

# Exploring The Incongruence In Theoretical Beliefs And Practical Motivations For Making Unauthorized Software Copies

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## ABSTRACT

*Music downloads and making copies of software is a rampant phenomenon world-wide. When it comes to some university and even high school students, the practice goes on as a normal way of life. These software types range from Accounting and Audit applications to music sharing, graphics manipulation, and numerous other applications. The proliferation of technology that permits downloads and production of duplicate copies of music and software enhances the practice. Given the improvements and affordability of computer hardware and software, the issue of unauthorized making of music and software copies is an issue that is expected to gain more attention. The question of whether or not it is right to make unauthorized copies of software has been debated among scholars for some time, but little has been done to understand the motivation of the users who engage in such practice. Software vendors have pursued various measures to combat the practice, but to no avail. While the mass copying by some shops is a major problem to software companies such as Microsoft, the discussion in this paper is limited to copies made and shared by individuals for non-commercial purposes. There are four main issues addressed here: (1) what are the theoretical beliefs shared by information systems researchers, software makers, and practitioners? (2) When asked confidentially, what are the main practical reasons or justifications that users give? (3) Is there some incongruence in the two belief systems? (4) Reconciling the two beliefs would shed some new light on users' moral and legal beliefs and attitudes with regards to making unauthorized software copies. We believe that the results from the empirical research we conducted, as well as the outline for future research that we propose could lead to a better understanding of users' motives and yield a more effective means of combating the practice of unauthorized software copying. Details of survey data collected in the study will be given in the paper, and presented at the conference. A synthesis of theoretical beliefs and the users' reported motivations will also be provided at the conference and proceedings.*

## INTRODUCTION AND BACKGROUND

With the proliferation of computer hardware and software, the issue of unauthorized making of software copies is an issue that is expected to gain more attention. These software types range from music sharing, graphics manipulation, games, and numerous other applications. The affordability of technology that permits downloads, production, and storage of duplicate copies of music and software enhances the practice. The question of whether or not it is right to make unauthorized copies of music, movies, or computer software has been debated among scholars for some time, but little has been done to understand the motivation of the users who engage in such practice. This first in what we expect to be a series of studies is designed to assess college students' perceptions on why people make unauthorized music downloads and software copies. The results could be valuable to theorists, practitioners, and companies that produce music, movies, and computer software. Furthermore, it could shed some light on how laws that govern these industries should be designed and/or enforced.

## **THEORETICAL RESEARCH SIDE OF THE COIN**

There has been an ongoing debate in the research community as to whether or not the practice by individuals to make unauthorized copies of software is acceptable (Johnson, 2000; Siponen, 2001). Other researchers have reported on the practice of making unauthorized copies by the general public (Quirchmayr, 1997; Traphagan and Griffith, 1998).

## **MEASURES TAKEN TO PROTECT INTERESTS OF SOFTWARE COMPANIES**

As would be expected, software companies regard this practice as an economic threat to them (Kruger, 1994; Lin et al., 1999). This has led to several strategies aimed at protecting the interests of software companies. According to Bowyer (2001), these strategies include the establishment of institutions such as Business Software Alliance and Software Publishers association to protect the economic interests of software companies. Still on the theoretical side, scholars, practitioners, and software companies have proposed several alternative ways of combating the problem. These range from formation of alliances between foreign and domestic software companies, ethical codes of conducts for computer professionals (Anderson et al., 1993) to reducing the price of software (Stallman, 1997; Cheng and Png, 1999). Some have sought to persuade users by arguing that software prices would escalate if such copying continued, while others have called for the introduction of legislation as a deterrent (Gopal and Sanders, 1998) and psychological persuasion (Lin et al., 1999), to a variety of technical protection mechanisms (Malhotra, 1994). Other models based on combinations of the measures mentioned above have been proposed (Moores and Dhillon, 2000).

## **PRACTICAL RESEARCH SIDE OF THE COIN**

However, studies exploring the underlying reasons why people engage in making unauthorized copies of computer software are few and far between (Cheng et al., 1997; Lending and Slaughter, 1999). The theoretical models of piracy (e.g., Limayem et al., 1999), were developed on the basis of the behavioural literature (e.g., Fishbein and Ajzen, 1975), and do not reveal individuals' underlying moral reasons (Thong and Yap, 1998). Of only two studies that explore user rationales to the unauthorized copying of software, neither was conducted globally. Therefore, generalization based on the two would be problematic (Cheng et al., 1997; Seale et al., 1997).

## **NEED FOR RECONCILING RESEARCH WITH PRACTICE**

In spite of the long history of theories and the theoretical debate about software rights (e.g., Weckert and Adeney, 1997; Floridi, 1999; Johnson, 2000; Siponen, 2001), it should be noted that (with possible exception to Thong and Yap, 1998), there has been no studies exploring the relation between theory and practice to date. Such studies of ordinary users' moral attitudes are vital not only for computer ethics education, but for the development of feasible efforts to combat or mitigate the problem. We believe that the first step toward an effective resolution of the problem lies in the reconciliation of theoretical and practice beliefs.

## **ROADMAP FOR RECONCILING INCONGRUENCE IN BELIEFS**

First, we present a summary of some of the reasons that have been cited in the literature as to why people make unauthorized music and software copies. After that, we present a recommended research design for understanding the practical side of the coin. In the conclusion and implications for further research, we then reconcile the two. As summarized in Table 1, the literature cites seven reasons why people make unauthorized copies of music and software.

## **SURVEY STUDY OF COLLEGE STUDENTS**

We conducted a study at a major US university to access students' or users' perceptions on unauthorized copying of software. The study was conducted in a College of Business using junior level undergraduate students, all of whom had already taken at least an introductory course in Information Systems (with the lab). Participation in

the study was voluntary. The instructions and questions used are given in Table 2. This is then followed by a summary of the results.

**Table 1: Some Theoretical Citations on Making Unauthorized copies of Music and Software**

Reasons	Literature
1. SW and Music CDs are expensive	Weisband and Goodman, 1992; Baase, 1997
2. It doesn't harm anyone	Stallman 1995; Weckert and Adeney, 1997
3. It is so easy to copy SW and download Music	Weisband and Goodman, 1992; Langford, 1995
4. It doesn't harm anyone	Stallman, 1995; Weckert and Adeney, 1997
5. The low quality of SW	Takeyama, 2002
6. SW and Music are intangible and/or non-exclusive	Ladd, 1997; Weckert and Adeney, 1997
7. The risk of being caught is minimal	Langford, 1995; Cheng et al., 1997

**Table 2: Questionnaire to Assess Users' Perceptions or Motives on Music Download and Software Copying**

<p><b>Instructions:</b></p> <p>For each of the first 7 statements, please do the following:  Bubble in "0" if you are in complete agreement with the statement  Bubble in "1" if you basically agree  Bubble in "2" if you neither agree nor disagree (i.e., you are indifferent or no opinion).  Bubble in "3" if you basically disagree  Bubble in "4" if you totally disagree  For statement #8, bubble in "0" if you are Male; or "1" if you are female.</p> <p><b>Questionnaire:</b></p> <p><b>Based on your perception, making unauthorized Music Download and copies of Software is acceptable because:</b></p> <ol style="list-style-type: none"> <li>1. Software is expensive and software companies are already rich.</li> <li>2. It doesn't cause any harm to anyone.</li> <li>3. Everyone else does it.</li> <li>4. It is real easy to make copies.</li> <li>5. Although it may be illegal, the risk of getting caught is negligible.</li> <li>6. The quality of software is so bad that it is not worth paying for it.</li> <li>7. Music or Software cannot be bound by ownership or copyright, plus, software products are immaterial (or intangible).</li> <li>8. Your gender is ____.</li> </ol>
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## Results, Preliminary Observations, and Conclusions

There were a total of 137 subjects and responses in the study. Our aim in this report is to provide an overview of the subjects' perceptions with respect to the seven statements in the questionnaire. From the preliminary summary of results given below in Table 3, we can make the following observations:

1. There is a tendency by users to justify making unauthorized copies of software because "music and software are easy to copy".
2. There is a tendency by users to justify making unauthorized copies of music and software because they believe that "the risk of getting caught is small".
3. They believe that music CDs and computer software are "too expensive", and that the "producers are already rich".
4. Female respondents tend to be "gentler on" or "understanding with" music and computer software companies. For example, of the 8 respondents who thought that software products were too expensive and

that the companies were already rich, all were males. Even after one adjusts for the fact there were about twice as many males as females in the study, this observation is still valid. The same pattern is noticeable in responses to other statements in the questionnaire.

5. The users do not tend to believe that software products are generally of poor quality.
6. The majority of the users do not think music and computer software should not be copyrighted, nor do they believe that everyone is making unauthorized copies.

This study provides some justification for software producers to make unauthorized copying more difficult. It also makes a case for stricter laws on unauthorized copying of music and software, given that many users believe it's hard to get caught.

**Table 3: Preliminary Summary of Results**

	<b>Responses</b>	<b>Total</b>	<b>Males</b>	<b>Females</b>
<b>Statement 1:</b> Music and Software is expensive and software companies are already rich.	# of 0's	8	8	0
	# of 1's	57	36	21
	# of 2's	35	22	13
	# of 3's	29	19	10
	# of 4's	8	5	3
<b>Statement 2:</b> It doesn't cause any harm to anyone.	# of 0's	6	4	2
	# of 1's	41	26	15
	# of 2's	45	34	11
	# of 3's	29	14	15
	# of 4's	16	11	5
<b>Statement 3:</b> Everyone else does it.	# of 0's	8	6	2
	# of 1's	25	17	8
	# of 2's	37	25	12
	# of 3's	39	24	15
	# of 4's	28	17	11
<b>Statement 4:</b> It is real easy to make copies.	# of 0's	23	17	6
	# of 1's	32	23	9
	# of 2's	32	19	13
	# of 3's	36	22	14
	# of 4's	14	8	6
<b>Statement 5:</b> Although it may be illegal, the risk of getting caught is negligible.	# of 0's	15	10	5
	# of 1's	38	27	11
	# of 2's	40	26	14
	# of 3's	24	14	10
	# of 4's	20	12	8
<b>Statement 6:</b> The quality of software is so bad that it is not worth paying for it.	# of 0's	1	1	0
	# of 1's	8	7	1
	# of 2's	29	19	10
	# of 3's	53	35	18
	# of 4's	46	27	19
<b>Statement 7:</b> Software cannot be bound by ownership (copyright, plus, software products are immaterial/intangible).	# of 0's	5	4	1
	# of 1's	22	11	11
	# of 2's	42	29	13
	# of 3's	42	27	15
	# of 4's	26	18	8

## Implications and Future Studies

We believe that our presentation of what has already been done, and the results of our first empirical study of this subject provides a basis of what needs to be done to understand the real motives of users and reconcile the differences in beliefs that would lead to a feasible solution to the problem at hand. Our presentation offers great opportunities for further research that would advance this research stream, especially from the practice side. We are conducting a more comprehensive empirical research to build on the results of the first, incorporating some of the other (new) emerging reasons gathered from literature. Also, studies to look at global and demographic levels need to be conducted. We also plan to look at specific measures being pursued by music, movies, and computer software companies to avert unauthorized duplication, and to assess perceptions of such by the general public. We will take great care in designing these studies; this is to avoid possible issues related to profiling or stereotyping of certain segments of the population or world.

What are some of the economic, moral, ethical, legal, psychological, demographic, and legislative ramifications of such efforts? We believe that with time and future efforts, we would find the answers to all and perhaps other questions that are yet to be raised.

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