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The Intention to Download Music Files in a P2P Environment: Rational Choice, Fashion, and Ethical Decision Perspectives¹

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Abstract

Downloading unauthorized music file is deemed illegal and immoral, but the peer-to-peer systems have boosted its popularity. Many authors attributed this phenomenon to the low morality of Internet users, but inconclusive evidence to this argument was found. Extant literature seldom noticed that downloading music files is a new mean of music consumption. People, especially young generation, might rationally choose between downloading music files and buying CDs for greater utility for enjoying and pursuing after the fashion of music. This paper presents a conceptual model of file downloading by looking at and integrating these perspectives. An analysis of 834 samples drew from a questionnaire survey of P2P users in Taiwan generally supports the above assertion.

Keywords: peer-to-peer, behavioral intention, fashion, rational decision, morality

1. Introduction

Digitalized music files, retaining almost the same quality as the original, can be reproduced, stored, and transferred at almost zero-cost. The technology of Peer-to-Peer (P2P) architecture has brought great convenience and fostered the popularity of mp3 downloading. This is quite detrimental to the music industry (Krishnan et al., 2003). Understanding why or how an intention to download develops remains one of the critical management issues for music industry. Few empirical studies, however, have investigated the antecedents of users' behavioral intention to download music files in the P2P environment (Becker & Clement, 2004). It has not been systematically analyzed in the literature (Huang, 2005).

User's unauthorized downloading of music files is probably an invasion of intellectual property. It is deemed not only illegal, but also immoral. One possible explanation of this phenomenon is the low morality of Internet users. However, previous studies reached an inconclusive conclusion (Ferrell & Gresham, 1985 ; Simpson et al., 1994 ; Thong and Yap, 1998), and was likely varied from issue to issue (Jones, 1991). It even may not be perceived as an unethical behavior at all (Logsdon et al., 1994).

Downloading of music files actually is a kind of music consumption (Huang, 2005). Consumers may be rational to some certain extent when choosing among alternative channels. Downloading music files seems to be more worthwhile than buying the original music CDs in many aspects. Consequently, an individual's intention is possibly related

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with the economical utility brought by downloading mp3. In addition, the need of pursuing fashion may affect personal behavior greatly. The appreciation of music and an individual's attitude toward the fashion are closely related. People, especially the young generation in poor financial status, may be strongly inclined to download music files to increase his identification and gain recognition among their peers. Therefore, this study conducted a survey research to test a model of economical utility, fashion, and degree of morality to explore the effects of the above factors on behavioral intention to download music.

2. Theoretical Background

Under current laws, exchanging copyrighted files is an invasion of intellectual property rights (Lessig, 2002; Von Lohmann, 2003). Many previous studies followed this thinking and focused on unauthorized copying of music. But, evidence indicated that acts of law propaganda, piracy clampdown, and teaching and implementing law systems to reduce music downloading might not be effective. Some authors further deemed this issue as a problem of consumer ethics. However, Factors affecting people's ethical decisions in the P2P environment are still unclear (Shang et al., 2005). Most of these studies were standing on the perspective of the welfare of music suppliers; motives for music consumption were almost neglected in these studies.

2.1 Music downloading and moral concepts

Music file downloading is deemed illegal and unethical. Previous studies about softlifting had found that legal factors were not the determining variables for softlifting (Reid et al., 1992; Einin and Christensen, 1991; Simpson et al., 1994). But since music downloading is illegal, a decision to act invokes in an individual's ethical dilemmas, which may affect his/her ethical decision. Some authors turned into formulating models positing determinants of ethical behavior to help reduce users' tendency to softlift. Those model can be extended and refined to enhance our understanding of the contributing factors of music files downloading (Bhattacharjee et al., 2003; Gopal et al. 2004).

Individuals face with ethical dilemma must make a decision regarding behavior about the dilemma. Process of ethical decision making has been depicted as four sequential stages, including: recognizing an issue; making a moral judgment; establishing moral intent; and executing moral actions. For an ethical decision to proceed, an ethical dilemma should be noticed. Moral intensity, the extent of moral imperative of the issue at stake, must be strong enough so that the individual is stuck in choosing among different alternatives.

Kohlberg (1984) argued that, during the process of moral judgment, different stages of moral reasoning would be applied. He believes that an individual, while growing up, will sequentially proceed through three levels of moral reasoning. People in certain developmental stage will definitely stick in a corresponding level of moral reasoning. Younger children in pre-conventional level obey rules to avoid punishments or obtain rewards. Children and teenager in conventional level conformed rules to avoid disapproval or dislike from others, or censure by legitimate authorities and resultant guilt. They become eager for the recognition from peers and hence produce a sense of conformity. Adults in post conventional level conformed rules to avoid self-

condemnation, and maintain the respect of impartial spectator judging in terms of community welfare. The degree of morality normally increased as individual utilized a higher level of moral reasoning (Trevino 1986, 1990).

2.2 Consumer utility

Economic factors had been proposed as one of the determinants of softlifting. But in previous studies, economic factors frequently referred narrowly to monetary gains or losses (Eining and Christensen, 1991; Simpson et al., 1994; Gopal et al., 2004). Nevertheless, people derive consumer utilities other than monetary gains from software consumption (Mcintyre and Miller, 1992). Consumer utility refers to the degree of fulfillment of consumers' need by the consumption behavior; it is consumers' surplus in terms of the difference between gross use value and price of software ($v-p$) in case of buying, and the difference between value and cost of pirating ($v-c$) in case of pirating. People would pirate only if utility from pirating exceeds that of buying (Conner and Remelt, 1991). Assuming that the value (v) in either case remains unchanged, then an individual will pirate if $c < p$; and vice versa. An individual will neither buy nor pirate if $v < c$ and $v < p$. Hence, they conclude that an individual's action depends upon which element of the triple $\{p, v, c\}$ is least.

Applying the above argument, utilities of mp3 and CD music are defined as consumer surplus in terms of the difference between value of music consumption such as appreciation of popular songs, and costs for acquiring music in both ways. Since the cost of downloading is undoubtedly lower than the price of CDs, most people would download music instead of buying CDs.

However, motives for music and software consumption are not the same. Music is sold for hedonistic purposes. Customers care more about its experiential value derived from perceptions such as playfulness, aesthetic, etc. The value of music varies from people to people. Besides, the values of downloaded music and copyrighted CDs are not the same. For example, an individual will be allowed to join the fans' club only if he/she buy CD album. These conditions make cost of downloading probably not the least element of the triple $\{v, p, c\}$. The above assertion should therefore be further refined and elaborated.

First of all, consumers frequently complain music CD is expensive and/or not so useful, they may even perceive a negative utility ($v-p < 0$). In worst case, music is so useless that $v-c$ is also perceived to be near zero. But since cost of downloading is still the least of the triple $\{v, p, c\}$, people may still act to download a huge amount of music even though such music is of no use. Since the value of downloaded music may not be the same with that of CDs, the utility of mp3 music may only be a little bit higher than that of CDs; sometimes the former may even be less than the latter. Assuming people are rational, it is reasonable to assert that the higher difference between mp3 utility and CD utility, the higher an individual's propensity to download mp3 music.

2.3 Fashion

Social influences from peers have been found to induce unethical behavior (Jones and

Kavanagh, 1996). Music downloading and consumption are voluntary behaviors, and are viewed by many people as a symbol of “wired lifestyle”. Hence, we assumed that music downloading and consumption are fashionable behaviors, and used the fashion involvement to conceptualize the effects of social influence.

Fashion influences and operates in many areas of life. Fashion is the process of adopting symbols primarily to provide the individual an identity relative to others (Reynolds, 1968). Sproles(1979) defined fashion as “a way of behaving that is temporarily adopted by a discernible proportion of members of a social group because that chosen behavior is perceived to be socially appropriate for the time and situation”. In a certain period, an object conveying meaning for social identity diffused through a group and adopted by members of that group gradually becomes socially appropriate for that period.

Mcintyre and Miller (1992) found that, for products conveying social utility featuring benefits that satisfy interpersonal needs, fashion is a prime antecedent of customers’ preferences of such products. The preferences of products are, in part, influenced by the social identity statement resides in a products owned by an individual’s referenced peers (Miller et al., 1993). Peers set standards; people learn behavior from association of group (Jones and Kavanagh, 1996). An individual, especially the teenager, conforms those standards to avoid disapproval or dislike from others (Kohlberg, 1984).

Music is a fashionable product with abundant social utility. People who highly involve with fashion are very easy to carry out herding behavior (Gurel et al., 1972; Evans, 1964; Smucker and Creekmore, 1972). Many people have a desire to be perceived as up-to-date, hence are more apt to adopt and infuse into the latest trends in the society. Individuals with strong desire to be stylish may tend to check trends adopted by others more frequently, thus may have higher possibility to be influenced by their peers (Miller et al, 1993).

3. Research Method

3.1 Research Model and Hypothesis

Figure 1 depicts the research model of this study. It discloses the role of fashion, utility, differences of utility, and degree of morality in shaping the behavioral intention to download music files. Utility is the consumer's overall assessment of the value of a product after weighing “gains” and “gives” (Zeithaml, 1988, p. 14). It seems that, from the point of appreciating music, the values of mp3 and CD are equivalent. However, P2P may offer additional value (such as sharing with friends) but decrease the cost of acquiring music greatly. Assuming people is value maximizer, after comparing the CD price, music value and acquiring cost, the greater utility is perceived, the stronger the downloading intention should be. Hence, we proposed that:

H1. *The perceived utility of downloaded music is positively related to the behavioral intention to download.*

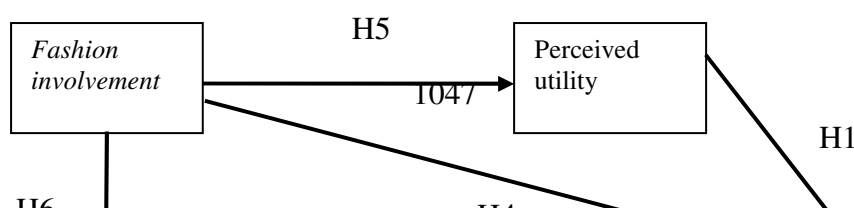


Figure 1. Research model of the study

Practically, buying CDs may bring greater value other than enjoying the music such as the privileges to attend fans' club, and may not suffer some costs from downloading music. For example, a good quality mp3 player may be more expensive than a CD player with about the same quality. Taking into account the "gains" and "gives" of these two different approaches for music consumption, the utility of CDs may be, and may not be better than downloaded music. For people with high rationality, the intention to download may be low if utility of downloading is not higher than that of buying CDs, even if the former is lofty. Hence, we propose that:

H2. The perceived differences of utility between downloaded music and CDs are positively related to the behavioral intention to download.

Though some people may perceive music downloading as unethical, an individual with higher moral thinking will relatively commit more importance to principled reasoning in making a decision about moral dilemmas, hence may view music downloading as more unethical than those who were not. Many previous studies found a direct relationship between higher moral reasoning and higher incidents of ethical behavior (Bommer et al., 1987; Eining & Christensen, 1991; Tan, 2002). Hence, we propose that:

H3. The perceived difference of morality is negatively related to the behavioral intention to download.

Because of the extensive advertising and reports in the mass media, downloading music may now be seen as a symbol of the new life style and a socially appropriate behavior. People who highly involve with fashion carry out behavior of conformity easily (Gurel, Wilbur, and Gurel, 1972 ; Evans, 1964 ; Smucker and Creekmore, 1972), and may tend to check trends adopted by others more frequently. Thus, they may have higher possibility to be influenced by their peers (Miller et al, 1993). Hence, we propose that:

H4: The degree of fashion involvement is positively related to the behavioral intention to download.

Many values other than appreciation of music can only be found from downloading music files. For example, abundant information provided by P2P systems regarding fashion of music may help a person keep in trends; abundant collection of music may

help a person communicate with and conform to peers more easily; and P2P provides a easier, faster, and cheaper way of collecting music, especially for marvelous, rarely found music such as vanished historic recording. Except for the utilitarian value, the symbolic meaning attached to music provides more values to people (Miller et al., 1993). These values may raise the utility of downloading music to increase the utility difference. However, these values may be meaningful only when people are highly involved with fashion. Hence, we propose that:

H5: The degree of fashion involvement is positively related to the perceived utility of downloaded music.

H6: The degree of fashion involvement is positively related to the perceived difference of utility between downloaded music and CDs.

3.2 Measures

The scales for the constructs were revised from previous studies for the context of music downloading. The research collects cross-sectional data of all variables by the questionnaire survey. All the items mentioned above, except for the demographic information of the subjects, utility difference and the perceived morality, were measured on a five-point Likert-type scale.

The perceived morality measures the subjects' developmental status located in a continuum of morality. Generally, Defining Issues Test (DIT) is a simple, reliable, and frequently used scale (Rest, 1986). DIT presents six stories and each story contains twelve issues regarding a hypothetical dilemma for the subject to rate their degree of importance. The subject also has to rank four most important issues of each story. Then, the score P is computed. At least three stories from DIT have to be used in an empirical study. To avoid a lengthy test, only three DIT recommended stories of "Heinz and the drug," "Escaped prisoner," and "Newspaper" were used.

The measurements for perceived utility and utility difference are based on Conner & Rumelt (1991). Thirteen five-point Likert-type items were used to measure the utility. To reflect and compare the difference of utility between two ways of acquiring music, thirteen items of seven-point semantic differential scale were used. The measurements for intention to download are drawn from Swinyard et al. (1990) and Yogesh and Dennis (1999). Items were rewritten to specify using the system to download music instead of software piracy. The measurements for fashion involvement are based on Miller et al. (1993) and Shang et al. (2005).

To ensure the content and face validity, some master students and representative Internet users were asked to review our questionnaire. Then, a discussion was conducted to evaluate the content, wording, operationalizations of the questionnaire. The questionnaires were further refined and elaborated according to their opinions. 174 representative respondents, ranging from 13 years old to 50 years old, were invited to participate in a pre-test. Analysis of the sample indicated that the revised questionnaires resulted in high reliability and validity.

3.3 Data collection

A survey research was conducted to test the research model. Stratified sampling method was employed for two purposes. First of all, this study must collect sample in different stage of moral development. Secondly, we want to improve the external validity. Hence, sample's distribution of age was chosen to be similar to that of the populations of Kuro, the biggest P2P community in Taiwan with over 500,000 members. In each of the stratifications, convenient sample was drawn. The data collection lasted for a period of two weeks.

4. Analysis of results and research findings

A sample of 1300 was drawn, and a total of 1239 surveys were returned, for a response rate of 95.31%. 132 unusable questionnaires were excluded. According to Rest (1986), the Consistence Check and the M score are two indicators of usability of a subject's P score. 274 questionnaires didn't pass the above tow tests. This left 834 valid questionnaires.

4.1 Measurement model

The reliability and validity of our measurement model were tested by exploratory factor analysis and Cronbach's α . The results of the Bartlett's Test of Sphericity and the KMO (Kaiser-Meyer-Olkin) test of sampling adequacy reveal that our measurement model is appropriate for factor analysis (Hair et al., 1995). A principal components analysis with orthogonal rotation by varimax method was conducted. Table 1 presents the factor structure for behavior intention and fashion. Two factors with eigenvalues larger than one were extracted. All the items were loaded in the predicted factor and the reliabilities equaled to 0.85, and 0.71 respectively.

Table 1 Factor structure and reliabilities for the constructs of behavior intention and fashion

	Intention	Fashion	Cronbach's α
P21	0.825	0.122	0.85
P18	0.819	—	
P19	0.791	—	
P20	0.755	—	
P22	0.729	0.162	

P15	—	0.801	0.71
P17	0.153	0.670	
P13	0.120	0.654	
P16	—	0.609	
P14	—	0.603	

Item P30 of utility was dropped because the difference between the largest score factor loading of this item and the second was less than 0.1. Four factors with eigenvalues larger than one were extracted. The reliabilities of the four factors equaled to 0.78, 0.81, 0.74, and 0.73 respectively (table 2). In addition, item P43 and P47 of utility difference were dropped because the difference between the largest score factor loading of these items and the second were less than 0.1. P39 was further dropped to increase the Cronbach's α . Three factors with eigenvalues larger than one were extracted (table 3). The reliabilities of the three factors equaled to 0.71, 0.80, and 0.74 respectively.

Table 2 Factor structure and reliabilities for utility

	component				eigenvalue	Cronbach's α
	1	2	3	4 ^b		
P28	0.840	—	0.209	—	4.531	0.78
P29	0.804	0.193	—	0.130		
P26	0.700	0.139	—	0.213		
P27	0.607	—	0.314	0.185		
P33	— ^a	0.838	0.200	0.173	1.479	0.81
P31	0.118	0.807	—	0.115		
P32	0.201	0.785	0.205	0.121		
P35	0.157	0.124	0.783	0.173		
P36	0.190	0.206	0.765	—	1.212	0.74
P34	0.143	0.145	0.746	—		
P24	0.232	0.161	—	0.842	1.012	0.73
P25	0.148	0.200	0.211	0.820		

a: Suppress absolute values < 0.1
 b: Cumulative explained variance: 68.62%

Table 3 Factor structure and reliabilities for difference of utility

	Component			eigenvalue	Cronbach's α
	1	2	3 ^b		
P48	0.736	0.147	0.252	3.741	0.71
P49	0.670	— ^a	—		
P37	0.652	0.260	0.225		
P38	0.621	0.118	—		
P40	0.568	0.183	0.265	1.347	0.80
P45	0.181	0.856	0.134		
P46	0.195	0.841	0.180		
P44	0.124	0.760	—		
P41	0.178	—	0.867	1.064	0.74
P42	0.174	0.169	0.836		

a: Suppress absolute values < 0.1
 b: Cumulative explained variance: 61.52%

4.2 Hypotheses testing

The causal structural model was tested using Structural Equation Modeling (SEM). However, the construct of morality has been measured with only one item. Following Kline (1998), the variance of this latent variable's measurement error term is fixed to equal 0.20 times P scores' observed variance; and the loading of P score is fixed to 1. Maximum likelihood estimation is employed for model fitting. The goodness-of-fit indices for this model, shown in Table 4, indicated a moderate fit between the structural model and the data. As shown in figure 2, the t statistics for path between morality and intention, and path between fashion and intention are not significant. The summary of the hypotheses tests is presented in table 5. The above findings indicate that morality and fashion involvement have no direct effects on the unethical behavior of music downloading (H3, H4 were rejected). However, subjects' behavioral intention to

download music files is influenced by their fashion involvement, mediated by their rational consideration for greater utility (H1, H2, H5, H6).

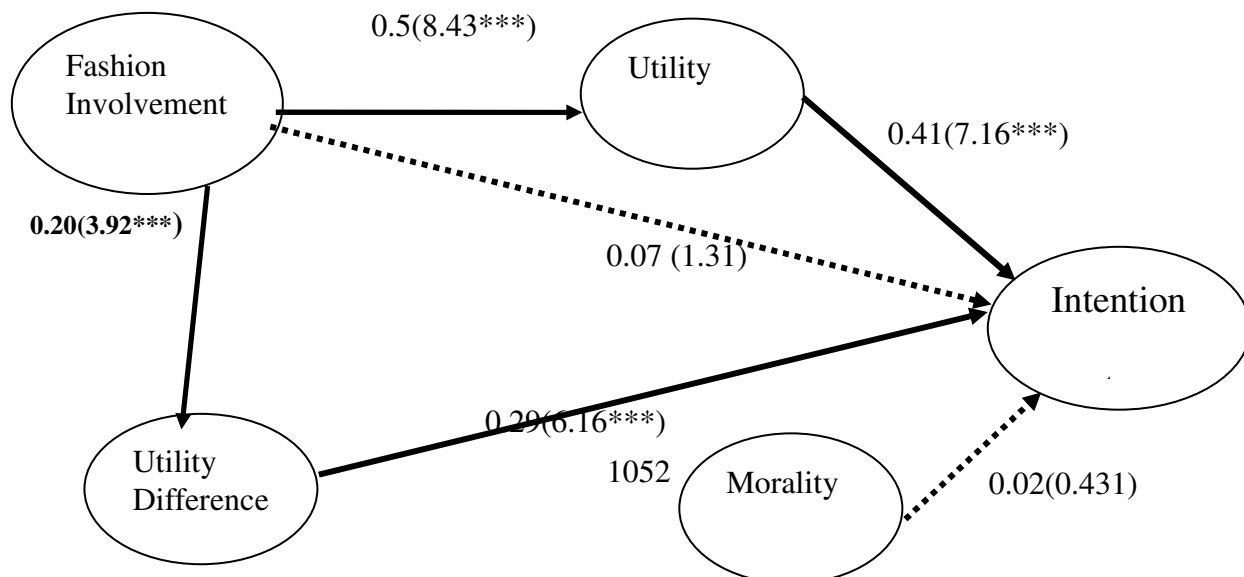
Table 4. Fit measures for the SEM

Fit Indicators	Criteria of good fit	Results
Chi-square	$P \geq 0.05$	958.29($P \leq 0.00$)
Chi-square/df	≤ 3	7.4
GFI	≥ 0.9	0.90
AGFI	≥ 0.8	0.86
NFI	≥ 0.9	0.88
NNFI	≥ 0.9	0.87
CFI	Close to 1	0.89
RMR	≤ 0.05	0.092

5. Conclusion and Discussion

The results of test of the model indicate that a comparison of the economical utility between downloading music files and buying a music CD greatly influence users' behavioral intention. Coincide with the argument of Conner and Rumelt (1991), consumers are essentially value maximizers when choosing between buying and downloading music. Interestingly, the evaluation of the economical utility is influenced by one's need to pursue an image of fashion. This result indicates that people are selective in downloading mp3. It's meaningless for them to download music, say a classical symphony, not in their beloved trend like Hip-Hop.

The degree of morality is not related with behavioral intention to download music files. Resources in the P2P environment are deemed by many people as public goods to bring more welfare to the whole society (Stallman, 1995). Downloading music files therefore is probably deemed not so unethical under the ideology of freeware. Individual with ideology of consumer rights, a belief in the basic requirements of consumers being satisfied in a fair transaction, might argue that an invasion of intellectual property rights is a conclusion derived from extant economic systems. The big music companies today may have earned rent from their control of the distribution channel of music. Consumers should have the right to buy just the music they like, instead of buying a CD with unfavorable and/or ill produced songs. People downloading music files may only chase a better utility that can't be offered in current economic systems.



Chi-square= 958.29 df= 129 p-value= 0.00000 RMSEA= 0.088

Note: Path Coefficient (t value), * Significant at 0.05, ** Significant at 0.01, *** Significant at 0.001

Dotted line means not significant

Figure 2 Results of the structural model and hypotheses test

Table 5 Summary of path coefficients and hypotheses tests

Hypothesis	Path coefficient	T value	Support
H1: U→Download	0.41	7.16***	Yes
H2: UD→Download	0.29	6.16***	Yes
H3: M→Download	0.02	0.431	No
H4: FI→Download	0.07	1.31	No
H5: FI→U	0.50	8.43***	Yes
H6: FI→UD	0.20	3.92***	Yes

Note: * Significant at 0.05, ** Significant at 0.01, *** Significant at 0.001

The results of this study have implications for practitioners. Consumers rationalize their behavior by norms not regulated by the current economic systems to choose a channel with higher utility. To attract customers, companies should try their best to apply and realize the benefits of the new technology to increase their consumers' utility in music consumption and satisfy customers' need of fashion. The design of the content and meaning of CD albums should coincide with the metaphor of the latest trend and emotional needs for a sense of belonging to that trend. Companies may even try their best to manipulate the trace of fashion to create an image of fashion architect. The utility of music CDs can be adapted via improving its value, decreasing its cost, or increasing the costs of mp3 music. For example, companies can provide multiple and free choices in reasonable prices (Gopal et al., 2004; Bhattacharjee et al., 2003) to their customers. The success of iTunes may firmly support the above idea.

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