attempt to organize these ethical issues into a framework was undertaken by Mason (1995), who categorized ethical issues into four kinds:

1. **Privacy:** Collection, storage, and dissemination of information about individuals.
2. **Accuracy:** Authenticity, fidelity, and accuracy of information collected and processed.
3. **Property:** Ownership and value of information and intellectual property.
4. **Accessibility:** Right to access information and payment of fees to access it.

McCarthy et al (2005) suggested that ethical theories provide categories and procedures for determining what is ethically relevant. There are various avenues of ethical reasoning. Modern ethical theory can be divided into two broad categories:

1. **Teleological Ethical Theories:** This theories focus primarily on the consequences, results, ends, goals, and purposes of agent acts. They give priority to the goods over the right, and they evaluate actions by the goal or consequences that they attain. Utilitarianism, a form of consequentialism, a theory predicated on the assumption that consequences determine the rightness or wrongness of moral actions is an example of teleological approach to ethics.
2. **Deontological Ethical Theories:** This theories center on the act taken by the agent and the duties, rights, privileges or responsibilities that pertain to that act. According to a deontological framework, actions are intrinsically right or wrong regardless of the consequences they produce. Deontological theories include both duty- based and right- based approaches to ethical reasoning, sometimes referred to as pluralism or contractarianism respectively (Spinello: 1995).

The fundamental difference between the two is that deontological perspectives focus on the specific actions or behaviors of an individual while teleological perspectives focus on the consequences of the actions.

Therefore, the hypothesis is that:

- H1: MIS students in the private and public universities have the same ethical beliefs.
- H2: Male and Female MIS students in the private and public universities have the same ethical beliefs.

- **Integration of Ethics and IT**

Studies have shown the impact of ethics on IT (Bommer et al.: 1987). Johnson (1984, 1985) and Mason (1986) illustrate that IT success and failure can be determined by the social aspects of ethics. Therefore, IT can be conceptualized as social aspect of ethics and presentation affects ethical behavior within organizations. In the section that follows (Figure No. 1) we attempt to integrate ethics and IT.

METHODOLOGY

- **Purpose**

This research is designed to access the impact of ethics on IT. No studies currently exist the impact of ethics on IT in the private and public universities of Iran. The results of this study should help Iranian managers determine whether tight IT should be expended on ethics or if the finding could be better utilized elsewhere within the private and public universities of Iran.

- **Sample and Respondents Characteristics**

Data was collected from two universities a public in Tehran and private in Qazvin. A questionnaire was used to collect the data. It included closed questions and was organized into three sections. Section one consisted of 6 questions concerning university and responder demographics. Section two focused on information about IT. Sections three focused on information about ethics. 50 students from public university and 108 students from private university participated in the study thus making the total sample size 158. Students from public and private universities comprise the sample. Efforts were made to control the age, sex and other demographical variables.

About 12 percent of respondents were married and 88 percent were unmarried. Also about 87.5 percent falls within the age bracket of 18-25 years, 8 percent were between 26-30 years, 1 percent was between 31-35 years, 2 percent were between 36-40 years, and about 1.5 percent was between 41-45 years.

- **The Procedure and Measure**

The research instrument, a questionnaire, contained three parts. The first part seeks demographic information. The second and third part was measured on a five point Likert- type scale, measuring two concepts: IT, and ethics.

- **Ethical Information Technology Measure**

Perceptual measures adopted by Bommer and et.al. (1987) in research on IT were used for this study. The measures were slightly modified based on consultations with public and private universities and pilot studies conducted in Iran. Specifically, a multi-dimensional ethical IT issues measure, based on self-reported ratings, was employed to estimate ethical IT issues. Students were asked to indicate on five-point scales, ranging from 1 = "disagree" to 5 = "agree", the degree of importance they attached to each of seven ethical IT issues dimensions. These dimensions were email monitoring, data file monitoring, appropriate internet access at work, privacy, accuracy, property, and accessibility. The respondents were further asked to indicate the extent of their importance with their IT along each of the seven ethical IT issues dimensions.

- **Validity and Reliability**

This research is designed to investigate the significant differences amongst MIS students in their perception of IT ethics in the private and public universities of Iran. Quantitative research methodology was applied in the study, specifically to assist in finding answers to the research question. After an examination of the literature and the empirically tested questionnaire available to the researchers, self researchers questionnaire were chosen for use in this research. The Cronbach's alpha for this scale was 0.89.

FINDINGS

A T- test was performed to test each of the two hypotheses. The first hypothesis tested whether MIS students in the private and public universities have the same ethical beliefs. A t- value was calculated for each of the seven dimensions and any value less than .05 was accepted. The above research supports the findings of Benham & Wagner (1995). The second hypothesis tested whether male and female MIS students in the private and public universities have the same ethical beliefs. The above research supports the

findings of Sumner & Werner (1997). A t- value was calculated for each of the seven dimensions and any value less than .05 was accepted. The results are implied in the Table No. 1.

CONCLUSION

It was clear from the responses that there were no significant differences in ethical beliefs amongst MIS students in the public and private universities of Iran. It should be noted that in both university the students had not received formal training related to IT ethics within their program of the study.

Though the support was not as strong there was that significant differences do not exist in ethical beliefs amongst MIS students in the public and private universities of Iran. One limitation to our study however, is that there were significantly more female students than male students which may have influenced this result.

Based upon the results of our study, we concluded that significant differences not existed amongst male and female MIS students in the private and public universities have the same ethical beliefs.

Limitations

Some limitations of the research need to be recognized. The sample is relatively small (158), comparable to others studies that have looked at the managers level within the universities within the Iranian context, as such it is representative and the findings presented are general to a wider population of universities in the Iran.

Future Research

This study confirms the applicability of universities professionals related issues in developing countries such as Iran. Owing to this, there is a possibility of bias playing role in the outcome of the study. Therefore, this study can be emphasized in other universities particularly the public and private universities within the Iranian context. One major implication emerging from this study is the challenge of finding ways of valuing contributions of the universities.

REFERENCES

- Benham, H. C., & Wagner, J. L. (1995). Ethical Attitudes of Business Students and MIS Personnel. Proceedings of the ACM SIGCPR Conference, Nashville TN USA, 44-49.
- Bommer, M., Gratte, C., Gravander, J., & Tuttle, M. (1987). "A Behavioral Model of Ethical and Unethical Decision Making", *Journal of Business Ethics*, Vol. 6, No. 4, pp. 265-280.
- Castells, M. (2008). *The Information Age, Economy, Society and Culture*, Cambridge, Mass.: MIT Press.
- Davis, G. B., & Olson, M. H. (1985), *Management Information System: Conceptual Foundations, Structure, and Development*, New York: McGraw Hill Co.
- Drucker, P. (1964), *Managing for Results*, London: Pan Books, Ltd.
- Englebart, D. (1963), *A Conceptual Framework for the Augmentation of Man's Intellect*, London: Spring Publishing.
- Gill, K. S. V. (ed.) (1996). *Information Society*, London: Spring Publishing.
- Goldberge, A. (1987), *Internal Report*, Xerox Palo Alto Research Corporation.
- Janhanse, R. (1988), *Computer Supported Groups*, New York: Free Press.
- Lucas, H. C., & Olson, M. (1992), *The Impact of Information Technology on Organizational Flexibility*, Center for Research on Information Systems, New York university.
- Mandel, M. J., et al. (1994). "The Information Revolution: Special Report", *Business Week*, June 13.
- McCarthy, R V., et al. (2005). *Information Technology Ethics: A Research Framework*, *Issues in Information Systems*, Vol. VI, No. 2, pp. 64- 69.
- Mason, R. O., et al. (1995). *Ethical of Information Management*, Thousand Oaks: Sage Publishers.

- Mccarthy, R. V., Halaw, L. & Aronson, J. E. (2005). Information Technology Ethics: A Research Framework, Issues in Information System, V. VI, No 2, pp. 64-69.
- Mujica, A., Petry, E., & Vickery, D. (1999). A Future for Technology and Ethics. *Business & Society Review*, 104(3), 274-290.
- Pastori, G. (2009). Information Technology, *The Oxford Encyclopedia of the Modern World*, Oxford University Press.
- Scott- Morton, M., & T. J. Allen (eds.) (1994). Information Technology and the Corporation of the 1990s. New York: Oxford University Press.
- Spinello, R. A. (1995). *Ethical Aspects of Information Technology*, Englewood Cliffs, NJ: Prentice Hall.
- Summer, M., & Werner, K. (1997). On- line Ethical: A Comparison of the Attitudes of Freshmen, MIS Majors and Practitioners. *Proceedings of the 1997 Conference on Computer Personnel Research*.
- Topscott, D., & Caston, A. (1993). *Paradigm Shift: The New Promise of IT*, New York: McGraw Hill Co.
- Turban, E., Mclean, E., & Wetherbe, J. (1999). *Information Technology for Management*, New York: John Wiley & Sons. INC.
- Wreden, N. (1997). "Business Boosting Technologies", *Beyond Computing*, Nov. / Dec.

Figure No. 1

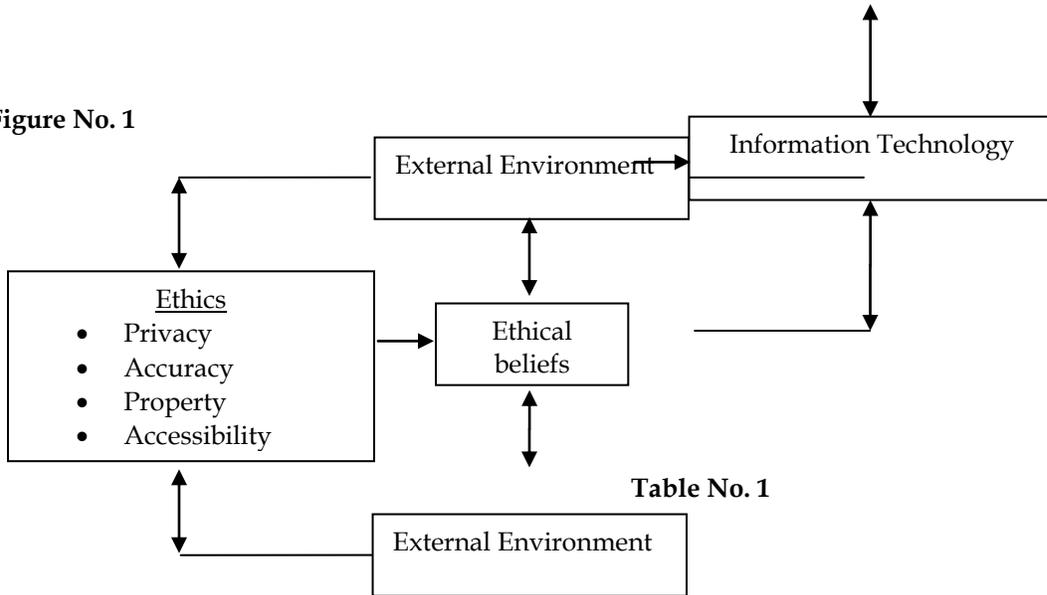


Table No. 1

University	Mean	Standard Deviations	Sig.	t- Value
Public	84.354	8.63563	0.276	-1.095
Private	82.6515	7.86911		
Male	82.1667	8.82909	0.124	-1.548
Female	84.5690	7.57908		