5-2010

A COMPARATIVE STUDY ON SOFTWARE PIRACY BETWEEN CHINA AND AMERICA

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ABSTRACT

Software piracy in China has been a serious problem for decades. This paper builds on an existing software piracy model and adds a cultural dimension. We aim to study the differences between the U.S. and Chinese college students on their attitude toward software piracy, perceived punishment, subjective norms, perceived behavioral control and piracy intention. Through the data analysis, we aim to find the key factors that influence the piracy intent, to identify the differences between the Chinese and Americans, and to provide insights to fight piracy in China.

Keywords

Software Piracy, Cultural dimension, Piracy intention

INTRODUCTION

According to the recent Global Software Piracy Study Report by Business Software Alliance (BSA, 2009), the retail value of worldwide unlicensed software for the first time exceeded $50 billion in 2008, and the worldwide PC software piracy rate rose from 38% to 41%. China, according to the study, has made great progress in lowering the piracy rate to 80%, yet still suffered a tremendous piracy loss of $6,677 million in 2008. Researchers have been paying attention to the piracy issue in the past two decades, seeking ways to improve the deterrence efficiency. Many studies have been done in American domestic setting, yet not enough effort has been made to understand the Chinese markets and its unique cultural effects.

This paper builds on an existing software piracy model and adds cultural dimension by studying the differences between the U.S. and Chinese college students on their attitude toward piracy, perceived punishment, subjective norms, perceived behavioral control and piracy intention. We aim to find the key factors that influence the piracy intention among students, and identify the differences between the Chinese and American students' piracy patterns.

LITERATURE REVIEW

Since Mason's "Four Ethical Issues of the Information Age" published in 1986, business practitioners and academic researchers have paid close attention to software piracy issues. Literatures in various academic fields, such as economics, information systems, marketing and business ethics, have contributed to this area. Previous research has identified many factors that influence the piracy intention from various angles for domestic market (Chellappa & Shivendu 2003; Conner & Rumelt, 1991; Cronan & Al-Rafee 2008; Givon, Mahajan, & Muller 1995; Gopal & Sanders, 1997, 2000). Recently, researchers have turned their focus from domestic market toward the international markets (Davison, et al, 2009; Gopal & Sanders, 1998; Moores & Dhaliwal, 2004; Moores & Dhillon 2000; Rawlinson & Lupton 2007; Yang et. al, 2009; Yang & Sonmez 2007). The research in cross cultural setting has found that a model fit for the U.S. may or may not fit for other cultures, and understanding different cultures is crucial for the software company to design products and mechanisms to deter piracy.
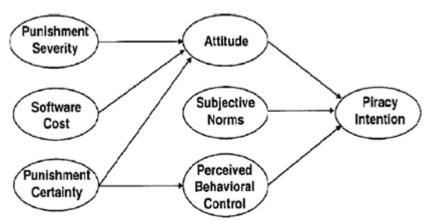
Figure 1: Software Piracy Model

We adopted the software piracy model from Peace, Galletta and Thong (2003) to analyze and compare the different factors between the American and Chinese students. This model combines the theory of reasoned action, theory of planned behavior, expected utility theory, deterrence theory including an ethical behavioral concern in the attitude dimension. The model identifies three possible antecedents toward software piracy intention, which are the subject's attitude toward software piracy, subjective norms and perceived behavioral control. Three factors which might contribute to the attitude toward software piracy are also identified: punishment severity, software cost and punishment certainty. This research is one of the first attempts to test a well-established software piracy model in the Chinese cultural setting, and we hope to provide some constructive feedbacks on the model and insights to Chinese software piracy issues.

SURVEY METHOD AND PRELIMINARY FINDINGS

We have surveyed 674 college students (364 are from Chinese universities). All surveys were distributed in a classroom setting, and instructions and sufficient time were given to the students. We assured the students that there was no indicator in the survey which could identify them, and verbally encouraged them to truthfully answer the questionnaire. 69.2% of the Chinese students were male, and 54.9% of the American students were male. Among the American samples, 56.1% have committed software piracy, whereas 85.3% of the Chinese counterparts have committed software piracy. Table 1 records the sample statistics.

Table 1: Descriptive Statistics for the Sample

	Country	N	Mean	Std. Dev.
Punishment certainty	China	363	1.71	.86
	USA	307	2.23	1.06
Software cost	China	363	4.02	.73
	USA	308	4.26	.74
Punishment severity	China	364	2.13	1.02
	USA	309	3.22	1.19
Attitude toward piracy	China	360	3.10	.75
	USA	306	2.77	.97
Perceived behavioral control	China	363	3.76	1.08
	USA	310	3.58	1.16
Subjective norm (disapproval)	China	359	1.90	.73
	USA	308	2.76	1.02
Piracy intent	China	361	3.83	.97
	USA	309	3.11	1.25

The following are preliminary results from the data set:

Result 1: American students perceived a higher likelihood of being caught than their Chinese counterparts if they committed software piracy (t = 6.98, df = 669, p < .001). In general, however, both groups in this study did not think they would be caught.

Result 2: American students perceived a higher rate of punishment than their Chinese counterparts if they were caught committing piracy (t = 12.58, df = 672, p < .001). This reflects the difference in law enforcement in the American and Chinese societies.

Result 3: The American students perceived a higher software cost than did their Chinese counterparts (t = 4.26, df = 670, p < .001), and both groups of students thought the copyrighted software was somewhat expensive.

Result 4: American students felt that people around them would be less likely to approve of their software piracy actions than their Chinese counterparts (t = -12.30, df = 666, p < .001). For the Chinese students, their peers incline to approve rather than disapprove their piracy actions.

Result 5: Chinese students had a higher intention to commit future software piracy than their American counterparts (t = -8.17, df = 669, p < .001). Both means are above 3, indicating both groups of students have intentions to commit software piracy.

Result 6: Significant difference is found between the students' attitudes toward pirating behavior (t =4.92, df = 665, p <.001). The two groups are on the opposite side of the neutral point 3, where Chinese students basically think committing piracy is reasonable and pleasant.

Result 7: Although difference is found between the students' perceived behavioral control at $p <$ .05 (t = -2.13, df = 672, $p < .05$), clearly, both groups in this study feel it is relatively easy for them to commit software piracy.

CONCLUSION

This research-in-progress aimed to compare the piracy attitude, behavioral control, subjective norms, perception and intention between two countries: America and China, and seek to find some ways to improve the Chinese software piracy control by learning from the American counterparts. Further data analysis will reveal more differences between them, and provide insights on how to fight software piracy in China.

REFERENCES

Annual BSA Global Software Piracy Study 2009, retrieved March 14, 2008 from http://global.bsa.org/globalpiracy2008/index.html.

Chellappa, R.K. & Shivendu, S. (2003). Economic implications of variable technology standards for movie piracy in a global context. *Journal of Management Information Systems*, 20(2), 137 – 168.

Conner, K.R., & Rumelt, R.P. (1991). Software piracy: An analysis of protection strategies. *Management Science*, 37(2), 125-139.

Davison, R., Martinsons, M.G., Ou, C., Murata, K., Drummond, D., Li, Y., & Lo, H. (2009). The Ethics of IT Professionals in Japan and China, *Journal of the Association for Information Systems*, 10(11), 834-859.

Givon, M., Mahajan, V., & Muller, E. (1995). Software piracy: Estimation of lost sales and the impact on software diffusion. *Journal of Marketing*, 59(1), 29-37.

Gopal, R.D., & Sanders, G.L., (1997). Preventive and deterrent controls for software piracy. *Journal of Management Information Systems*, 13(4), 29 – 47.

Gopal, R.D., & Sanders, G.L., (1998). International software piracy: Analysis of key issues and impacts. *Information Systems Research*, 9(4), 380-397.

Gopal, R.D., & Sanders, G.L., (2000). Global software piracy: you can't get blood out of a turnip. *Communication of ACM*, 43(9), 82-89

Mason, R.O. (1986). Four ethical issues of the information age. *MIS Quarterly*, 10(1), 5-12.

Moores, T.T., & Dhaliwal, J. (2004). A reversed context analysis of software piracy issues in Singapore. *Information & Management*, 41(8), 1037-1042

Moores, T.T., & Dhillon, G. (2000). Software piracy: A view from Hong Kong. *Communications of the ACM*, 43(12), 88-93.

Peace, A.G., Galletta, D.F. & Thong, J. (2003). Software Piracy in the Workplace: A Model and Empirical Test. *Journal of MIS*. 20(1), 153-178.

Rawlinson, D. R. & Lupton, R. A. (2007). Cross-national attitudes and perceptions concerning software piracy: a comparative study of students from the United States of America and the People's Republic of China. *Journal of Education for Business*, 83(2), 87-93.

Yang, D., Sonmez, M., Bosworth, D., & Fryxell, G. (2009). Global Software Piracy: Searching for Further Explanations. *Journal of Business Ethics*, 87(2), 269-283.