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# Passive Piracy: Why Pirates Are Not Necessarily Potential Buyers of Digital Products

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## Passive Piracy: Why Pirates Are Not Necessarily Potential Buyers of Digital Products

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### Abstract

*Digital piracy is the illegal copying or downloading of copyrighted digital products. Based on individuals' need for a digital product and the price of the product, we propose a model that distinguishes between active piracy and passive piracy. We believe that passive piracy explains why pirates are not necessarily potential buyers of digital products. The research contributes to the literature by showing that not all piracy behavior is the same. To curb the piracy problem, digital product providers and government agencies should educate the general public not to lend out their copies for piracy purpose.*

### Keywords

Digital piracy, active piracy, passive piracy

### RESEARCH OBJECTIVE AND QUESTION

Digital piracy is the "illegal copying or downloading of copyrighted software and media files" (Al-Rafee and Cronon 2006, p. 237). With the advancement in the Internet technologies, digital piracy has become more common (Gopal and Sanders 2000). In 2003, the global software piracy rate was estimated to be 36 percent. In financial terms, it represents a loss of \$29 billion worldwide (SIIA 2004). In the entertainment industry, it was estimated that the value of pirated music sales was \$4.6 billion in 2002 (IFPI 2005) and one in four Internet users have downloaded movies illegally (BBC 2004).

While digital product providers always claim that their profits are greatly reduced by the growth of piracy problem, some researchers believe that piracy losses are overestimated because piracy losses are often calculated based on an assumption that every pirate would purchase a legal copy if he or she does not illegally copy it (Gayer and Shy 2003). Many studies examine the question of why people commit piracy with the aim to help product providers develop strategies to counteract the piracy behavior. Yet to our best knowledge, no prior study has verified this assumption of whether all pirates are potential buyers of digital products. The objective of this study is to examine this assumption by focusing on two factors: individuals' need for a digital product and the price of the product.

Unlike prior research that assumes all piracy behavior is the same, this study distinguishes between two types of piracy: active piracy and passive piracy. Individuals commit active piracy if they obtain pirated digital products by searching for and downloading pirated copies from the Internet or purchasing pirated copies in the form of compact disc (CD) or digital video disc (DVD). On the other hand, individuals commit passive piracy if they obtain pirated digital products because their friends offer to let the products be illegally copied. The difference between the two types of piracy lies in the amount of effort one spends on obtaining the pirated copies. Our overall research question is: How do an individual's need for a digital product and the price of the digital product affect his or her intention to commit piracy?

### REVIEW OF PIRACY RESEARCH

Prior research on piracy, summarized in Table 1, can be roughly classified into two categories. The first category of studies examines the piracy issue from the customers' perspective, either at an individual or a national level. By understanding which group of people is more likely to commit piracy, researchers hope to help product providers develop strategies to counteract the piracy behavior. The majority of these studies investigated the profiles of software pirates at an individual level, such as gender (Kini et al. 2000; 2004; Siponen and Vartiainen 2005), age (Gopal and Sanders 1997; Kini et al. 2000; 2004), culture (Christise et al. 2003; Kini et al. 2004), and computer experience (Sims et al. 1996; Kini et al. 2000). Researchers found mixed results for the two most frequently examined factors - gender and age. In some studies, male tend to pirate more (Kini et al. 2000; Simpson et al.

1994; Sims et al. 1996) but in other studies, there is no significant difference between the two groups (Oz 1990). Most studies concluded that younger individuals tend to pirate more (Gopal and Sanders 1997; Oz 1990). Yet results in Sims et al. (1996) indicated that older students are more likely to pirate software than the younger students. Influence of age was found insignificant in Kini et al. (2004). Apart from profiling at an individual level, some researchers conducted profiling from a national perspective. For example, Banerjee et al. (2005) correlated economic variables, such as Gross Domestic Product (GDP), to piracy rates in 53 countries.

**Table 1. Prior Research on Piracy**

Perspective	Factor	Reference
Consumers	Gender	Al-Rafee and Cronan (2006), Ang and Lo (1998), Gupta et al. (2004), Kini et al. (2000, 2004), Kwong et al. (2003), Rahim et al. (2000), Sims et al. (1996), Simponen and Vartiainen (2005), Wood and Glass (1995-1996)
	Age	Al-Rafee and Cronan (2006), Ang and Lo (1998), Gopal and Sanders (1997), Gupta et al. (2004), Kini et al. (2000, 2004), Kwong et al. (2003), Rahim et al. (2000), Sims et al. (1996), Wood and Glass (1995-1996)
	Culture	Christise et al. (2003), Kini et al. (2004), Swinyard et al. (1990)
	Product price	Oz (1990), Cheng et al. (1997)
	Income level	Gopal and Sanders (2000), Gupta et al. (2004), Kwong et al. (2003), Rahim et al. (2000), Shin et al. (2004), Sundararajan (2004)
	Willingness to pay	Gopal and Sanders (2000), Siponen and Vartiainen (2005)
	Computer experience	Sims et al. (1996), Kini et al. (2000), Rahim et al. (2000)
	Computer ownership	Ang and Lo (1998), Kini et al. (2000)
	Group pressure	Al-Rafee and Cronan (2006), Parthasarathy and Mittelstaedt (1995), Peace et al. (1996, 2003), Tang and Farn (2005)
	Need	Cheng et al. (1997), Parthasarathy and Mittelstaedt (1995)
	Other individual profiling factors:	
anti-big business attitude (Kwong et al. 2003), perceived social costs (Kwong et al. 2003), employment status (Siponen and Vartiainen 2005), perceived behavior control (Peace et al. 2003), social factor (Limayem et al. 2004), machiavellianism (Al-Rafee and Cronan 2006), weakness of will (Siponen and Vartiainen 2005), religion (Simpson et al. 1994), prior experience (Ang and Lo 1998), ethical belief (Kwong et al. 2003), cognitive and affective beliefs (Al-Rafee and Cronan 2006), moral judgment (Al-Rafee and Cronan 2006), perceived importance (Al-Rafee and Cronan 2006), cost to consumer (Nascimento and Vanhonacker 1988)		
Economic factors	Banerjee et al. (2005), Gopal and Sanders (2000), Shin et al. (2004)	
Product providers and government agencies	Education	Gopal and Sanders (1997), Oz (1990)
	Copyright enforcement	Banerjee (2003, 2006), Chellappa and Shivendu (2003), Chen and Png (2003), Conner and Rumelt (1991), Kinokuni (2003), Prasad and Mahajan (2003), Shy and Thisse (1999)
	Pricing model	Chellappa and Shivendu (2005), Haruvy et al. (2004), King and Lampe (2003), Kinokuni (2003), Sundararajan (2004)
	Compensation to providers, distribution channels	Gayer and Shy (2003), Mishra et al. (2005)

The second category of studies examines the piracy issue from the product providers and government agencies' perspective. Some investigate what preventive and deterrent mechanisms can be used to stop piracy (Gopal and Sanders 1997). For example, some researchers examined the effectiveness of ethics education on attitudes toward piracy and piracy behavior (Gopal and Sanders 1997). Other researches analyzed the impact of copyright enforcement and pricing models on costs to the product providers and the society (Banerjee 2003; Chellappa and Shivendu 2005; Chen and Png 2003). For example, results of a study suggested that an effective way to reduce piracy rate was to cut the price of digital products instead of enforcing piracy detection mechanism (Chen and Png 2003).

## THE PIRACY MATRIX

To contribute to the existing literature on piracy, we propose to examine the question of whether all pirates are potential buyers of digital products. We believe the answer of this question lies in the fact that some piracy actions are different from the others. Table 2 presents a matrix that examines an individual's intention to commit piracy. The model emphasizes that individuals' intention of illegal copying or downloading a digital product depends on their needs for the product and the price of the product.

		Price	
		Low	High
Need	Low	Passive Piracy or Do Without	Passive Piracy or Do Without
	High	Legal Purchase	Active Piracy

The matrix is comprised of four quadrants. It varies along two dimensions where one addresses an individual's need for a digital product (Low/High) and the other indicates the price of a legal copy of the digital product (Low/High). When individuals have a strong need for a digital product, they will either purchase the product or illegally copy the product. We propose that when individuals have a high level of need to use a digital product and the price of the product is low, they will purchase the product. Nevertheless, when individuals have a high level of need to use a digital product and the price of the product is high, they will have a high intention to commit active piracy. In active piracy, individuals spend substantial time and effort to search for illegal copies of the product. In the end, they would download the product illegally from the Internet or they might purchase an illegal copy of the product in the form of CD or DVD (Gayer and Shy 2003).

In some cases, individuals do not have a strong need for a product. Yet they will commit piracy if their friends offer them the product for illegal copying. Passive piracy arises when individuals have a low level of need for a digital product but the product is readily available for copying. If the level of need is low and no one offers to let it be illegally copied, individuals would just do without the product. Although the proportion of active piracy and passive piracy is unknown, we posit that the majority form of piracy is passive piracy. Individuals probably consider passive piracy to be acceptable and not as bad as active piracy because they have not played an active role in the product searching process.

### Need for a Digital Product

Literature on need can be traced back to half a century ago when Maslow (1954) proposed that all individuals have a hierarchy of needs and such needs are the motivating factors for their behavior. While a number of studies have examined Maslow's need hierarchy, only limited studies investigated the need of consumers (Amichai-Hamburger et al. 2004; Parthasarathy and Mittelstaedt 1995). The first stage in a typical consumer purchasing process is problem recognition where individuals are aware of their needs (Butler and Peppard 1998). For example, people are hungry and therefore look for food to fulfill their physiological needs. In an exploratory study, researchers concluded that the necessity to use a software is an important reason for individuals to purchase it (Cheng et al. 1997). Nevertheless, their results did not indicate whether individuals would pirate the software if the need for the products exists. It is also unclear whether individuals would pirate or not if the need to use the software does not exist. While the impact of perceived usefulness of an integrated software on individuals' propensity to pirate was examined in Parthasarathy and Mittelstaedt (1995), other studies tend to take consumers' needs for granted. Given the relative lack of prior research examining the role of consumers' need, the primary objective of this study is to explore the impact of consumers' need for a product on their purchase/piracy decisions. In this study, individuals' need for a digital product refers to the relevancy of the product to their successful completion of tasks at work or study.

### Price Level of a Digital Product

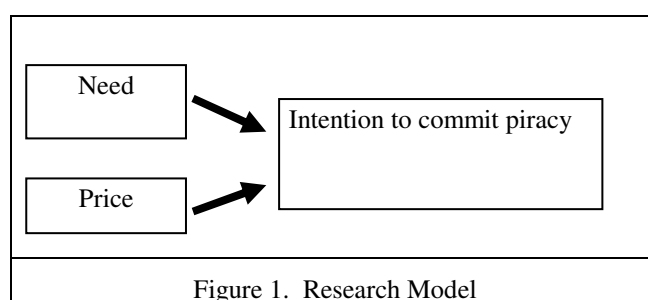
Studies indicate that product price plays an important role in consumers' decision making process. Although some studies found that individuals commit piracy regardless of the price of the software (Oz 1990), others concluded that piracy was caused by the high price of legal copies. They called for product providers to lower the price of all their products or implement some kinds of price discrimination. They found that individuals commit piracy because the price-to-income ratio is too high in some countries. This argument of individuals' inability to pay is supported in studies that examined the piracy issue from an economic perspective. Those studies concluded that piracy rate is inversely proportioned to income level of countries (Gopal and Sanders 1998). Results of a study suggested that consumers commit piracy because they feel being ripped off and have an anti-big business attitude (Gupta et al. 2004). Therefore, the higher the price of a product, the higher the piracy rate (Cheng et al. 1997; Gupta et al. 2004; Kwong et al. 2003). Nonetheless, in another study, researchers concluded that price-to-income is only part of the reason why piracy occurs. They stated that piracy rate has something to do with individuals' willingness to pay more than their ability to pay (Gopal and Sanders 2000). We believe that individuals' needs for digital products interact with the price of the product in affecting their piracy intentions.

### Intention to Commit Piracy

Intentions are "instructions that people give to themselves to behave in certain ways (Triandis 1980, p. 203). The theory of reasoned actions and the theory of planned behavior (Fishbein and Ajzen 1975) posit that an individual's intention is a strong predictor of his or her behavior, and intention itself in turn is influenced by the beliefs and perceptions. With intention as an immediate determinant of individuals' behavior, prior studies on privacy have used intention as a proxy for individuals' piracy behavior (Kwong et al. 2003; Peace et al. 2003). Similarly, we use individuals' intention to commit active or passive piracy as a proxy for piracy behavior in this study.

## RESEARCH MODEL

The theory of reasoned actions states that individuals' actions can be predicted by their intentions which in turn are affected by their perceptions. Based on the proposed piracy matrix in Table 2, Figure 1 presents the research model. The model states individuals' intentions to commit piracy as a function of their needs for a digital product and the price of the digital product. Specifically, we propose that individuals with a high level of need for a digital product for work or study will do whatever it takes to obtain the product, either legally or illegally. If they perceive the price level of the digital products to be high, they would obtain a copy illegally. On the other hand, if they perceive the price level of the digital products to be relatively low, they would obtain a copy legally. Given an opportunity, consumers with low level of needs for digital products would commit passive piracy. Otherwise, they would do without the software.



The proposed hypotheses for this study are shown below:

- H1: Intention to commit active piracy is high if the need for a product is high and the price of the product is high.
- H2: Intention to purchase a digital product is high if the need for a product is high and the price of the product is low.
- H3: Intention to commit passive piracy is high if the need for a digital product is low and the product is readily available.
- H4: Intention to do without is low if the need for a digital product is high.

Apart from the constructs in the model, data regarding individuals' demographic characteristics such as gender, age and their prior active/passive piracy experience will be collected for control purposes.

## RESEARCH METHODOLOGY

This study adopts an experiment to examine the proposed research model. A two-by-two factorial design with need and price as the factors are adopted. Four experiment scenarios (Appendix I) are designed to test individuals' intention to commit piracy. In each scenario, participants need a software to complete a task. Each scenario is presented with one of the following four combinations of factors:

- High Need and High Price
- High Need and Low Price
- Low Need and High Price
- Low Need and Low Price

Participants are randomly assigned to each scenario. Having read the scenario description, they are required to complete a questionnaire to indicate their intentions to purchase the software or commit piracy (active or passive). To confirm the manipulation is in force, participants will be asked to indicate their perceived level of need for the software and their perceived price level of the software in each scenario.

Data will be collected in two phases. In Phase 1, university students will be participants of the study. The use of students is considered appropriate because universities and colleges have been described as the "breeding grounds" for software piracy (Sims et al. 1996). In Phase 2, ordinary people will be surveyed to enhance the external validity of the research. The questionnaire will be tested in a pilot study which includes approximately 200 undergraduate students at a major university in Australia.

## EXPECTED OUTCOME AND CONTRIBUTIONS

This study is expected to show that not all piracy behavior is the same. Individuals sometimes are more determined to pirate a digital product because they have a strong need for the product. In other cases, they pirate digital products simply because the products are readily available for copying. Digital providers tend to argue that their profits suffer for each pirated copy. And that is how they calculate the amount of losses caused by piracy. No prior study has verified the legitimacy of such calculation. By distinguishing between active piracy and passive piracy, we believe that the question of whether all pirates are potential buyers of digital products can be answered. Based on the results, digital product providers and government agencies can develop strategies to curb the piracy problem. For example, they should encourage and educate the general public to not lend out their digital products for piracy purpose.

## CURRENT STATUS OF RESEARCH AND PRESENTATION AT ACIS

Currently, the literature review is completed and the experimental questionnaires are drafted. The next step is to pilot test the questionnaire. Our expectation is that we will be able to present some preliminary results based on the data collected from the pilot test.

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## APPENDIX I: QUESTIONNAIRES

### *Scenario 1: High Need, High Price*

One of the courses you take this semester requires you to obtain a software, CalnEasy, for completing your assignments. If you do not obtain the software, you will not be able to finish your assignments. The price of each legal copy of the software is \$200. Free illegal copies of the software are available on the Internet but you have to search for them.

### *Scenario 2: High Need, Low Price*

One of the courses you take this semester requires you to obtain a software, CalnEasy, for completing your assignments. If you do not obtain the software, you will not be able to finish your assignments. The price of each



legal copy of the software is \$20. Free illegal copies of the software are available on the Internet but you have to search for them.

*Scenario 3: Low Need, High Price*

One of the courses you take this semester requires you to obtain a software, CalnEasy, for completing your assignments. If you do not obtain the software, you still can finish your assignments by using the Microsoft Excel. But it will take you much longer to finish the assignments. The price of each legal copy of the software is \$200.

*Scenario 4: Low Need, Low Price*

One of the courses you take this semester requires you to obtain a software, CalnEasy, for completing your assignments. If you do not obtain the software, you still can finish your assignments by using the Microsoft Excel. But it will take you much longer to finish the assignments. The price of each legal copy of the software is \$20.

Participants are then required to answer the following items. All items were measured on a 7-point scale.

*Perceived Need\**

In this situation, my need for the software is: (very low to very high scale)

I feel that I must obtain a copy of the software. (strongly disagree to strongly agree scale)

I have a strong need for the software. (strong disagree to strongly agree scale)

*Perceived Price\* Adapted from Peace et al. (2003)*

I feel that the price of the software is: very low to very high scale.

In my opinion, the software is: very inexpensive to very expensive scale.

If I wanted to buy the software today, it would cost me a lot of money. (strongly disagree to strongly agree scale)

*Intention to purchase legal copies (Scenarios 1-4) Adapted from Limayem et al. (2004)*

I intend to purchase the software. (strongly disagree to strongly agree scale)

All things considered, it is likely that I will purchase the software. (strongly disagree to strongly agree scale)

All things considered, I expect to purchase the software. (strongly disagree to strongly agree scale)

I will purchase the software. (strongly disagree to strongly agree scale)

*Intention to do without the software (Scenarios 1-4) Adapted from Limayem et al. (2004)*

I intend to do without the software. (strongly disagree to strongly agree scale)

All things considered, it is likely that I will do without the software. (strongly disagree to strongly agree scale)

All things considered, I expect to do without the software. (strongly disagree to strongly agree scale)

I will do without the software. (strongly disagree to strongly agree scale)

*Intention to commit active piracy (Scenarios 1-2) Adapted from Limayem et al. (2004)*

I intend to search for and download an illegal copy of the software from the Internet. (strongly disagree to strongly agree scale)

All things considered, it is likely that I will search for and download an illegal copy of the software from the Internet. (strongly disagree to strongly agree scale)

All things considered, I expect to search for and download an illegal copy of the software from the Internet. (strongly disagree to strongly agree scale)

I will search for and download an illegal copy of the software from the Internet. (strongly disagree to strongly agree scale)

*Intention to commit passive piracy (Scenarios 3-4) Adapted from Peace et al. (2003) and Swinyard et al. (1990)*

If a friend offers to let the software be illegally copied, I would pirate it. (strongly disagree to strongly agree scale)

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\*To confirm the manipulated factor is in force.

If a friend offers to let the software be illegally copied, I intend to pirate it. (strongly disagree to strongly agree scale)

I wouldn't hesitate to pirate the software if a friend offers to let it be illegally copied. (strongly disagree to strongly agree scale)

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