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The Information Ethics Perception Gaps between Chinese and American Students -- a Chinese *Guanxi* Perspective

ABSTRACT

This study utilizes five scenarios and an open-ended questionnaire based on Kohlberg's Cognitive Moral Development (CMD) model to measure and analyze the gaps between information ethics perceptions of students from Taiwan, Mainland China, Hong Kong and the USA. The study is specifically designed to assess the extent to which the gaps are influenced by Chinese culture. The study found significant differences in the perceptions not only between American and Chinese students, but also among the three Chinese societies (Taiwan, Mainland China, and Hong Kong). Based on the findings, three propositions are formulated. The study has both educational and business implications.

Keywords: Information Ethical Perceptions, Kohlberg CMD Model, Chinese Culture

INTRODUCTION

Ethical issues surrounding intellectual property protection, privacy, accessibility, and data accuracy (known as Information Ethics) have become major concerns in recent years, mostly due to the rapid advancement of information technology. Consequently, the issues have drawn much research attention.

Research in moral reasoning and ethical decision making is abundant. Early studies in social psychology and anthropology viewed morality as equivalent of conformity to cultural norms. They assume that moral development reflects the internalization of culturally variable norms through social reinforcement, influence of peers, parents, or authority figures (Gielen and Markoulis, 2001). Many business researchers have studied the impact of culture on ethical decision making (Bellman et al., 2004; Capurro, 2006; Chen et al., 2013; Chung et al., 2008; Guillen et al., 2002; Hui et al., 2007; Lowry et al., 2014; Mele et al., 2006; Moores, 2008; Nakada and Tamura, 2005; Wood et al., 2004). Some of these studies found that culture impacted people's attitudes and behaviors in relation to software piracy (Lowry et al., 2014; Moores, 2008), privacy concerns (Bellman et al., 2004; Chen et al., 2013; Nakada and Tamura, 2005; Samsuri and Ismail, 2013), and data access (Lowry et al., 2014).

However, most of the studies used close-ended surveys to assess subjects' perception/behavior differences on a specific information ethics issue across cultures. Furthermore, most studies attributed information ethics differences to national culture differences with limited in-depth explanations of how specific cultural elements may have contributed to a subject's cognitive moral reasoning process.

In the last decade or so, we have seen increased use of the Cognitive Moral Development model (CMD) (Kohlberg, 1984; Rest, 1979) in studies of ethical decision making in the IT context (Davison et al., 2006; Davison et al., 2009; Ge and Thomas, 2008; Martinsons and Ma, 2009; Siponen and Vartiainen, 2004). Kohlberg's conception of three moral development levels (pre-conventional, conventional, and post-conventional) provides a meaningful context in which to compare moral reasoning stages across different cultures. This cognitive approach to cross-cultural studies in ethical decision making complements the traditional approach of using Hofstede's cultural dimensions theory (Hofstede, 1980).

As the second largest economy in the world, China has become one of the most important countries in the global business community. Consequently, a lot of research attention has turned to the ethical challenges of doing business in China. Several notable studies have used Kohlberg's model to study ethical decision making involving Chinese subjects. Davison et al (2009) carried out a study comparing the attitudes towards ethics between Chinese and Japanese IT professionals. Martinsons and Ma (2009) conducted a study of Chinese managers of three diverse age cohorts. They found significant differences in information ethics perceptions among the three generations of Chinese managers. Snell and Tseng (2001) used a version of Kohlberg's model to explain how *guanxi* can become entangled with ethical dilemmas and corruption in China.

This study uses both Kohlberg's theory of CMD (1984) and *guanxi* to measure the differences in students'

perceptions of intellectual property, information accuracy, privacy, and accessibility (PAPA) between Chinese cultural societies (Taiwan, Mainland China and Hong Kong) and the USA. We selected the three Chinese cultural societies because of their close cultural and historical relationships as well as their collective economic impact in the world. Prior research studies have used *guanxi* to explain the ethical dilemmas in China (Hwang, 1987; Snell and Tseng, 2001; Xin and Pearce, 1996). However, very few researchers have used both scenario-based, close ended survey and open ended questionnaires to study the role of *guanxi* in moral reasoning.

This research is intended to bring additional evidence of Kohlberg's applicability in Chinese culture and offer fresh insights from a Chinese *guanxi* perspective. A better understanding of differences in moral reasoning on information ethics between each of the three Chinese societies and USA would help educators improve their educational programs. It can also help the Western business community formulate strategies to deal with ethical dilemmas.

The paper is structured as follows. The first part reviews the body of literature on Information Ethics, Kohlberg's CMD Model, and the Chinese *guanxi*. The research method is then discussed. An in-depth analysis of the students' PAPA perception differences is conducted and three propositions are introduced. The paper concludes by highlighting the contributions of the study and pointing out limitations and possible future research directions.

INFORMATION ETHICS

Ethics issues surrounding the development and use of information technologies have been termed *information ethics*. Davision (2000) asserted that information ethical theory deals with four fundamental issues: codes of ethics, intellectual property rights, professional accountability and data protection. Mason (1986) believed that we should focus on four issues of information ethics: privacy, accuracy, property, and accessibility, known as PAPA.

Frank Land suggested adding "knowledge manipulation" as a fifth category to Mason's framework (Martinsons and Ma, 2009). Knowledge manipulation includes intentional data omission for propaganda and plagiarism. Severson (1997) believed that the non-maleficence principle (do no harm) in medicine should also be applied to an information ethics issue. This principle can be applied in cyberspace for unethical behavior such as cyberbully. Although Mason's framework has its limitations, we still selected it for this study because of its brevity and popularity.

Privacy

The early concept of privacy focuses on individuals' ability to maintain personal space by limiting others' physical access to them or information about them (Westin, 1967). Now, privacy concerns deal with the worry or belief that one's privacy is being violated by the widespread use of modern information technologies (Dinev and Hart, 2006; Malhotra et al., 2004; Stewart and Segars, 2002). In the Information Systems and e-commerce literature, privacy is generally defined in terms of the desire to control others'

access to and use of personal information (Dinev and Hart, 2006; Kim, 2008; Lowry et al., 2011; Malhotra, et al., 2004; Mason, 1986; Xu et al., 2009-2010; Yao et al., 2007). Privacy issues are complex and can be controversial, as the Snowden case demonstrates. On the one hand, public safety and national security require monitoring of criminal activities (Culnan and Williams, 2009; Lee, 2009); on the other hand, the public's privacy rights must be protected (Acquisti and Gross, 2006; Gross and Acquisti, 2005).

Privacy may be different for men and women and may vary according to age, class, ethnicity and other cultural and social variables (Adam and Ofori-Amanfo, 2000). For example, privacy is viewed as a human right in the European Union (EU) and protected by the EU Data Protection Directive, but it is more negotiable in the United States (Tang et al., 2008). Cao and Everard (2008) found that national cultures and factors such as individualism versus collectivism, power distance, and uncertainty avoidance can lead to differences in privacy perceptions.

Accessibility

Accessibility issues address questions such as: what information does a person or an organization have a right or a privilege to obtain, under what conditions and with what safeguards? Is the system fair for all affected persons (Mason, 1986; Mingers and Walsham, 2010)? Accessibility is affected by economic, social, cultural, and political systems. For example, poor people may not be able to afford to use digital technology; some governments place excessive restrictions on information they deem to be too sensitive or inappropriate for public access (Adam and Ofori-Amanfo, 2000; Froehlich, 2004; Mingers and Walsham, 2010; Warschauer, 2003).

The principles of accessibility can be in conflict with other components of information ethics. For example, protecting intellectual property rights would hinder accessibility (Fallis, 2007); in the health care industry, the need to protect a patient's privacy must be balanced with the need to access the patient's health information quickly (Tanser et al., 2006).

Property

Intellectual property (IP) refers to creative works embodied in physical form. Examples of IP range from computer software design, to names and symbols. Property issues include ownership of information, fair prices for information exchange, ownership of information transmission channels, and scarce resources allocation (Mason, 1986). The ethical issues associated with IP are the most complex and challenging part of PAPA because computers have made storage, transmission, and sharing of IP easy (Gallini and Scotchmer, 2002; Lemley, 2004).

In a study conducted by Haines and Leonard (2007), approximately 30% of business professionals admitted to pirating their employers' software. A few exploratory studies at national culture levels revealed that software piracy is more frequent in Asia than in the USA (Donaldson, 1996; Swinyard et al., 1990).

Accuracy

Accuracy deals with issues of authenticity, fidelity and information system reliability (Froehlich, 2004;

Mason, 1986); it also addresses the issue of responsibility and recourse when incidents occur.
Studies showed that lost productivity, software piracy, security leaks, privacy violations, and the like cost businesses hundreds of billions of dollars each year (Culnan and Williams, 2009; Douglas et al., 2007; Gan and Koh, 2006; Moores and Dhaliwal, 2004; Siponen and Vartiainen, 2007; Son and Kim, 2008). Study of ethical and cultural issues surrounding computer abuse is of unprecedented importance to organizations. Those issues are not just technical but also managerial issues (Posey et al., 2011; Ransbotham and Mitra, 2009). Many of the issues are within ethical gray areas and involve moral hazards (Calluzzo and Cante, 2004; Tuttle et al. 1997).

KOHLBERG'S COGNITIVE MORAL DEVELOPMENT (CMD) MODEL

Kohlberg (1981)'s Cognitive Moral Development model consists of levels of moral development from the pre-conventional level of moral reasoning focused on the pragmatic consequences of one's actions (stage 1 and 2), to a conventional level (stage 3 and 4) focusing on internalized conventional moral conceptions and expectations, and ending with a principled level (stage 5 and 6) emphasizing universalizable conceptions of justice and human dignity.

Stage 1 is the obedience and punishment orientation. An individual's moral judgement is motivated by avoidance of punishment and rigid adherence to rules and commands. The preoccupation is with self-preservation and the absolute need to obey authority. The stage 2 is the instrumental purpose and exchange stage where an individual's moral judgement is motivated by a desire to meet one's own needs, and occasionally the needs of others. The focus is on personal gain or serving the narrow interest of one's own small circle. An illustrative reasoning would be: "You make a copy of that software for me and I will make a copy of this software for you."

Stage 3 is the interpersonal accord and conformity orientation stage where an individual's moral judgement is motivated by a desire to avoid rejection, disaffection, or disapproval of others; there is a strong desire to conform to the social expectations of close family, friends, and associates, gaining the approval of significant others and avoiding hurting people's feelings (Snell and Tseng, 2001). For example, "I have to do this (of an unethical natural) to help my friend because he helped me when I was in need. If I do not do it, my friend will be very mad at me." Stage 4 is the law and order orientation stage. An individual is in this stage when s/he tends to believe that making judgments on the basis of law and order is just. At Stages 3 and 4 people would consider it necessary to obey particular laws for the sake of preserving the system of laws and institutions of which they are a part (Snell and Tseng, 2001). An illustrative reasoning would be: "Since the law prohibits release of patient data to unauthorized people, I should follow the rule and refuse her request."

Stage 5, the social contract orientation, is driven by upholding the basic rights, values, and legal contracts of a society, even when they conflict with the concrete rules and laws of the group (Kohlberg, 1981). At this stage, the person construes morality as a matter of social agreement and cooperation. Stage 5 is effectively the highest stage found in most studies of moral development (Snell and Tseng, 2001). An

illustrative reasoning would be: "Did the government violate people's right to know what happened when it ordered concealment of an investigative report on the explosion of a chemical plant?"

Stage 6 is the universal ethical principles orientation: upholding of principles of rights and justice. Stages 5 and 6 entail the ability to reflect critically on the reasoning underpinning, or perhaps absent from, prevailing taken-for-granted moral rules and institutions, and to identify practical values or rights that arguably might create a "better" society in terms of overall justice or well-being (Snell and Tseng, 2001).

Kohlberg's CMD model has been widely used in research examining the reasons individuals make moral judgements, but it has also been the subject of criticisms. Critics have argued that Kohlberg's stages of moral reasoning reflect fundamental Western, male, and social-class biases (Dien, 1982; Gilligan, 1982; Henry, 2001). For example, Dien (1982) had serious concerns about using the model in China. She stated (p. 1) that "the Confucian view of man as an integral part of an orderly universe with an innate moral sense to maintain harmony is quite different" from the Western view of man as an autonomous being who makes rational decisions as a moral agent. She further argued that the preferred mode of resolving human conflict in China is reconciliation and collective decision making. Despite such controversy, considerable evidence has been found to support Kohlberg's CMD theory across different cultures (Gielen and Markoulis, 2001; Snarey, 1985). Gielen and Markoulis (2001) reviewed more than 100 studies and concluded (p. 82) that "most cross-cultural studies on moral reasoning have validated the existence and developmental properties of the pre-conventional and conventional levels of moral reasoning, but the cross-cultural evidence for the post-conventional, principled forms of moral reasoning has been weaker."

Several recent studies involving business and IT professionals provided additional evidence to support the applicability of Kohlberg's model in East Asian cultures (Davison et al. 2006; Davison et al., 2009; Snell, 1999; Snell and Tseng, 2001). Davison et al. (2006) studied the ethical values of IT professionals in Hong Kong. Their study upholds the validity of Kohlberg's contention that the moral reasoning of most adults reaches stage four or above. Another study by Davison et al. (2009) found that the concept of abiding by universal laws and rules (termed stage 4 reasoning by Kohlberg) was widely accepted by IT professionals in both Japan and China.

Fu and Lei (1991) aggregated longitudinal data from several studies using Kohlberg's theory. They compared the moral reasoning of Chinese and American subjects among different age groups and found several trends. First, the moral reasoning of Chinese children matured earlier than that of American children at the preconvention level (stage 1 & 2). Second, Chinese subjects reached Stage 4 (conventional level) of moral development later than their American counterparts. Third, while some of the American subjects began to use Stage 5 reasoning, valuing social contracts, utility, and individual rights, after the age of 13, the Chinese subjects did not do so until the age of 20. Hwang (1998) believed that this difference may reflect divergent rationalities rather than cognitive development or maturation.

Thorne (2000) compared the ethical reasoning and decisions of Canadian and Mainland Chinese senior accounting students. The results indicated that Canadian accounting students' formulation of an intention

to act on a particular ethical dilemma (deliberative reasoning), as measured by the moral development approach, was higher than that of Mainland Chinese accounting students. Canadian accounting students used post-conventional factors (moral equity, contractualism, and utilitarianism) more frequently and made more ethical audit decisions than their Chinese counterparts. This finding added to the early evidence that Chinese moral reasoning indeed reflects divergent rationality.

GUANXI AND INFORMATION ETHICS

One of the key concepts to understanding Chinese culture is *guanxi*. The Chinese term *guanxi* consists of two Chinese words. The word "*guan"* means a gate, and "*xi*" refers to a tie, a relationship, or a connection. Therefore, *guanxi* means "pass the gate to get connected" (Lee and Dawes, 2005). *Guanxi* is social connections and reciprocal favors and obligations to the *guanxi* circle. Outside such a circle, there is 'no tie, no obligation, and no rights' (Lee and Dawes, 2005).

Some researchers have treated guanxi as being similar to *networking* in Western culture, while others considered it to be unique to Chinese culture (Hung, 2004; Wellman et al., 2001). Chinese *guanxi* is more likely to mix socio-emotional concerns with instrumental concerns in workplace interactions. Chinese guanxi typically involves personal gifts, shared meals, and addressing friends as brothers and sisters, which reflects familial collectivism in Chinese culture. In contrast, Western *networking* reflects the Protestant ethic of separating socio-emotional concerns from instrumental concerns (Sanchez-Burks, 2002).

Chinese *guanxi* is the result of centuries of "Rule by Rulers" governing systems, where there was no real objective rational-legal framework to determine outcomes. The unequal ruler-subject relationship meant long delays in getting cases handled for ordinary people who lacked direct family connections with officials. More recently, modern Chinese guanxi networks serve as an alternative channel of "soft" information because in China it is extremely hard to obtain information on a prospective partner's financial records, credit worthiness, and licensing rights (Snell and Tseng, 2001). Xin and Pearce (1996) interviewed 32 company executives in Mainland China and found that the executives, especially the ones in privaely owned companies, relied significantly on *guanxi* as a substitute for formal institutional support. Martinsons (2008) also noted that the role of personal relationships (*guanxi*) with particularistic obligations among Chinese Mainland samples is to compensate for an under-developed legal system. The Chinese would rely on *guanxi* based solutions to ethical dilemmas in the absence of well-established laws and rules (Davison et al., 2009).

Hwang (1987) subdivides relationships into three kinds of *guanxi*. (**1) Expressive ties are** relatively permanent and stable social relationships within families. Family members' requests for favor are usually granted on the basis of family seniority and needs, known as the "need rule." **(2) Mixed ties,** also called particularistic ties, exist mainly among relatives, neighbors, classmates, colleagues, teachers and students who share a common area of interest. The members of the mixed tie network know each other and retain a certain expressive component in their relationship. The relationships are carefully balanced through reciprocal favors. This is also known as "*renqing* rule." **(3) Instrumental ties** refer to the relationships among acquaintances or strangers. The "equity rule" is applied to maintain such relationships in most cases.

La guanxi (seeking relation) is an effort to build close relationships with people outside of one's family circle. Through *la guanxi*, an instrumental tie can become a member of one's mixed tie network.

Chinese *guanxi* may influence their attitude toward information ethics. Studies have shown that cultures that are high in individualism such as in Anglo-American societies had lower rates of software piracy than those found in cultures that were high in collectivism (Moores, 2008). This is because in societies that encourage close ties among members of the in-group over individuality and personal property, sharing is a common practice and unauthorized copying of software tends to be higher (Shin et al., 2004).

This sharing practice applies to information access also. People with good *guanxi* may have access to more information and resources than those who do not. Consequently, *guanxi* has made their work more productive and their businesses more successful (Chang, 2010, 2012a, 2012b; Chung and Hamilton, 2001).

Privacy perceptions are influenced by cultures **(**Bellman et al., 2004; Chen et al., 2013; Cao and Everard, 2008; Nakada and Tamura, 2005; Samsuri and Ismail, 2013**).** Bellman et al. believe that individualism is often strongly correlated with privacy protection. Chen et al. (1998) found that American students had significantly higher level of information privacy concerns than Korean students, whose culture is similar to Chinese culture. Although no empirical study was found on *guanxi*'s role in privacy protection, we boldly posit that privacy violation is likely to occur under *guanxi* pressure.

In summary, Chinese traditional *guanxi* dictated that the priority for judging morality was "affection," "rationality," and "law." This contrasts with Western society where the order of priority is "law," "rationality," and "affection." Chinese *guanxi* can be a positive force in forging long term and committed personal and business relationships. However, it can also cause serious ethical concerns such as favors like giving an illegal software copy to a friend, providing unequal customer service based on *guanxi*, nepotism, and leaking information to a friend for insider trading. Snell and Tseng (2001) used six case studies to analyze how *guanxi* can become entangled with ethical dilemmas and corruption on the Chinese Mainland.

RESEARCH METHOD

In the absence of literature that uses Kohlberg's theory of CMD and *guanxi* to analyze the gaps between USA and Chinese (Taiwan, Mainland China and Hong Kong) students' PAPA perceptions, this study is guided by grounded theory methods (Paré, 2004; Strauss and Corbin, 1990; Yin, 1994) to develop three research propositions. The propositions were derived out of two specific areas of exploration: (1) how considerations of *guanxi* affect people of different cultures in tackling information ethics issues; (2) whether difference exists between people of different cultures in terms of Kohlberg's six stage model.

To achieve the two goals, it is inadequate to analyze the intricate relationships using Cross-Section Positivism only (Pettigrew, 1985). The present study adopted a scenario-based survey that relied on Kohlberg's model and an open-ended questionnaire, through which data on each subject's understanding of Chinese *guanxi* and PAPA perception can be obtained (Strauss and Corbin, 1990; Paré, 2004), and

interactions between them can be observed.

Research Design

The scenario-based survey drew upon Chang's (2009) and Davison et al.'s (2006) five scenarios on Kohlberg's CMD model. For each scenario, students were asked to rank the top three actions, among seven, that they were most likely to take. The scenarios questionnaire included an additional stage zero, referring to a behavior that is entirely devoid of ethical reasoning based on Davison et al. (2006, 2009). Although scenarios 2 and 5 describe a workplace setting that does not match that of a student, Falkenberg and Woiceshyn (2008) believe that moral imagination is also a way in which students can identify and apply their own value sets.

Next, we administered an open-ended questionnaire based on Hwang (1998) and Mason (1986). The open-ended questions are related to each subject's Chinese *guanxi* and PAPA perception. The subjects' answers, therefore, help us to find the direct causal relationship between PAPA perceptions and Chinese *guanxi*. We asked subjects whether they were influenced by *guanxi* considerations when faced with PAPA issues and the reasons for their answers. The following is a sample of the open-ended questions:

- ***Guanxi* :** Do you have different ways of treating people with different roles? Why or why not?
- **Intellectual Property & *Guanxi* :** Would you copy software for close friends and colleagues but not for others, or would you copy software for powerful (privileged) persons? Why or why not?
- **Privacy & *Guanxi* :** Would you divulge confidential data to close friends and colleagues but not to others, or would you divulge these data to powerful (privileged) persons? Why or why not?
- **Accuracy & *Guanxi* :** Would you attend to the requests of your close friends and colleagues to protect their software or data's accuracy, and give them priority over others, or would you act upon the requests of powerful (privileged) persons, and give them top priority? Why or why not?
- **Accessibility & *Guanxi* :** Would you allow someone you enjoy good *guanxi* with to access privileged information and deny access for those you do not have good relationships with? Why or why not?

The Chinese language versions of the two surveys were translated from their English versions by a native Chinese researcher. To ensure translation accuracy, a different researcher translated them back to English language for comparison. Since the American subjects were not familiar with the term *guanxi*, the researcher included a definition of the term on the survey and also asked the students for any questions on the term before the surveys started.

Data Collection

The data used in this study were collected from college students enrolled in twelve universities in Taiwan, Mainland China, Hong Kong, and the USA. The subjects were: (1) undergraduate students of National Pintung University, Taiwan; (2) undergraduate and graduate students of Shanghai Jiao Tong University, Fudan University, Tsinghua University, Nanjing University, Nanjing Normal University, Sun Yat-Sen University, Wuhan Polytechnic University, Huazhong University of Science and Technology, Mainland China; (3) Hong Kong University and The Chinese University of Hong Kong; (4) undergraduate and graduate students of St. Cloud State University, USA. The surveys were conducted in a variety of classes

such as business, literature, history, science and engineering. The researcher who collected the Asian samples also conducted short interviews with some of the subjects.

The student subjects in each of the four jurisdiction samples represented their corresponding jurisdiction in that sample with the exception of the USA sample which had five international students. Most students who participated in the study did not have any ethics courses or training. A total of 583 usable responses were collected. Demographic analysis of the subjects is shown in Table 1. The majority of the students fall in the age range of 21 to 22 or 25-26. The uneven distribution of age groups could be one of the study's weaknesses. However, since the study is a cross-cultural comparison and the same age strata are used in all four samples, we believe the results are comparable and useful insights can be obtained. The work experience of most students is less than 5 years in all four samples.

Table 1: Demographics of the Subjects

Students	*Number of Subjects*	*Gender*	*Number*	*Age*	*Number*	*Years of work experience*	*Number*
Taiwan	**277**	Male	125	<=25	227	<=5 Years	228
		Female	152	>25 and <=30	45	>5 and <=10 Years	45
				>30	5	>10 years	4
Mainland China	**202**	Male	100	<=25	154	<=5 Years	187
		Female	102	>25 and <=30	31	>5 and <=10 Years	8
				>30	17	>10 years	7
Hong Kong	**50**	Male	28	<=25	28	<=5 Years	31
		Female	22	>25 and <=30	14	>5 and <=10 Years	13
				>30	8	>10 years	6
USA	**54**	Male	33	<=25	31	<=5 Years	46
		Female	21	>25 and <=30	21	>5 and <=10 Years	4
				>30	2	>10 years	4
Total	**583**		583		583		583

Data Analysis and Theme Identification

Based on the key constructs of Chinese *guanxi* (Hwang, 1987) and PAPA (Mason, 1986), we developed an initial list of coding themes and used it as the basic component for analysis. The coding themes are templates we used to classify students' responses into different PAPA constructs. For example, privacy issues should include the following themes: unauthorized collection of personal data, unauthorized access, and unauthorized use for unintended purpose. This list was refined after the first analysis of data, and further refined after completion of the analysis, to reflect both the information gained from the subjects and additional information provided in published research (Paré, 2004; Strauss and Corbin, 1990). Our unit of analysis was an individual subject. Table 2 shows sample student responses that fit into the themes in different PAPA constructs. Once the analysis team (3 analysts, two graduate students and one MIS professor) agreed on the list of themes, each member separately coded the same interview files. We compared results and discussed differences until agreement was reached on the themes, meanings, and future coding procedures. Each analyst then coded 583 open-ended questionnaire files using a revised coding template, which provided not only structure, but also flexibility for coding new or unexpected findings. After these files were coded, further discussions were held until coders achieved complete agreement. If agreement still could not be reached, the findings of that particular section were discarded.

In this study, 5194 themes were identified successfully. Among them, 4555 themes were agreed upon and 137 themes were disagreed upon by two analysts. To assess the inter-rater reliability in the coding, we computed the Cohen's Kappa score (Cohen, 1960) for coded constructs. The Kappa score is 0.933 (p value: 0.000***), which is significantly higher than the acceptable level of 0.65 (Moore and Benbasat, 1991). Meanwhile, 502 themes beyond the scope of the research have been ignored.

Table 2: Sample Student Responses from Open-ended Questions

Construct of Analysis	**Sample Responses**	
Accessibility & Chinese Culture Perspective	Taiwan	Yes, I will take care of the needs of my family, relatives or good friends (good *guanxi*). No, I have the responsibility to protect the customers' data. If anyone needs the data, they must provide me with authorization.
	Mainland China	Maybe depending on the situation. I decide based on affection, then rationality and finally law. No, because my company and me get no benefits from it. I will not access it without authority.
	Hong Kong	Possibly, *guanxi* is important. No, I may have the authority or privilege to do what benefits me, but that doesn't mean I can abuse it.
	USA	I might take a look just because I can. No, I wouldn't do that because: 1. I wouldn't jeopardize my job, 2. it would be traceable.
Privacy & Chinese Culture Perspective	Taiwan	I won't do it now; however, I am not sure about in the future. Absolutely not. I will not give customers' confidential data to anyone because it is unethical.
	Mainland China	Maybe, because I don't want bad *guanxi* with my supervisor. Of course, I won't take the risk unless it is necessary. No, doing so is against the benefits of customers, violating privacy is very immoral.
	Hong Kong	Maybe, if my mother asks for the data of our customer, I will give it to her. No, I would be quiet and pretend that I don't have the data, because I don't want to be in trouble.
	USA	Sometimes, because I am very nosy. No, information is secure and can't be shared with people who don't have access.
Accuracy & Chinese Culture Perspective	Taiwan	Yes, I will follow the rules in the organization to avoid being punished; however, in private, I might not obey the rules and violate the accuracy rule. No, because it is my professional duty to protect the accuracy of software and data.
	Mainland China	Yes, according to the *guanxi* of Chinese. No, the accuracy is most important and we cannot use *guanxi* to influence the normal operation of the job.
	Hong Kong	Yes, I am Chinese. No, but it also depends on the importance of work.
	USA	Yes, it is important to keep certain people happy. No, it's unethical.
Intellectual Property & Chinese Culture Perspective	Taiwan	I will violate the copyright if my relatives (*guanxi*) ask me to do it. Of course not, because I will have to bear the consequences of violating the rules. *Guanxi* does not come into the equation in this serious situation.
	Mainland China	Yes, for my family, I have looser standards than other people because everyone will respect the *guanxi* in my society. Therefore, I will adjust the principle for people who have different *guanxi* with me, then make decision. No, I will not because a professional should not do so.
	Hong Kong	Yes, a copy to friends and superior is possible. No, I would pretend I don't have the software so that I don't need to give a copy to anyone. I feel bad if people know that I am violating copyright.
	USA	Yes, I would copy them for my close friends but not for others. No, it's not ethical and against the law.

Non-parametric analytical methods were employed to test the PAPA perception gaps among samples from both the scenario-based survey and the open-ended questionnaire. The **Kruskal-Wallis H Test** was used to analyze four independent samples from the four areas. **The Wilcoxon Rank Sum Test (**Mann-Whitney

U Statistics) was used to compare each of the three Chinese samples with the USA sample. In other words, we conducted three pairs of independent sample tests. The non-parametric analytical methods were chosen for two reasons. Firstly, the samples are not true random samples because they were obtained from the classes that the researchers were teaching or their friends were teaching. Non-parametric tests are considered the most appropriate method for non-random samples. Secondly, non-parametric tests on the PAPA perceptions measures generally yield more accurate results than the corresponding parametric tests (DePuy and Pappas, 2004; Nanna and Sawilowsky, 1998).

Research Quality

The research method used in this study is not exactly what Guba and Lincoln (1982) called naturalistic inquiry, but it bears many characteristics of the approach. In its core, the naturalistic inquiry involves qualitative studies such as case analyses, which they believe is a much better research method than the traditional rationalistic inquiry when it comes to building theory in social and behavioral science.

We found that the current study of Chinese *guanxi* and moral reasoning in information ethics fits well with naturalistic inquiry. Understanding the impact of *guanxi* on the moral reasoning of PAPA issues requires multiple holistic views, such as the national culture, sub-cultures, *guanxi*, historical events, and changing global business practices. The open-ended questions followed by "why" and "why not" in our study help to dig deeper into the respondents' reasoning processes. The scenarios and the rankings of the possible actions by the respondents provided additional information on their moral reasoning.

This research made an effort to adhere to the following three quality criteria put forward by Guba and Lincoln (1982), Lincoln and Guba (1985):

(1) Credibility is the equivalent of internal validity. It is best demonstrated by a close fit between the data of the study and the reality those data represent. The analyses and coding of 583 responses to the open-ended questions and scenarios in a way represent mini-case studies, obviously without the full benefits of conducting interviews and observations in a case study. To ensure accuracy, four analysts coded all response files separately, and then they met as a group to resolve any discrepancies. Often those meetings entailed interpretations of the student responses. The four analysts, two information systems professors, and two graduate students who worked on the projects, are all of Chinese ethnicity and all lived in China or Taiwan in their formative years. They are well entrenched in the Chinese culture and understand *guanxi*. In addition, the analysts and professors are familiar with Western cultures. Some of them were educated in western universities.

(2) Transferability refers to the external validity in naturalistic inquiry. Even though this study was done among young students, we believe the findings are very likely to be true among older people. It would be an interesting future study to include subjects with diverse ages and experiences.

(3) Dependability refers to the stability of the study's outcome after discounting conscious and unpredictable changes (Guba and Lincoln, 1982). We expect similar findings would be revealed when the study is replicated under similar conditions because the research methods used allow capturing of deeper understanding of respondents' reasoning process.

RESULTS

The statistical analysis results are presented in Figure 1, Table 3, Table 4 and Table 5. Figure 1 shows average perceptions of five scenarios for each sample along Kohlberg's six stages. Table 3 shows the statistical summaries of each sample's responses to *guanxi* pressure on PAPA issues. Table 4 shows the aggregated results from both surveys. The "Guanxi Influence" column shows comparisons of the percentages of subjects who would be influenced by *guanxi* pressure on four PAPA issues. Please note that the percentages do not include situational responses, i.e. "depends on" answers. The "Moral Reasoning" column in Table 4 compares the percentages of subjects who were in lower (0-3) and higher moral stages (4-6) between Western (USA) and Chinese (MC, HK,TW) samples. Table 5 shows the detailed statistical results from the scenario-based survey. It organizes the results along both the six stages and the five scenarios. For each scenario, we listed percentage of responses that fall into each of Kohlberg's six stages. Statistical analyses were conducted to compare each of the Chinese samples with the USA sample.

A general explanation of the results in Figure 1, Table 3, Table 4 and Table 5 are provided in the following section. An in-depth analyses of each PAPA issue will follow in the next section.

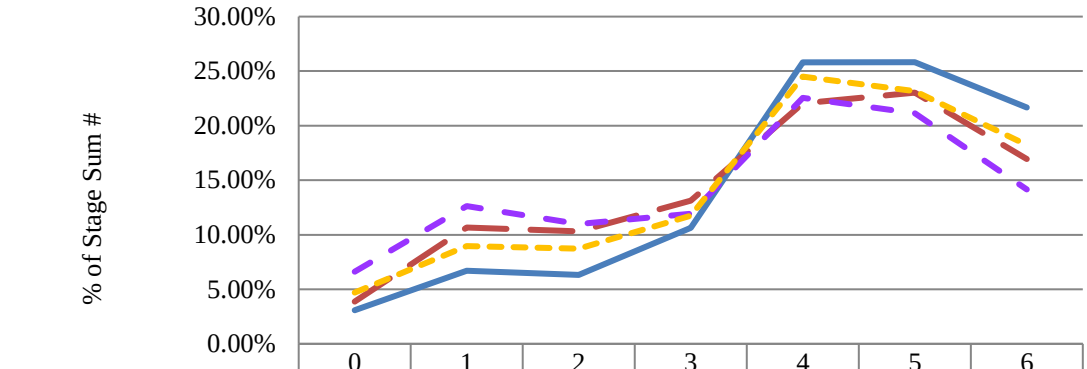
General Perception Analyses

Figure 1 seems to suggest that the Taiwanese sample was leading the moral progression on Kohlberg's developmental model, followed by USA, Mainland China, and Hong Kong. Table 3 (1st row) shows the perception of *guanxi's* importance among the four societies. As expected, the percentages of subjects who viewed *guanxi* as important were Mainland China (88.66%), Taiwan (72.92%), Hong Kong (72.00%), and USA (55.77%). We found significant perception gaps existed among the four societies as well as between Taiwan and the USA, and Mainland China and the USA. The rest of Table 3 will be discussed in the next section.

When we combined the three Chinese samples and compared the composite data with the USA sample on each of the four PAPA issues (Table 4, right column), no significant differences can be observed between the two cultural groups. This seems to confirm that Kohlberg's model is applicable to Chinese culture. More than 70 percent of the subjects in both cultures are in higher moral stages on Privacy and Accessibility issues. In contrast, only slight more than half of the subjects in both cultures were in higher moral stages on Property and Accuracy issues.

The "Total Scenarios" row in Table 5 shows the following three findings. First, significant differences in information ethics perceptions existed among the four societies at both lower and higher Kohlberg stages (see last two columns and Kruskal-Walli H Test, p=0.004). The PAPA perceptions rankings at higher stages for the four societies, in descending order, were Taiwan, USA, Mainland China, and Hong Kong. This ranking order is reversed in the lower stages, which supports the ranking order in the higher stages. Second, at both **lower stages (0-3)** and **higher stages (4-5),** the Taiwanese sample had a significant difference in PAPA perceptions than the USA sample. Third, at both the **lower stages** and the **higher stages,** no

significant difference found between the USA sample and the Mainland Chinese sample. Nor did we find difference between the USA and the HK samples.



	0	1	2	3	4	5	6
Taiwan %	3.08%	6.70%	6.30%	10.64%	25.80%	25.82%	21.67%
Mainland China %	3.87%	10.65%	10.31%	13.14%	22.04%	23.03%	16.95%
Hong Kong %	6.61%	12.63%	10.98%	11.92%	22.55%	21.13%	14.17%
USA %	4.70%	8.95%	8.72%	11.74%	24.50%	23.15%	18.23%

Figure 1: Four Groups' Students' Average Perception for 5 Scenarios

Stage

Table 3: Guanxi Influence on the Four Groups Based on the Open-ended Questions

Information Ethics Perceptions \ Society \ Response		Influenced by *Guanxi*		
		Yes	**No**	**Float**
Guanxi*	Taiwan %	72.92%	24.48%	2.60%
	Mainland China %	88.66%	10.82%	0.52%
	Hong Kong %	72.00%	26.00%	2.00%
	USA %	55.77%	36.54%	7.69%
	Kruskal-Wallis H Test (Four Groups)	0.029**	0.070*	0.072*
	Mann-Whitney U Statistics (TW vs. USA)	0.036**	0.036**	0.143
	Mann-Whitney U Statistics (MC vs. USA)	0.022**	0.022**	0.022**
	Mann-Whitney U Statistics (HK vs. USA)	0.167	0.167	0.167
Accessibility	Taiwan %	4.93%	92.61%	2.46%
	Mainland China %	10.20%	85.71%	4.08%
	Hong Kong %	8.51%	87.23%	4.26%
	USA %	9.62%	88.46%	1.92%
	Kruskal-Wallis H Test (Four Groups)	0.392	0.595	0.587
	Mann-Whitney U Statistics (TW vs. USA)	0.036**	0.072*	0.429
	Mann-Whitney U Statistics (MC vs. USA)	0.500	0.356	0.445
	Mann-Whitney U Statistics (HK vs. USA)	0.500	0.500	0.167
Privacy	Taiwan %	3.40%	95.63%	0.97%
	Mainland China %	23.47%	75.00%	1.53%
	Hong Kong %	4.08%	93.88%	2.04%
	USA %	5.56%	83.33%	11.11%
	Kruskal-Wallis H Test (Four Groups)	0.184	0.090*	0.787
	Mann-Whitney U Statistics (TW vs. USA)	0.429	0.429	0.322
	Mann-Whitney U Statistics (MC vs. USA)	0.022**	0.072*	0.072*
	Mann-Whitney U Statistics (HK vs. USA)	0.334	0.500	0.334
Accuracy	Taiwan %	10.87%	2.12%	68.62%
	Mainland China %	10.99%	87.96%	1.05%
	Hong Kong %	12.50%	75.00%	12.50%
	USA %	40.38%	57.69%	1.92%
	Kruskal-Wallis H Test (Four Groups)	0.166	0.197	0.142
	Mann-Whitney U Statistics (TW vs. USA)	0.036**	0.072*	0.072*
	Mann-Whitney U Statistics (MC vs. USA)	0.045**	0.089*	0.072*
	Mann-Whitney U Statistics (HK vs. USA)	0.022**	0.036**	0.072*
Intellectual Property	Taiwan %	31.71%	63.90%	4.39%
	Mainland China %	35.71%	61.22%	3.06%
	Hong Kong %	18.75%	75.00%	6.25%
	USA %	9.43%	81.13%	9.43%
	Kruskal-Wallis H Test (Four Groups)	0.084*	0.112	0.999
	Mann-Whitney U Statistics (TW vs. USA)	0.036**	0.036**	0.500
	Mann-Whitney U Statistics (MC vs. USA)	0.045**	0.045**	0.445
	Mann-Whitney U Statistics (HK vs. USA)	0.500	0.500	0.167

* The first row shows the results from asking the subjects the importance of *guanxi* in their work.
TW: Taiwan, MC: Mainland China, HK: Hong Kong, USA: United States of America
(***p<0.01) (** p<0.05) (* p<0.10)

Table 4: Moral Reasoning in Chinese and Western Culture

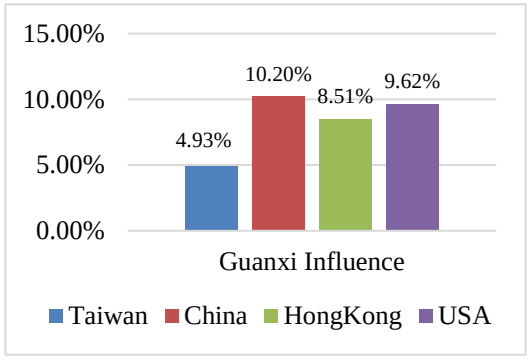
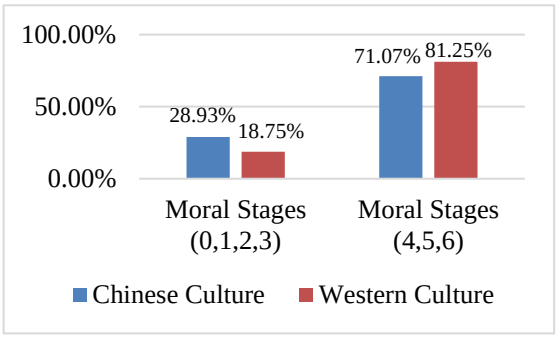
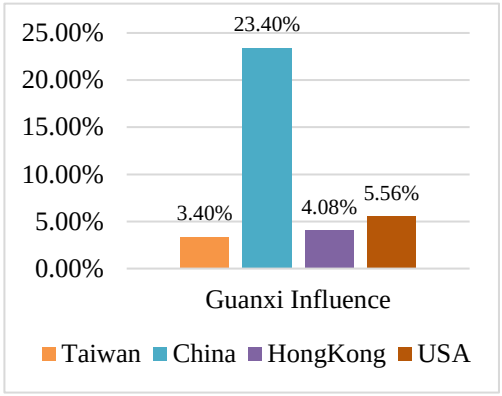
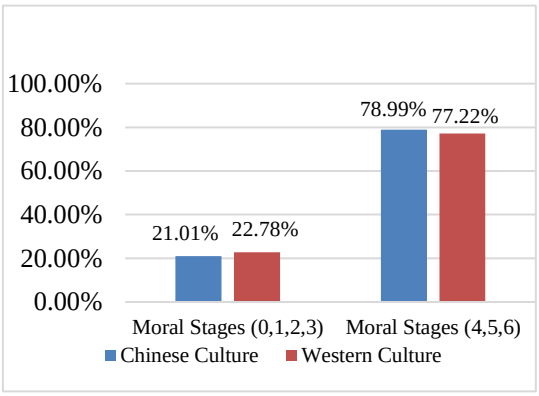
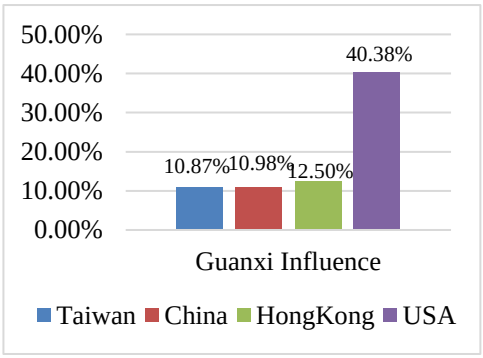
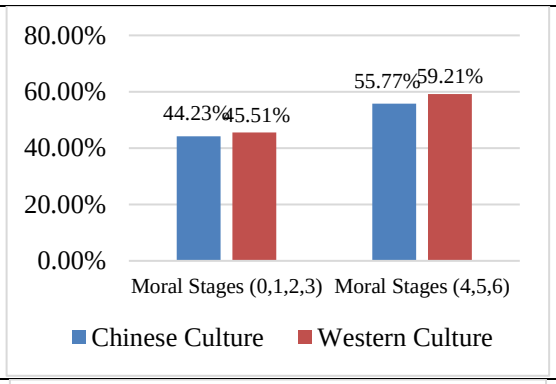
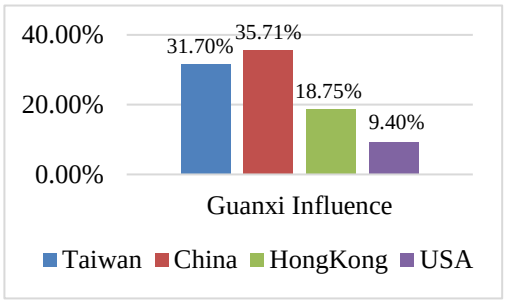
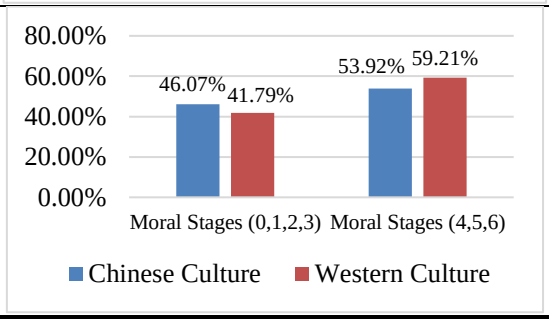
Accessibility		
Privacy		
Accuracy		
Intellectual Property		

Table 5: Comparison of Four Groups of Each Stage, Lower Stages (0 to 3), Higher Stages (4 to 6), and All Stages

Scenario	Society \ Stage	Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Lower (0~3) Stages	Higher (4~6) Stages
Accessibility: Scenario 1	Taiwan %	3.60%	7.32%	2.23%	9.43%	30.89%	26.55%	19.98%	22.58%	77.42%
	Mainland China %	6.47%	10.12%	3.98%	9.62%	30.85%	21.89%	17.08%	30.18%	69.82%
	Hong Kong %	5.56%	17.36%	2.78%	8.33%	27.08%	23.61%	15.28%	34.03%	65.97%
	USA %	2.08%	7.64%	2.78%	6.25%	29.17%	27.08%	25.00%	18.75%	81.25%
	Kruskal-Wallis H Test (Four Groups)	0.039**	0.030**	0.654	0.994	0.257	0.140	0.163	0.043**	0.043**
	Mann-Whitney U Statistics (TW vs. USA)	0.167	0.334	0.334	0.500	0.500	0.445	0.111	0.250	0.250
	Mann-Whitney U Statistics (MC vs. USA)	0.022**	0.045**	0.267	0.500	0.445	0.356	0.089*	0.045**	0.045**
	Mann-Whitney U Statistics (HK vs. USA)	0.334	0.167	0.334	0.500	0.334	0.500	0.167	0.167	0.167
Privacy: Scenario 2	Taiwan %	0.75%	1.13%	1.00%	15.38%	31.38%	31.88%	18.50%	18.25%	81.75%
	Mainland China %	1.91%	1.39%	2.78%	15.83%	31.48%	31.13%	15.48%	21.91%	78.09%
	Hong Kong %	1.43%	0.71%	2.86%	17.86%	30.71%	30.71%	15.71%	22.86%	77.14%
	USA %	2.53%	1.90%	3.16%	15.19%	27.85%	28.48%	20.89%	22.78%	77.22%
	Kruskal-Wallis H Test (Four Groups)	0.891	0.990	0.046**	0.256	0.963	0.931	0.138	0.234	0.234
	Mann-Whitney U Statistics (TW vs. USA)	0.334	0.445	0.445	0.167	0.500	0.500	0.056	0.500	0.500
	Mann-Whitney U Statistics (MC vs. USA)	0.500	0.500	0.134	0.267	0.500	0.500	0.045**	0.356	0.356
	Mann-Whitney U Statistics (HK vs. USA)	0.334	0.334	0.500	0.167	0.500	0.334	0.167	0.500	0.500
Accuracy	**Scenario 3**									
	Taiwan %	1.87%	12.08%	14.82%	2.62%	15.44%	30.14%	23.04%	31.38%	68.62%
	Mainland China %	2.45%	15.03%	20.71%	11.04%	12.73%	23.93%	14.11%	49.23%	50.77%
	Hong Kong %	6.25%	13.89%	20.14%	11.81%	14.58%	20.14%	13.19%	52.08%	47.92%
	USA %	4.49%	14.10%	14.74%	12.18%	19.87%	15.38%	19.23%	45.51%	54.49%
	Kruskal-Wallis H Test (Four Groups)	0.251	0.502	0.072*	0.006***	0.583	0.011**	0.015**	0.007***	0.007***
	Mann-Whitney U Statistics (TW vs. USA)	0.445	0.167	0.445	0.028**	0.445	0.028**	0.167	0.028**	0.028**
	Mann-Whitney U Statistics (MC vs. USA)	0.445	0.445	0.089*	0.267	0.267	0.045**	0.445	0.356	0.356
	Mann-Whitney U Statistics (HK vs. USA)	0.334	0.334	0.167	0.500	0.334	0.500	0.500	0.500	0.500
	Scenario 4									
	Taiwan %	7.18%	11.08%	7.93%	21.91%	26.20%	13.35%	12.34%	48.11%	51.89%
	Mainland China %	7.64%	17.27%	12.91%	13.82%	21.64%	12.18%	14.55%	51.64%	48.36%
	Hong Kong %	13.87%	16.79%	16.06%	8.76%	24.09%	11.68%	8.76%	55.47%	44.53%
	USA %	9.66%	8.97%	9.66%	22.07%	26.90%	17.24%	5.52%	50.34%	49.66%
	Kruskal-Wallis H Test (Four Groups)	0.196	0.020**	0.032**	0.005***	0.007***	0.160	0.033**	0.212	0.212
	Mann-Whitney U Statistics (TW vs. USA)	0.250	0.334	0.500	0.167	0.334	0.056*	0.028**	0.445	0.445
	Mann-Whitney U Statistics (MC vs. USA)	0.356	0.022**	0.045**	0.022**	0.022**	0.045**	0.022**	0.267	0.267
	Mann-Whitney U Statistics (HK vs. USA)	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167
Intellectual Property:	Taiwan %	3.57%	3.83%	9.18%	11.73%	20.66%	25.51%	25.51%	28.32%	71.68%
	Mainland China %	3.41%	11.67%	16.52%	23.16%	8.08%	20.47%	16.70%	54.76%	45.24%
	Hong Kong %	8.09%	11.03%	19.12%	16.91%	9.56%	22.79%	12.50%	55.15%	44.85%

Scenario \ Stage / Society		Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Lower (0~3) Stages	Higher (4~6) Stages
Scenario 5	USA %	4.48%	7.46%	17.91%	11.94%	19.40%	23.88%	14.93%	41.79%	58.21%
	Kruskal-Wallis H Test (Four Groups)	0.446	0.003***	0.008***	0.006***	0.004***	0.019**	0.005***	0.002***	0.002***
	Mann-Whitney U Statistics (TW vs. USA)	0.445	0.056*	0.028**	0.334	0.445	0.167	0.028**	0.028**	0.028**
	Mann-Whitney U Statistics (MC vs. USA)	0.445	0.022**	0.267	0.022**	0.022**	0.267	0.445	0.022**	0.022**
	Mann-Whitney U Statistics (HK vs. USA)	0.334	0.167	0.500	0.334	0.167	0.334	0.334	0.167	0.167
Total Scenarios	Taiwan %	3.08%	6.70%	6.30%	10.64%	25.80%	25.82%	21.67%	26.72%	73.28%
	Mainland China %	3.87%	10.65%	10.31%	13.14%	22.04%	23.03%	16.95%	37.98%	62.02%
	Hong Kong %	6.61%	12.63%	10.98%	11.92%	22.55%	21.13%	14.17%	42.15%	57.85%
	USA %	4.70%	8.95%	8.72%	11.74%	24.50%	23.15%	18.23%	34.12%	65.88%
	Kruskal-Wallis H Test (Four Groups)	0.114	0.004***	0.005***	0.028**	0.006***	0.059*	0.009***	0.004***	0.004***
	Mann-Whitney U Statistics (TW vs. USA)	0.500	0.028**	0.111	0.056*	0.500	0.028**	0.056*	0.056*	0.056*
	Mann-Whitney U Statistics (MC vs. USA)	0.445	0.200	0.089	0.267	0.045**	0.500	0.500	0.200	0.200
	Mann-Whitney U Statistics (HK vs. USA)	0.167	0.167	0.334	0.500	0.167	**0.500**	0.167	0.167	0.167

(***p<0.01) (** p<0.05) (* p<0.10); TW: Taiwan, MC: Mainland China, HK: Hong Kong, USA: United States of America

PROPOSITION DEVELOPMENT

The five scenarios and ten open-ended questions elicited diverse response patterns amongst the four different societies. The following sections will provide some explanations for the inconsistent results from the two survey instruments and discuss Chinese *guanxi's* impact on the perception differences. Consequently, three propositions are introduced.

Chinese *Guanxi* Perception Issue

Kruskal-Wallis H test of the responses from open-end questions showed that the perception gaps in terms of the importance of *guanxi* were significant amongst the four societies. Ranking orders from the highest to the lowest are Mainland China, Taiwan, Hong Kong, and USA. It is important to note no significant difference on the importance of *guanxi* between the USA and HK samples. To illustrate the diverse moral reasoning processes on *guanxi*, we include the following sample quotations from the subjects in the four societies when asked if they would treat customers differently based on *guanxi*:

> Taiwanese subject: "Treating everyone equally is a hypocritical claim because I always believe that everyone will treat others differently based on different kinds of relationship."
>
> Chinese subject 1: "Yes, it is a common social climate, and difficult to get away from it."
>
> Chinese subject 2: "It's human nature to treat your family and friends better than treating others"
>
> Hong Kong subject: "Yes, Hope for returning favors when I need it."
>
> USA subject: "No, I treat everyone in the same way. I expect others treat me the same."

Clearly, the attitudes toward *guanxi* were polarized. On the one end is the great emphasis on *guanxi* by the three Chinese societies because *guanxi* is the social fabric of Chinese culture with centuries-long history. On the other end is much less emphasis on *guanxi* represented by the USA sample (Froehlich, 2004, 2005). As noted in earlier sections, the counterpart construct of *guanxi* in western societies is *networking*. The two are similar but differ in substance. *Guanxi* in Chinese societies is a synonym for reciprocal favors and obligations, while Americans view *networking* as a way to expand their contact list. Therefore, it is less important in American society.

Accessibility Issue

Rankings of the four societies in the higher moral stages (last column in Table 5) were USA (81.25%), Taiwan (77.42%), Mainland China (69.82%) and Hong Kong (65.97%), and there were significant gaps among them when tested using the Kruskal-Wallis H test. The perception gap between the USA and Mainland China was significant; however, the gaps between the USA and any of the other two Chinese samples were not at significant levels. For clarity, this result can be expressed loosely as (TW = USA = HK) > CH. The "=" sign denotes no significant difference between the two adjacent samples; the ">" sign denotes significant difference with the USA sample.

The open-ended questions revealed that the only significant gap in perception was between Taiwanese and USA samples and Taiwan had a higher degree of respect for accessibility than the USA sample (92.61% vs. 88.46%). No significant gap was found when the USA sample was compared with either the Chinese or

HK samples. That is, TW > (HK=USA=CH).

Considering results from both scenario and open-ended questions studies, it appears that subjects from Taiwan, in this study, were ahead of mainland Chinese counterparts in moral development on the issue of accessibility, and even ahead of the USA and Hong Kong in the open-ended study. The question is why Taiwan is different from the other two Chinese societies. One plausible explanation will be given in the next section.

Privacy Issue

Perhaps the most interesting part of the scenario study was that no significant privacy perception differences were found among the four societies in both higher and lower moral stages. Equally interesting is that no significant difference was found between the USA and any of the three Chinese samples across six stages except Stage 6. These results seem to be inconsistent with prior studies that showed marked differences in privacy perceptions among people of different cultural backgrounds (Adam and Ofori-Amanfo, 2000; Cao and Everard, 2008; Tang et al., 2008).

In the open-ended study, the rankings for not violating privacy under *guanxi* pressure were Taiwan (95.63%), Hong Kong (93.88%), USA (83.33%) and Mainland China (75.00%). The gaps among them were significant by the Kruskal-Wallis H Test (see Table 3). The rankings for violating privacy under *guanxi* pressure were Mainland China (23.47), USA (5.56%), Hong Kong (4.08%), and Taiwan (3.4%). But, the Kruskal-Wallis H Test revealed no significant differences among them. When the USA sample was compared with the Mainland China sample, significant difference was found.

To get more insights on the subjects' moral reasoning processes, we include the following subject responses when asked if they would compromise customer privacy under *guanxi* pressure:

> Taiwan subject: "It is the basic rule to protect customers' private data, therefore, I will never violate the rule. We should have empathy."
>
> Chinese subject 1: "Yes, when someone has to get customers' private data urgently."
>
> Chinese subject 2: "I may provide customer private data when my boss ask me to do so."
>
> Chinese subject 3: "I may leak customer data to my family and close friends, but not to my boss."
>
> Chinese subject 4: "The regulation is fixed but human is flexible. Every rule allows exceptions. As long as I do not risk being jailed, I may help out."
>
> Chinese subject 5: "All depends on the situations, to survive and become successful, one need to be flexible."
>
> Hong Kong subject: "No, because it breaks regulation/rules/law."
>
> USA subject: "I would do it to close colleagues because I trust they wouldn't tell anyone else."

In summary, it appears that *guanxi* indeed influenced the privacy perception of Mainland Chinese subjects. In the *guanxi* oriented society, people tend to violate "privacy rules" if necessary (Hwang, 1998; Su and Littlefield, 2001; Chang, 2010, 2012a, 2012b; Snell, 1996, 1999; Capurro, 2006, 2008; Davison et al., 2009). One may ask why most subjects in Taiwan, a *guanxi* oriented society, can resist *guanxi* pressure to protect customer privacy. The answer may lie in the differences in the two society's political and legal systems as well as the impact of historical events. Mainland China has gone through many political movements, such

as the ten-year long Cultural Revolution, which not only destroyed rules and laws but also distorted many of the traditional Chinese ethical values. In the last four decades, Mainland China has made tremendous progress in reinstating traditional value systems and establishing rules and laws in the society. However, enforcing rules and laws is extremely difficult in a *guanxi* oriented society. It will take time to rebuild value systems and reform corrupted judicial and legal systems. Taiwan, on the other hand, has inherited and preserved most Chinese culture (Hwang, 1998; Su and Littlefield, 2001). The democratic system and the well-established rules and laws have reinforced the Chinese value system. Taiwan's successful integration with the global economy has also forced businesses to adopt western business practices, which has narrowed the gaps with the USA. This discussion also explains why Taiwan was ahead of other societies in terms of moral development in information ethics (see General Perception Analysis section and accessibility).

Accuracy Issue

In the higher moral stages, the ranking orders from the two scenarios (3 & 4) assessing accuracy issues were identical. They were Taiwan, USA, Mainland China and Hong Kong. Significant gaps were found among the four samples by the Kruskal-Willis H Test in Scenario 3 but not in Scenario 4. In addition, significant gaps were found between USA and Taiwan samples in Scenario 3. Using our notation, the findings in the higher stages can be summarized as Scenario 3: TW > (USA=CH=HK); Scenario 4: (TW=USA=CH=HK). In the lower stages, the rankings were reversed as expected. The results from Scenario 4 showed that across all six moral stages there were significant differences in accuracy perceptions between the USA and Mainland China samples. Furthermore, the percentage of accuracy perception in the Mainland China sample is significantly higher than that of the USA in Stages 1 and 2, but significantly lower than that of the USA in Stages 4 and 5. No significant differences were found between the USA and Hong Kong samples across the six stages. No significant differences were found between the USA and Taiwan samples across the six stages except stages 5 & 6.

The results from both scenarios seem to point to three possible conclusions: (1) Taiwan and USA samples were more advanced in moral development on the accuracy issue; (2) Significant perception differences exist between the USA and Chinese subjects; (3) The higher percentage of Chinese subjects in stages 2 & 3 may indicate that the subjects in the Mainland China sample were more likely to follow accuracy rules for fear of being punished (stage 1), and serving self-interests (stage 2), while more subjects in the USA sample in stage 4 (abiding the laws) and 5 (beyond laws abiding for the good of whole society) indicate advanced moral development. This observation is consistent with prior studies (Davison et al., 2009; Snell, 1996, 1999).

Intellectual Property Issue

Scenario 5 assesses subjects' moral reasoning stages on Intellectual Property (IP) protection. The percentage rankings in the higher stages, in descending order, were Taiwan, USA, Mainland China and Hong Kong. The multi-sample Kruskal-Willis H Test revealed significant gaps among the four samples. The gaps between the USA and Taiwan samples and between the USA and Mainland China samples were both significant. However, there was no significant gap between the USA and the Hong Kong samples.

The responses from the open-ended questions on resisting *guanxi* pressure to copy software revealed the percentage ranking orders to be USA, Hong Kong, Taiwan and Mainland China. No significant gaps among them were found. The ranking orders are inconsistent with the scenario study's findings. However, three important observations can be made: (1) no significant differences were found between the USA and the HK samples on the six moral development stages; (2) there were significant differences between the USA sample and the Taiwan and Mainland China samples. Subjects from Mainland China (35.71%) and Taiwan (31.71%) were more likely to violate IP under *guanxi* pressure when compared with their American counterparts (9.43%); (3) significantly more subjects in Mainland China samples fell into Stage 1 and 3 than their USA counterparts and significantly fewer Chinese subjects fell into Stage 4 than their American counterparts. These differences were statistically significant.

The following responses from the question if they would violate IP under *guanxi* pressure may reveal some moral reasoning processes:

> Taiwan subject 1: "Yes, if it is the rule of my company, I will obey the rule to protect intellectual property on the company property. However, I may not respect it after I get off work."
>
> Taiwan subject 2: "Taiwan is a democratic society, for people, public opinions (perception) very importance."
>
> Chinese subject 1: "I am not sure, although I support the rule of "do not copy software" in my heart, but software piracy is so rampant in China and the rule enforcement is so weak. This phenomenon made me feel helpless."
>
> Chinese subject 2: "The legal system is not complete and mature yet, affection (guanxi) is more important."
>
> Hong Kong subject 1: "No, not violating copyright is both ethical and lawful. Copyright should be respected. My personal ethical value will not allow me to do so."
>
> Hong Kong subject 2: "No, it's a democratic system; most people in HK are disciplined and obey the rules and law."
>
> USA subject 1: "No, it's both illegal and unmoral."
>
> USA subject 2: " … laws and policies are in place to protect."

Although some of the results from the two survey instruments were inconclusive, the majority of findings seem to lead us to the following propositions.

P_1: The impact of *guanxi* on information ethics is largely determined by Chinese sub-cultures.

Prior research (Chung et al., 2008; Froehlich, 2004, 2005) discovered that national cultures can influence PAPA perceptions. This may well be true for most world cultures. But in the case of Chinese culture, we need to adopt a granular approach to consider the three societies under the same culture but governed by very different political and legal systems.

We define Chinese sub-culture as the culture of a society where the main ethnic cultural elements such as the ethical value system and traditions, are largely the same as the main stream Chinese culture. However,

due to different political systems, ideologies, and major events in history, the sub-culture may have evolved to a more refined quality on certain dimensions or may have developed to include new meanings and practices.

This study's results seem to suggest that Taiwan and Hong Kong have developed their own sub-cultures. In their sub-cultures, the word *guanxi* has taken on a different meaning, one that is more like the Western *networking*.

P_2: Societies that have well-established rules and laws with effective enforcement systems tend to view *guanxi* as a *networking* tool rather than a way for exchanging favors. As a consequence, such societies are under less *guanxi* pressure when facing decisions about protecting Intellectual Property rights, data and system accuracy.

Hong Kong returned to China in 1997 after 100 years of rule under Great Britain. Although its culture and traditions are deeply rooted in Chinese ethnic culture, its governing systems closely resemble any Western society. The results from this study showed that the subjects in the Hong Kong and USA samples exhibited similar perceptions on a number of issues. For example, on the importance of *guanxi*, both samples were ranked after Mainland China and Taiwan, and there was no significant difference between the Hong Kong and USA samples. On the issue of resisting *guanxi* pressure to protect intellectual property, both samples ranked high. The subjects from the Taiwan sample seemed to be taking a middle approach between Hong Kong and Mainland China when it comes to facing *guanxi* pressure. Their responses were more like "it depends…" On the one hand, they fear offending their family members and friends when rejecting unethical favor requests (Capurro, 2006, 2008; Chang, 2010, 2012a, 2012b; Chung and Hamilton, 2001; Davison et al., 2009; Martinsons and Ma, 2009; Robertson et al., 2008; Snell, 1996, 1999). On the other hand, they feel a strong moral and legal responsibility because Taiwan is a democratic society based on rules and laws, and they fear the legal consequences from its effective law enforcement systems. Such moral struggle was reflected in their responses to a number of PAPA issues. For example, on the four PAPA issues, the Taiwan sample ranked number one in the higher moral stages from the scenarios study. Ironically, in the open-ended questionnaire, Taiwanese subjects showed a tendency to give in to *guanxi* pressure. This is especially evident in the case of intellectual property.

P_3: Subjects from all four samples seem to be lagging behind in their moral development on Accuracy and IP issues. This is especially true for societies that are heavily dependent on *guanxi*.

This proposition is clearly supported by the findings reported in the "Moral Reasoning" column in Table 4. In both Chinese and Western culture groups, slightly more than half of the subjects had advanced to the high stages (4-6) while more than 70 percent had advanced to the higher stages on Privacy and Accessibility issues. The findings from the open-ended questions provided additional evidence to support proposition 3. For example, the percentage increases of subjects who yield to *guanxi* pressures kept increasing in the order of Accessibility, Privacy, Accuracy, and Intellectual Property. This general trend was true for the three Chinese samples. In addition, the scenarios study showed increasing percentages of the samples fell into

the lower stages of moral development (mostly in stages 2 & 3) on Accuracy and Intellectual Property issues. Figure 2 summarizes the three propositions.

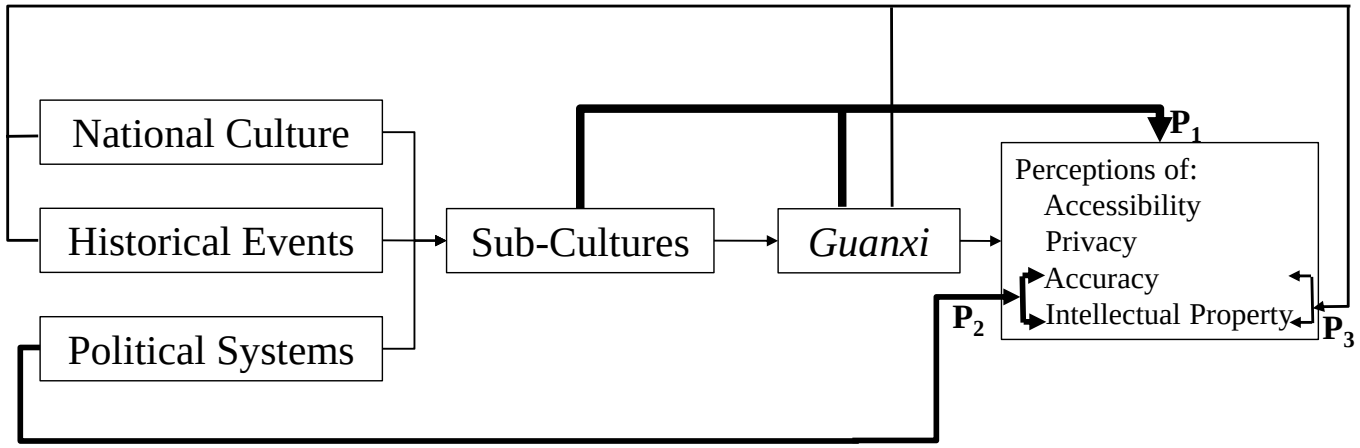


Figure 2: Proposition Development

DISCUSSIONS AND CONCLUSIONS

When the three Chinese samples were combined and compared with the USA sample, we found no significant percentage differences of subjects in the higher moral stages (Table 4). However, significant differences were revealed when individual Chinese jurisdiction samples were compared with the US sample on some PAPA issues. This finding is consistent with prior research that has shown that among people who have the same cultural roots but live in different regions, there are differences in ethical perceptions (Chung et al., 2008).

Guanxi is deeply rooted in the Confucian teachings, which include the "five cardinal relationships": ruler-minister, husband-wife, father-son, older brother-younger brother, and friend-friend (Tu, 1998, pp. 124-129). Loyalty in these relationships was viewed as a duty. Especially, fulfillment of filial piety was conceived as a mandatory natural law of ethics (Hwang, 1998). Moral performance was evaluated on the basis of how broadly benevolence was applied. The Confucian ethics was based on natural duties to family, friends, social roles and statuses rather than on natural (human) rights as in Western moral reasoning, influenced by the Hellenic-Judaeo-Christian tradition of placing great value on each human life.

Our study of *guanxi* in relation to information ethics provided evidence of the impact of Confucian teachings in the Chinese samples. The situational responses such as "it depends" or "maybe" by many Chinese subjects when responding to the question of whether to yield to *guaxi* pressure on the PAPA issues reflect the divergent rationality of the Confucian teachings. However, we also found evidence for the notion that moral reasoning within the sub-cultures of the three Chinese jurisdictions can be very different (**P_1**). Sub-culture norms acquired through the society's political and legal systems as well as historical events may override the background norms of the wider culture (**P_2**). This notion was also supported in the study

by Martinsons and Ma (2009). They conducted a study of 1,100 Chinese managers of three diverse age cohorts. They found significant differences in information ethics perceptions among the three generations (with sub-cultures). The younger generation Chinese managers placed a much higher value on privacy and intellectual property protection than their older counterparts. The researchers attributed the differences to historical events such as the Cultural Revolution and the Open Door policy China adopted in the 1980s which brought Western influences to Chinese youth. They also observed young Chinese managers' struggle between Western moral philosophies based on rules, democracy, individual rights, and personal freedoms and the traditions of Chinese culture based on relationships (*guanxi*), hierarchy, collective responsibilities, and social harmony. This struggle bridges the third and fourth stages of Kohlberg's (1984) model of moral development.

Among four information ethics issues, accuracy and intellectual property had the lowest percentages of students in the higher stages (stage 4 to 6) in Kohlberg's CMD model (**P**$_3$). This finding may be attributed to the worldwide economic downturns in recent years. Prior studies have linked IP violations to the economic well-being of a society (Moores, 2003; Shin et al., 2004).

The study's findings provide some insights for both business and educational programs. Moral reasoning is affected by culture (such as *guanxi*), but the impact can be mediated by professional experience, historical events, legal, political establishments, and educational programs. For businesses, ethics standards should be clearly articulated in its rules and regulations. The rules must be effectively enforced and any violation should be dealt with proper consequences. The responses from the open-ended questions clearly indicated the lack of consistent enforcement of the ethical code of conduct in Mainland China. In a *guanxi* based circle, senior family members, superiors, authoritative figures, and partners with connection to higher up authority tend to have strong influence on other members in the circle. Therefore, building an ethical business culture should be a top down process.

Educational institutions play a very important role in ethical training. Thoma and Rest (1986) assessed 56 studies (over 6,000 subjects) at different educational levels from junior high to college graduate students. They found that education accounts for 53% of the variance (p. 116) in moral development. In addition, the moral reasoning of teachers has a powerful influence on students (Bar-Yam et al., 1980).
In a *guaxi* based society, teachers are highly regarded and can exercise great influence. If teachers walk their talk, their students will follow. Employers can send a clear message to students by stressing the importance of information ethics in their recruitment talks and candidate screening processes.

Ethics should be either a required stand-alone course for students or be integrated into multiple courses. Such courses should not only cover ethical theories and applications, but also make explicit connections between information ethics and the mission of the profession (Fallis, 2007). Case studies and scenario analyses are good pedagogical tools to teach business ethics as they build a halfway house between abstract concepts and real life experience. Students can learn how others have successfully fended off *guanxi* pressures through case studies. They can practice their learned skills in simulated settings via scenario analyses. Such exercises help students develop deductive and critical reasoning skills (Falkenberg and

Woiceshyn, 2008).

In summary, the study used Kohlberg's six stage model to compare moral reasoning between the students in a USA sample and three Chinese samples (Hong Kong, Taiwan, and Chinese Mainland). The study also included an open-ended questionnaire to extract the students' moral reasoning under *guanxi* pressures. Three propositions were derived from the study's findings.

The study has its limitations. The sample sizes from Hong Kong and the USA were relatively small due to resource and time constraints. In addition, the subjects from Hong Kong and the USA were a little bit older than the subjects from Taiwan and Mainland China due to the fact that universities in HK and USA tend to have more non-traditional students than in universities in Mainland China and Taiwan. Second, the questionnaire is a limited means of studying moral reasoning because the results are likely to reflect espoused theory rather than theory-in-use. Future studies should focus on the respondents' actual behaviors rather than perceptions via field studies or interviews. We have seen much research on business ethics, but very little research has been done on assessing effectiveness of educational programs on ethics in different cultures. Future study should focus on design and assessment of new educational programs that are based on unique cultural variables such as Chinese *guanxi*. Finally, the three propositions developed in this study should be tested empirically.

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Appendix

Accessibility issue:

SCENARIO 1: HOW INFORMATION IS USED--If you discover some confidential information on the Internet that may damage the organization, you…

use it in any way you want—0

pretend you know nothing about it and avoid getting involved—1

use the information for personal advantage—2

gossip about it with your friends/colleagues—3

report it through proper channels—4

ask whether shared values and principles have been violated—5

initiate discussion about whether the organization has a right to confidentiality—6

Privacy issue:

SCENARIO 2: THE USE OF CUSTOMERS' PRIVATE DATA--I…

can do whatever I want—0

believe that protecting customers' private data is a waste of time—1

should use customers' private data for self-interest—2

should protect customers' data, but it cannot impede my work—3

believe that protecting customers' private data is the most important issue in my professional work—4

believe that protecting customers' private data is necessary in order that they retain privacy—5

initiate a discussion among colleagues and discuss how to respect the privacy of customers and pursue company profit at the same time—6

Accuracy issue:

SCENARIO 3: RELATIONSHIPS WITH CUSTOMERS--You give most priority to those customers who…

you want at the time—0

could cause damage if not satisfied—1

are financially most important—2

are of sufficiently high status—3

appreciate orderly, professional service—4

are in the greatest genuine need—5

respect the ethical purposes of the organization—6

Accuracy issue:

SCENARIO 4: THE INEVITABILITY OF BUGS--As an IT professional, you believe that…

all software has bugs and it does not matter—0

all software has bugs, which is not a good thing, but we cannot do anything about it—1

bug-free software is possible to achieve, but too expensive—2

bug-free software can be produced if everyone tries their very best to achieve it—3

the delivery of bug-free software is an essential responsibility of a high-quality software developer—4

all software developers have an ethical obligation to deliver 100% bug-free software—5

the existence of bugs in software is a matter for philosophical debate—6

Intellectual Property issue:

SCENARIO 5: COPY SOFTWARE--I…

copy software at any time for personal use—0

believe that copying software is absolutely reasonable as everyone does so; moreover, software is too expensive—1

believe when I buy legal software, I can copy it repeatedly for private use—2

believe that sharing and copying my legal software for my friends and colleagues is acceptable—3

dissuade others from copying software as everyone should adhere to the law—4

realize that the software developer should receive recompense for their work, and illegal copying of software will damage the IT industry—5

argue with colleagues over how to balance the rights and obligations of the software developer and customer—6