
인터넷 저작권 침해 보호에 관한 연구

-저작권 침해에 대한 처벌 및 윤리의식을 중심으로-

박주연*

The Study of Online Piracy Protection -Focusing on Punishment and Moral Obligation-

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요 약 최근 인터넷의 사용이 일반화되면서 온라인상의 저작물을 무분별하게 다운받거나 재사용하는 사례가 증가하면서 온라인 저작물 침해에 대한 보호정책이 시급해졌다. 본 논문에서는 온라인 저작권 침해에 대한 보호책으로 강화되고 있는 법적규제 및 처벌과 저작물 침해에 대한 윤리의식 고취가 온라인 사용자의 행동과 의도에 어떠한 영향을 미치는지 실증연구를 통해 분석한다. 본 논문의 목적은 온라인 침해에 대한 합리적인 해결책을 제시하고, 온라인 침해와 올바른 사용에 대한 도덕적, 윤리적인 학습과 제도의 중요성을 부각시키고자 한다. 이 연구의 결과는 처벌과 윤리의식 모두 사용자의 저작권 침해행위에 영향을 미치며, 특히 사용자의 윤리의식이 저작권 침해행위에 더 큰 영향을 미치는 것으로 나타났다.

주제어 : 온라인 저작권침해, 처벌, 윤리의식, 태도, 침해의도

Abstract As the Internet is widely used worldwide, digital asset on the internet becomes to be critical to protect from illegal copying and piracy which is an unlawful action that download or upload copyrighted materials from the Internet without having a right to use them from the copyright owners. Such an illegal and unethical behavior are pervading and becoming a big concern in many industries and business sectors over the world. This study examines the effect of the user's perception for piracy regulation and moral obligation on online piracy intention. Therefore, the purpose of this study is to see the different effect of regulation and moral obligation on piracy attitude and intention so as to suggest an effective method of piracy protection and to bring an attention on moral and ethical education for online piracy. The result of this study showed both punishment and moral obligation toward online piracy are significantly associated with users' attitude on piracy, indicating that higher level of punishment severity as well as moral obligation lead to decrease piracy attitude. This research also revealed that the level of users' moral obligation has a stronger relationship with piracy attitude than punishment.

Key Words : Digital piracy, Punishment, Moral Obligation, Attitude, Piracy Intention.

1. Introduction

As the Internet is commonly used worldwide, digital asset on the internet becomes to be critical to protect from illegal copying and piracy. Digital piracy is an unlawful action that download or upload copyrighted

materials from the Internet without having a right to use them from the copyright owners. The form of digital piracy varies from downloading single song, copy pieces of pictures to grabbing entire catalogues of an artist [9]. Such an illegal and unethical behavior are pervading and becoming a big concern in many

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industries and business sectors over the world. It is likely that piracy rates seem to drop in some countries by years but the average rate of piracy worldwide is increasing. The study of global software piracy by BSA(Business Software Alliance) and IDC(Internationals Data Corporation) reported that the weighted average piracy rate in worldwide is 42% in 2010 and the half of the countries studied shows 61% or higher rate of piracy [7]. It is also showed that more than 68 billion dollars were lost due to the online piracy and the effect of online piracy is beyond the revenue loss [10]. Digital piracy is becoming a serious problem in that moral and ethical standard on digital piracy are deficient. Online users download digital goods on the Internet guiltlessly and most of users who have a piracy experience consider it as harmless and victimless [4, 11, 20]. That is, the internet is facilitating downloading and copying digital materials and makes easy to commit unethical and criminal activity unconsciously.

However, there is a lack of proper education and training programs for digital piracy in most of schools and organizations, while sanctions and punishment are getting tough in a way to prevent online piracy. Cheng et al [2] argued that anti-piracy regulation and punishment are not the only solution to prevent digital piracy, and that the public education and awareness on digital piracy are critical to reduce software piracy. Moreover, the changes of user's perception toward digital piracy and a right usage of internet should be required to prevent illegal behavior on the Internet. In order to do that researchers need to develop effective measures by finding the underlying motivations and understanding of piracy behavior.

Therefore, the purpose of this study is to examine the effect of the user's perception for piracy regulation and moral obligation on online piracy intention. This study aims to see the different effect of regulation and moral obligation on piracy attitude and intention so as to suggest an effective method of piracy protection and to bring an attention on moral and ethical education for

online piracy. The result of this study would provide policy makers, educators and IT professionals a better understanding and solution to prevent piracy behavior on the internet.

2. Literature Review and Hypothesis

2.1 Punishment and Attitude

The punishment defines as the level of individual's understanding of punishment severity for internet piracy [16] and the level of severity refers to the individual's belief that the act will be punished severely [4]. The user's perception of punishment regarding illegal copy from the Internet affects to a person's attitude toward digital piracy. Pogarsky [17] suggested that forbidden factors such as swiftness, severity and certainty of punishment are significantly related to criminal behavior. He also examined that the level of certainty and severity provides a deterrence effect on illegal behaviors. Choi and Kim [4] revealed in their study on digital piracy that the greater the severity of punishment, the higher level of effectiveness on negative attitude on digital piracy was shown.

In addition, Sinha and Mandel [19] examined that the perceived risk on illegal music download on Internet is significantly associated with the attitude of digital music piracy. It also means that when users perceive that punishment on digital piracy is certain and severe, piracy behavior is reduced [14]. Therefore, the attitude toward online piracy will be negative according to the level of punishment severity and certainty.

H1-1: The level of user's perception on the punishment for online piracy is negatively associated with piracy attitude.

H1-2: The level of user's perception on the punishment for online piracy is negatively associated with piracy intention.

2.2 Moral Obligation and Attitude

Individual's judgement Moral obligation is defined as the level of individual's perception toward piracy on the internet [3]. Many studies showed that the extent of individual morality is strongly associated with moral judgement. Moores & Chang [13] showed that intention to software piracy begins with an individual's judgment, and Chiou et al. [3] found in their empirical study that perceived proximity is positively related to attitude on piracy behavior. In addition, Han and Chang [8] showed a positive relationship between perceived morality and moral judgement in their empirical study on music piracy intention. Kini et. al [11] also had an empirical study on the relationship of the level of moral intensity and the extent of actual software piracy behavior and found that there is a significant relationship between moral intensity level and software piracy.

Therefore, the higher level of moral intensity will leads to the lower level of online piracy on an act is developed by the extent of morality.

H2-1: The level of user's moral obligation for online piracy is negatively associated with piracy attitude.

H2-2: The level of user's moral obligation for online piracy is negatively associated with piracy intention.

2.3 Attitude and Pirate intention

The relationship between individual's attitude and pirate intention has been studied by numbers of researchers [3, 16]. The study of Moores & Chang [13] showed that the intention is associated with actual behavior of buying or using pirated software. Peace & Gallette [16] also showed in their study on software piracy that attitude is the most significant impact on piracy intention, and individual's attitude and judgement are positively related to piracy intention in music industry [3]. In the empirical study on music piracy by Han & Chang [8], the relationship between attitude and piracy intention revealed to be positively significant. The study suggested that the users'

intention is developed by their moral judgement on decision making process. Moreover, the actual behavior of digital piracy has been found to be the consequence of intentional decision by users [1]. Accordingly, individual's attitude toward digital piracy is positively related to piracy intention. The piracy attitude used in this study refers to the individual's attitude on the behavior toward piracy on the internet [3], and the piracy intention refers to the extent to which an individual would commit pirate on the internet [16].

H3: The online piracy attitude is positively associated with online piracy intention.

3. Research Methodology

A survey instrument given to undergraduate and graduate students in MIS courses was used for research analysis. University students were assumed to be the most active users on Internet and knowledgeable for online piracy [18]. Each survey questions was drawn from the previous studies and measured as 7 Likert-scales. Operational definition of each variables and sources of each items are shown in <Table 1>.

<Table 1> Operational definition of each variable

Variable	Definition	source
Moral obligation	the level of individual's perception toward piracy on the internet.	[3], [11]
Piracy Punishment	the level of individual's understanding of punishment severity for internet piracy.	[9], [16]
Attitude	the individual's attitude on the behavior toward piracy on the internet.	[3], [18]
Piracy Intention	the extent to which an individual would commit pirate on the internet.	[8], [16]

The survey was collected from the total of 257 students and 241 samples were used for the analysis excluding missing items. <Table 2> shows the characteristics of respondents. In the result of one-way ANOVA analysis for each characteristics, the age and internet ability are shown no differences but gender and the hours of internet usage seem to have a

difference on piracy intention ($p=0.001$, $p<0.01$) and attitude ($p=0.024$, $p<0.05$) respectively.

<Table 2> Demographic data for respondents

Characteristics		Frequency	%
Gender	Male	126	52.3
	Female	115	47.7
Age	18~24 yrs	154	63.9
	25~34 yrs	87	36.1
Internet ability	Excellence	103	41.8
	Moderate	117	48.5
	Poor	21	8.7
Duration of InternetUsage	Less than 1hr.	24	10
	1-3 hrs	162	67.2
	4-6 hrs.	45	18.7
	More than 7 hrs	10	4.1
Total		241	100

4. Findings

4.1 Test of Measurement Models

Using the Smart PLS, the Partial Least Squares analysis was conducted to find out the effect of piracy punishment and morality on behavior and intention.

<Table 3> Loading and Cross-Loadings of Measures

	Punishment	Moral	Attitude	Intention
Punishment1	0.827	0.313	0.239	0.215
Punishment2	0.831	0.241	0.242	0.204
Moral1	0.223	0.877	0.425	0.307
Moral2	0.359	0.931	0.427	0.347
Moral3	0.321	0.886	0.358	0.312
Attitude1	0.284	0.358	0.799	0.411
Attitude2	0.223	0.386	0.883	0.347
Attitude3	0.263	0.395	0.834	0.34
Attitude4	0.184	0.359	0.8	0.334
intention-1	0.182	0.314	0.248	0.798
intention-2	0.253	0.279	0.263	0.82
intention-3	0.194	0.292	0.465	0.831

The individual item reliability was tested by loadings and cross-loadings of each measurement

items. As shown in <Table 3>, the loading value of each items for a corresponding construct exceed 0.7 or above and the value of cross loading for other items is lower than the loading value of the item [5], showing that all items used in this study are reliable.

As for the internal consistency, all measures meet the recommended criterion of above 0.7 [5], and thus are to be reliable shown in <Table 4>. Discriminant validity is also tested by the square root of the average variance extracted (AVE), the diagonal values shown in <Table 4>, which is recommended that each construct of AVE value should be greater than other variance shared between a construct and its measures [6]. The all measures satisfy the common criterion for a validity test.

<Table 4> Reliability and Validity

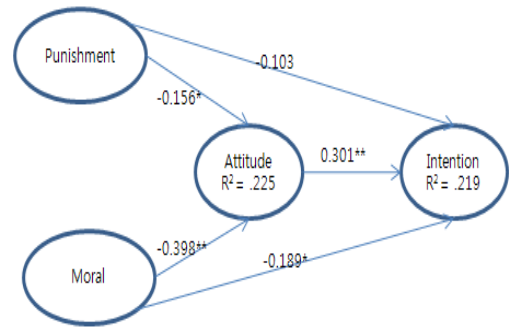
	No. Items	Internal Consistency	Correlation of Constructs			
			1	2	3	4
1. Punishment	2	0.81	0.83			
2. Moral	3	0.93	0.33	0.90		
3. Attitude	4	0.90	0.29	0.45	0.83	
4. Intention	3	0.86	0.25	0.36	0.43	0.82

4.2 Test of Structural Models

To test the proposed hypotheses, the path analysis of each construct was conducted by assessing the structural model that includes estimating the path coefficients and the R^2 value. The path coefficient indicates the strengths of the relationships among variables and the R^2 value shows a level of the predictive power of a model for the dependent variables. As shown in <Table 5>, R^2 value of attitude and intention indicates 0.225 and 0.219 respectively, representing about 22% of predictive power for both variables in the model.

The level of punishment on online piracy is shown to be associated with attitude of piracy (path coefficient = -0.156, $p < 0.05$), and that indicates Hypothesis 1-1 is supported. The level of moral obligation for online

piracy is also strongly associated with the attitude toward internet piracy (path coefficient = -0.398, $p < 0.01$). The moral obligation shows a stronger effect on piracy attitude than punishment meaning that the awareness and understandings of online piracy would be the effective way to prevent online piracy. As indicated in previous research, this result also suggests that putting severe regulations into who pirate digital goods and do not perceive the wrongful attitude are not the only solution to reduce online piracy rate [2]. Moreover, the piracy attitude that was affected by the level of punishment and morality is shown to be strongly related with internet piracy intention (path coefficient = 0.301, $p < 0.01$), accounting for 21.9% of the dependent variable's variance. As a result, the Hypothesis 2-1 and 3 are also supported. Interestingly, the effect of the punishment and moral obligation on piracy intention turns out to be different. The level of moral obligation of online piracy is strongly related to piracy intention (path coefficient = -0.189, $p < 0.05$), while the level of perception on punishment shows no relationship to piracy intention. Thus, Hypothesis 1-2 is not supported while Hypothesis 2-2 is supported. [Figure 1] represents a summary of the structural model test results. This result shows that the level of punishment and individual norm regarding online piracy can affect piracy attitude that leads to piracy intention. This result also shows that the users' moral obligation toward online piracy has a stronger relationship with attitude than the level of punishment on piracy.



[Figure 1] Result of Structural Model Test

4. Conclusion & Implication

As the use internet has been increasing widely, an illegal and unethical behavior on the internet are pervading and becoming a big concern in many industries and business sectors over the world. Online piracy is often harmful to others and criminally wrong behavior. Numbers of restriction tools and regulations are enforced in various ways to block and prevent such an illegal piracy, but the level of moral and ethical standard is still in short for most of internet users although ethical and moral obligation are often considered as the most critical reason to deter online piracy [15]. This study, therefore, examines to see the effect of punishment and moral obligation for online piracy on attitude and piracy intention. The result of this study showed both punishment and moral obligation toward online piracy are significantly associated with users' attitude toward digital piracy, indicating that higher level of punishment severity as well as moral obligation lead to decrease piracy attitude. This research also revealed that the level of users' moral obligation has a stronger relationship with piracy attitude than punishment severity. Users' attitude toward digital piracy was also shown to be positively related to users' piracy intention. That is, users tend not to pirate digital materials on the internet when they aware online piracy is illegal and unethical behaviors. This indicates that the awareness and understandings about online piracy are more critical

<Table 5> Tests of Hypotheses

	From	To	Path Coefficient	t-value	p-value
H1-1	Punishment	Attitude	-0.156	2.256	0.012*
H2-1	Moral	Attitude	-0.399	5.369	0.000**
R ² = .225					
H1-2	Punishment	Intention	-0.103	1.481	0.07
H2-2	Moral	Intention	-0.189	2.261	0.012*
H3	Attitude	Intention	0.301	4.762	0.000**
R ² = .219					

* $p < 0.05$, ** $p < 0.01$

and effective way to prevent illegal copying on the net.

In addition, this result suggests that educational and promotional training systems regarding ethical attitude and rightful use of internet have to be followed before imposing punishment and regulation to whom pirate digital materials without knowing their wrongful attitude. Moreover, it is important to develop anti-piracy programs and regular classes for online users in order to promote ethical and moral use of internet and educate a right knowledge on piracy [12]. The study of moral issue on Internet would also help online users to recognize the wrongful attitude and consider other people who might be harmful from thoughtless downloading. Awareness of ethics and moral issue would be effective in changing online users' piracy attitude and reduce piracy intention.

Therefore, the result of this study would provide policy makers, educators and IT professionals a better understanding and effective guideline for piracy education and training to prevent piracy on the internet.

Finally, it is recommended for future research that demographic differences such as age and gender should be examined in the context of online piracy and various group of sample including people in industry should be used for generalization of results.

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