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Abstract

Internet proliferation and ubiquity are easing the process for individuals to copy, download, share, sell and distribute copyrighted software without purchasing a legal license. The prevalent piracy issue has not only caused a tremendous loss of revenues for legal software makers, but also raised piracy ethicality. The current study shows that moral attitude is one of important predictors for piracy intention. The purpose of this study is to increase its predictive power by including two planned behaviour constructs from the perspective of cognitive and affective beliefs. Based on Kohlberg's theory of moral development, a conceptual framework is proposed to include perceived likelihood of punishment and perceived benefit as cognitive beliefs and perception of shame, happiness and excitement as affective beliefs.

Keywords: Cognitions, Affects, Morel attitude, Software piracy intention, Theory of Planned Behaviour.

1 INTRODUCTION

1.1 Research background and motivation

Global software piracy rate remained as high as 42% in 2011, totalling $64.3 billion dollars of commercial values after years of efforts in combating this issue (Taylor, 2013). Software companies are not the sole victims of software piracy. Software piracy contributes much less value to national economies than legitimate software does (The Software Alliance, 2013). The presence of software piracy can lower business investment in new product design, delivery of innovative services, and improved customer services. The current studies have tried to address software piracy issues from various perspectives, including cultural difference (Swinyard et al. 1990; Husted 2000), country development (Steidlmeier 1993), GNP per capita, and income inequality. Past studies show that a person's intention of using pirated software can be influenced by many factors such as attitude (Banerjee et al. 1998; Peace et al. 2003; Simpson et al. 1994), age (Gopal & Sanders 1998), gender (Seale et al. 1998), software cost (Peace et al. 2003;), and perceived risk (Sinha & Mandel 2008; Yoon 2011). Among these factors, attitude has been considered as one of the most important predictors of software piracy intention (Banerjee et al. 1998; Christensen & Eining 1991; Cronan & Al-Rafee 2008; Peace et al. 2003). The process of forming an individual's attitude toward an attitude object is dichotomous, consisting of cognitive process and affective process (Zajonc 1980; Zajonc & Markus 1982; Zajonc 1984, Haddock, & Zanna 1998). However, the past studies often treated attitude as a single variable and unilaterally examined its potential influence on piracy (Al-Rafee & Cronan 2006; Moores et al. 2009; Peace et al. 2003). These models could be merely regarded as predictive models, but have no implications for psychological process (Eagly & Chaiken, 1993). Therefore, these findings call for a detail, systematic examination of the dichotomous nature of attitude and its potential influence on piracy intention from different perspectives.

Cognitive and affective factors interact with each other via a synergistic relation (Eagly & Chaiken 1993; Eagly et al., 1994) to influence the formation of attitude. The synergistic effect potentially has better explanative power than the singular effect of treating attitude as a single variable (Abelson et al. 1982; Breckler & Wiggins 1989). In addition, individuals with different personal characteristics form their attitude differently (Huskinson and Haddock, 2004). Thinkers primarily rely on cognition to form attitude, whereas feelers use emotion to do so (Haddock and Zanna 1998). The potential influence of individual characteristics on software piracy has not been thoroughly investigated. The objectives of this study are to investigate the potential influence of cognitive and affective beliefs, as well as their interaction effect on the formation of an individual's moral attitude. In addition, this study tries to understand how thinkers and feelers form their moral attitude differently.

The following sections include literature review, followed by research hypothesis and a proposed theoretical model. The research methodology section discusses how data will be collected to validate the proposed hypotheses. This study is concluded with expected results based on our proposed data collection and analysis methods.

2 LITERATURE REVIEW

2.1 Software piracy

Software piracy refers to copy or distribution of copyrighted software without permission (Business Software Alliance, 2014). Software piracy practices include downloading copyrighted software without a license, sharing copied software, license codes, activation keys with others, or selling software to others for profit. Persons or businesses using pirated software violate civil regulations and help spread out malware, spyware, adware, and virus to others and business communities. Although international communities have been cooperating with national law enforcement authorities and educating the public about the illegal and unethical use of pirated software, software piracy issues remain as one of major threats to the global society. It is important that academia and practitioners continue to work closely to address this important social issue.

Many factors can have influence on an individual's intention to use pirated software. At the macro level, individualists are more likely to engage in software piracy than collectivists because of cultural background (Swinyard et al. 1990; Husted 2000). People in poor economies are more likely to use pirated software than those in developed economies (Steidlmeier 1993). Income inequality can also contribute to the disparate use of pirated software (Husted 2000). At the individual level, factors, such as age (Gopal & Sanders 1998), gender (Seale et al. 1998), software cost (Peace et al. 2003), perceived importance (Al-Rafee & Cronan 2006), perceived consequence (Limayem et al. 2004), software copyright laws (Konstantakis et al. 2010), and perceived risk (Sinha & Mandel 2008), have influence on the intention of software piracy. Among these factors, attitude has been recognized as one of the most important predictors for the intention of software piracy (Banerjee et al. 1998; Peace et al. 2003; Simpson et al. 1994). Attitude has strong predictive power for technology adoption intention according to the Theory of Planned Behaviour (TPB) (Beck & Ajzen 1991). Many studies (Al-Rafee & Cronan 2006; Banerjee et al. 1998; Lau 2003; Moores et al. 2009; Peace et al. 2003) have examined the effect of attitude on the intention of software piracy.

Although the previous studies improve our understanding of the relationship between attitude and software piracy, attitude was often considered as a single variable or explored unilaterally (Al-Rafee & Cronan 2006; Moores et al. 2009; Peace et al. 2003). How attitude associated with other variables and their joint effect on software piracy have not been systematically investigated and fully understood. In addition, an individual forms attitude via cognitive and affective processes. These two processes interact with each other and their synergistic relation is often examined together in previous studies (Eagly & Chaiken 1993; Eagly et al. 1994). As such, the effect of synergistic relation can confound research findings. How each of these two processes affects the formation of attitude toward software piracy has not been examined separately. Moreover, most software piracy studies have not distinguished people based on their characteristics. For instance, thinkers have primarily relied on cognition to form their attitude; feelers used feeling and emotion to do so (Haddock and Zanna 1998). How do these two kinds of people form their attitude toward software piracy has not been fully studied. The following will discuss major constructs used in the Theory of Planned Behavior (TPB) and their relationships with cognitive and affective factors in the context of software piracy. A theoretical framework will be proposed to show these relationships.

2.2 Theory of Planned Behavior (TPB)

Theory of Planned Behavior (TPB) is a validated and widely accepted intention model in IS discipline to predict and explain individual intention and behaviour. Many software piracy studies have adopted TPB theory to explain the intention of people using pirated software (Al-Rafee & Cronan 2006; Moores et al. 2009; Peace et al. 2003). TPB extends from Theory of Reasoned Action (TRA) theory (Fishbein & Ajzen 1975) by considering volitional control of adopters. TPB posits that user's behaviour is affected by his behavioral intention which is a function of attitude toward the behaviour, subjective norms (SN) and perceived behavioural control (PBC). Attitude is a person's favourable or unfavourable evaluation of performing the behaviour of interest. SN is a person's belief about whether other persons may approve or disapprove of his/her behaviour. PBC is a persons' perceived easiness or difficulty of performing the behaviour of interest. The relative influence of these three factors on the intention of technology use varies with different situations and behaviours (Ajzen 1991; Moores et al. 2009; Yoon 2011). Software piracy issues are evolving with the advance of information technology. Hence, it is important to constantly evaluate how each of these three TPB factors affects the intention of software piracy.

2.2.1 The influence of a person's attitude on the intention of software piracy

Attitude is one of the major components of the TPB. It has been suggested as the most important and best predictor of intention (Allport, 1935). Its profound effect on piracy intention has also been found in recent software piracy studies (Chen et al., 2009; Cronan and Al-Rafee, 2008; Gupta et al, 2004; Moores et al., 2009; Peace et al., 2003;Phau and Ng, 2010; Yoon, 2011). According to Cronan and

Al-Rafee (2008), the reason "why attitude is so important is the fact that attitude can be changed through persuasion and other means". The relative importance of attitude may vary across each specific behaviour and situation (Ajzen, 1991), hence, it is a user's attitude has influence on the intention of users toward software piracy behaviour.

Hypothesis 1: A user's attitude has positive influence on the intention of users toward software piracy behaviour.

2.2.2 The influence of SN on the intention of software piracy

Subjective norms have also been validated as another important factor of behavior intention in many disciplines (Ajzen, 1991; Pavlou and Fygenson, 2006; Taylor and Todd, 1995; Venkatesh and Davis, 2000). Because software piracy is viewed as an unethical behaviour, individual's software piracy behaviour is likely to be influenced by his important referent people or groups (Bommer et al., 1987; Kreie and Cronan, 1999). It means that subjective norms are also an important predictor of piracy intention (Al-Rafee & Cronan, 2006; Moores et al., 2009; Peace et al., 2003; Yoon, 2011). Therefore, we propose:

Hypothesis 2: Subjective norms have a positive influence on the intention of users toward software piracy.

2.2.3 The influence of PBC on the intention of software piracy

In the scenario of software piracy, individual must have the ability to search, download, and decode the protection mechanism of desired software. If he does not have the ability or he perceives that he cannot perform the behaviour, then his piracy intention could be ceased (Liao et al., 2010; Peace et al., 2003; Yoon, 2011), even his attitude and subjective norms are in favour of doing piracy behaviour. In other words, if an individual perceives himself to have more control in piracy behaviour, the more likely he will pirate software. Therefore, we propose:

Hypothesis 3: Perceived behavioural control has a positive influence on the intention of users toward software piracy.

2.3 Moral attitude

According to Ajzen (1991), attitude refers to "the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question". Most people consider software piracy an unethical behaviour (Chen et al. 2009; Tang & Farn 2005). Their attitude toward software piracy behaviours refers to the individual's tendency to decide the software piracy behaviour is morally right or wrong in case of software piracy. Therefore, the individual's attitude is taken as a moral attitude in this study. It comes from the inside of individual's morality. Hence, we start discussing it from the development of individual's morality.

2.3.1Cognitions

Traditionally, psychological researchers believed that the formation of people's morality is a moral reasoning process, people compare with his inherent cognitive beliefs to decide whether the attitude object is right or wrong. That is, the formation of morality is a process of cognition development. The pioneer work of cognition development is done by Jean Piaget. Piaget (1932; 1965) proposed a theory to explain three stages of cognitive development from infancy to adulthood.

At the first stage, "the child is responsive to cultural rules and labels of good and bad, right or wrong, but interprets these labels either in terms of the physical or the hedonistic consequences of action (punishment, reward, exchange of favours) or in terms of the physical power of those who enunciate the rules and labels" (Kohlberg & Hersh 1977, p54). In the early stage of moral development

(punishment and obedience orientation), what is good or bad is determined by the physical consequences of their action, children do not understand the true meaning or value of the consequences. Children defer to power or prestige unquestioningly to avoid punishment, regardless of respect for underlying moral orders supported by punishment and authority. When individual is at the early stage of moral development, the physical consequences of action determine individuals' moral attitude toward the target object regardless of the meaning or value of these consequences (Kohlberg, 1969). Avoidance of the likelihood of punishment is the major concern by himself at this time. Since software piracy is seen as an unethical behaviour, there exist certain risks of being caught if individual engages in software piracy (Jeong et al., 2012). A user's perceived punishment will lower his/her attitude toward piracy intention. Therefore, we propose:

Hypothesis 4: Perceived likelihood of punishment will lower users' attitude toward using pirated software.

At the second stage, individual focuses largely on his own interest, and sometimes the needs of others. Interpersonal relationships are like the trading behaviour of marketplace. Fairness, reciprocity, and equal sharing are important elements for the relationships. When the development of individual morality reached second stage, he focused mainly on his own interest. Individual is likely apt to perform the behaviour if positive outcome is expected (Thong and Yap, 1998). The relationship is also affirmed in software piracy study (Yoon, 2011). Hence, we propose:

Hypothesis 5: A user's perceived benefit has positive influence on his/her attitude toward using pirated software.

2.3.2 Affects

In contrast to the proponents of cognitive reasoning of moral attitude, other scholars argued that affect is another important construct of moral attitude. Zajonc (1980) argued that affect is independent of cognition, affective reactions is often the very first reaction of the organism without extensive cognitive processes, and affect plays an important role in decision making. Therefore, he posited that affect is basic, affective reactions are primary, inescapable, difficult to verbalize, need not to depend on cognition, may become separated from content, affective judgments tend to be irrevocable, and implicate the self. After examined the extant data, he concluded that "affect and cognition are under the control of separate and partially independent systems that can influence each other in a variety of ways, and that both constitute independent sources of effects in information processing" (Zajonc 1980). Afterward, Zajonc and Markus (1982) kept on explicating their arguments in a discussion of formation of preference in detail.

When the development of individual morality goes up to the third stage, individual tries to be a good boy or nice girl. Good behaviour is what pleases or helps others and is approved by them (Kohlberg, 1969). Thus, social consensus plays an important role in individual's moral judgment (Morris and McDonald, 1995; Tan, 2002). Since software piracy is not considered a good behaviour in most areas, individuals often feel embarrassed or guilty when others know about his piracy behaviour. Personal shame may deter individuals from committing software piracy behaviour. Therefore, we propose:

Hypothesis 6: Shame is an important affective factor that can have negative influence on the attitude of users toward using pirated software

In addition to shame, a user's perceived happiness and excitement are significant affective beliefs toward forming positive attitude (Al-Rafee and Cronan, 2006). In order to measure individual emotion and feeling, many psychologists have proposed a two-dimension structure to reflect the affective mood of person. For example, Russell (1980) posited two dimensions of affect, that is,

pleasure-displeasure and degree-of-arousal. Mano (1991) also had the similar argument. He posited that there are two underlying dimensions which include eight categories of affect reflex the affective mood of person under different contexts. Watson and Tellegen (1985) also had the same proposition. Following this school of thought, Al-Rafee and Cronan (2006) verified that perceived happiness and excitement are two significant affective antecedents of users' attitude toward using pirated software. Thus, we propose the following two hypotheses:

Hypothesis 7: Perceived happiness has positive influence on the attitude of users toward using pirated software

Hypothesis 8: Perceived excitement has positive influence on the attitude of users toward using pirated software

2.4 Moderating Effect of Personal Characteristics

The influence of cognitive beliefs and affective beliefs on attitude may depend on the personal characteristics (Eagly and Chaiken, 1993). Understanding the moderating effect of personal characteristics can have better explanative power than the singular effect of treating attitude as a single variable (Abelson et al. 1982; Breckler & Wiggins 1989). In addition, individuals with different personal characteristics form their attitude differently (Huskinson and Haddock, 2004). Thinkers primarily rely on cognition to form attitude, whereas feelers use emotion to do so (Haddock and Zanna 1998). Therefore, it is probable that cognitive beliefs have stronger influence on thinker's attitude toward software piracy than affective beliefs. In contrast, affective beliefs have stronger influence on feeler's attitude toward software piracy than cognitive beliefs. Therefore, we propose:

H9: Cognitive beliefs have stronger influence on thinker's attitude toward software piracy than affective beliefs

H10: Affective beliefs have stronger influence on feeler's attitude toward software piracy than cognitive beliefs

Based on the above discussion, this study proposes the research model which is depicted as Figure 1.

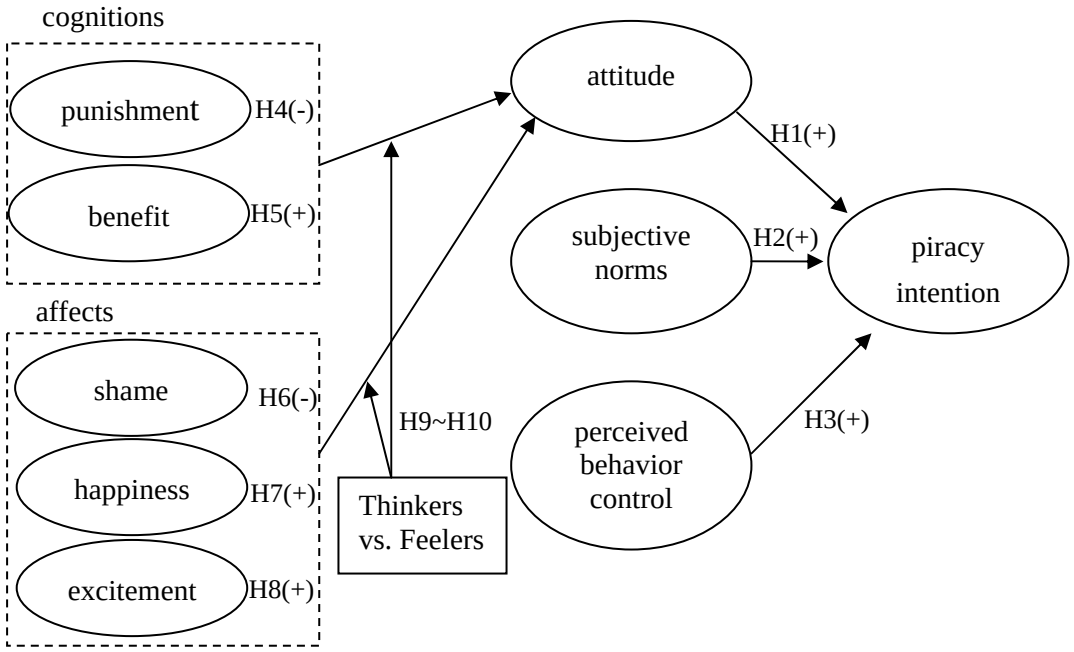

Figure 1: research model

3 RESEARCH METHOD

3.1 Measurement development

All the items of the questionnaire are adapted from previous related studies and modified to fit the research scenario of the study. In order to distinguish the difference between thinkers and feelers, seven items adapted from Myers-Briggs Type Indicator are also included in the questionnaire. All items will be reviewed by five IS professionals and experts to pre-test the questionnaire. After pre-test, 30 MBA or undergraduate students will be recruited to participate in the pilot test.

3.2 Data collection

The formal investigation will be held online for one month. The questionnaire will be post on the top 100 websites in Taiwan to recruit respondents who are experienced computer software users. In order to promote the response rate, some incentives, such as, coupons, flash disks are offered for the selected respondents.

3.3 Data analysis

The statistical program SPSS will be used to analyze the descriptive data and test the reliability and validity of the collected samples. As to test the research model, a famous Structural Equation Modelling software, Amos, will be used in this study to analyze the result of the research model.

4 EXPECTED RESULT

The expected results of this study are three-fold. First, the detailed review of related studies sheds light on the way to a more understanding of the formation of attitude toward piracy intention. Second, the impact of cognitions and affects on attitude could be elucidated more elaborately. Third, via the empirical validation of the research model, we can clarify the sophisticated relationships between these cognitions and affects of attitude toward piracy intention. These results can be used as a steppingstone for the future related research and provide implications for the practitioners to make efficient policies. In addition, future work can also investigate different piracy behaviours (e.g., download copyrighted software without a license v.s. selling unauthorized software for profits) because the effects of these antecedents could be very different from each other.

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