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Software Copyright Infringements: an Exploratory Study of the Effects of Individual and Peer Beliefs

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Based on the reasoned action and the differential association theories, a model is derived to explore the effects of individual and peer beliefs on software copyright infringements in Saudi Arabia. This study presents empirical evidence about this developing country on the impact of beliefs on behavior regarding ethical issues that can arise as a result of ethical dilemmas, in a culture that is different from those existing in developed countries. Within this juxtaposition, emphasizing intellectual property right issues in Saudi Arabia provides the tension from which this study strives to stimulate interest in ethical issues where no previous empirical investigations have been found. The scenario method has been adopted to collect data from 278 respondents. The results show that individual and peer beliefs have significant effects on ethical intention to observe or infringe software copyright and, hence, on software piracy. The findings and their implications are discussed. © 1997 Elsevier Science Ltd

Key words—software piracy, beliefs, copyright infringement, scenario, Saudi Arabia

1. INTRODUCTION

WITH THE RAPID advancements in information technology (IT) and the simplicity of disseminating IT into business organizations and exchanging information between computer users, intellectual property rights have become vulnerable to infringements such as unauthorized copying and subsequent illegal usage. The resulting losses experienced by the largest software developers, due to infringement of intellectual property rights, have become a multi-million-dollar issue. The computer software industry lost more than $8 billion in 1994 due to software piracy [1].

In the developed world, professional organizations like the Data Processing Management Association (DPMA), the Association for Computing Machinery (ACM), the Canadian Information Processing Society (CIPS) and the British Computer Society (BCS) play a vital role in defining the boundaries of ethical behavior by adopting ethic codes for information systems professionals. Certainly professional ethic codes are not a panacea for unethical practices but they clarify the professional's responsibility and obligation to society. Unlike developed countries, developing countries are passive in addressing computer ethics in general and intellectual property rights in particular. Developing countries, also, lack interest group organizations such as the Business Software Alliance (BSA), the Federation Against Software Theft (FAST) and the Software Publishers Association (SPA) that combat software pirates and protect software manufacturers.

Lacking a computer code of ethics and interest organizations, developing countries are fertile ground for infringement of computer intellectual property rights. Despite these situations, there is a scarcity of empirical studies that address ethical issues worldwide. In spite of

their importance, computer ethics issues have not received sufficient attention in management information systems (MIS) literature. This is especially true when it comes to studying computer ethics in developing countries, such as Saudi Arabia.

This study strives to stimulate interest in ethical issues in Saudi Arabia where no previous empirical investigations about software copyrights have been found. To understand the environmental context of this study and to place the discussion in a close perspective, it is vital to acknowledge that, unlike many developed countries, Saudi Arabia has what is known as an extended family tradition where totalism rather than individualism pertains in many situations. In spite of many benefits of such a cultural notion, it is sometimes difficult to draw a clear line between what is personal and what is communal property. In their analyses of the Saudi culture along the four cultural dimensions developed by Hofstede [2], Bjerke and Al-Meer [3] concluded that Saudi Arabia had high power distance and uncertainty avoidance. In addition, Saudi Arabia scored high on the collectivism and the femininity dimensions. The individualism index reported in their study was low, indicating that Saudi society is collective rather than individualistic.

Although there is no written Saudi computer ethical code, Saudi culture plays a fundamental role in determining whether a certain behavior is viewed as ethical or unethical. Even written codes of ethics in different countries have similarities and differences [4]. A behavior can be viewed as ethical in one nation and unethical in another. For example, Swinyard *et al.* [5] studied the attitudes toward software copyright laws and the behavioral intentions toward these laws in the US and Singapore and found that both attitudes and behavioral intentions of Americans are more congruent with copyright laws than those of Singaporeans. Also, they found that Singaporeans tend to base their moral decisions on the outcome of the behavior, while Americans tend to base theirs on the nature of the decision itself.

Although the computing environment in Saudi Arabia does not match most developing countries, it is developing rapidly [6–8]. At the time of this study, unauthorized copies of software packages can be obtained openly from several sources. The presence of off-the-shelf software companies is almost non-existent. This has led to insufficient after-sale software support, encouraging many computer users to find excuses for not buying original software. Now, for Saudi Arabia the challenges are greater than for its developed counterparts. As the Saudis are trying to reach an agreement with GATT, pressure is building to adopt a more stringent intellectual right property protection policy. Illegal copies are no longer exchanged openly as they used to be. Microsoft, for example, has just started offering site licensing agreements to Saudi institutions.

The remainder of this paper is organized as follows. The next section presents background and hypotheses. The third section discusses the methodology, and then the results and discussion are presented. The paper finishes with conclusions and implications.

2. BACKGROUND AND HYPOTHESES

The term ethics designates a collection of moral principles or cultural values that guide people's behavior. According to utilitarian theories, ethical behavior is the one which produces the greatest good for the greatest number. The ethics of business practices have been tackled extensively in various areas, especially in marketing [9, 10]. Although interest in the ethical dimensions of computing has been gaining momentum [11–21], empirical studies are very scarce. This can be attributed to the fact that very few people are willing to allow their ethical behavior to be examined [22].

The ethical issue of interest in this study is 'software piracy', which can be defined as illegal copying of computer software. The ease of copying software and the perception that software is not a property both contribute to the ubiquity of software piracy. Shim and Taylor [23] report a survey they conducted among business faculty members, in which about 90% of the faculty members believe their colleagues have copied copyrighted software. A large majority of the faculty members are junior professors and their primary teaching area is MIS/DSS or Statistics/MS/OR. In a similar study, Shim and Taylor [24] surveyed non-academic practising managers' attitudes toward software piracy and found that only 4% of the managers have copied copyrighted software and

96% have either 'Never', 'Rarely', or 'Occasionally' copied software. Oz [25, 26] argues that an illegal copying attitude begins before a person becomes a practising manager. Among 159 graduate and undergraduate students, Oz [26] found that 82% of the respondents would duplicate copyrighted software.

To trace the antecedents of ethical behavior, two seminal theories can be used: Fishbein and Ajzen's theory of reasoned action (TRA) and Sutherland and Cressey's differential association theory [27, 28]. Fishbein and Ajzen's TRA rests on the premise that psychological responses intervene between social forces and individual actions. Both attitudes and social norms are hypothesized to be independent, parallel causes of behavioral intention. Thus, the model hypothesizes dual components of intention. Other social and psychological variables are assumed to influence intention in an indirect manner through their impact on attitude or social norms.

According to Fishbein and Ajzen's model, an intention to, say, illegally copy a software package precedes the actual copying. The intention to copy can be expressed as a simple linear weighted sum of a person's attitudes toward illegal copying and the individual subjective assessment of the social acceptance of illegal copying. The attitude toward copying software is estimated by a summation function of the person's salient beliefs. The person's attitude is a function of a weighted summation of the product of the perceived outcomes of software copying and the person's evaluation of these outcomes. Similarly, the subjective norm toward the behavior is an indicator of the person's assessment of the beliefs of people who are important to him/her concerning the behavior. It is a function of a weighted summation of the product of the person's beliefs and the motivation to comply with social pressures.

The TRA, then, traces the causes of the behavior through a series of mediating processes to the individual's salient beliefs. Both the beliefs about the outcomes of behavior and the social acceptance of the behavior are accounted for. Others, however, give more credit to social or situational variables. Besides having an indirect effect, social and situational forces directly influence behavior intention and behavior. There is support in the social psychological research that attitudes are not necessarily the only predictors of behavior [29]. Relevant to computer acceptance behavior the technology acceptance model (TAM) posits two particular beliefs: perceived usefulness and perceived ease of use [30]. Unlike TRA, TAM views intention as being jointly determined by the person's attitude and the two particular beliefs. Although the direct effect of belief on intention in TAM runs counter to TRA, alternative intention models provide theoretical justification and empirical evidence of direct belief–intention links [31–34]. This background leads to the following hypotheses:

$\mathbf{H_1}$: Individual ethical beliefs are positively associated with the intention to copy software.

Sutherland and Cressey's differential association theory [28] gives a more visible role to peer pressure in determining behavior. It postulates that behavior is learned through association with peers. Thus, individuals are not only influenced by their own beliefs towards the behavior but also by their perceptions of peer beliefs. Bandura [35] also argues that personal behavior is learned by modeling and imitating the behavior of peers or near-peers. Therefore, individuals form intentions to perform a behavior in two ways. First, the individual may act upon peer beliefs in compliance with peer pressures without forming internal beliefs.

$\mathbf{H_2}$: Peer ethical beliefs are positively associated with the intention to copy software.

Second, individuals internalize their peer beliefs through association and socialization with peers.

$\mathbf{H_3}$: Peer ethical beliefs are positively associated with individual ethical beliefs.

According to TRA and other models, intention leads to behavior. The model in Fig. 1 postulates that the intention to observe or infringe software intellectual property rights mediates the effects of the belief structure on behavior.

$\mathbf{H_4}$: Ethical behavioral intention is positively associated with ethical behavior.

Whilst confining this study to perceived individual beliefs and perceived peer beliefs, the authors do not deny the possibility that other variables could also have a relationship with intention to pirate software and the act of software piracy.

3. METHODOLOGY

3.1. Procedure and measures

The scenario method was employed to collect data for this study because of its relevance and popularity in ethics research [36–38]. Two intellectual property rights scenarios were carefully developed, based on computer ethics literature and the authors' experience of the Saudi Arabian cultural and intellectual environment. Although both scenarios were calling for ethical decision making, the difference between the two was manifested in the nature of the software package in question. In the first scenario the package was in-house-developed whereas in the second it was off-the-shelf. Because all respondents were native Arabic-speaking students, the original instrument was written in Arabic. The scenarios were:

Scenario I: You are employed by a major business firm located in Saudi Arabia. During the past few years, the firm has invested a lot of money in developing a computerized system for automating its accounting and financial operations. Management has made it clear that making copies of the software is illegal. A friend of yours has asked you for a copy of this software to use in his business firm.

Scenario II: As an independent programmer, you are asked to develop a personnel system for a client. You advise the client to buy an off-the-shelf package for that purpose. But the client refuses on the grounds that the package is very expensive. He claims that he cannot afford to buy it because of financial problems. Instead, he is willing to buy a cheaper unauthorized copy of the package which is readily available on the local market.

Each scenario was followed by five items to assess behavior intention, individual beliefs and peer beliefs. One item was used to measure the behavior intention, namely the intent to observe

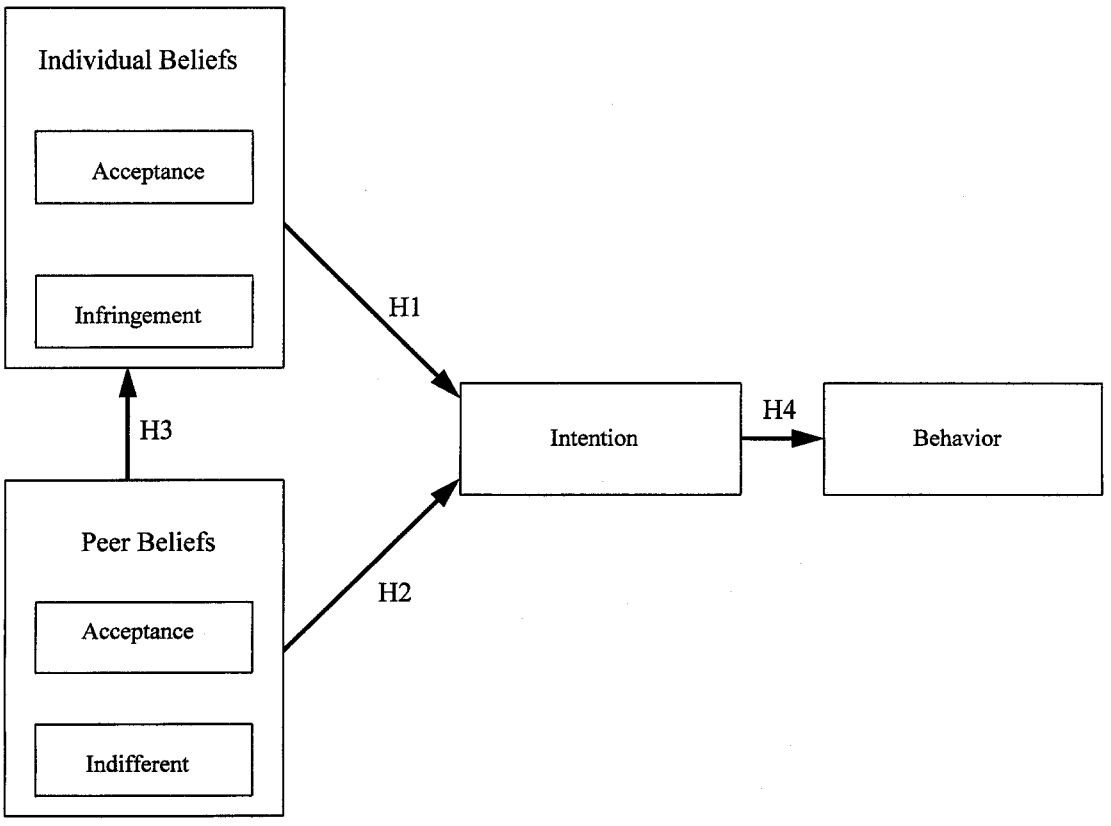

Fig. 1. The study model.

Table 1. Rotated factor loadings for each scenario

Items	In-house-developed package scenario		Off-the-shelf package scenario	
	Individual belief	Peer belief	Individual belief	Peer belief
I consider copying the software package an acceptable behavior	0.73		0.85	
I consider copying the software package an infringement of property rights[a]	0.89		0.90	
People around me consider giving a friend a copy an acceptable behavior		0.76		0.73
People around me are indifferent about giving a friend a copy		0.85		0.91

[a]Reversed score.

or infringe software intellectual property rights. Two items were devised to assess individual beliefs and another two items for measuring peer beliefs. Reflecting two salient dimensions, individual's beliefs mirrored the individual's own acceptance of illegal copying and the classification of such behavior as either infringement or not. Respondents were asked to indicate the extent of agreement or disagreement with the following two items on a 7-point Likert-type scale ranging from (1) strongly agree to (7) strongly disagree: "I consider copying the software package an *acceptable* behavior"; and "I consider copying the software package an *infringement* of property rights".

Similarly, perceived peer beliefs were measured in terms of the perceived peer acceptance of illegal copying and whether peers were perceived to be indifferent toward the illegal software copying. Respondents were asked to indicate the extent of agreement or disagreement with the following two items on a 7-point Likert-type scale ranging from (1) strongly agree to (7) strongly disagree: "People around me consider giving a friend a copy an *acceptable* behavior"; and "People around me are *indifferent* about giving a friend a copy".

The reliability of the above two constructs was assessed by calculating Cronbach's Alpha coefficients, found to be 0.56 and 0.53 for individual and peer beliefs, respectively, in the in-house-developed package scenario, and 0.75 and 0.58 in the off-the-shelf package scenario. The low values of the reliability coefficients can be attributed to the low number of items in each construct (two items). Reliability coefficients are related directly to the number of items [39].

Construct validity was examined by factor analysis. A principal component method using vaimax rotation was performed on the four individual and peer belief items. Table 1 indicates that all the factor loadings are greater than the cut-off point of 0.50 as suggested by Nunnally [40] and the items loaded on the hypothesized constructs.

Behavioral intention was measured by one item: "I will give my friend a copy of the software package" for the first scenario and "I will buy the unauthorized software package" for the second. The perceived behavior was measured by asking the respondents to indicate the percentage of authorized software out of the total number of software packages on their own computers: "Percentage of authorized software out of the total number of software packages I use". The response options were: (1) 0% (all unauthorized), (2) 1–49%, (3) 50–99% and (4) 100% (all authorized).

Single-item questions were used to collect demographic data on respondents such as major, computer-hours completed, education level, age and ownership of personal computer.

3.2. Sample

The instrument was administered in three major universities located in the Eastern, Central and Western regions of Saudi Arabia. Out of 400 questionnaires, 278 usable responses were received, representing a return rate of 70%. All respondents were male. They were studying engineering (43.2%) and business (22.3%). About 34% were studying computer-related majors like management information systems (MIS), information and computer science (ICS) and computer engineering (COE). Ninety-four percent of the respondents were undergraduates and less than 6% were graduates. Sixty-six percent of the sample owned computers. On average, respondents completed 16 credit hours in a computer-related field, ranging from 0 to 99. The average age of the respondents was 23 y, ranging from 19 to 30 y. The profile of the respondents is summarized in Table 2.

Table 2. Profile of the respondents

Variable	No. of Respondents	Percentage
Academic major:		
Engineering	120	43.2
Business	62	22.3
MIS, ICS and COE	96	34.5
EDUCATIONAL LEVEL:		
Freshmen	11	4.0
Sophomore	30	10.8
Junior	66	23.7
Senior	156	56.1
Graduate	15	5.4
PC OWNERSHIP:		
Yes	186	66.9
No	92	33.1

	Average	Minimum	Maximum
Completed computer hours	16	0	19
age	23	19	30

4. RESULTS AND DISCUSSION

A major goal of the current analysis is to examine ethical behavior relationships in the light of beliefs and behavior intention. However, because of the exploratory nature of this study, causal relationships cannot be determined at this stage.

The level of agreement or disagreement with the intention, peer beliefs and individual beliefs for the first scenario is shown in Table 3.

More than 80% of the respondents decided not to give a copy to their friends and abide by the firm's policies and regulations. Less than 14% would intend to give a copy. Sometimes it is difficult to get the real intended action from respondents, especially if it is illegal or violates certain traditional norm. One way to avoid it is to ask about their perceptions of what their peers would do in similar situations [41]. About 58% of the respondents perceived that their peers would consider giving a software copy to a friend as an acceptable act. It was perceived that less than 25% of the peers considered giving the software to a friend unacceptable, while 76% did not consider the copying acceptable. Moreover, 72.3% behaved ethically by believing that the copying is an infringement of property rights. It is clear that the respondents' intentions, individual beliefs and peer beliefs were skewed toward an ethical stance.

On the other hand, Table 4 illustrates the level of agreement and disagreement with the measures of intention, perceived peer beliefs and individual beliefs for the second scenario. A positive response to the client's request would have been an apparent software piracy, violating software vendors' intellectual property rights. The results show that only 39% of respondents would intend to buy an unauthorized copy, 32.2% would not buy a pirate copy, and about 29% were neutral. At least two interesting observations emerged from these results. Firstly, the results show discrepancies between the ethical decisions made in the first and the second scenarios. While 82.4% of the respondents have expressed an intention not to give the software to their friends (ethical) in the first scenario, only 32.2% intended not to buy an unauthorized copy in the second scenario. This discrepancy can be attributed to the nature of the software in question. In the first scenario, the software is an in-house-developed software where a lot of money has been invested in developing it, whereas in the second scenario the software is off-the-shelf where people usually do not know how much money has been invested in developing it. The majority of the respondents did not equate off-the-shelf software with in-house-developed software in terms of intellectual property rights infringement.

Secondly, it seems that the respondents were trapped by the financial position of the client's business and eventually became consequentialists, that is to say one who emphasizes the consequences of actions or behaviors, not the action itself. Therefore, one may argue that software copying is acceptable because of the financial situation of the client. Respondents were asked if they would agree to buying a pirate copy to compensate for the financial difficulties mentioned in the scenario. About

Table 3. Level of agreement (%) with in-house-developed package scenario

	Agreement				Disagreement				Neutral
Variable	Strongly agree	Agree	Moderately agree	Total	Strongly disagree	Disagree	Moderately disagree	Total	
1. Behavior intention	5.0	2.9	5.8	13.7	54.0	15.8	12.6	82.4	4.0
2. Peer belief (indifferent)	7.9	9.0	13.7	30.6	15.8	16.2	18.7	50.7	18.7
3. Peer belief (acceptable)	3.6	7.2	14.0	24.8	13.7	27.0	16.9	57.6	17.6
4. Individual belief (infringement)	37.4	16.9	18.0	72.3	8.6	5.0	5.4	19.0	8.6
5. Individual belief (acceptable)	6.1	6.5	5.8	18.4	34.5	24.8	16.5	75.8	5.8

Table 4. Level of agreement (%) with off-the-shelf package scenario

Variable	Agreement				Disagreement				Neutral
	Strongly agree	Agree	Moderately agree	Total	Strongly disagree	Disagree	Moderately disagree	Total	
1. Behavior intention	8.3	17.3	13.4	39.0	8.7	8.3	15.2	32.2	28.9
2. Peer belief (indifferent)	36.0	28.1	17.3	81.4	2.9	2.9	3.2	9.0	9.7
3. Peer belief (acceptable)	19.1	21.9	17.6	58.6	6.1	7.9	12.2	26.2	15.1
4. Individual belief (infringement)	20.1	20.5	25.9	66.5	4.3	5.0	10.8	20.1	13.3
5. Individual belief (acceptable)	5.8	10.8	12.9	29.5	17.3	18.0	19.1	54.4	16.2

44% became sympathetic with the financial position of the client and agreed that they would buy a pirate copy. It is surprising to observe that most of the respondents (81.4%) feel that their peers felt indifferent to the infringement of intellectual property rights and 58.6% considered software piracy as an acceptable act. At the individual level, 66.5% believed that using pirated software was an infringement of property rights while 20% did not.

4.1. Hypotheses testing

The research hypotheses are stated in alternative form. In order to support them, null hypotheses should be rejected. Hypotheses H_1 and H_2 suggest how well the individual beliefs and the perceived peer beliefs are related to behavioral intention, respectively. The third hypothesis postulates that peer beliefs are related to individual beliefs. The testing of these hypotheses will be conducted over the whole sample. The last hypothesis, however, is of a relatively different nature. Relating the behavior intention to perceived behavior, H_4 will be tested based on data from the respondents who own microcomputers. The Pearson product–moment correlation is applied to test all hypotheses.

As shown in Table 5, the correlation coefficients among behavior intention, peer beliefs and individual beliefs range between 0.54 and 0.29 for the in-house-developed package and off-the-shelf package scenarios. All correlation coefficients are significantly different from zero at 0.0001 level of significance. Therefore, it appears that the respondents' intention is associated with individual and peer beliefs. Hence, H_1 and H_2 are supported.

The association between perceived peer beliefs and individual beliefs is also strongly supported. As can be seen from Table 5, the Pearson correlation coefficients between these two variables in both scenarios are positive and highly significant. Hence, H_3 is supported.

To examine the relative importance of perceived peer beliefs and individual beliefs in explaining the variance in the software piracy intention, a stepwise regression analysis is utilized. The dependent variable is intention and the independent variables are individual and peer beliefs. Two regression models are constructed for both in-house-developed and off-the-shelf scenarios. Both models are significant at 0.0001 level of significance. The results in Table 6 demonstrate that the independent variables are significant and explain 37.7 and 15.9% of the variance in intention for in-house-developed and off-the-shelf software package scenarios, respectively. For the in-house-developed software package model, individual and peer beliefs explain 29.1 and 8.6% of the variance, respectively. On the other hand, for the off-the-shelf software package model, individual and peer beliefs explain 12.7 and 3.2% of the variance, respectively. Thus, the major determinant and more influential factor in forming intention toward software piracy is individual beliefs.

In measuring perceived behavior, the respondents reported the proportion of authorized

Table 5. Intercorrelations between the variables of the study

Variable	In-house-developed package scenario				Off-the-shelf package scenario			
	1	2	3	4	1	2	3	4
1. Behavior intention	1.000				1.000			
2. Individual beliefs	0.540[a]	1.000			0.357[a]	1.000		
3. Peer beliefs	0.451[a]	0.320[a]	1.000		0.287[a]	0.332[a]	1.000	
4. Behavior	0.046	0.044	0.005	1.000	0.179[c]	0.161[c]	0.242[b]	1.000

[a] $P < 0.0001$;
[b] $P < 0.001$;
[c] $P < 0.05$

Table 6. Stepwise regression analysis

	In-house-developed package scenario			Off-the-shelf package scenario		
Variables	Cumulative R^2	Partial R^2	b	Cumulative R^2	Partial R^2	b
Individual belief	0.291	0.291	0.49	0.127	0.127	0.32
Peer belief	0.377	0.086	0.38	0.159	0.032	0.23

software out of the total number of software packages they use on their own computers. Forty-six percent of them indicated that they have no single authorized package while only five respondents (2.73%) claimed having only authorized packages. H_4 postulates a significant relationship between the ethical intention and ethical behavior. The correlation coefficients between the behavior and the intention are found to be significant for the off-the-shelf package scenario ($r = 0.179$; $P = 0.015$) but not for the in-house-developed package scenario ($r = 0.046$; $P = 0.529$). The data indicate that the respondent's ethical intention has a significant relationship with his behavior in the context of off-the-shelf packages only. The respondents did not view copying an off-the-shelf package as an intellectual property rights infringement. Since behavior measurement can only be understood as a measurement of proportion of off-the-shelf packages, the lack of association for the in-house-developed packages is not relevant in testing H_4. Hence, it is reasonable to conclude that H_4 is supported.

5. CONCLUSIONS AND IMPLICATIONS

The findings of this study have shed some light on an important yet almost neglected research area: the relationships between an individual belief structure and ethical behavior in a software ethics context. Analyzing empirical data from a developing country, this study has shown that individual and peer beliefs had significant effects on intention to respect or infringe intellectual property rights. It was also found that the respondents' intentions were related to their perceived behaviors. The practical implication of this finding is that ethical behavior can be changed if intention is changed by altering the belief structure of the target population. The employees of an organization or the students of a class are two possible target populations of ethical behavior change strategies. A change in behavior could be brought about by sending messages that are directed to alter either the individual beliefs or the peer beliefs [42].

Changing individual and peer beliefs so that intellectual property rights are observed in an organization can also be attained by adopting, propagating, and enforcing a clear policy on software ethics. Ethical awareness can be enhanced by communicating sound advice about how to interpret codes and resolve conflicts through computer ethics awareness campaigns, for example. In general, the 'word' should be spread all over the organization about the rules and regulations since peers influence each other as illustrated in the scenarios. Conflicts always arise but can be eliminated, or at least significantly minimized, by controlling causes and suggesting procedures that assist in bolstering ethical acts or penalize unethical ones [43]. In the latter approach, McKibben [44] and Straub and Nance [45] have shown that policies coupled with assignments of penalties and criminal liabilities to violators can be effective deterrents. Organizations need to establish a clear policy statement that distinguishes between acceptable and unacceptable behavior. As seen in the first scenario, regulations were stated clearly that the software was for exclusive internal use of the organization. Most of the respondents (82%) abide by the regulations. It is evident that ethical standards can be improved when policies are clear.

Software developers must extend their marketing strategies beyond their country of origin boundaries and provide after-sale support. An industry code of ethics should document the objective of the code, the responsibilities and obligations, the ethical and unethical practices, and the sanctions for violations and mechanisms for dealing with conflicts.

This study has a number of limitations. First, the sample contains only male students. The findings may not be generalized to females or practitioners. Some studies found that females and practitioners are more ethical than the young generation of students [24, 46]. In a culture such as Saudi Arabia where males

dominate the work environment, this limitation may not be significant, however. Second, the use of self-reporting to measure ethical constructs may not validly reflect the true beliefs and behaviors. Under-reporting is typical of unethical behavior such as software piracy. Although self-reported answers are not necessarily precise measures for their intended constructs, they have been used in many studies before, especially if objective measures are impracticable. Previous research suggests that self-reported perceptions are appropriate as relative measures [47]. A third limitation is the use of a single item measures to tap the perceived behavior and intention. Although it is difficult to ensure the reliability and validity of these two constructs, the use of a single item for each has helped in shortening the survey instrument. Future studies need to be designed to alleviate this limitation.

In the future, it might be fruitful to explore the effects of culture, moral values, religion, code of ethics and law on software piracy. The constructs investigated could be dynamic in nature, so a longitudinal study is needed to capture the dynamism of the constructs and the causality links between them. This study needs to be replicated in other settings with diversified samples to provide an accumulation of ethics literature and to warrant generalization.

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