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THE MODERATING EFFECT OF SOCIAL INFLUENCE ON ETHICAL DECISION MAKING IN SOFTWARE PIRACY

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Abstract

Software piracy has been a serious problem for decades and continues to cost software industry some billions of dollars each year. In this study we examine the Normative and Informational Social Influences that affect an individual's decision to buy or use pirated software. Based upon previous research about ethical decision making in software adoption, and consumer susceptibility to social influence, we develop a research model designed to test the moderating effects of social influence on the ethical decision making process. An online survey is conducted to collect data. Our research extends the knowledge about software piracy and provides valuable and important insights for researchers, practitioners and policy/strategy makers in government.

Keywords: software piracy, intellectual property rights, ethical decision making, social influence.

1 INTRODUCTION

The global PC software piracy rate hovered around 42% in 2011; the steadily expanding marketplace in the developing world drove the commercial value of software theft to an estimated \$63.4 billion dollars (BSA2012). According to Business Software Alliance (BSA 2012), piracy rates in Central & Eastern Europe were 62 percent, Latin America was 61 percent, and the Asia Pacific Region was 60 percent in 2011.

A number of researchers have analyzed software piracy in terms of wealth, culture, and socialization characteristics. Legislation and educational outreach programs have been in place in an attempt to reduce the level of software piracy. However, enforcement of legislation can be problematic, because the existence of pirated software may also promote a diffusion of buyers into the legitimate software market (Moore&Chang2006). The Ethical decision making model in software piracy claimed that an individual's propensity to buy or use pirated software is related to the individual's moral reasoning. An individual's judgment and intention will affect his/her buying or using behavior (Moore&Chang2006).

One of the most pervasive determinants of an individual's behavior is the influence of those people around the individual (Burnkrant&Cousineau1975). The expectations of another person, group's confirmation or acceptance affect peoples' decisions, and decisions are also made with more information from the peers. In this study the concept of social influence is introduced, and its role in people's decision making regarding the buying/using of illegal software is examined. We attempt to explain how Normative and Informational Social Influences affect the relationships between judgment, intention, buying behavior and using behavior.

Prior research into the Theory of Reasoned Action (TRA) (Fishbein&Ajzen1975) and the subsequent Theory of Planned Behavior (TPB) (Ajzen1991) have only focused on subjective norm (compliance process) as a direct determinant of behavioral intention. Subjective norm is only a specific type of normative influence according to Kelman's (1974) social influence framework. We broaden the narrow view taken towards social influence in prior IS studies (Shen et al. 2007) to include both Normative and Informational Social Influences.

Moreover, most previous studies relating to the role of social influence in decision making discussed the direct effect. However, the direct effect of subjective norm on intention has yielded mixed results according to user acceptance research (Hartwick&Barki1994; Venkatesh&Davis2000). Later on, discussion on the moderating role of social influence has emerged. Research in online shopping (Lee et al. 2011) has acknowledged the moderating role of Informational Social Influence on shopping online adoption. The moderating effect of social influence has not been studied with regard to moral decision making regarding software piracy. We examine the moderating effect of social influence on ethical decision making in software adoption.

We begin with a discussion of the ethical decision making model of software piracy (Moore& Chang2006), and the effects of social influence on decision making. Our research model and hypotheses are then presented, following with the research methodology and the conclusion.

2 THEORETICAL BACKGROUND

2.1 Ethical decision making model in software piracy

Moore & Chang (2006) present a four-component model of ethical decision making in software adoption. The four components are moral recognition, moral judgment, moral intention, and moral behavior, in which behavior involves both buying and using behaviors. Moral recognition focuses on the cognitive aspects in situations where decisions affect the welfare of others. Moral judgment is the ability to make a decision based on some moral ideal. Moral intention determines behavior. When an individual intends to undertake a specific behavior, they may actually do that voluntarily. The model is also defined as a sequential causal model, in which moral recognition determines judgment,

judgment determines intention, intention determines buying and using behavior, and buying behavior determines using behavior. However, Moores & Chang (2006) found no relationship between recognition and judgment.

The ethical decision making four-component model in software piracy is based on the four-component model of morality (Rest1983). It's reinterpreted considering TRA, TPB, issue-contingent and other ethical decision making models. In addition, we restrict our focus to voluntary acts and extend the model to include moderating factors not included in prior research.

2.2 Social Influence

Social influence occurs when one's attitudes, opinions and behaviors are influenced by various sources that are present in the social environment (Trafimow&Davis 1993). Some people are amenable to social influence while others are consistently resistant (Janis1954). Susceptibility to influence by others is related to personal characteristics, like self-esteem, self-confidence and persuasibility, etc. Although susceptibility to social influence varies across individuals, it is a general trait (Bearden et al. 1989). A person's relative influenceability in one situation tends to have a significant positive relationship to his or her influenceability in a range of other social situations (McGuire1968).

Social influence operates through one or more of three distinct processes, which are compliance, identification and internalization (Burnkrant&Cousineau1975). Compliance occurs when individual conforms to the expectations of another in order to receive a reward or avoid a punishment. Identification is said to occur when an individual adopts a behavior derived from another because the behavior is associated with a satisfying self-defining relationship with the other; that is, the role relationship between the individual and the other is beneficial to some portion of the individual's self concept (Kelman1961). Internalization occurs when the individual accepts influence because it is perceived as "inherently conducive to the maximization of his values"; that is, the content is perceived as being inherently instrumental to the attainment of goals (Kelman1961). Two types of social influences are distinguished: Normative and Informational Social Influences.

2.2.1 Normative Social Influence

Normative influence is defined as the tendency to conform to the expectations of others (Burnkrant&Cousineau1975). A Normative Social Influence may be accomplished through either the process of compliance or identification (Burnkrant&Cousineau1975). If the individual is motivated to realize a reward or avoid a punishment mediated by another, the individual would be expected to conform to the influence of that other. This compliance would occur, however, only if the individual believes his performance will be visible or known to that other (Bearden et al. 1989). If the individual is motivated to enhance or support his concept of himself, he would be expected to accept the influence of a referent by associating himself with positive referents and/or dissociating himself with negative referents (Burnkrant&Cousineau1975). Thus, a person would identify himself by taking on the behaviors and opinions as his referents have done so.

2.2.2 Informational Social Influence

Informational influence is defined as the tendency to accept information from others as evidence about reality (Deutsch & Gerard1955). Individuals may either search for knowledge from their peers or make inferences based upon the observation of others. Informational influence operates through the process of internalization (Burnkrant&Cousineau1975). If the information influence from others is perceived to be helpful in solving some problem, it would be internalized by the individual as knowledge.

3 RESEARCH MODEL AND HYPOTHESES

Figure 1 depicts the research model derived from Moores and Chang (2006) to explain the moderating effect of social influence on ethical decision making in software piracy. Moral judgment determines moral intention, and this then determines using/buying behavior. Buying behavior also determines using behavior. In addition, in most circumstances, prospective software users are affected by Normative or Informational Social Influences in decision making processes, therefore we include the moderating effects of Normative and Informational Social Influences in our model.

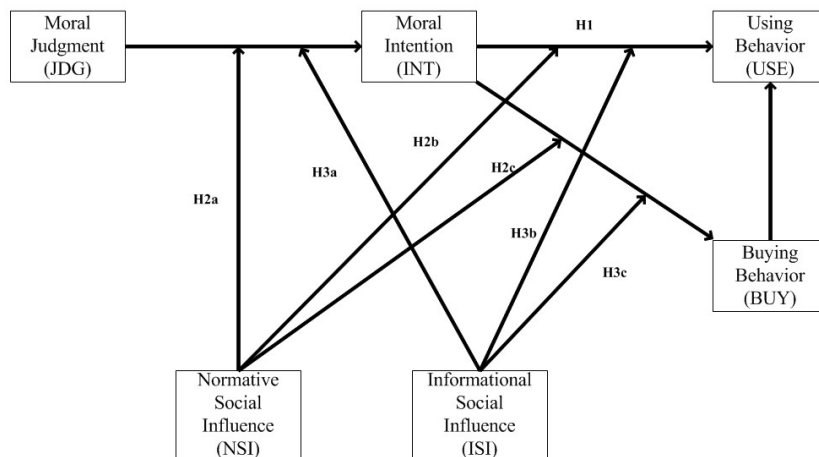


Figure 1. Research model and Hypotheses

3.1 Ethical decision making in software piracy

The ethical decision in software piracy begins with moral judgment (JDG), which has a direct effect on moral intention (INT). Moral intention impacts on buying behavior (BUY). The previous path coefficients (Morres& Chang2006) showed that acquisition preceded using behavior. Most people using pirated software have obtained their own copy. However, in recent years the diffusion of illegal software has involved easy file-sharing on line, free illegal download capabilities, as well as the traditional buying or sharing of illegal hard copies. As a result, individuals have the intention to use pirated software through online sharing from others or downloading from websites for free. So we assume that intention does determine using behavior (USE).

H1. Moral Intention (INT) positively influences Using Behavior (USE).

3.2 Social influence

Deutsch & Gerard(1955) note “It is possible to conform behaviorally with the expectations of other and say things which one disbelieves but which agree with the beliefs of others.” And “It is possible that one will accept an opponent’s beliefs as evidence about reality even though one has no motivation to agree with him.” So the relationships between an individual’s voluntary judgment, intention and behavior can be affected by both Normative Social Influence (NSI) and Informational Social Influence (ISI). We note that compliance and conformity research emphasized that social influence processes are subtle, indirect and outside of awareness (Cialdini& Goldstein2004).

On the other hand, a number of researchers have attempted to explain or predict individuals’ behavior regarding the piracy phenomenon using theoretical models such as TRA and TPB. Research in digital piracy intention found that subjective norm, one specific type of social influence, has no significant impact on intention to commit digital piracy (Yoon2011). However, research in online shopping has acknowledged the moderating role of Informational Social Influence on shopping online adoption. And positive Informational Social Influence has been found to significantly enhance the relationship

between attitude and intention (Lee et al. 2011). So we anticipate social influence will moderate the relationships in the ethical decision making model. Normative and Informational Social Influence are considered separately in our research model.

3.2.1 Normative Social Influence (NSI)

Normative Social Influence operates through either the identification process or the compliance process (Burnkrant&Cousineau1975). We take the view that an individual makes their own judgment towards software piracy, but he/she could be influenced by others to change or modify their private moral reasoning through identification or compliance processes of their own. For example, someone believes software piracy is immoral, but would then adopt the opinions of software piracy derived from another or the referent group (e.g. classmates, co-workers, club members, etc.), in order to associate with a satisfying self-defining relationship with others (identification process). Thus the individual is likely to follow the Normative Social Influence if they have high levels of susceptibility. Therefore:

H2a. The influence of Moral Judgment on Moral Intention is greater in individuals with more susceptibility to the Normative Social Influence of software piracy.

In a similar fashion, someone's own intention towards committing piracy or not could be influenced by others through identification or compliance processes. Consider an individual who has little intention to use a pirated software application; they may try that software through piracy so as to maintain or enhance the relationship between themselves and the referent group. For example, a student originally has little intention to play a new game; but many of his friends acquire illegal copies of that game and talk about it; he may actually obtain the game through piracy and engage in popular game talk in order to maintain good relations with his friends. In regard to compliance, consider an individual who believes that using or buying pirated software is unacceptable; they may still use the pirated application when they feel the need to comply with the expectations of the referent group. Consider someone who doesn't use pirated software on their PC but needs to use a specific application to perform a job task. All co-workers, including their superior, suggest using an illegal copy. The person could use/buy pirated software to finish the task and comply with the wishes of their superior and obtain a reward from their superior who supports the act of piracy. However, the potential pirated software user is more likely to follow the expectations of the referent group (or other important parties), if they are highly susceptible to influence (herding behavior). Therefore:

H2b. The relationship between Moral Intention and Using Behavior is greater in individuals with more susceptibility to the Normative Social Influence of software piracy.

H2c. The relationship between Moral Intention and Buying Behavior is greater in individuals with more susceptibility to the Normative Social Influence of software piracy.

3.2.2 Informational Social Influence (ISI)

Informational Social Influence operates through an internalization process where additional information influences a decision (Burnkrant&Cousineau1975). We assume that an individual makes their own judgment towards software piracy, but they could be influenced by others to change or modify their moral reasoning through internalization processes in response to additional information. For example, a person judges software piracy as immoral because he considers the behavior to be theft; however, he is told that it would feed the pockets of billionaires if he were to buy a legal copy of the software (with the implication that would not be desirable); so he may internalize this information and modify his original judgment, depending on his susceptibility to the Informational Social Influence. Therefore:

H3a. The relationship between Moral Judgment and Moral Intention is greater in individuals with more susceptibility to the Informational Social Influence of software piracy.

Similarly, a consumer may have little intention of trying pirated statistical software, but if co-workers or classmates convince him of the usefulness, ease of use, and cost saving from using pirated

statistical software he may be susceptible, and gain enough confidence to actually use/buy it. So we assume that potential pirated software users may internalize additional information gained from others that relates to the positive benefits of the software use, to change their own intentions. Thus, in response to more beneficial or positive informational influence from others, an individual would be more likely to use/buy pirated software. Therefore:

H3b. The relationship between Moral Intention and Using Behavior is greater in individuals with more susceptibility to the Informational Social Influence of software piracy.

H3c. The relationship between Moral Intention and Buying Behavior is greater in individuals with more susceptibility to the Informational Social Influence of software piracy.

4 RESEARCH METHOD

We conduct an online survey to test the research model. We adopt the ethical scenarios method used by Moores & Chang (2006). The measures from Moores and Chang (2006) are also adopted. And we measure susceptibility to Normative and Informational Social Influence towards software piracy in order to test the moderating effect. We adopt items for the measurement of consumer susceptibility to Interpersonal Influence (Bearden et al.1989). Some modifications were made to fit our specific research context. Normative Social Influence is measured by 8 items, while Informational Social Influence is measured by 4 items, using a seven-point Likert scale.

The measures are then translated into Chinese and back to confirm translation accuracy. Three rounds of backward translation were carried out to ensure the accuracy of our translation.

The target respondents are the computer users. We collect data in China mainly from Guangdong, Hubei, and Jilin province. An online questionnaire has been used for data collection in early December 2012. In order to achieve a representative sample, posts and messages containing the URL to this online questionnaire are distributed among companies, virtual communities via QQ or email, also one popular online forum and Weibo.

5 CONCLUSION

Software piracy is a persistent problem in the IS industry. To better understand this phenomenon, we investigate the social influence on decision-making processes involved in software piracy behavior. Hypotheses towards moderating effects of social influence will be tested empirically using the data we have collected. Our theoretical contribution extends the Moores and Chang's (2006) model to consider the social influence on software adoption decisions.

Our practical contribution predicts that the findings of the study will provide deeper insights and new knowledge for IS practitioners fighting piracy. They could be valuable guides in examining piracy behavior. For instance, IS professional ethics should consider reshaping the atmosphere of high tolerance and acquiescence towards illegal software among common PC users.

We have collected 133 samples on-line so far, and data screening is in progress. We will collect more data both online and using paper-based questionnaires. Data collected on line and data from paper questionnaires will be compared to confirm whether bias exists or not. We will analyze the data and test all hypotheses we propose, follow with a discussion on the findings of our empirical testing of the moderating effects of social influence on ethical decision making processes in the context of software piracy behavior. We intend to collect additional data from other countries to broaden our knowledge of any cultural issues that may affect individuals' adoption of pirated software.

APPENDIX

Survey items

The following social influence items use a seven-point Likert Scale that ranges from 1="Strongly Agree" to 7="Strongly Disagree" with 4="Neutral/Not sure".

Normative Social Influence (NSI)

NSI1: I rarely buy/use illegal software until I am sure my friends approve of them.

NSI2: It is important that others like the illegal software I buy/use.

NSI3: When buying/using illegal software, I generally buy/use those that I think others will approve of.

NSI4: If other people can see me buying/using illegal software, I often buy/use those they expect me to buy/use.

NSI5: I like to know what illegal software makes good impressions on others.

NSI6: I achieve a sense of belonging by buying/using the same illegal software that others buy/use.

NSI7: If I want to be like someone, I often try to buy/use the same illegal software that they buy/use.

NSI8: I often identify with other people by buying/using the same illegal software they buy/use.

Informational Social Influence (ISI)

ISI1: To make sure I buy/use the right illegal software, I often observe what others are buying/using.

ISI2: If I have little experience with a kind of illegal software, I often ask my friends about it.

ISI3: I often consult other people to help choose the best alternative available from an illegal software class.

ISI4: I frequently gather information from friends or family about the illegal software before I buy/use.

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