

An Empirical Study of the Piracy Behavior of Online Digital Content: A Cross-Culture Comparison of China and Korea

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온라인디지털콘텐츠 불법복제 행동에 관한연구 중국 및 한국 비교를 중심으로

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Abstract

Digital content piracy has been shown to be an emerging societal problem, However, Studies on digital content piracy are very limited. In this paper, we try to find whether Theory of Planned Behavior(TPB) can explain the online digital content piracy in China. In addition to the finding of TPB's usefulness, We also examine the cross-cultural differences between Korea and China in behavior towards online digital content piracy. we argue that cultural factors moderate the strength of the relationships in the TPB model in online digital content piracy. we use a theoretical model of behavior based on the framework of the TPB(Theory of Planned Behavior) and Hofstede's national cultural dimensions. Our results indicate that the general TPB(Theory of Planned Behavior) model of software piracy is broadly applicable to digital content piracy in China. Our findings also show that most of the hypothesized moderating effects of national cultural factors were found to be significant.

1. Introduction

Compared to 2006 the worldwide PC software piracy rate increased by three percentage points to 38%, and software industry is estimated to have incurred global revenue losses by \$8 billion to nearly \$48 billion worldwide in 2007. It

highlights the significant negative impact of piracy on the software industry.²⁾ Collating separate studies in 16countries over a three-year period, IFPI estimates over 40 billion files were illegally file-shared in 2008, giving a piracy rate of around 95%.³⁾

2. Literature Review

While software piracy has received much interest, a new form of piracy has taken the

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2) Study Highlights: Fifth Annual Global Software Piracy Study, 2008

3) IFPI Digital Music Report,2009

piracy spotlight and being called the next big piracy arena(Bhattacharjee et al.,2003; Rafee & Cronan, 2006).

Some researchers are studied software piracy using TPB model. Eining and Christensen (1991) developed a model of factors influencing individuals with regard to software piracy. Recently, Peace et al. (2003) developed a software piracy model, using TPB as a framework, to explain the intention to pirate. Like some researches studied on software piracy using TPB model. the digital content piracy studies mostly using TPB model. Kwong and Lee (2002) used the theory of planned behaviour in order to explain the intention to swap music on the Web. Cronan and Al-Rafee examined factors that influence an individual' attitude toward pirating digital material. Later they studied factors that influence the intention to pirate media using TPB model, the significant components of this model were attitude, perceived behavioral control, moral obligation, and past piracy behavior.(Cronan & Al-Rafee, 2007).

The neglect of culture as an explanation of software piracy seems odd given the fact that cultural values have such a significant impact on a wide array of business practices in different countries. Cross-cultural research that specifically addresses software ethics is limited(Husted,2000) the first to use Hofstede's data to attempt an explanation as to why global differences exist in software piracy. He studied the impact of national culture on software piracy by using secondary data from 39 countries. He found support for the hypotheses that economic wealth, income inequality, and Hofstede's individualism - collectivism dimension were related to software piracy.

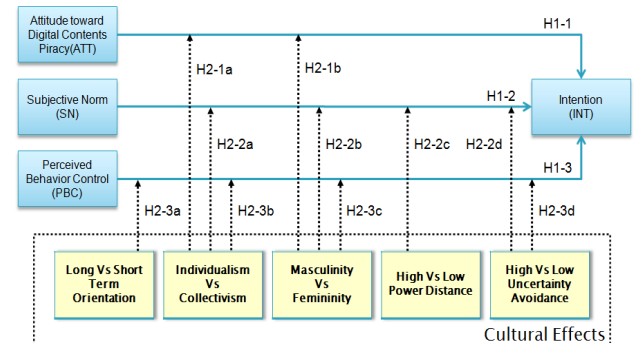
3. Research Design

In this paper, we present a study on the behavior that impact the piracy of online digital

content. we examine whether the TPB model is a suitable research model to explain the digital contents piracy behavior in China, we also examine the cross-cultural differences between Korea and China in behavior towards online digital content piracy. we argue that cultural factors moderate the strength of the relationships in the TPB model in online digital content piracy. we use a theoretical model of behavior based on the framework of the TPB(Theory of Planned Behavior) and Hofstede's national cultural dimensions. The following figure shows the model and hypotheses.

H1-1: Individuals with higher attitude toward piracy will correspond to a greater intention to pirate digital contents in China.

H1-2: Higher subjective norms will correspond with a greater intention to pirate digital contents in China.



H1-3: Higher perceived behavior control will correspond with a greater intention to pirate digital contents in China.

H2-1: The relationship between attitude and intention is stronger in Individualistic and Masculine culture

H2-1a: The relationship between attitude and intention is stronger in Individualistic Culture than in Collectivist Culture.

H2-1b: The relationship between attitude and intention is stronger in Masculine culture than in Masculine culture.

H2-2: The relationship between subjective norms and intention is stronger in Collectivist ,

Femininity , Higher Uncertainty Avoidance & Higher Power Distance Culture.

H2-2a: The relationship between subjective norms and intention is stronger in Collectivist Culture than in Individualistic Culture.

H2-2b: The relationship between subjective norms and intention is stronger in Femininity Culture than in Masculine Culture.

H2-2c: The relationship between subjective norms and intention is stronger in Higher Power Distance Culture than in Lower Power Distance Culture.

H2-2d: The relationship between subjective norms and intention is stronger in Higher Uncertainty Avoidance Culture than Lower Uncertainty Avoidance Culture.

The sample for this study is based on a student sample from colleges at local universities in Korea and China. For the sampling frame, at least 160(In China) and 147(In Korea) are students of local universities with experience in surfing the Internet were selected. Students are the target population, since a high proportion of students have been shown to pirate(Solomon and O'Brien, 1990; Im and Van Epps,1991; Sims et al., 1996). According to Gopal and Sanders, young college students tend to be more receptive to pirating digital content on the Internet. Moreover, a student sample would be adequate and a representative sample in a digital piracy context.(Al-Ree & Cronan,2007).

4. Empirical results

A review of the sample indicates that 91 (62%) of which were males and 56 were females in Korea. and 97(61%) of which were males and 63(39%) were females in China. From the sample we can see that there are no differences between the sex in two countries. We also can see that nearly 92(62%) are students in Korea and 89(56%) are students in China.

Regression Analysis was used to evaluate the TPB model[Figure4-8].The results indicate that

Attitude, Subjective Norms, Perceived Behavioral Control paths all have significant impact on intention, This is correspond with the studies of Ajzen's(2001). the attitude, subjective norms, perceived behavioral control toward online digital content was att=0.251, t-value=4.045, p<0.01; subjective norms=0.717, t-value=11.535, p<0.01; perceived behavioral control=0.160, t-value=2.58, p<0.01), all the paths are significant. So H1-1,H1-2,H1-3 are support.

For the culture's moderating impact we made two groups and did the T-test to examine whether the data we collected can get the same scores like Hofstede's culture index scores, following shows that China has a score at 80(PDI) which higher than Korea60(PDI), our results of T-test inditaced that except Masculine all of the scores had the same results compare to the Hofstede's culture results.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
China	(Constant)	5.695	.083		68.226	.000
	ATT	.339	.084	.251	4.045	.000
	SN	.967	.084	.717	11.535	.000
	PBC	.216	.084	.160	2.580	.011

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Korea	(Constant)	5.897	.077		77.050	.000
	PBC	.217	.077	.227	2.829	.006
	SN	.439	.077	.458	5.709	.000
	ATT	.131	.077	.137	1.707	.091

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
China & Korea	(Constant)	-8.66E-017	.053		.000	1.000
	ATT	.267	.053	.267	5.043	.000
	SN	.537	.053	.537	10.142	.000
	PBC	.203	.053	.203	3.839	.000

Hofstede's Culture Index Scores,2001

5-Dimensions	China	Intensity	Korea
PDI	80	>	60
MAS	66	>	39
UAI	30	<	85
IND	20	>	18
LTO	118	>	75

Results of T-test of Hofstede's model in this paper

5-Dimensions	China	Intensity	Korea	P-value
PDI	4.92	>	4.82	0.755
MAS	3.81	<	4.15	0.001
UAI	4.16	<	4.17	0.006
IND	4.86	>	4.56	0.504
LTO	4.50	>	4.31	0.068

H2-1a, which that argues that attitude is more

important in individualistic culture, received support since China are influenced ($b=.251$ $p<0.01$) higher than Korea ($b=.137$ $p<0.1$) It shows that the interaction of attitude in China would have a greater effect on intentions than it would have in Korea. so the interaction of attitude was significantly with culture. H2-1a was supported.

H2-1b, which the relationship between attitude to intention will be more important in Masculinity culture do not received support, as china ($b=.251$ $p<0.01$) higher than Korea ($b=.137$ $p<0.1$), so H2-1 is partly support.

H2-2: which the relationship between subject norms to intention will be more important in Collectivism, Femininity and higher power distance and uncertainty avoidance culture do not totally received support, because china ($b=.717$ $p<0.01$) Higher than Korea ($b=.458$, $p<0.01$) As china is in higher power distance and higher uncertainty avoidance, there is just support partly.

H2-3: which the relationship between perceived behavioral control to intention will be more important in individualism, Masculinity and lower uncertainty avoidance and short term orientation culture do not totally received support, As Korea is in short term orientation and masculinity culture, because Korea ($b=.227$ $p<0.01$) Higher than China ($b=.160$, $p<0.05$) the hypotheses H2-3a and H2-3c are significantly support. but Korea is not individualism and lower uncertainty avoidance than China so hypothesis H2-3b and H2-3d are not support.

5. Discussion and Implications

The findings of this paper are mostly in accordance with expectations. As hypothesized, attitude, subjective norms, perceived behavior control had a significant effect on digital content piracy intention for the collectivist society of China. using data collected from two cultures, Our findings also indicate that half of the

hypothesized moderating effects of national cultural factors were found to be significant.

While these findings could have significant theoretical and practical implications, as discussed in the previous section, our research has some clear limitations which also suggest future research opportunities. the most important limitation is that our culture dimensions can not build up factor analysis. Further research may do more studied on the factors' compositions.

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