x

believe that managerial skills and entrepreneurship are the key in effective use of information technology (2).The use of information technology reduces the need for workforce at supervisory levels and increases the need for skilled employees. Information technology systems need effective use of skilled workers. The companies that use IT tools in domains such as total quality management and quality and control systems need very skilled employees to implement these systems in different processes. Higher skills would also be required for continuous improvement in these systems (3). Increasing reliance on activities that are directly related to production, distribution and application of information has resulted in many industrial countries in the world being called information societies. The term information society and similar concepts like "information age" emphasize societies that need technology to increase mental work (4). Ethics is a branch of philosophy that deals with the rightness and wrongness of concepts and affairs. Information ethics is especially related to the right and wrong criteria regarding information processing actions. Ethical issues are highly important because if they are not taken seriously, they can impact the organization's reputation and destroy its employees' morale. The use of information technology involves many ethical issues from controlling emails to the violation of the privacy of millions of users whose information is saved in public and private databases (5). It should be noted that what is considered unethical is not necessarily illegal. Therefore, in most cases, the organization or the individual that makes an unethical decision does not necessarily violate the law or regulations. The spread of information technology promotes new ethical conditions in the society and organizations (6). Information has had a magical role in information society.

The role of information technology is very developed and information element is the main transforming factor in the social organization (7). Information society is the result of the use of computer, telecommunication and electronic and audiovisual media. Information society is a society in which life quality, similar to socioeconomic development visions, is increasingly dependent on information and its use (8). In the information age, those employees who are dealing with information technology directly face many ethical issues (9). Mason has pointed out the main domains on the topic of the ethical issues and computer programs to be privacy, accuracy, ownership and accessibility (10). In addition, Bologna believes that information technology users should consider topics such as privacy, data security, accuracy, illegal use and the like (11). With the development of information technologies, a high number of crimes and ethical violations have occurred at the international level. Cybercrimes are currently done in different forms such as cyber fraud, abuse of communication network, abuse of credit cards, infecting others' computers with malware, money laundering and etc. In addition, information technology has created new and unique problems that make us especially pay attention to them so that the ethical vacuums are explored and resolved. For example, the information related to an individual's life is a personal and private matter and no one is ethically allowed to violate others' privacy. However, in today's information age it is seen that almost everybody's privacy is violated. Personal information abuse related to individuals and institutions is one of the problems emerged in this new information age (4-17). Information technology is like a double-edged sword. It can have many advantages while at the same time it presents new opportunities for abuse and violation of regulations (12). In other words, information technology and systems, similar to steam engine, electricity, telephone and radio, can be used for achieving social progress. They also can be used for committing crimes and threating respected social values. This means that information technology development will have advantages for many individuals and some costs for others. Therefore, with the emergence of internet and e-commerce, ethical issues related to information technology have gained increasing importance.

Ethical issues and challenges have existed many years before the emergence of information technology. However, information technology has increased ethical concerns, put pressure on social concisions and made some regulations obsolete or unenforceable. Information technologies and systems have also created new opportunities for criminal and malicious behaviors.

Overall, considering the above points, and as information technology has been increasingly employed at Abadan University of Medical Sciences and nearly all employees use them there, the research team aimed to explore the impact of information and communications technology on organizational ethical issues.

METHODOLOGY

This study is of descriptive cross-sectional type conducted with the aim of exploring the impact of information and communication technology (ICT) on the organization's ethical issues from the viewpoints of the headquarter staff at Abadan University of Medical Sciences in 2015. The research environment was Abadan University of Medical Sciences and, as all headquarter employees participated in the study, the sampling was of census method. The data collection tool was a researcher-made questionnaire that was designed in two sections, including demographic information, and 7 dimensions with 66 questions and based on 5-point Likert scale. In order to explore the research tool's content validity, it was given to 10 university professors at the aforementioned university and it was verified by them after some revisions. In order to determine the reliability, the questionnaire was completed by 25 individuals and the Cronbach's score was obtained to be 0.9.

This study was approved by the research council and the ethical committee of Abadan University of Medical Sciences. Then the participants were provided with explanations on the aim of the study and they were assured that their particulars will be confidential. Then, individuals completed the questionnaires willingly. SPSS software version 21 was used for data analysis. Descriptive statistics such as frequency, percentage, mean and standard deviation were calculated. The mean of each domain was calculated by considering the mean of each questions. If the mean of each domain was equal to or more than 3, the relationship would be verified. Pearson's correlation coefficient was used for determining the correlation between different dimensions of the questionnaire and between different dimensions of the questionnaire and work history and age. ANOVA test was used to compare the employees' views based on characteristics such as age, sex, education level, degree and field of study.

FINDINGS

112 employees were studied. 8% of the individuals were in 30 to 40-year-old age group and 57.1 percent were male. Most of the individuals had bachelor's degree (66.1%), had studied in humanities (46.6%), had a work experience of less than 5 years (35.7%) and had "expert" position (66.1%) (table 1).

The mean and standard deviation of the domains cultural rights, cultural responsibility and commitments, information rights, information responsibility and commitments, life quality, responsibility, and information system quality control and monitoring are presented in table 2. The mean of each domain was calculated by considering the mean of each questions. If the mean of each domain was equal to or more than 3, the relationship would be verified. The means of the domains are as follows: cultural rights 2.39, cultural responsibility and commitments 2.42, information rights 2.44, information responsibility and commitments 2.42, life quality 2.57, responsibility 2.64, and information system quality 2.41. No domain achieved minimum score. Therefore, none of the hypotheses related to the impact of ICT on ethical issues was verified. The study of the domains' interrelationship indicated that there was a positive correlation between them (table 3). The study of the association of the domains with demographic variables indicated that all the domains had significant differences

based on education (P. value≤0.05). Life qualities too had significant differences based on work experience. However, no significant difference was seen regarding the domains and other demographic variables (table 4).

Table1. The frequency distribution of the demographic variables

Variable		Frequency	percentage
Age(years)	30>	15	13.4
	30-40	65	58
	40-50	27	24.1
	50<	5	4.5
sex	female	48	42.9
	male	64	57.1
Education	Diploma	8	7.1
	Associate degree	8	7.1
	Bachelor's degree	74	66.1
	Master's degree and higher	22	19.6
Field of study	Humanities	52	46.4
	Experimental sciences	35	31.3
	Mathematics	4	3.6
	Technical sciences	19	17
	Services	2	1.8
Rank	Senior manager	3	2.7
	Middle manager	24	21.4
	Expert	73	65.2
	Supervisor	10	8.9
	Other	2	1.8
Work experience	5>	40	35.7
	5-10	25	22.3
	10-15	22	19.6
	15-20	7	6.3
	20<	18	16.1

Table 2- the mean and standard deviation of each domain related to ICT impact on ethical issues

variable	mean	Standard Deviation
Cultural Rights	24	4.27
Cultural Responsibility and Commitments	16.97	4.16
Information Rights	36.71	5.7
Information Commitments and Responsibility	24.21	5.79
Monitoring/Control and Responsibility System	21.19	4.73
Life Quality	12.9	3.14
Information System Quality	26.62	6.7

Table 3- the correlation of the domains related to ICT impact on ethical issues

variable	Cultural rights	Cultural responsibility and commitments	Information rights	Information commitments and responsibility	Monitoring/Control and Responsibility System	Life quality	Information system quality
cultural rights	1	0.26^{**} 0.006	0.71^{**} 0.000	0.41^{**} 0.000	0.33^{**} 0.000	0.49^{**} 0.000	0.46^{**} 0.000
cultural responsibility and commitments	0.26^{**} 0.006	1	0.711^{**} 0.000	0.41^{**} 0.000	0.33^{**} 0.000	0.49^{**} 0.000	0.46^{**} 0.000

information rights	0.31** 0.001	0.71** 0.00	1	0.56** 0.000	0.53** 0.000	0.48** 0.000	0.52** 0.000
information commitments and responsibility	0.24* 0.01	0.41** 0.000	0.56** 0.000	1	0.5** 0.000	0.46** 0.000	0.52** 0.000
monitoring/control and responsibility system	0.41** 0.000	0.33** 0.000	0.53** 0.000	0.5** 0.000	1	0.45** 0.000	0.56** 0.000
life quality	0.28** 0.003	0.49** 0.000	0.48** 0.000	0.46** 0.000	0.45** 0.000	1	0.35** 0.000
information system quality	0.24** 0.01	0.46** 0.000	0.52** 0.000	0.52** 0.000	0.56** 0.000	0.35** 0.000	1

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

DISCUSSION

The results of this study indicated that the domains in the information and communication technology that were considered in this study had a positive correlation with each other. In addition, the domains had significant differences based on individual's education ($P \leq 0.05$). This means that the individuals with higher levels of education believed in the effect of information technology on the organization's ethical issues more. Similar studies conducted inside or outside Iran that explore these domains were not found. However, some studies that are related to ethics and information technology are pointed out below.

Pournaghdi has explored the ethical damages in the use of information technology. According to this researcher scientific fairness and the lack of political bias that are among the main principles of science and technology are emphasized in professional scientific ethics. Pournaghdi also believes that children and teenagers are the most vulnerable group with regard to the ethical harms of information technology (13).

Sohrabi concluded that information technology ethics is influenced by the organization's ethical values (14). This result is somehow confirmed in the present study too as it was revealed that information life quality is significantly associated with the work experience in the organization. The more the employees work in the organization, the more they will adapt to the values governing the organization and these values will become

dominant in the domain of information and the technologies used over time.

In their study titled "work ethic and relationship with information security management", Ronaghi and Feizi suggest that information security management has a positive and significant relationship with the employees' observance of work ethics. This means that the use of information security tools is positively associated with ethical norms (15). In the present study, no relationship was found between the domains related to organizational ethics and ICT. This means that, from the perspective of the employees, the use of information technology does not impact the organization's ethical issues. This is important because managers were studied in the study by Ronaghi and they believed in the relationship between work ethics and information technology management. However, in the present study, the organization's employees were studied and this belief did not exist in them. Of course, it should be noted that interview had been used in addition to questionnaire in the study by Ronaghi and Feizi while the present study only used questionnaires.

Ahlan et al explored the role of governance, ethics and integrity in the management of information technology resources. They found that although governments say that ethical principles are at the top of information resource management, it is seen that ethics and integrity are less considered in

information technology management. In other words, the use of ICT does not impact organizational ethics and organizations have not necessarily become more ethical or less ethical (16). Thus, this study is consistent with the overall results of the present study.

In their study, Dika and Hamiti explored the challenges of implementing ethics through the use of information technologies at university. They found that many legal rules regarding the use of computer software are violated despite the knowledge of the authorities. In explaining this, it has been pointed out that information technology and the increasing need to use it have transformed the importance of ethical principles (17). This study has not explored the impact of ICT on organizational ethics directly but it has mentioned it while exploring the ethical challenges and the results are not consistent with those of the present study. The authors of the present study believe that the view that the importance of ethical principles has been reduced due to the use and the need for ICT is not based on facts much as it is possible that the ethical principles were not considered to be much important before the emergence of information technology and this has become more evident with the development and spread of technology.

CONCLUSION

As the results of this study and some other studies indicate, organizational ethics has a special position from the managers' viewpoints and there is always a concern about the abuse of information using information and communication technologies. The results indicate that despite the managers' assumption that ICT impacts organizational ethics, the employees do not think so. This means that individuals committed to ethical principles and organizations with ethical values will be ethics-oriented and will value organizational ethical principles despite the existence of ICT. And if the employees and the organization do not support ethical values, they will find a way to violate ethical principles and

regulations in using new security systems. Therefore, future studies are recommended to explore the organization's culture and ethical principles to measure the impact of information technology with regard to values.

REFERENCES

1. Janson MA, Wrycza S. Information technology and entrepreneurship: three cases from Poland. International Journal of Information Management. 1999;19(5):351-67.

2. Mody A, Dahlman C. Performance and potential of information technology: an international perspective. World Development. 1992;20(12):1703-19.

3. Lal K. Determinants of the adoption of information technology: a case study of electrical and electronic goods manufacturing firms in India. Research Policy. 1999;28(7):667-80.

4. Mohseni M. Sociology of the Information Society. 3 ed: Didar; 2014. 248 p.

5. Madhoushi M. Information Systems Management. 2 ed. Tehran: Mazandaran University; 2009. 504 p.

6. Sarafizadeh A. IT Organization. Tehran: Mir; 2012. 296 p.

7. Mohseni H. Collection and document delivery services. Tehran: Ketabdar Publisher; 2013. 370 p.

8. Davarpanah MRA, Maassoumeh. . Information & society. Tehran: Debizesh; 2006. 256 p.

9. Goldsborough R. Computers and ethics. Link-up January/February. 2000.(2-1)
10. Mason RO. Four ethical issues of the information age. Mis Quarterly. 1986:5-12.
11. Bologna J. Ethical issues of the information era. Computers & Security. 1990;9(8):689-92.
12. Laudon KC, Laudon JP, Brabston ME. Management information systems: Prentice Hall Upper Saddle River, NJ; 2.011
13. Pournaghdi B. Ethics in Information Technology and Ethics Communication Pathology. Ethics in Technology. 2010;4(1-2):21-8.
14. Sohrabi BK, Amir. Ethics, information technology and organizational citizenship behavior. Ethics in Technology. 2010;4-1:(2-1) .10
15. Ronaghi MHF, Kamran. Work ethic and relationship with Information Security Management. Moral knowledge. 2013;11:11-21.
16. Ahlan AR, Ajayi BA, Hussin H, editors. Role of governance, ethics and integrity in managing information technology resources: Muslim practitioner's view. 2013 5th International Conference on Information and Communication Technology for the Muslim World, ICT4M 2013; 2013.
17. Dika A, Hamiti M, editors. Challenges of implementing the ethics through the use of information technologies in the university. Procedia - Social and Behavioral Sciences; 2011.