Attitude of Students Towards Information Access Issues: The Case of Internatinol Islamic University Malaysia

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Abstract: Among the many challenges of the information age is the information access issues. The vast array of developed technology devices have resulted in emerging many ethical issues that needs to be addressed. The continuous rapid development of ICT will continue to raise new ethical issues and students are likely to have little understanding of the ethical issues associated with using ICT. This study explores the attitude held by the students of International Islamic University Malaysia' (IIUM) towards information access issues. It also investigates the differences of the students' individual characteristics of gender, age, marital status, level of study and computer usage with regard to their attitude towards information access issues. Using an adapted instrument, 219 survey questionnaires were analyzed after collecting them from the undergraduate and graduate students of IIUM in Gombak campus. Students were found to be sensitive to the unethicality of information access that is unauthorized access to computing and information resources for personal gain. There were no significant differences of the students' individuals' characteristics of gender, age and marital status with regard to their attitude towards information ethics issues of access. However, level of study and the frequency of computer usage showed the existence of significant differences of the students' attitude towards information access. It is suggested that Revised and updated ethics education courses integrated in the university's curricula can help students develop an ethical responsibility and a proper attitude towards information ethics issues.

Key words: Information ethics, access, information access, ethics, ethics education

INTRODUCTION

The rapid proliferation of the Information Technology (IT) and its pervasiveness has triggered the interest of the researchers to study many social issues surrounding the use of IT (Alshawaf et al., 2002). Information Systems (IS) ethics research is related to the study of potential system abuses and malfunctions as well as the theories that surround them, therefore, understanding all of that helps addressing and preventing such situations in business, social and day-to-day environments. Professional codes of ethics, intellectual property rights, privacy and professional accountability are considered the four key areas of the information ethics issues that have been discussed in the literature (Davison, 2000). The phenomenon of information ethics issues and the attitudes held by the students towards it is practically relevant and academically interesting. Students who are the future professionals of Information and Communication Technology (ICT) are considered to have little understanding of the ethical issues associated with using ICT (Sherratt et al., 2005). Moreover, attitudes towards information ethics issues were found to be dependent on the type of respondent as well as on gender (Alshawaf et al., 2002). In an experiment done by Chiang et al. (2008) showed the existence of difference in cognition and behaviour of the students of two high schools towards information ethics. This study explores the IIUM students' attitudes towards information ethics issues of access and it investigates the differences of a number of students' individual characteristics (e.g., gender, age, marital status, level of study and computer usage) in relation to their attitude towards information access issues.

Literature review: The ethical issues involved in the Information and Communication Technology (ICT) are believed to be brought about by the development and use of technologies. Moor (2005) asserts that information ethics is related to the investigation of the ethical issues

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arising from the development and application of information technologies. He further explains that when it comes to the moral issues regarding the information privacy, intellectual property and security, information ethics provides a substantial framework for those issues. In one of the early literature that discussed information ethics exclusively, Kostrewski and Oppenheim (as cited in Martinsons and Ma, 2009) described that the confidentiality of information, biases in the information provided to multiple stakeholders and the use of computing facilities at work to be the issues of information ethics. Moreover, Fallis (2007) believes that intellectual freedom, equitable access to information, information privacy and intellectual property are among the core issues of information ethics. According to Aali (2008), hacking, privacy, software piracy and IT personnel work ethics are considered the main ethics issues related to information technology.

One of the famous frameworks of information ethics and best known classification is a framework developed by Richard Mason in 1986 discussing the challenges that people face in the information age. Mason (1986)'s framework identified and classified four information ethics issues that is summarized by means of an acronym (PAPA) Privacy, Accuracy, Property and Accessibility. Information accessibility refers to the right and privilege one has to obtain information and the conditions as well as the safeguards to be observed. Mason's framework of information ethics is definitely not the only framework to address the information ethics issues. There are many other researchers including Davison (2000) and Davison *et al.* (2003) who addressed the issues of information ethics to provide a better understanding of it. However, PAPA framework described as "the most influential category of ethical issues related to ICT/ISD (Information Communications Technology and Information Systems Development)." The concept can be applicable to be adapted to IT/IS current environments. Therefore, the researcher adopts PAPA framework to investigate the attitude held by IIUM students towards the information ethics issues of access. Peslak (2006) in his exploration of PAPA framework tested and validated it finding all the topics are important ethical issues.

For one to make a decision, there are a number of factors as reported in the literature which have effect on individuals' decision making behavior. Individual characteristics such as gender, age, marital status, level of study and computer experience are believed to have influence on one's attitude towards ethical decision making behaviour (McCable *et al.*, 2006; Peslak, 2006). There are mixed Findings on the effect of those individual characteristics towards one's attitude of information

ethics issue. Sims *et al.* (1996) found that gender has a significant effect on software piracy (i.e., information property) while Alshawaf *et al.* (2002) found that gender plays an important role on the perceptions of privacy and accuracy as important ethical issues. On the other hand, gender was found to have no effect on the perceptions of IS ethics held by the bank employees of USA and Sultanate of Oman. Similarly, Villazon found that ethical intention and gender have no correlation. According to Villazon, there is a significant effect between age and the students' ethical computer self efficacy as well as the ethical intention. However, Glover *et al.* (1997) found that age has no effect on dealing with ethical issues. Marital status has not received much attention in ethics literature (Khalil and Seleim, 2012); however, it can have an influence on the attitudes towards information ethics and behaviors due to the fact that married individuals are older and they are more likely developed morally compared to their unmarried counterparts. Moreover, level of education was found to have no effect on the student's perception with regard to the ethical problems (Khalil and Seleim, 2012). In terms of student's frequency of computer usage, Gan and Koh (2006) found ambiguous relationship between computer experience and Singapore students' perception of software piracy.

Studies conducted by Eining and Lee (1997), Martinsons and Ma (2009) suggest that there are similarities and dissimilarities in the attitudes towards ethics in general. The individuals in different cultures as well as in different settings within the same culture have different attitudes towards information ethic issues. Due to this reason, the researcher is interested to explore the attitude of IIUM students towards information access issues in the university setting. The researcher is also interested to investigate if a difference exists in individual characteristics (i.e., gender, age, marital status, level of study and computer experience) towards their attitude of information property issues. It is argued by Hejase and Tabch that the existing findings on information ethics attitude are inadequate and there is a need to test demographic variables versus ethics perception in which large samples from various contexts to be used.

Research hypotheses: Based on the reviewed literature, the following five hypotheses are presented below:

- H_1: gender has significant difference with individuals' attitudes towards information access
- H_2: age has significant difference with individuals' attitudes towards information access
- H_3: marital status has significant difference with individuals' attitudes towards information access

- H₄: level of study has significant difference with individuals' attitudes towards information access
- H₅: computer usage has significant difference with individuals' attitudes towards information access

MATERIALS AND METHODS

Undergraduate and graduate students of International Islamic University Malaysia (IIUM) in Gombak campus were involved in the research study. Students are chosen to be the respondents of this study because of the convenience and the fact that the findings can be applicable to a more general environment of actual business managers and decision makers (Leonard and Cronan, 2001). This study uses a convenience sampling approach as the participation was not mandatory and students were approached while they study in the IIUM library. This approach of convenience sampling is widely used among college students to gather information and to get answers for the research questions and hypotheses (Creswell, 2008). A total number of 250 questionnaires were distributed to the respondents using an instrument designed by Eining and Lee (1997) and adapted from Alshawaf *et al.* (2002) and Khalil and Seleim (2012). Out of that 250 questionnaires, a total of 219 complete, usable responses were returned. All the respondents were the active students of IIUM in Gombak campus excluding students from other campuses of IIUM. Reliability and validity of the measurement instrument were first established. Then, one-sample t-test was conducted to determine the attitude towards information access issues as perceived by the students. Moreover, independent t-test and ANOVA were used to examine the research hypotheses. The data were analysed using IBM SPSS Statistics Software (Version 21).

RESULTS

Data analysis: As depicted in Table 1, there is a significant t-value for the issue of information access. Students disagree (M = 2.7219, SD = 1.24207, t = -3.314, d = 218, p = 0.001) to the unauthorized access or use of computing resources and information for personal gain described in information access scenario (Appendix). This indicates that students are sensitive to the un-ethicality of having unauthorized access to computing and information resources for the purpose of personal use.

In analyzing the differences of the individual characteristics of IIUM students with regard to their attitude towards information access issues, gender and marital status were found to have no significant difference (p>0.05) while level of study showed the existence of

Table 1: One-sample t-test for the students' attitude towards information accuracy

Variable	M	SD	t-value	df	p-value
Information access	2.7219	1.24207	-3.314	218	0.001

Test value is 3.0; 1: strongly disagree; 6: strongly agree

Table 2: Independent t-test showing the differences of individual characteristic with regard to information access

Variables	Category	N	M	SD	t-values	p-values
Information access	Gender					
	Male	134	2.6479	1.13830	-1.107	0.269
	Female	85	2.8385	1.38915		
Information access	Marital status					
	Married	23	2.7244	1.09091	0.011	0.992
	Unmarried	196	2.7216	1.26113		
Information access	Level of study					
	Undergraduate	140	2.8499	1.36406	1.933	0.034
	Postgraduate	77	2.5114	0.95294		

Table 3: One-way anova showing the analysis of variance between individual characteristics and information access issues

Variables	Category	N	M	SD	F-values	p-values
Information access	Age					
	18-20	48	2.9536	1.32501	1.136	0.335
	21-23	78	2.7236	1.40309		
	24-26	52	2.7061	.99978		
	Above 26	41	2.4673	1.07226		
	Total	219	2.7219	1.24207		
Information access	Computer usage					
	Never use	3	3.9073	1.14190	2.649	0.024
	Rarely use	15	2.7850	.88340		
	Sporadically use	12	3.4674	1.37394		
	Frequently use	69	2.7576	1.36801		
	Habitually use	8	1.7152	.83429		
	Always use	112	2.6517	1.16323		
	Total	219	2.7219	1.24207		

a significant difference (p<0.05) with individuals' attitude towards information access issues. Similarly, ANOVA was used to analyze age and computer usage and found that significant difference exists between computer usage frequency and information access issues. Table 2 depicts that no gender difference exist in the information access issue (t = -1.107, p = 0.269) indicating that both male and female students of IIUM have a similar attitude towards the information access issues. Moreover, the table shows no significant difference between married and unmarried students (t = -0.011, p = 0.992). However, Undergraduate and Postgraduate students were found to have a significant differences (t = 1.933, p = 0.034) with regard to their attitude towards the information access issues. The mean differences from the table show that undergraduate students are less sensitive to the unethicality of information access issue (Mean = 2.8499) compared to the postgraduate students with (Mean = 2.5114).

Table 3 shows a significant difference between computer usage and the individuals' attitude towards information access at 5%. The result of the one-way ANOVA conducted suggests a significant difference between the frequency of computer usage of the

individuals with regard to their attitude towards the information access (F = 2.649, p = 0.024). This result suggests that students who have a higher computer experience tend to be more aware of the information access issues compared to those who have less computer experience.

DISCUSSION

This study found that students are sensitive to the unethicality of information access (unauthorized access to information resources). Based on the one-sample t-test analysis; there was significant t-value for the information ethics issues of access. The findings of this study is consistent with an earlier study by Khalil and Seleim (2012) who found that students are sensitive to having unauthorized access to computing and information resources (information access issue). Another study by Alshawaf *et al.* (2002) found that the attitudes of Kuwaiti students towards the information property and access were significantly different from the Kuwaiti business practitioners. This suggests that students generally have positive attitude towards the un-ethicality of information access issues. Students based their perception of the unethicality of having such unauthorized access described in the information access scenario (Appendix) on a number of factors including; the personal use of the company's internet subscription is considered a stealing, the illegality of accessing company's network and using it for personal business purposes and the possibility of losing the job in the event one was caught red-handed. This study's findings is consistent with that of Khalil and Seleim (2012) who found out that Egyptian business students hold positive attitudes towards the information access. Therefore, it could be interpreted based on the findings of this study that IIUM students hold ethical attitudes similar to those of their world wide counterparts (i.e., Egyptian students) and hence, apply similar moral values in the event of IT/IS-related ethical dilemmas to be assessed for instance, information access.

This study found that gender has no significant difference on the issue of the information access which indicates that both male and female students of IIUM have equal attitude with regard to information access issues. This interpretation is supported by McCabe *et al.* (2006) findings that no difference exists between men and women in their ethical perceptions. According to a study conducted by Glover *et al.* (1997), age was found to have no significant effect on dealing with ethical issues. In congruence with this previous study, this study found that regardless of the different age groups, students tend to have the same attitude and perception when dealing

with information ethics issues. This finding is with an agreement of Khalil and Seleim (2012)'s findings and with a disagreement of Gattiker and Kelley (1999)'s finding that age has an influence on the user's judgments of information ethics issues. This study also found that marital status has no significant difference on the students' attitude towards the information access issues which is in agreement with the findings of studies done by Lane and Schaupp (1989), Rawwas and Isakson (2000). This study found that level of study has a significant difference with individual's attitude towards information access. This finding is in consistent with that of Villazon who found that level of education has an effect on the self-efficacy of ethical computer of students as well as their ethical intention. The frequency of computer usage was found to have a significant difference with the students' attitude towards the information access. This finding is supported by Kowalski and Kowalski (1990) who found personal computer ownership correlates with unethical attitudes and computer abuse behavior.

CONCLUSION

In conclusion, the prevalent use of Information Technology (IT) and its applications have brought about ethical issues to emerge. Information access issues are regarded as one of the challenges people face in this information era. This study explored the attitude of International Islamic University Malaysia's (IIUM) students towards the information access issues and examined their individual characteristic differences with regard to their attitude on such issue. Students were found to be sensitive to the unethicality of information access that is unauthorized access to computing and information resources for personal gain. Moreover, there were no significant differences of the students' individual's characteristics of gender, age and marital status in terms of their attitude towards the information access issues. However, level of study and computer usage showed the existence of significant differences of the students' attitude towards information access. Revising and updating ethics education courses integrated in the university's curricula can help students develop an ethical responsibility and a proper attitude towards the information access issues.

LIMITATIONS

Despite the findings of this study and its potential contribution to the existing information ethics literature, a number of limitations need to be observed. The generalization reached from the results was based on a

sample data collected from students in one public university in Malaysia. The perceptions and attitude of this study's respondents may not fully represent the attitude of other students in Malaysian public and private universities. Therefore, research designs with large samples from students of various universities studying different faculties can be used. In addition having students, who are assumed to have no professional experience or practitioner's exposure to real ethical cases as respondents of this study is another key limitation. Cole and Smith (1996) argue that there are differences between students and practitioners towards their perception of business ethics. Thus, future studies from working professionals can be conducted.

APPENDIX

Scenario of Information Privacy issue (adapted from Khalil and Seleim, 2012; Alshawaf *et al.*, 2002) Information access: Ahmed works full time during the day in a large corporation. His children will be going to college in a few years. In order to prepare for their education, he wanted to earn extra income by building and selling computer systems for local business at home in his spare time. Ahmed realizes that in today's world, quick access to information is power. He must stay ahead of other competitors in order to succeed in the volatile computer business. He decided that he should hook up to a 24 h commercial on-line market information company. Besides the long distance telephone charges such service normally involves a small hourly usage charge plus an expensive monthly flat charge. Ahmed can handle the telephone charges and the hourly charge because he will be using it for a short time every evening. However, his current sales volume simply did not justify paying a large monthly fee at this point in time. The company Ahmed works for has already connected to a similar service. Ahmed decided to dial the service from his home computer in the evening using the company's user ID number. He figured the company is paying for the flat fee anyway. Therefore, the cost to the company is minimal.

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