

COMPARISON OF ATTITUDES TOWARDS DIGITAL PIRACY BETWEEN DOWNLOADERS AND NON-DOWNLOADERS

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ABSTRACT

This study investigates the difference perspectives between downloaders and non-downloaders towards digital piracy by using multiple regression analysis. A number of implications for businesses will be discussed, suggestions for future research are reviewed and the main contributions of the study will also be delineated.

Keywords: Downloaders, Non-downloaders, Neutralization theory, Theory of planned behavior (TPB), Digital piracy.

INTRODUCTION

Digital piracy is phenomenally widespread in games, music and movies (Karaganis, 2011; Kariithi, 2011; Masanell & Drane, 2010). Digital piracy has been increasing recently and it worries the media industry that digital piracy has been encouraged by the ever-increasing reach of high-speed broadband Internet access (Das, 2008; Dejean, 2009; Liebowitz, 2008). More alarmingly, consumers who commit digital piracy do not perceive the act as a crime (Smith & Telang, 2010; Meissner, 2011). In reality, digital piracy violates the copyright infringement law (Meissner, 2011) because it is stealing intellectual property rights. Downloading pirated digital products from the Internet without paying for them is morally incorrect and ethically no different from shoplifting (Blasi, 1980; Hyman, 2006). However, research has also found that the Internet facilitates digital piracy because it is easy to perform, bridges transnational gaps and allows for anonymity, thereby creating a sense of a “victimless crime” (Wall, 2006; Lysonski & Durvasula, 2008).

The decision to engage in the piracy of games, music, and movies from the internet can be related to a number of decision making factors including economic, legal, ethical network and internet users' behaviour aspects (Coyle, Gould, Gupta, & Gupta, 2009; Meissner, 2011). According to Chen, Shang, and Lin (2008), hundreds of thousands more Australians have turned to illegal download sites in the past year to save money on movies, music, software and TV shows during the economic downturn. For example, the most popular movie – Watchmen – was downloaded 17 million times through Torrent site (Cellan-Jones, 2009). For instance in games piracy, Spore has been sabotaged by a gamer multitude that downloaded the games via file sharing networks more than 171,000 times within days of its release (Dyer-Witthford & de Peuter, 2009). At the same time, peer to peer networks support, high-speed internet connections and inexpensive and bigger media storage capacity are the three factors that have also opened the opportunities to illegal downloading and digital piracy (Cronan & Al-Rafee, 2008; Meissner, 2001; Pouwelse, Garbacki, Epema, & Sips, 2005; Terrell & Rosen, 2003).

Digital piracy has created a big loss to media industry. For example, in 2005, LEK Consulting estimated that internet piracy accounted for \$92 million lost revenues for the film industry in Australia and it will threaten the jobs of close to 50,000 Australian employers in film and television industries in the future (Australian Federation Against Copyright Theft (AFACT), 2007). For instance in games piracy, the global report indicates a loss of between \$1 billion and \$3 billion annually for games industry (Hyman, 2006; GI: Game Industry Biz, 2008).

This paper reports on comparison of downloaders and non-downloaders perspectives in digital piracy based on personal factors and social factors. Habitual conduct, social factors, facilitating conditions, self-efficacy, affect and moral judgement are the six antecedents factors that will be adopted in this study as it has been utilized to measure digital piracy by other researchers (Limayem, Khalifa and Chin, 2004; Nandedkar & Midha, 2012 ; Tan, 2002; Zhang, Smith and McDowell, 2009; Triandis, 1980). Theory of planned behaviour, self-control theory, and neutralization theory will be used as theory foundations to explain the research model in this study. As such, the main objective of this study is to conceptualise a model to understand this phenomenon better. Specifically it examines the relationship between six antecedent factors (social factors, facilitating conditions, habitual conduct, self-efficacy, affect and moral judgement) and attitudes towards digital piracy based on downloaders' perspectives and non-downloaders' perspectives.

RELEVANT LITERATURE, THEORY AND HYPOTHESES

There is no study have been done about downloaders and non-downloaders perspectives in digital piracy especially in Western Australia as the research gaps for this study. Several concepts from previous digital piracy studies will be used to construct the model for this study. According to Walls (2008), the previous research indicates that social factors have a positive relationship with digital piracy. Using theory of Planned Behavior, Peace, Galleta, and Thong (2003) found that individual attitudes, subjective norms and perceived behavior control were all significantly related to the intention to commit digital piracy with attitude being the strongest predictor. By adopting the Triandis (1980) model,

Limayem, Khalifa, and Chin (2004) found that various factors (social factors, habitual conduct, and facilitating conditions) except affects have significant influences upon both the intention to engage in digital piracy and actual digital piracy behavior. According to Shin, Gopal, Sanders, and Whinston (2004), sociological factors have more influence upon digital piracy than economic factors. Banerjee and Cronan (1998) also found that individual and situational (social) characteristics influence upon the intention to indulge in digital piracy. Hence, this study will use personal factors and social factors to measure the attitudes towards digital piracy.

Self-Control Theory - Self-control theory suggests that self-control is the principle causal factor for all crimes (Gottfredson & Hirschi, 1990). It is argued that individuals who are subjected to poor or ineffective parenting practices (i.e., no emotional attachment, a lack of monitoring, no recognition of deviant behaviour, and the use of corporal punishment) are likely to have low self-control (i.e., the inability to foresee the long-term consequences of a behaviour) and are likely to perform criminal behaviour when an opportunity presents itself (Higgins, 2005; Higgins, Wolfe, & Ricketts, 2009). Higgins and his colleagues (e.g. Higgins, Fell, & Wilson, 2006; Higgins et al., 2009; Morris & Higgins, 2009; Wolfe & Higgins, 2009) applied this theory in the context of digital piracy and found that low self-control is significantly related to digital piracy. Higgins, Fell and Wilson (2007) found that college students who have a low level of self-control will have higher intentions to indulge in digital piracy.

It is expected that low-self-control will have a link to digital piracy because it is easy to perform and no-one is being harmed. Although digital piracy is not a physical act, the

sense of thrill, excitement and risk still affect the individuals who indulge in it (Higgins et al., 2006). The reason downloaders normally have low self-control is that no-one restricts their illegal behavior.

Neutralization Theory - The neutralization theory (Sykes & Matza, 1957) has been used to explain a number of criminal behaviours such as digital piracy in the context of this study.

Existing literature found that digital piracy offenders do not view piracy as being illegal or unethical (Hinduja, 2006; Ingram & Hinduja, 2008; Morris & Higgins, 2009; Peace et al., 2003). This finding can be explained by using neutralization theory which postulates that individuals are able to neutralize their wrongdoing by justifying their illegal actions as a “normal” act (Hinduja, 2006). Down-loaders normally give excuses such as “it is not my fault to download it for free”, “all my friends are doing it”, “the media industry will not lose too much”, “the producer of digital products still make revenue from other sources”, or “I don’t have time to go to the retailers to purchase the digital products so I download it”. Clearly these are good examples of the attributes of neutralization theory in digital piracy.

Claim of normalcy (“everyone in the society is engaging in digital piracy”), The claim of relative acceptability (“Engaging in digital piracy will not murder anyone; people engage in much worse activity than this”), condemnation of the condemners (“how dare the media industries claim that down-loaders are not ethical and it is an illegal activity when they charge their products with high price”), appealing to higher loyalties (“Engaging in digital piracy will give benefit to the individuals in the society to have a chance to enjoy

media (e.g. movies, games or music) entertainment”), and metaphor of the ledger (“All digital files that I downloaded illegally were enjoyed by everyone in the society so I am a decent person”) are all the attributes in neutralization theory that examine digital piracy behaviours.

Theory of Planned Behavior - Theory of Planned Behavior (TPB) (Ajzen, 1985, 1991) is a well-recognized model that can help understand and explain the behavioral aspects of unethical downloaders in digital piracy (Cronan & Al-Rafee, 2008; East, 1992; King, Dennis, & Wright, 2008; Peace et al., 2003; Wells, Ponting, & Peattie, 2011). According to Morton and Koufteros (2008, p. 491), attitudes towards digital piracy, subjective norms and perceived level of control in individuals were the factors that led to the intention to commit online piracy. In order to gain an initial exploratory understanding of the digital piracy phenomenon based on downloaders and non-downloaders perspectives, this paper uses the wide model view of rational choice (see Figure 1).

~Insert Figure 1 about here ~

Habitual conduct - According to Triandis (1980), “habitual conduct is situation-behavior sequences that have become automatic and occur without self-instruction”. An individual’s behavior and attitudes are affected by habitual conduct because it is a function of an individual’s past experience and the ability to accomplish specific tasks (Limayem et al., 2004). As such, the following hypothesis:

H1a(b): *Based on downloaders’ perspectives (non-downloaders’ perspectives), there is positive relationship between habitual conduct and attitudes towards digital piracy.*

Affect - According to Triandis (1980), affect refers to “an individual’s feeling of joy, elation, pleasure, depression, dictate, discontentment, or hatred with respect to a particular behavior”. The literature has shown evidence that there is a profound and substantial relationship between affect and attitude. In the context of this study, the items of affect such as wise, exciting, amusing and pleasant (Limayem et al., 2004), are likely to have a positive influence upon the attitudes towards digital piracy. Thus, the following hypothesis:

***H2a(b):** Based on downloaders’ perspectives (non-downloaders’ perspectives), there is a positive relationship between individuals’ affection toward digital piracy and their attitudes towards digital piracy.*

Moral Judgement - Moral judgement has been used extensively to predict ethical judgement and attitude (Al-Rafee & Cronan, 2006; Caruana, 2007; Mitchell & Chan, 2002). Studies in cognitive moral development have consistently affirmed a direct relationship between higher stage of moral judgement and higher occurrence of downloading pirated games from the Internet in this context (Blasi, 1980; Tan, 2002). Several studies have also found that moral judgement has a strong connection with digital piracy (Blasi, 1980; Higgins & Makin, 2004; Higgins et al., 2006; Wolfe & Higgins, 2009), that is, the intention to indulge in digital piracy will decrease if the moral beliefs are stronger. Hence, the following hypothesis is proposed:

***H3a(b):** Based on downloaders’ perspectives (non-downloaders’ perspectives), there is a negative relationship between moral judgement and attitudes towards digital piracy.*

Self Efficacy - Self efficacy is the “beliefs in one’s capabilities to organize and execute the courses of action required producing given levels of attainment” (Bandura, 1998). Self efficacy in this study refers to individuals’ judgement of their capability to engage in digital piracy behavior in various situations especially technological capabilities (Zhang, Smith, & McDowell, 2009). Individuals, who are involved in digital piracy behavior, should know how to access pirated digital files that can be downloaded for free by using software or direct download access to the Internet. In addition, an individual with high level of self efficacy will have small chance to get caught (Krueger & Dickson, 1994). Therefore, individuals who intend to engage in digital piracy should perceive themselves capable of doing the tasks aforementioned. As such, the following hypothesis is proposed:

***H4a(b):** Based on downloaders’ perspectives (non-downloaders’ perspectives), there is a positive relationship between self-efficacy and attitudes towards digital piracy.*

Social Factors - According to Limayem et al. (2004), social factors can be defined as those norms, roles and values at the societal level that influences an individual’s intention to download pirated games from the Internet. In the context of this study, the norms and values that are conveyed through interaction with friends, colleagues, and family members such as comments, suggestions or directives are all examples of social factors (Limayem et al., 2004). In such instances, the influence of social norms on personal behavior is positively related. As such, the following hypothesis proposed:

***H5a(b):** Based on downloaders’ perspectives (non-downloaders’ perspectives), there is a positive relationship between social factors and attitudes towards digital piracy.*

Facilitating Condition - Facilitating conditions can be defined as those factors in an individual's environment that facilitate the act of downloading pirated games from the Internet. These include the absence of penalties for illegal downloading, availability of pirated digital products (e.g. games, music, and movies) to download for free, and the absence of a code of ethics (Limayem et al., 2004; Triandis, 1980). Similarly, Cheng, Sims, & Teegen (1997) found that the low risk of being caught and the ease of piracy are among the main factors that facilitate piracy. As such, the following hypothesis:

***H6a(b):** Based on downloaders' perspectives (non-downloaders' perspectives), there is a positive relationship between facilitating conditions and attitudes towards digital piracy.*

RESEARCH OBJECTIVES

Based on the hypotheses, the research objective of this study is to compare between downloaders' perspectives and non-downloaders' perspectives towards digital piracy by using multiple regression analysis.

RESEARCH METHODOLOGY

Data Collection and Survey Instrument

The survey instrument was designed and distributed to a sample of internet users in a large university setting. The data collection was conducted over a four week period. The survey took place at various times in the day to achieve a broad cross-section of the population.

All of the scales have been used in previous research. The first section of the survey instrument comprised three filter questions to differentiate downloaders and non-downloaders. The questionnaire comprised a 5-item scale to measure habitual conduct

(Limayem et al., 2004), a 4-item scale to measure self-efficacy (Zhang et al., 2009), a 3-item scale to measure social factors (Limayem et al., 2004), a 6-item scale to measure affect (Limayem et al., 2004), a 5-item scale to measure facilitating conditions (Limayem et al., 2004), a 4-item scale to measure moral judgement (Tan, 2002), and a 4-item scale to measure attitude towards digital piracy (Plowman & Goode, 2009). All items in second and third sections were measured on a 7-point Likert scale, with 1 representing 'strongly disagree' and 7 representing 'strongly agree'. Relevant issues were revised and amended from the feedback of reviewers before the survey instrument was distributed to the actual sample.

Samples

409 usable responses were used in the analysis. According to respondents' answer in the filter question, the two groups were established. On this basis, 235 respondents were classified as "downloaders" and 174 respondents were categorized as "non-downloaders".

~ **Insert Table 1 about here** ~

RESULTS AND ANALYSIS

An exploratory factor analysis was conducted on all variables in the study and it shows that there is no overlapping among all variables, followed by a reliability check. As reflected, all scales exhibit a high degree of reliability with the Cronbach α above 0.70 (Nunnally, 1978).

Regression Analysis

~ **Insert Table 2 about here** ~

Downloaders - Multiple regressions analysis was used to test hypotheses 1-6 in this study. The result of multiple regression had shown that “affect” ($\beta = 0.473$, adjusted $R^2 = 0.542$, Sig. = 0.000), “facilitating condition” ($\beta = 0.173$, adjusted $R^2 = 0.542$, Sig. = 0.001), and “self-efficacy” ($\beta = 0.224$, adjusted $R^2 = 0.542$, Sig. = 0.000) had a significant positive relationship with “attitude towards digital piracy” ($F = 47.193$, $P < 0.01$, Adjusted $R^2 = 0.542$). In addition, “moral judgement” ($\beta = -0.185$, adjusted $R^2 = 0.542$, Sig. = 0.000) had a significant negative relationship with “attitude towards digital piracy” ($F = 47.193$, $P < 0.01$, Adjusted $R^2 = 0.542$). Therefore, H2a, H3a, H4a and H6a were accepted. Conversely, “Habitual conduct” ($\beta = -0.055$, adjusted $R^2 = 0.542$, Sig. = 0.474) and “social factors” ($\beta = 0.056$, adjusted $R^2 = 0.542$, Sig. = 0.370) do not have significant impact on “attitude towards digital piracy” ($F = 47.193$, $P < 0.01$, Adjusted $R^2 = 0.542$). Therefore, H1a and H5a are rejected.

~ Insert Table 3 about here ~

Non-downloaders - The result of multiple regression had shown that only “affect” ($\beta = 0.658$, adjusted $R^2 = 0.612$, Sig. = 0.000) had a significant positive relationship with “attitude towards digital piracy” ($F = 45.110$, $P < 0.01$, Adjusted $R^2 = 0.612$). Therefore, H2b was accepted. Conversely, “habitual conduct” ($\beta = 0.100$, adjusted $R^2 = 0.612$, Sig. = 0.162), “social factors” ($\beta = -0.099$, adjusted $R^2 = 0.612$, Sig. = 0.185), “moral judgement” ($\beta = -0.164$, adjusted $R^2 = 0.612$, Sig. = 0.023), “facilitating condition” ($\beta = 0.058$, adjusted $R^2 = 0.612$, Sig. = 0.349) and “self-efficacy” ($\beta = -0.048$, adjusted $R^2 = 0.612$, Sig. = 0.418) do not have significant impact on “attitude towards digital piracy”

($F= 45.110$, $P < 0.01$, Adjusted $R^2 = 0.612$). Therefore, H1b, H3b, H4b, H5b and H6b are rejected.

DISCUSSION AND IMPLICATIONS

On behalf of downloaders' perspective, the results show that "self-efficacy", "affect" and "facilitating conditions" have a positive impact on "attitudes towards digital piracy". It is clear that downloaders feel that the act of digital piracy is excited, wise and valuable. This finding also indicates that it is essential for downloaders to have a high level of self-efficacy to engage the act of digital piracy. In addition, "facilitating conditions" also plays an important role to support downloaders to indulge in digital piracy. Another result of downloaders' perspective indicates that "moral judgement" has a negative influence upon "attitudes towards digital piracy". It is clear that downloaders do not have any ethical concerns about their illegal acts. According to the self-control theory, downloaders must be individuals who have low self-control because no-one restricts their participation in illegal activities (e.g., inappropriate anti-piracy measures in Australia). These findings also validate the concept of the neutralization theory, especially the claim of the normalcy technique (treating an illegal activity as a normal activity). Therefore, authorities should have more aggressive action to catch the illegal downloaders by tracking their IP address from Internet provider and harsher with the punishment (i.e. high fines or jails) to reduce the piracy rate in Australia (Goel & Nelson, 2009). As such, authorities also should create internet gatekeeper to block all illegal websites that provide free pirated games or movies or music.

According to non-downloaders' perspectives, the results only implicate that "affect" has a significant influence upon "attitudes towards digital piracy". It indicates that non-downloaders feel excited, valuable and wise to indulge in digital piracy; however, non-downloaders do not engage in digital piracy because it needs more expertise and aware that it is unethical to indulge in digital piracy. Non-downloaders also have friends or colleagues who indulge in digital piracy and share the downloaded media files with them. Based on self-control theory, this finding shows that non-downloaders have a better self-control than downloaders for not engaging the act of digital piracy; however, they treat digital piracy as "a normal activity" as it validates "claim of normalcy" concept in neutralization theory. Therefore, these justifications can be used to explain why non-downloaders do not engage in digital piracy. As such, non-downloaders are easier to be controlled by authorities for not engaging in digital piracy, such as authorities just need to invoke the guilt factor by advertising anti-piracy campaigns to the public to change the minds of non-downloaders who want to indulge in digital piracy since they have high ethical concern.

CONCLUDING COMMENTS

According to downloaders' perspectives, it was found that "self-efficacy", "affect", "moral judgement", and "facilitating conditions" are strong predictors of "attitude towards digital piracy". In the other hand, only "affect" has a significant influence upon "attitudes towards digital piracy" according to non-downloaders' perspectives. Further exploration using qualitative approaches is needed to investigate more in-depth of others factors that may influence upon the individuals to indulge in digital piracy to provide

deeper insights. Other future directions can include a cross cultural comparison between a developed and developing country as to whether there are varying levels of cultural background and different level of technology development. The sample size for this study can also be extended to different demographic groups.

REFERENCES

- Australian Federation against Copyright Theft (AFACT). (2007). *Internet piracy*. Retrieved November 4, 2009, from http://www.afact.org.au/moviethieves_internet.html/
- Al-Rafee, S. & Cronan, T.P. (2006). Digital piracy: Factors that influence attitude towards behavior. *Journal of Business Ethics*, 63, 237-259.
- Azjen, I. (1985). *From intentions to actions: A theory of planned behavior*. Action-Control: From Cognition to Behavior. Heidelberg, Springer.
- Azjen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50, 179-201.
- Bandura, A. (1998). Health promotion from the perspective of social cognitive theory. *Psychology and Health*, 13, 623-649.
- Banerjee, D., & Cronan, T.P. (1998). Modelling IT ethics: A study in situational ethics. *MIS Quarterly*. 22(1), 31-60.
- Blasi, A. (1980). Bridging moral cognition and moral action: A critical review of the literature. *Psychological Bulletin*, 88(1), 1-45.
- Caruana, R. (2007). Morality and consumption: Towards a multidisciplinary perspective. *Journal of Marketing Management*, 23(3-4), 207-225.
- Cellan-Jones, R. (2009). *File-sharers' TV tastes revealed*. Retrieved November 4, 2009, from <http://news.bbc.co.uk/2/hi/technology/8224869.stm/>
- Chen, Y.C., Shang, R.A., & Lin, A.K. (2008). The intention to download music files in a P2P environment: Consumption value, fashion, and ethical decision perspectives. *Electronic Commerce Research and Applications*, 7(4), 411-422.
- Cheng, H.K., Sims, R.R., & Teegen, H. (1997). To purchase or pirate software: An empirical study. *Journal Management Information System*, 13(4), 49-60.

Coyle, J.R., Gould, S.J., Gupta, P., & Gupta, R. (2009). To buy or pirate: The matrix of music consumers' acquisition-mode decision-making. *Journal of Business Research*, 62(10), 1031.

Cronan, T.P., & Al-Rafee, S. (2008). Factors that influence the intention to pirate software and media. *Journal of Business Ethics*, 78, 527-545.

Das, S. (2008). Timing movie release on the internet in the context of piracy. *Journal of Organizational Computing and Electronic Commerce*, 18(4), 307.

Dejean, S. (2009). What can we learn from empirical studies about piracy? *CESifo Economic Studies*, 55(2), 326-352.

Dyer-Witherford, N., & de Peuter, G. (2009). Empire@Play: Virtual games and global capitalism. *CTheory.Net*.

East, R. (1992). The effect of experience on the decision making of expert and novice buyers. *Journal of Marketing Management*, 8, 167-176.

Higgins, G.E. (2005). Can self-control theory help understand the software piracy problem? *Deviant Behaviour*, 26, 1-24.

Higgins, G.E., & Makin, D.A. (2004). Does social learning theory condition the effects of low self-control on college students' software piracy? *Journal of Economic Crime Management*, 2(2), 1-22.

Higgins, G.E., Fell, B.D., & Wilson, A.L. (2006). Digital piracy: Assessing the contributions of an integrated self-control theory and social learning theory using structural equation modeling. *Criminal Justice Studies*, 19, 3-22.

Higgins, G.E., Fell, B.D., & Wilson, A.L. (2007). Low self-control and social learning in understanding students' intentions to pirate movies in the United States. *Social Science Computer Review*, 25, 339-357.

Higgins, G., Wolfe, S., & Ricketts, M. (2009). Digital piracy: A latent class analysis. *Social Science Computer Review*, 27(1), 24.

Hinduja, S. (2006). Neutralization theory and online software piracy: An empirical analysis. *Ethics and Information Technology*, 9(3), 187-204.

Hyman, P. (2006). State of the industry: Video game piracy. *Game Developer*, December 1, 13-18.

Ingram, J.R., & Hinduja, S. (2008). Neutralizing music piracy: An empirical examination. *Deviant Behavior*, 29, 334-366.

GI: Game Industry Biz (2008). *Industry revenue \$57 billion in 2009, says DFC*. Available at: <http://www.gamesindustry.biz/articles/industry-revenue-57-billion-in-2009-says-dfc> (accessed 14 November 2009).

Gottfredson, M.R., & Hirschi, T. (1990). *A General Theory of Crime*. Stanford, CA: Stanford University Press.

Goel, R.K., & Nelson, M.A. (2009). Determinants of software piracy: Economics, institutions, and technology. *Journal of Technology Transfer*, 34(6), 637-658.

Karaganis, J. (2011). *Media piracy in emerging economies*. Retrieved October 23 2011 from SSRN website: <http://piracy.ssrc.org>

Kariithi, N.K. (2011). Is the devil in the data? A literature review of piracy around the world. *The Journal of World Intellectual Property*, 14(2), 133–154.

King, T., Dennis, C., & Wright, L.T. (2008). Myopia, customer returns and the theory of planned behavior. *Journal of Marketing Management*, 24(1–2), 185–203.

Krueger, N.Jr., & Dickson, P.R. (1994). How believing in ourselves increases risk taking: Perceived self-efficacy and opportunity recognition. *Decision Science*, 25(3), 385-400.

Liebowitz, S. (2008). Testing file sharing's impact on music album sales in cities. *Management Science*, 54, 852–859.

Limayem, M., Khalifa, M., & Chin, W.W. (2004). Factors motivating software piracy: A longitudinal study. *IEEE Transactions on Engineering Management*, 51(4), 414-425.

Lysonski, S., & Durvasula, S. (2008). Digital piracy of MP3s: Consumer and ethical predispositions. *Journal of Consumer Marketing*, 25(3), 167-78.

Masanell, R.C., & Drane, A.H. (2010). Competing against online sharing. *Management Decision*, 48(8), 1247-60.

Meissner, N. (2011). Forced pirates and the ethics of digital film. *Journal of Information, Communication & Ethics in Society*, 9(3), 195-205.

Mitchell, V.W., & Chan, J.K. (2002). Investigating UK consumers' unethical attitudes and behaviours. *Journal of Marketing Management*, 18, 5–26.

Morris, R., & Higgins, G. (2009). Neutralizing potential and self-reported digital piracy: A multitheoretical exploration among college undergraduates. *Criminal Justice Review*, 34(2), 173.

Morton, N., & Koufteros, X. (2008). Intention to commit online music piracy and its antecedents: An empirical investigation. *Structural Equation Modeling*, 15(3), 491.

Nandedkar, A., & Midha, V. (2012). It won't happen to me: An assessment of optimism bias in music piracy. *Computer in Human Behavior*, 28, 41-48.

Nunally, J. (1978). *Psychometric Theory*, 2nd edition. New York: McGraw-Hill.

Peace, A., Galleta, D., & Thong, J. (2003). Software piracy in the workplace: A model and empirical test. *Journal of Management Information Systems*, 20(1), 153-177.

Plowman, S., & Goode, S. (2009). Factors affecting the intention to download music: Quality perceptions and downloading intensity. *The Journal of Computer Information Systems*, 49(4), 84-97.

Pouwelse, J., Garbacki, P., Epema, D., & Sips, H. (2005). The bittorrent p2p file-sharing system: Measurements and analysis. *Lecture Notes in Computer Science*, 3640, 205– 216.

Shin, S.K., Gopal, R.D., Sanders, G.L., & Whinston, A.B. (2004). Global software piracy revisited. *Communication of the ACM*, 47, 103-107.

Smith, M.D., & Telang, R. (2010). Piracy or promotion? The impact of broadband internet penetration on DVD sales. *Information Economics and Policy*, 22(5), 289-298.

Sykes, G., & Matza, D. (1957). Techniques of neutralization: A theory of delinquency. *American Sociological Review*, 22, 664-670.

Tan, B. (2002). Understanding consumer ethical decision making with respect to purchase of pirated software. *The Journal of Consumer Marketing*, 19(2/3), 96.

Terrell, K., & Rosen, S. (2003). A nation of pirates panicked by digital plunder, the entertainment industry fights back. *U.S. News and World Report*, 135(1), 40-42.

Triandis, C.H. (1980). Values, attitudes and interpersonal behavior. In Proc. Nebraska Symp. Motivation, 1979: *Beliefs, Attitudes and Values* (pp. 159-295). NE: Lincoln.

Walls, W. (2008). Cross-country analysis of movie piracy. *Applied Economics*, 40(5), 625.

Wells, V.K., Ponting, C.A., & Peattie, K. (2011). Behaviour and climate change: Consumer perceptions of responsibility. *Journal of Marketing Management*, 27(7-8), 808-833.

Wolfe, S., & Higgins, G. (2009). Explaining deviant peer associations: An examination of low self-control, ethical predispositions, definitions, and digital piracy. *Western Criminology Review*, 10(1), 43-55.

Zhang, L., Smith, W., & McDowell, W.C. (2009). Examining digital piracy: Self-control, punishment, and self-efficacy. *Information Resources Management Journal*, 22(1), 24-44.

TABLES AND FIGURES

Table 1. Sample distribution between non-downloaders and downloaders of digital piracy

Demographic	Non-downloaders (N = 174; 42.6%)	Downloaders (N = 235; 57.4%)
<i>Gender</i>		
Male	60 (34.5%)	137 (58.3%)
Female	114 (65.5%)	98 (41.7%)
<i>Age</i>		
18–25	128 (73.6%)	207 (88.1%)
26–35	22 (12.6%)	26 (11.1%)
36 and above	24 (13.8%)	2 (0.8%)
<i>Household income</i>		
0–20000	89 (51.1%)	162 (68.9%)
20001–40000	21 (12.1%)	29 (12.3%)
40001–60000	25 (14.4%)	12 (5.1%)
60001 and above	39 (22.4%)	32 (13.7%)
<i>Education</i>		
Secondary education	72 (41.4%)	100 (42.6%)
Diploma TAFE	31 (17.8%)	46 (19.6%)
Bachelor degree	46 (26.4%)	77 (32.8%)
Postgraduate degree	25 (14.4%)	12 (5.0%)

Table 2. Predictors of attitudes towards digital piracy based on downloaders perspectives

Independent variables	B-values	Std error	β	Adjusted R ²	t-value	Sig.
Affect	0.484	0.064	0.473	0.542	7.614	0.000**
Social factors	0.038	0.043	0.056	0.542	0.899	0.370
Facilitating conditions	0.178	0.055	0.173	0.542	3.244	0.001**
Habitual conduct	-0.036	0.050	-0.055	0.542	-0.717	0.474
Moral judgement	-0.162	0.046	-0.185	0.542	-3.560	0.000**
Self-efficacy	0.173	0.048	0.224	0.542	3.633	0.000**

Dependent variable: Attitudes towards digital piracy.

Adjusted R² = 0.542; F = 47.193 (significant at P < 0.01)

**significant at P < 0.01

Table 3. Predictors of attitudes towards digital piracy based on non-downloaders perspectives

Independent variables	B-values	Std error	β	Adjusted R ²	t-value	Sig.
Affect	0.630	0.076	0.658	0.612	8.262	0.000**
Social factors	-0.068	0.051	-0.099	0.612	-1.330	0.185
Facilitating conditions	0.052	0.055	0.058	0.612	0.938	0.349
Habitual conduct	0.112	0.080	0.100	0.612	1.403	0.162
Moral judgement	-0.131	0.057	-0.164	0.612	-2.289	0.023
Self-efficacy	-0.031	0.038	-0.048	0.612	-0.812	0.418

Dependent variable: Attitudes towards digital piracy.

Adjusted R² = 0.612; F = 45.110 (significant at P < 0.01)

**significant at P < 0.01

