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ETHICS, NEUTRALIZATION, AND DIGITAL PIRACY

Mathupayas Thongmak
Thammsat University
2 Prajan Rd., Pranakorn, Bangkok, TH, 10200
mathupayas@tbs.tu.ac.th

ABSTRACT

Digital piracy happens every day. Piracy negatively impacts the growth of digital product industries. Morals, ethics and neutralization are hypothesized to affect digital piracy. Pirating digital products at various levels of seriousness and product types is interesting in terms of behaviour and for business interests. Our research objectives were to study consumer behaviours towards digital piracy, to compare effects of neutralization and ethics on digital piracy, and to explore differences in neutralization, ethics, and digital piracy between genders, and heavy and light downloaders. Our findings suggested that personal morals decrease digital piracy mainly in the first phase, whereas neutralization is used by individuals to support their behaviour throughout other phases.

Keywords: Digital Piracy, Neutralization, Ethics, Morals

1. INTRODUCTION

Property gives rise to four important ethical issues - privacy, accuracy, property, and accessibility. In terms of digital products, digital properties incur some costs to initially produce. But once a digital product is produced, it is quite easy to duplicate without destroying the original product and to share with others. Thus, unlike tangible property, digital products are quite hard to safeguard[1]. Pirating of a billion dollars worth of digital products happens every day and global market revenues have declined because of digital piracy. Fifty-one point four billion dollars are lost due to software piracy around the world[2]. Music piracy causes 12.5 billion of dollars of loss in the U.S. economy and 70,000 lost jobs for American workers[3, 4]. In the film industry, the Motion Picture Association's member companies lose 6.1 billion dollars each year in potential global revenue. Movie piracy in Australia has lost around 92 million dollars[5, 6]. Book publishers in the

United States report forty percent losses in potential sales due to book piracy[7]. Thailand is one country that has been placed on the priority watch list of intellectual property violators. Ten countries including Algeria, Argentina, Chile, China, India, Indonesia, Pakistan, Russia, Thailand, and Venezuela[8] have also been identified. Thailand could be an ideal location to gather samples since software is extensively pirated in Thailand[2].

Some research on digital piracy is summarized in section 6. Although these research studies looked at digital piracy, a few also investigated and compared two psychological factors: neutralization and morals/ethics. Siponen et al. studied neutralization techniques and moral beliefs. However, they only examined the relationships between these constructs and software piracy[9]. Neutralization and morals/ethics are two sides of the same coin. Neutralization techniques relieve moral constraints, and create some exceptions to the usual moral rule, and allows individuals to be freed from moral, ethical, and legal bindings. Individuals may feel less guilty in doing something wrong if they rationalize their mistakes with neutralization.

The present study is aimed at gaining a better understanding of the relationships between neutralization, ethics/morals and consumers' behaviour toward pirating digital products. Four types of digital products, including software, songs, movies, and e-books, were the focus of this study. The seriousness of digital piracy was classified into 5 levels: streaming, download and delete, download and keep, download and burn CD for self, download and burn CD for others[10]. This study employed two main restrictiveness levels: download and keep and download and burn CD for others, with some modification. In sum, this study attempts to answer the following research questions:

RQ1: Are neutralization and ethics significant predictors of piracy behaviours, classified by each digital product - software, songs, movies, and e-books?

RQ2: What are consumer behaviours towards digital piracy? How often do consumers pirate digital products? Which devices and Internet access methods do they use to pirate digital products?

RQ3: Are there differences in neutralization, ethics, and digital piracy behaviour between genders?

RQ4: Are there differences in neutralization and ethics between heavy downloaders and light downloaders?

2. LITERATURE REVIEW

Kini et al. studied the relationship between moral intensity and some demographic variables and the relationship between individuals' moral intensity and four stages of the perceived moral intensity of the community, students, employees, and faculty. They later studied similarities and differences in the development of moral intensity relating to university students' software piracy in two countries: the U.S. and Thailand[11]. Moores and Dhaliwal investigated the level of software piracy of students in Singapore, comparing their work to the study of Moores and Dhillon in Hong Kong. Reasons underlying buying and using pirated software included high availability, high cost, and low censure. Reversed contexts such as low availability, low cost, and high censure can lead students to stop the piracy behaviour. However, participants from Singapore and Hong Kong have different attitudes towards software piracy[12]. Leonarda et al. propose an integrated IT ethical behavioural model, which included constructs from the Theory of Planned Behaviour (TPB), Theory of Reasoned Action (TRA), and ethical decision making models[13]. Funkhouser studied the effects of consumer moral intensity, perceived risks, and moral judgment on software piracy in Taiwan. The results indicate that moral intensity, perceived risks, and moral judgment have an influence on ethical decision making in pirated software usage[14]. LaRose et al. examined factors determining the level of file sharing through P2P networks among university students and predicted downloaders' intentions to discontinue piracy downloading in the future[15]. Hinduja and Ingram studied the effects of an individual's self-control and ethical beliefs on the relationship between social learning and music piracy[16]. Wolfe and Marcum explored the fear of computer viruses and deterance against digital piracy. Their finding showed that the fear of computer viruses affects respondents' intentions to engage in digital piracy[17]. Shoham et al. examined the impact of consumer ethics and attitudes on actual piracy[18]. Lysonski and Durvasula conducted research to examine ethical reasoning in piracy downloading. Their findings indicated that piracy downloading is driven by the belief that it is not morally wrong. Ethical orientation is related to downloading activities and with stealing. Respondents also claim that their peers are more prone to illegally download[19]. Garbharran and Thatcher studied the importance of social cognitive constructs on the intention to pirate software. Moral disengagement has the strongest impact on the intention[20]. Phau et al. explored how collectivism and personal moral obligation affect youths' attitudes towards pirated downloading. Two factors were accepted as predictors[21]. Harris and Dumas investigated the use of neutralization techniques to rationalize pre and post piracy behaviour. Techniques, which file sharers employ, include denial of victim, denial of injury, denial of

responsibility, claim of normality, claim of relative acceptability, justification by comparison, and appeal to higher loyalties[22]. Moore and McMullan studied the application of neutralization techniques on university students. Each participant supported at least one of six neutralization techniques[23]. Morris and Higgins explored retrospective and prospective engagement in digital piracy. Modest support was found for neutralization theory and social learning theory[24]. Kwan and Tam differentiated between unauthorized copying and unauthorized sharing, focusing on unauthorized copying, to explore perceived affordability, and perceived convenience of unauthorized copiers[25]. Gunter et al. studied music piracy engagement of students in the 8th and 11th grade. Factors included sex, race, class, educational achievement and aspirations, and self-control[26]. Wang and McClung explored constructs from the theory of planned behaviour, attitude functional theory, and the social norms approach. Their findings showed that students who believe piracy downloads is easy and save money are more likely to download products illegally[27]. Halttunen et al. studied young adult consumers in terms of their moral thinking and aberrant behaviour[28]. Yoon reviewed the literature on digital piracy and compared TPB and the Hunt–Vitell ethical decision model. Results suggested that the TPB is more appropriate than the Hunt–Vitell model in terms of predicting digital piracy. He also specifies that moral obligation and justice from an ethical model and attitude, subjective norms, and perceived behavioural control from TPB affect individuals' intentions to commit digital piracy[29]. Moores and Esichaikul investigated the role of age, gender, and work experiences in the decision to buy, share, and use pirated software. Various levels of use were based on gender. Levels of sharing were based on work experiences[2]. Su et al. studied the mediation effect of anticipated guilt on the relationship between attitude, social influence, perceived behavioural control and textbook piracy intention. Textbook piracy intention was affected by cost, benefit, peer influence, societal influence, and opportunity. The effects of cost, benefit, and societal influence on a student's intention to pirate textbooks are partially mediated by the anticipated guilt, whereas the relationship between peer influence and textbook piracy intention is not mediated by the anticipated guilt[7]. Phau and Liang studied personal and social factors related to attitudes towards downloading pirated games[30]. Liang and Phau studied reasons for unauthorized computer access[31]. They also examined differences between illegal games downloaders and illegal movie downloaders in terms of personal factors and social factors using T-Test analysis[32]. Cockrill and Goode investigated four groups of people who pirate, consisting of serious pirates ('Devils'), opportunists ('Chancers'), receivers ('Receivers') and non-pirates ('Angels'), and antecedents for their behaviours. Perceived harm was an important antecedent in all models[33]. Koklic et al. pointed out that perceived risk and

moral intensity have a strong effect on the intention to pirat[34]. Goode specified the literature gap in digital piracy, which includes studies about the origin and supply of pirate digital materials, digital piracy for non-desktop environments, alternative distribution methods, the quality of pirated materials, the behaviour of piracy groups, and the benefits of digital piracy[35]. Setiawan and Tjiptono replicated the study of Yoon[29] and looked at university students in Indonesia. The results showed that attitude towards digital piracy positively impacts consumer intention to commit digital piracy, while moral obligation is a negative predictor of consumer intention. Subjective norms and perceived behavioural control were also found to insignificantly affect the intention to pirate digital products[36]. Yu compared attitude toward justifying digital piracy in light of the techniques of neutralization between Asian international students and American students. Asian international students were likely to justify digital piracy, but their morality was not significantly different from American students[37]. Wenli and Lijiao studied drivers of an employee's intention to commit Internet abuses at the workplace. Their findings revealed that neutralization, security risks, and perceived benefits have a significant influence on an employee's intention, except for denial of responsibility. Risks of perceived formal sanctions had no significant influence[38].

3. HYPOTHESES DEVELOPMENT

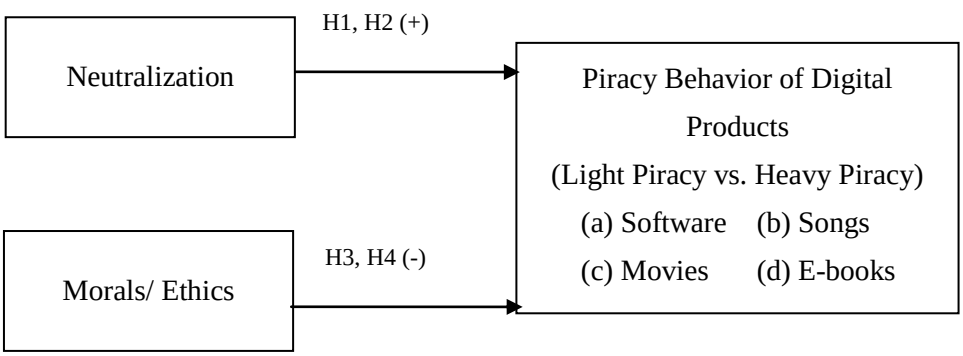

Figure 1. The proposed model

The proposed research model is shown in Figure 1. The two independent constructs are neutralization and morals/ethics. This work applies terms "morals" and "ethics" interchangeably since ethics are moral principles that govern a person's behaviour or the conducting of an activity[39]. Eight dependent constructs are digital product piracy behaviours, which are classified according to two levels of the seriousness: light piracy

(illegally downloading or buying and keeping the products) and heavy piracy (illegally downloading or buying and also sharing the products with others).

3.1 Neutralization

Sykes and Matza originally propose neutralization techniques consisting of the denial of responsibility, the denial of injury, the denial of a victim, a condemnation of condemners, and an appeal to higher loyalties[40]. 'Denial of responsibility' is casting the responsibility of their guilt behaviour on others, on circumstances, or on factors beyond their control. 'Denial of injury' emphasizes the lack of direct harm, so doing the behaviour is acceptable. 'Denial of victim' claims that the violated party deserved these things to happen. 'Condemning the condemners' shifts attention towards others, blaming that other people engage in similar behaviour. 'Appealing to higher loyalties' explains that their behaviour is their attempt to fulfil a higher order ideal or value[22]. As an example, Taiwanese downloaders apply neutralization by condemning the condemners. They think that pirated-software users should not be punished because the piracy rates of their country are not obviously worse than others[14]. Some literature citations lay blame that software is expensive; software companies are too rich; copying pirated products harm no one; and digital products are immaterial, thus they should not be bound by copyrights[41]. Illegally copying of software is claimed to be unserious compared to spyware that steals money from people. An additional rationale is that some people cannot afford software. Further, employees can help their company save money by using such software. Another idea is that It is acceptable if a person engages in only a small amount of digital piracy compared to a large community of unauthorized downloaders. Some argue that unauthorized duplicating of software does not destroy the software industry and that copying software also helps to save on distribution costs for software companies. Another postulate is that unauthorized copying of software may remind software companies to lower software prices, as software companies are bloodsuckers. Some put forth that coompanies deserve software piracy and that they make their software too easy to copy too[18, 42, 43]. Peer-to-peer file sharers apply neutralization techniques that includes: denial of victim, denial of injury, denial of responsibility, claim of normality, claim of relative acceptability, justification by comparison, and appeal to higher loyalties[22]. Denial of victim, denial of injury, and everyone else is doing it are the influential techniques, which support participating in file shareing[23]. Neutralization is the most important factor driving anticipated piracy[24]. The study by Yu specifies that respondents justify digital piracy by arguing that there is no harm and creates benefits to the

copyright owners in terms of increasing consumers. In addition, they point out that digital products are not physical and that product prices are too high[44]. Appeal to higher loyalties and condemning the condemners are strong predictors of an intention to pirate software[9]. Therefore, the following hypotheses are proposed.

H1a: Neutralization is a positive predictor of light software piracy.

H1b: Neutralization is a positive predictor of light song piracy.

H1c: Neutralization is a positive predictor of light movie piracy.

H1d: Neutralization is a positive predictor of light e-book piracy.

H2a: Neutralization is a positive predictor of heavy software piracy.

H2b: Neutralization is a positive predictor of heavy song piracy.

H2c: Neutralization is a positive predictor of heavy movie piracy.

H2d: Neutralization is a positive predictor of heavy e-book piracy.

3.2 Morals/Ethics

An individual's moral judgment affects their actions. The influence of moral judgment on intention to use pirated software was confirmed by Funkhouser[14]. Feeling guilty from illegal download of CDs negatively drives the intention to download CDs[17]. Morals/ethics strengthen a negative attitude toward illegally copying music CDs[18]. Personal moral obligation is a negative predictor of the intention to download movies and TV series through peer-to-peer networks[21]. Ethical beliefs have a marked effect on online piracy behaviour[45]. The negative influence of moral obligation on the intention to pirate digital materials was confirmed by Williams et al.[43]. Moral obligation has strong effects on the intention to commit digital piracy[29]. Moral judgment negatively impacts an individual's attitude towards pirating games[30]. Moral intensity adversely affects both the attitude and intention toward digital piracy[34]. Beliefs in moral acceptability positively impact current unauthorized file sharing. On the contrary, beliefs in the moral unacceptability of illegal file-sharing negatively affects future intention to download files[15]. Moral disengagement is a mediator of the relationship between social norms, self-efficacy, and the intention to pirate software[42]. It is also the strongest predictor of software piracy intention[20]. Therefore, the following hypotheses are proposed.

H3a: Morals/ethics are negative predictors of light software piracy.

H3b: Morals/ethics are negative predictors of light song piracy.

H3c: Morals/ethics are negative predictors of light movie piracy.

H3d: Morals/ethics are negative predictors of light e-book piracy.

H4a: Morals/ethics are negative predictors of heavy software piracy.

H4b: Morals/ethics are negative predictors of heavy song piracy.

H4c: Morals/ Ethics are negative predictors of heavy movie piracy.

H4d: Morals/ Ethics are negative predictors of heavy e-book piracy.

4. RESEARCH DESIGN AND METHODS

A quantitative research method using surveys was applied. A quantitative approach is one approach used for developing knowledge (i.e., cause and effect thinking, reduction to specific variables and hypotheses and questions, use of measurement and observation, and the test of theories)[46, 47]. Causality study was applied to test the research model which shows the cause and effect relationships between neutralization, ethics, and piracy behaviour. First, thirty-two questionnaires were pretested. Then, online surveys were posted on two popular community websites (www.dek-d.com and www.pantip.com), some private Facebook groups, and personal contacts of research assistants. Scale types, literature sources, and questions of constructs are described in Table 1. Finally, the collected questionnaires were analysed using descriptive statistics, t-test analysis, and multiple regression analysis.

Table 1. Details of a questionnaire

Construct/ Literature Sources	Items / Literature Sources	Questions
Neutralizations[22, 23]	NEUTRAL1 (5 point Likert scale)	"Digital piracy is acceptable because of some necessary conditions that exist for you, e.g., you do not have enough money to buy, you need to use that book right away, you have to install the software at this time to support your work, etc."
	NEUTRAL2 (5 point Likert scale)	"Digital piracy is acceptable because it doesn't cause problems to anyone. For example, it helps to promote artists; fans like the owner of digital products more; and an actress is able to earn more from other activities."
	NEUTRAL3 (5 point Likert scale)	"Digital piracy is acceptable because digital product companies deserve this. For example, they set unreasonable prices. They provide low quality products. Their security system is poor. They are too wealthy."
	NEUTRAL4 (5 point Likert scale)	"Digital piracy is acceptable because anyone would do it if they had a chance, even copyright owners."
	NEUTRAL5 (5 point Likert scale)	"Digital piracy is acceptable because you have good reasons to pirate, for example: you have to use your money to buy other necessities; you share the digital products with your friends; you use the digital products for educational purposes, etc."

Table 1. Details of a questionnaire (Cont.)

Construct/ Literature Sources	Items / Literature Sources	Questions
Ethics[48]	ETHICS1 (5 point Likert scale)	"I feel guilty when pirating digital products."
	ETHICS2 (5 point Likert scale)	"Digital piracy is unethical behavior."
	ETHICS3 (5 point Likert scale)	"You regard the principle that you shouldn't buy or download products infringing copyrights."
Piracy Behavior of Digital Products[10, 49]	SW_PR_BEHAV1 (1 Do not use: 0 times per month; 2 Rarely: 1-4 times per month; 3 Occasionally: 5-9 times per month; 4 Frequently: 10-14 times per month; 5 Very frequently: more than 15 times per month)	"What most closely matches your behavior? For software, how frequently do you buy or download illegal software and keep it for your own use only?"
	SW_PR_BEHAV2 (1 Do not use; 5 Very frequently)	"What most closely matches your behavior? For software, how frequently do you buy or download illegal software and share it with others?"
	MOVIE_PR_BEHAV1 (1 Do not use; 5 Very frequently)	"What most closely matches your behavior? For movies, how frequently do you buy or download illegal movies and keep them for your own use only?"
	MOVIE_PR_BEHAV2 (1 Do not use; 5 Very frequently)	"What most closely matches your behavior? For movies, how frequently do you buy or download illegal movies and share them with others?"
	SONG_PR_BEHAV1 (1 Do not use; 5 Very frequently)	"What most closely matches your behavior? For songs, how frequently do you buy or download illegal songs and keep it for your own use only?"
	SONG_PR_BEHAV2 (1 Do not use; 5 Very frequently)	"What most closely matches your behavior? For songs, how frequently do you buy or download illegal songs and share it with others?"
	EBOOK_PR_BEHAV1 (1 Do not use; 5 Very frequently)	"What most closely matches your behavior? For e-books, how frequently do you buy or download illegal e-books and keep it for your own use only?"
	EBOOK_PR_BEHAV2 (1 Do not use; 5 Very frequently)	"What most closely matches your behavior? For e-books, how frequently do you buy or download illegal e-books and share it with others?"

4.1 Demographics and Piracy Behavior of Respondents

A total 303 questionnaires were received. Only eleven participants very rarely download/buy and keep/share any digital products (0 times/month). According to Table 2 and Table 3, the majority of respondents were female (61.39 percent). The main age group of respondents were between 18 to 21 years old (71.62 percent). Respondents in this age group generally were students in higher education. The average income per month of respondents was 5,000 – 10,000 baht (36.30 per cent). The main devices used to pirate digital products were notebook computers, cell phones, and desktop computers (89.04 per cent). Popular Internet access methods were hi-speed internet via ADSL modems and 3G cellular phone networks. Peitz and Waelbroeck indicatedt that broadband Internet significantly drives a

decrease in music sales[50].

Table 2. Demographic data of respondents

Category	Frequency	Percentage
Gender		
Female	186	61.39
Male	117	38.61
Age (years old)		
12 – 14	1	0.33
15 – 17	5	1.65
18 – 21	217	71.62
22 – 25	65	21.45
26 – 30	15	4.95
Income (baht/ month)		
Less than 3,000	31	10.23
3,001 – 5,000	66	21.78
5,001 – 10,000	110	36.30
10,001 – 15,000	38	12.54
15,001 – 20,000	18	5.94
More than 21,000	40	13.20

Table 3. Devices and Internet access types used to pirate digital products

Category	Frequency	Percentage
Accessing devices		
Cell phone	181	28.02
Tablet computer	72	11.15
Notebook computer	250	38.70
Desktop computer	143	22.14
Internet access channels		
Cell phone network (EDGE)	79	15.05
Cell phone network (3G)	171	32.57
Dial-up modem	54	10.29
ADSL modem	221	42.10

Table 4 shows the piracy behaviour of respondents, which were categorized by the frequency of pirating digital products and product types. In terms of the first level of digital piracy seriousness, respondents normally download or buy and keep digital products approximately 1-4 times per month, except for e-books, which were rarely downloaded or bought and kept them (0 times per month). Considering the second level of digital piracy seriousness, the maximum frequency of the superior piracy behaviour of all product categories was 0 times per month. As such, it is satisfactory that respondents do not for the most part illegally download or buy and share digital products with others. The most frequently downloaded digital product was songs. Songs are the most pirated in terms of both piracy downloading or buying and keeping them and piracy downloading or buying and sharing them with others, with a frequency of 5-9 times per month, 10-14 times per month, and more than 15 times/ month. Sorting out all piracy behaviour, except for downloading or buy 0 times per month, a number of respondents pirate digital products at both levels of

restrictiveness from highest to lowest and were respondents who unauthorized download or buy songs, software, movies, and e-books. The results correspond to each type of digital product.

Table 4. Piracy behaviour of participants

Digital Products / **Frequency (Persons)**	**Software**	**Songs**	**Movies**	**E-books**	**Total**
Piracy download or buy and keep					
0 times/month	42	31	58	*181*	312
1-4 times/month	*137*	73	*103*	65	378
5-9 times/month	67	*79*	69	33	248
10-14 times/month	42	64	48	13	167
More than 15 times/month	15	56	25	11	107
Total	303	303	303	303	1212
Piracy download or buy and share to others					
0 times/month	*173*	*153*	*183*	*230*	739
1-4 times/month	88	70	73	43	274
5-9 times/month	31	43	32	17	123
10-14 times/month	8	23	8	6	45
More than 15 times/month	3	14	7	7	31
Total	303	303	303	303	1212

4.2 Effects of Neutralization and Ethics on Digital Piracy Behavior

Factor analysis was applied to assess the reliability and construct validity of the factors and eight items in the model. Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity was used to test the suitability of factor analysis. The KMO measure of sampling adequacy was 0.828, which is greater than 0.5. Bartlett's test of sphericity is a test of the significance of a correlation matrix. It is used to verify that if the correlation matrix is not an identity matrix; and that variables are suitable for the factor analysis. Bartlett's test of sphericity was significant with *p*-value 0.000. The result confirms that the correlation matrix was not an identity matrix. Then, factor analysis using principle component analysis and Varimax rotation was applied. The criteria to accept each item are factor loadings greater than 0.5 and an eigenvalue for each factor greater than 1. Two factors were extracted, which was responsible for 63.971 per cent of the cumulative variance as shown in Table 5. The reliability of two factors were acceptable since the Cronbach's alpha of each factor was greater than 0.779. Generally, Cronbach's coefficient alpha should not be less than 0.6 and preferably at least 0.8[51].

Table 5. Factor analysis and reliability analysis results

	Factor1	Factor2	Cronbach's alpha
NEUTRAL2	.817		
NEUTRAL3	.813		
NEUTRAL5	.771		.834
NEUTRAL4	.741		
NEUTRAL1	.666		
ETHICS1		.845	
ETHICS3		.813	.779
ETHICS2		.797	
% of Variance	37.207	26.763	
Cumulative %	37.207	63.971	

Table 6. Results of hypotheses tests

Hypothesis	Description	B	Beta	Adjusted R^2
H1a**	Neutralization → Download/buy & keep pirated software	.211	.201	.128
H3a**	Morals/ethics → Download/buy & keep pirated software	-.321	-.306	
H1b**	Neutralization → Download/buy & keep pirated songs	.364	.289	.155
H3b**	Morals/ethics → Download/buy & keep pirated songs	-.350	-.278	
H1c**	Neutralization → Download/buy & keep pirated movies	.223	.186	.083
H3c**	Morals/ethics → Download/buy & keep pirated movies	-.279	-.232	
H1d**	Neutralization → Download/buy & keep pirated e-books	.270	.255	.063
H3d	Morals/ethics → Download/buy & keep pirated e-books	-.070	-.067	
H2a**	Neutralization → Download/buy & share pirated software	.195	.230	.057
H4a	Morals/ethics → Download/buy & share pirated software	-.088	-.104	
H2b**	Neutralization → Download/buy & share pirated songs	.366	.313	.111
H4b*	Morals/ethics → Download/buy & share pirated songs	-.162	-.138	
H2c**	Neutralization → Download/buy & share pirated movies	.239	.254	.068
H4c	Morals/ethics → Download/buy & share pirated movies	-.092	-.098	
H2d**	Neutralization → Download/buy & share pirated e-books	.235	.271	.068
H4d	Morals/ethics → Download/buy & share pirated e-books	-.020	-.023	

Note: *p-value < .05, **p-value < .01.

Multiple linear regression analysis was used to examine the relationship between neutralization techniques, morals/ethics, and piracy behaviour. Eleven significance hypotheses with p-values of less than 0.01 and one hypothesis with a p-value less than 0.05 are shown with asterisks in Table 6. Excluding e-books, neutralization and morals/ethics affect piracy behaviour in terms of illegally downloading or buying and keeping software, songs, and films. Only neutralization is a predictor of e-book piracy. Ethics/morals of individuals have more power than neutralization techniques in software piracy and film piracy. They have less power than neutralization in music piracy. Neutralization positively related to illegally downloading or buying and sharing all types of digital products. Morals/ethics are slightly important for song piracy. However, neutralization is still a more important factor for song piracy in terms of superior deviant behaviour.

The influence of neutralization techniques are supported by Barlow et al. and Smallridge[52, 53]. The effects of morals/ethics are supported by Su et al., Cockrill and Goode, Setiawan and Tjiptono, Yu, and Koklic et al.[7, 33, 36, 37, 54]. The rejection of the relationship between neutralization and piracy behaviour is explained by support from24, 27. Some studies also assure that the relationship between morals/ethics and piracy behaviour is insignificant[6, 19, 25, 44, 55, 56].

4.3 Gender Differences in Neutralization, Ethics, and Digital Piracy Behavior

Some research in the literature specify that females tend to commit digital piracy less than males[10, 25]. However, some studies argue that females appear more likely to illegally download music than males[57]. Thus, this study compared the means of males and females' neutralization, morals/ethics, and their digital piracy behaviour.

According to t-test statistics to check differences of neutralization, ethics, and digital piracy behaviour between male and female respondents in Table 8, neutralization means of both genders are not significantly different. But female respondents had slight differences for neutralization scores in terms of the denial of responsibility, the denial of victim, and the appeal to higher loyalties (rating scores less than males), and the condemnation of condemners (rating scores higher than males), as shown in Table 7. The results also indicate that males and females mainly make an excuse with denial of responsibility, which conforms to the studies of Moores and Esichaikul, Harris and Dumas, Ulsperger et al., and Dilmperi et al.[2, 22, 57, 58]. They pirate the digital products because they feel that conditions warrant this behavior, such as having not enough money to buy, having to use that book right away, having to install the software at this time to support their work, etc. The second reason that male and female respondents give importance to is the appeal to higher loyalties, supported by the studies of[9, 22]. They claim that they have enough reasons to do it such as to save their money to buy other necessary things, to share digital products with friends, to use the products academically only, etc. In addition, results of t-test analysis show that there are significant differences between males and females with regard to their ethics (t = 3.095, p = .002), their behaviours in unauthorized downloading or buying and keeping software (t = -3.136, p = .002), and their behaviours in illegally downloading or buying and saving movies (t = -2.451, p = .015). Females have greater morals/ethics than males. They also download or buy and keep software and movies less than males.

Table 7. Differential neutralization reasons by gender

Neutralization techniques	Average Rating of Males	Average Rating of Females	Average Rating of All
Denial of responsibility	*3.79*	*3.73*	*3.75*
Denial of injury	2.96	2.96	2.96
Denial of victim	3.00	2.87	2.92
Condemnation of condemners	2.91	2.99	2.96
Appeal to higher loyalties	3.27	3.26	3.26

Table 8. T-test of group differences in means between females and males

Factor	Group	Mean	SD	*t*-value	*p*-value
Neutralization	Females	3.1624	.90577	-.239	.811
	Males	3.1880	.91399		
Morals/ethics	Females	*3.0251*	*.87024*	*3.095*	*.002***
	Males	2.7179	.79222		
Download/buy & keep pirated software	Females	*2.36*	*1.000*	*-3.136*	*.002***
	Males	2.74	1.092		
Download/buy & keep pirated songs	Females	3.18	1.242	.733	.464
	Males	3.07	1.291		
Download/buy & keep pirated movies	Females	*2.46*	*1.101*	*-2.451*	*.015**
	Males	2.82	1.317		
Download/buy & keep pirated e-books	Females	3.18	1.242	.733	.464
	Males	3.07	1.291		
Download/buy & share pirated software	Females	1.57	.830	-1.137	.257
	Males	1.68	.877		
Download/buy & share pirated songs	Females	1.99	1.215	1.264	.207
	Males	1.82	1.08		
Download/buy & share pirated movies	Females	1.60	.915	-.629	.530
	Males	1.67	.983		
Download/buy & share pirated e-books	Females	1.37	.797	-.885	.377
	Males	1.46	.970		

Note: **p*-value < .05, ***p*-value < .01.

4.4 Differences in Neutralization and Ethics between Heavy Downloaders and Light Downloaders

Light downloaders are defined as downloaders who pirate less than five times per month. Heavy downloaders are people who illegally buy or download digital products at least five times per month. In terms of comparing heavy downloaders to heavy downloaders, there are between-group differences between heavy downloaders and light downloaders of all digital products in neutralization techniques and ethics except the ethics of heavy downloaders and light downloaders of e-books. Heavy downloaders have more neutralization and have less ethics than light downloaders. The result reaffirms the results in Table 9.

Table 9. *T*-test of group differences in means between heavy downloaders and light downloaders

Factor	Group	Mean	SD	*t*-value	*p*-value
Neutralization	Heavy downloaders (Software)	3.4548	.78122	4.663	.000**
	Light downloaders (Software)	2.9765	.93887		
Morals/ethics	Heavy downloaders (Software)	2.6156	.85015	-5.146	.000**
	Light downloaders (Software)	3.1080	.79684		
Neutralization	Heavy downloaders (Songs)	3.3608	.85059	5.214	.000**
	Light downloaders (Songs)	2.8115	.90771		
Morals/ethics	Heavy downloaders (Songs)	2.7705	.84244	-3.929	.000**
	Light downloaders (Songs)	3.1667	.81517		
Neutralization	Heavy downloaders (Movies)	3.3521	.83025	3.292	.001**
	Light downloaders (Movies)	3.0137	.94502		
Morals/ethics	Heavy downloaders (Movies)	2.7136	.80737	-3.777	.000**
	Light downloaders (Movies)	3.0766	.85817		
Neutralization	Heavy downloaders (E-books)	3.5860	.72591	4.525	.000**
	Light downloaders (E-books)	3.0764	.91963		
Morals/ethics	Heavy downloaders (E-books)	2.7544	.86264	-1.497	.135
	Light downloaders (E-books)	2.9417	.84850		

Note: **p*-value < .05, ***p*-value < .01.

5. COMPARING FINDINGS WITH OTHER STUDIES

This section draws a comparison between results of this study in a Thai context and research results in different countries or different environments. Studies that empirically tested their hypotheses were chosen. Only supported factors are summarized. Neutralization and morals/ethics of other countries, classified by digital product types, are described in Table 10.

Table 10. Summary of the comparison results

Factor	Digital Products	Africa	Asia						Europe						N. America	Oceania
		ZA	TH	HK	TW	KR	IL	ID	DK	UK	SI	FI	IT	SE	US	AU
Neutralization	Software		+							+		+			+	
	Songs		+							+					+	
	Movie		+							+					+	
	E-books		+													
	Digital products											+				
Moral/ Ethics	Software	+[1]	-	+[2]	-					-		-				
	Songs		-	-			-								-	
	Movie		-						+[2]	-						-
	E-books				-											
	Digital products					+[2]/ -		-		-	-		-	-	-	

Note: [1] Moral disengagement [2] Ethical/ Moral judgment (Acceptable).

5.1 Digital piracy in South Africa

Considering studies in Africa/South African environments, moral disengagement in terms of moral justification, euphemistic labelling, advantageous comparison, displacement of responsibility, diffusion of responsibility, distortion of consequences, attribution of blame, and

dehumanization significantly affect the intention to pirate software[20]. Moral disengagement also mediates the relationship between self-efficacy, attitudes, social norms, and the intention for unauthorized copying of software[42].

5.2 Digital piracy in Hong Kong, Taiwan, Korea, Israel, and Indonesia

Considering studies in Asia, two studies in Hong Kong support the influence of morals on piracy. An individual with high moral obligation has a low intention to engage digital piracy[55]. Moral judgment also affects moral intention to buy pirate software[59]. Two research studies in Taiwan indicate the effects of morals on piracy. Moral judgment negatively determines the intention to use pirated software[14]. Textbook piracy intention is also mediated by the anticipated guilt[7]. Two studies in a Korean context support the importance of ethical judgment and moral obligation on the intention to commit digital piracy. These moral constructs affect pirating intention conversely. A study in Israel specifies that the high moral equity of individuals affect their negative attitudes toward pirating software and purchasing illegal music CDs[18]. Moral obligation has a negative influence on consumer intention to pirate digital products in Indonesian environments[36].

5.3 Digital piracy in Denmark, United Kingdoms, Slovenia, Finland

Considering studies in Europe, a study in Denmark confirms the positive effect of ethical judgment on the decision to use pirated films or not to acquire them[60]. Two studies in a UK environment point toward the impacts of neutralization and ethics on piracy. Peer-to-peer file-sharers apply various techniques of neutralization to pre-justify or post-event rationalize their activities including denial of victim, denial of injury, denial of responsibility, claim of normality, claim of relative acceptability, justification by comparison, and appeal to higher loyalties[22]. Ethics negatively determine the engagement of DVD pirating[33]. Two research studies in Slovenia support the relationship between morals and digital piracy. Perceived moral intensity negatively affects consumers' intentions to download illegal files from the Internet[34]. A study in four countries: Slovenia, United Kingdom, Italy, and Sweden, also indicated that moral intensity is a negative driver of piracy behaviour[54]. In Finland, denial of injury is a neutralization technique, which is mostly utilized by respondents[28]. Data from European business schools in Finland and the United Kingdom supports the positive effects of neutralization techniques:

condemn the condemners and appeal to higher loyalties on the intention to commit software piracy. The study also specified the negative effect of moral beliefs on software piracy intention[9].

5.4 Digital piracy in the United States

Considering studies in North America and the United States, feeling guilty negatively predicts illegally downloading CDs[17]. Beliefs about the moral unacceptability of file sharing negatively determine future downloading intentions. Beliefs about moral acceptability of file sharing positively influence current file sharing activity[15]. Ethical idealism is the belief that there is a social cost of downloading and there are negative consequences of downloading. It associates with all past or future illegal downloading activity[19]. General morality is a negative predictor of digital piracy justification[37]. Respondents mention neutralization, stating that music and software is expensive; software companies are already rich; it doesn't cause any harm anyone; everyone else does it; the quality of software is so bad thus it is not worth paying for it; software cannot be bound by ownership or copyright; and software products are immaterial and intangible[41]. Denial of victim, denial of injury, and everyone else is doing it, are the most commonly employed by downloaders[23]. Neutralization techniques also positively relate to self-reported digital piracy in terms of music piracy, software piracy, and video piracy and willingness to illegally download music CDs[24]. Neutralization positively drives an individual to participate in digital piracy[53].

5.5 Digital piracy in Australia

Considering studies in Oceania/Australian contexts, personal moral obligation negatively associates with the intention to download movies and TV series through P2P networks[21].

6. CONCLUSION AND IMPLICATIONS

A limitation of this study is the use of convenience sampling, which leads the main samples to unintentionally be in the university age group according to the age-group classification by the Ministry of Education, Thailand[61]. Future research should replicate the study using systematic sampling. However, some interesting implications that can be applied by copyright owners and other stakeholders are discussed. Also, college students are supported as the main group engaging in digital piracy[6, 44]. Music consumers generally tend to be younger people. Age also affects both ethical awareness and the illegal behaviour of downloading music[28, 58]. People under the age of 25 are more likely to pirate songs than those 25 and

over[57].

Most people pirate digital products. Only 3.63 per cent of them hardly do the illegal behaviour. They normally use portable devices that are laptop computers and mobile phones with hi-speed Internet or hi-speed cellular phone networks to illegally download digital products. Comparing different levels of restrictiveness of piracy behaviour, participants normally download or buy and keep digital products more than they download or buy and share the products. This result shows some behaviour of respondents where they intentionally pirate digital products for their personal uses rather than other purposes. Digital products illegally downloaded or bought, from most frequent to least frequent, are songs, software, movies, and e-books. Comparing neutralization and morals/ethics, in the lower level of digital piracy, morals/ethics can decrease pirated behaviour of all types of digital products, except for e-books. Yet, at a higher level of digital piracy, morals/ethics have no influence on almost all digital piracy. There is only a slight impact on song piracy. Conversely, neutralization strongly drives pirating of digital products at all levels of piracy seriousness. In overview, unlike neutralization, morals/ethics can restrain some pirated behaviour in the first phase of the aberrant behaviour. Morals/ethics, however, have nearly no effects on digital piracy, except for song piracy, in the second phase. Neutralization strongly impacts piracy behaviour more than ethics in cases of unauthorized downloading or buying and keeping songs and e-books and illegally downloading or buying and sharing all kinds of digital products. Morals/ethics have more influence than neutralization on illegally downloading or buying and keeping software and movies. Females have higher morals/ethics than males.

Moral reasoning of university students toward software piracy are mainly affected by their peers, but are not directly affected by faculty members or university employees[25]. As such, teachers, parents, or copyright holders should convince key people and the referenced communities to first act with lawful behaviour and let them later persuade others to do the right thing. Campaigns against digital piracy should focus more on raising moral awareness among people to stop the digital piracy at the starting point. These campaigns could be first targeted at females. The main reasons that participants made excuses included that they are in exigency conditions such as having not sufficient money to buy, having to get that book promptly, having to install that software now to support their duty, etc., or they have sufficient reasons such as saving their money for other necessary things, sharing those products to peers, or using the products for an academic purpose, etc. Some argued that copyright owners of software or e-books, can provide some free versions for academic use only or sell their products

with lower prices because being unable to afford the product is a main reason supporting why people illegally download or buy the products. For copyright owners of songs or movies, they should use famous singers or actors to emphasize to their fans that digital piracy is unethical and unacceptable behaviour. Popular idols should impress upon their fan clubs that unauthorized downloading seriously has a serious impact. Moreover, copyright owners should use different ways to delivery digital products such as thru Software as a Service, online streaming of movies or music, etc., to decrease the ease of digital piracy.

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