การวิเคราะห์อิทธิพลของตัวแปรที่ส่งผลต่อการละเมิดลิขสิทธิ์เพลงดิจิทัลในกลุ่มเจเนอเรชันวาย

An Analysis of Variables Affecting Digital Music Piracy in Y-Generations

กฤษติศักดิ์ พูลสวัสดิ์*[1]
Kittisak Poolsawat*[1]

บทคัดย่อ

การศึกษานี้นำเสนอโมเดลสมการโครงสร้างของตัวแปรที่มีอิทธิพลกับการละเมิดลิขสิทธิ์ดนตรีดิจิทัล กว่าหลายทศวรรษจวบจนถึงปัจจุบันที่เทคโนโลยีได้นำการเปลี่ยนแปลงทางด้านสื่อบันทึกเพลงจากแผ่นเสียงและเทปสู่แผ่นซีดีตลอดจนการฟังเพลงผ่านระบบส่งต่อและเทคโนโลยีสตรีมมิ่ง อุตสาหกรรมดนตรีไทยได้ประสบกับความท้าทายตลอดการเปลี่ยนแปลง จนเมื่ออินเตอร์เน็ตความเร็วสูงเข้ามามีบทบาทสำคัญที่เอื้อให้กับผู้ใช้โทรศัพท์มือถือสามารถละเมิดลิขสิทธิ์เพลงดิจิทัลได้ง่ายกว่าเดิมและทำให้ค่ายเพลงและศิลปินต่างประสบปัญหาขาดทุนตามกัน อีกทั้งกลุ่มเจเนอเรชันวายถือเป็นกลุ่มที่เป็นผู้ใช้งานสมาร์ทโฟนมากที่สุดและเป็นกลุ่มที่มีกำลังในการบริโภคสื่อดิจิทัลสูงสุด งานวิจัยชิ้นนี้จึงวิเคราะห์ปัจจัยอันนำไปสู่การละเมิดลิขสิทธิ์เพื่อที่จะเข้าใจถึงพฤติกรรมของผู้ใช้งานและเพื่อหาแนวทางแก้ไข การศึกษานี้ใช้วิธีเชิงปริมาณโดยเก็บข้อมูลจากกลุ่มตัวอย่างคนเจเนอเรชั่นวายที่มีประสบการณ์การละเมิดลิขสิทธิ์เพลงทั้งจากการใช้บริการหรือซื้อเพลงของปลอมจำนวน 300 คน ผู้วิจัยใช้สถิติกำลังสองน้อยที่สุดบางส่วนในการวิเคราะห์ตัวแบบสมการโครงสร้าง จากงานวิจัยพบว่าการรับรู้ด้านความเสี่ยง การรับรู้ผลประโยชน์ ทัศนคติเป็นปัจจัยหลักที่ล้วนนำไปสู่การละเมิดลิขสิทธิ์ทั้งทางตรงและทางอ้อม ดังนั้น ผู้ที่เกี่ยวข้องกับธุรกิจเพลงจึงต้องทำความเข้าใจถึงสาเหตุอันนำไปสู่การละเมิดของกลุ่มคนเจเนอเรชั่นวายเพื่อที่จะหาทางป้องกันและวางแผนกลยุทธ์ทางการตลาดในการรับมือกับปัญหาเหล่านี้

คำสำคัญ: การรับรู้ด้านความเสี่ยง / การรับรู้ผลประโยชน์ / การละเมิดลิขสิทธิ์

* Corresponding author, email: poolsawat.k@gmail.com

[1] อาจารย์ประจำ ภาควิชาหลักสูตรธุรกิจดนตรี คณะดนตรี มหาวิทยาลัยอัสสัมชัญ จังหวัดสมุทรปราการ

[1] Instructor, Music Business Program, School of Music, Assumption University

Received: January 4, 2017 / Revised: July 10, 2017 / Accepted: July 19, 2017

Abstract

This study presents a structural equation modeling of the variables that influence digital music piracy. From decades ago up to now, economic turmoil to the technological leaps from vinyl, cassettes, to CDs, to the Internet and the related peer-to-peer (P2P) file streaming technologies, the Thai music industry has been challenged and continues to witness tumultuous times. More recently, broadband and Internet enabled smartphones have exacerbated the issues swirling around digital music piracy and the loss of revenue to both the music label houses and their artists, while Y-Generation as digital music consumers are also the largest owners of smart phones within the population, yet one of the largest digital consumer segments with a lifetime spending potential. This study is therefore focused on the variables that contribute to factors influencing piracy leading further to understand users' behaviours and how to solve the aforementioned issue. Quantitative data surveyed from a sample of 300 Y-generation music users who have experienced illegally online music access or download. Partial Least Square (SmartPLS) software was conducted to analyse Structural Equation Model (SEM). Perceived risk, perceived benefit and attitudes are variables affecting the music piracy behavior directly and indirectly. Thus, Music labels and artists need to understand the motives that cause Y-generation willingness to embrace illegal downloading, developing methods and marketing strategies to encounter this unsustainable act.

Keywords: Perceived Risk / Perceived Benefit / Music Piracy

INTRODUCTION

Digital music distribution began with the illegal file-sharing activities of the late 1990s[2] and exploded when the software tool 'Napster' arrived on the scene in 1998.[3] It however wasn't until Apple's iTunes Music Store release in 2003 that legal downloading of digital music began and by 2006 iTunes had taken control of 80% of the legal digital music downloading market in the U.S.[4]

[2] Natalie Klym, "Digital Music Distribution," accessed October 5, 2018, http://tinyurl.com/q8xcg5b.

[3] Tom Lamont, "Napster: The Day the Music was Set Free," *The Observer*, accessed February 24, 2013, https://www. theguardian.com/music/2013/feb/24/napster-music-free-file-sharing.

[4] Natalie Klym, "Digital Music Distribution."

However, illegal copying and sharing of files has continued to explode with streaming a new threat to the Thai music industry.

In 2015 digital music sales globally grew to $US 6.9 billion[5] and for the first time digital overtook all other forms of recorded music. In 2014 however, Thailand's music market dropped from US$304 million in 2010 to US$279 with experts indicating this trend will continue at nearly one percent per year through 2019, with digital music piracy being the No. 1 threat to the Thai music industry.

Thailand's downtrend is consistent with a global trend as despite growing digital music revenue, in a 10 year period from 2003 to 2013, global music sales dropped from $US23.3 billion to $US15 billion dollars.[6] This nonstop decrease in collective revenue is most primarily due to the increase in illegal music downloads and music streaming from smartphones and tablets. And according to research from Chiou, Huang, and Lee that music piracy is the greatest single threat facing the music industry worldwide today.[7]

In recent years, marketers have coined these terms 'Generation Y' and 'Generation Z' to describe research about Thai consumer age groups. Simply stated, these are two age groups which represent two separate 'generations' of Thai consumers. The older Generation Y consumers (Thais born between 1981 and 2000) are stated to be some of the most connected users in the world with the Siam Commercial Bank[8] indicating that they are the largest consumer component in Thailand with a lifetime spending potential of over USD $5 trillion. Additionally, these Generation Y consumers are also the largest owners of audio and video streaming capable smartphones within the population and some of the most connected individuals on earth, with Thailand having over 97 million mobile connections, or 149 percent of the population.[9] Presently in Thailand over half of the population owns smartphones with the sales of new smartphones in

[5] IFPI, "Global Music Report 2016," accessed April 12, 2016, http://tinyurl.com/gwpzbys.

[6] ibid.

[7] Jyh-Shen Chiou, Chien-yi Huang, and Hsin-hui Lee, "The Antecedents of Music Piracy Attitudes and Intentions," *Journal of Business Ethics* 57, 2 (March 2005): 162.

[8] Siam Commercial Bank Economic Intelligence Center, "Unveiling 4G Business Models in the Digital World," accessed March 9, 2016, http://tinyurl.com/hy5mbet.

[9] eMarketer, "Generation Y Leads the Way on Smartphones," accessed January 15, 2013, http://tinyurl.com /jad7rgp.

2016 projected from 15 to 18 million units. It is this generation that is the main focus of the research.

The researchers see several factors coming together that will continue to enhance and expand the digital music business in Thailand. One component is the trend in smartphone ownership and use which is soaring among Thais. Thailand's smartphone ownership is expected to reach 100% in the next four years and reshape the mobile landscape and consumer behavior.[10] In the age group of Y-Generation, most owned smartphones with the average Thai spending nearly four hours a day on it. While looking through this opportunity, it is important to understand the perception of music consumers to commit piracy in order to soften the almost half-century issue, the music piracy.

PERCEIVED RISK

Chiou, Huang, and Lee researched stated that music piracy is the greatest threat which music industry worldwide facing today.[11] From the study it was indicated that attributive satisfaction, perceived prosecution risk, magnitude of consequence, and social consensus are very important factors that influence consumers' attitude and consumer behaviour toward two types of music piracy habit. According to Tan research has identified that risks are the critical factors influencing ethical decision making.[12] The concept of perceived consumer risk was first introduced by Bauer when he characterized consumer choice by the terms of risk taking or reducing behavior.[13]

As same as Sinha and Mandel that stated either indirectly or directly the tendency to pirate depends on three key factors: 1). positive incentives (e.g., improved functionality of the legal Web site), 2). negative incentives (e.g., perceived risk of piracy), and 3). consumer characteristics.[14] In summary, Fraedrich and Ferrell summarized six aspects of risks that people

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[10] Saengwit Kewaleewongsatorn, "Smartphone Ownership Soars among Thais," *Bangkok Post*, accessed April 24, 2015, http://tinyurl.com/kffbn4m.

[11] Chiou, Huang, and Lee, 162.

[12] Benjamin Tan, "Understanding Consumer Ethical Decision Making with Respect to Purchase of Pirated Software," *Journal of Consumer Marketing* 19, 2 (2002): 109.

[13] Raymond A. Bauer, "Consumer Behavior as Risk Taking," in *Dynamic Marketing for a Changing World: Proceedings of the 43rd Conference of the American Marketing Association*, ed. Robert S. Hancock (Chicago: American Marketing Association, 1960), 391.

[14] Rajiv K. Sinha, and Naomi Mandel, "Preventing Digital Music Piracy: The Carrot or the Stick?" *Journal of Marketing* 72, 1 (January 2008): 2.

encounter are financial, performance, physical, psychological, social, and overall risk. In the context of digital piracy, people attempted to examine the effects of risk on behavior.[15] Applying Fraedrich and Ferrell's categorization of risks, Tan found all six risks influential the intention to purchase software[16] while Chiou, Huang, and Lee, who tested only prosecution risk, found it was quite influential on attitude.[17]

PERCEIVED BENEFIT

Limayem, Khalifa, and Chin suggested that social factors and beliefs have significant effects on software piracy intentions, concerning consequences of software piracy.[18] In addition, if the user decides that the benefits are worth the risks; this will certainly affect their attitude towards digital music piracy. Benefits leading to illegal activity because the ease and saving cost in acquisition of the music files compare to the physical and timely act of going to a store or purchase it online.[19] Zeithaml observed that consumer perceptions of price, quality, and value are considered pivotal determinations of shopping behaviour and product choice.[20] Wang, Ye, Zhang, and Nguyen early research on the willingness of Internet consumers to pay for online services concluded that their decision to pay for online music content or services is mainly related to their perception of convenience, essentiality, added-value, and service quality, including their usage rate of a given service.[21]

ATTITUDE TOWARDS MUSIC PIRACY

In 1935, the Handbook of Social Psychology was first published as a major reference work to cover the field of social psychology. And in it, Allport defined an attitude as "a mental and neural

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[15] John P. Fraedrich, and O. C. Ferrell, "The Impact of Perceived Risk and Moral Philosophy Type on Ethical Decision Making in Business Organizations," *Journal of Business Research* 24, 4 (June 1992): 293.

[16] Tan, 109.

[17] Chiou, Huang, and Lee, 172.

[18] Moez Limayem, Mohamed Khalifa, and Wynne W. Chin, "Factors Motivating Software Piracy: A Longitudinal Study," *IEEE Transactions on Engineering Management* 51, 4 (November 2004): 419.

[19] Yu-Chen Chen, Rong-An Shang, and An-Kai Lin, "The Intention to Download Music Files in a P2P Environment: Consumption Value, Fashion, and Ethical Decision Perspectives," *Electronic Commerce Research and Applications* 7, 4 (Winter 2008): 418.

[20] Valarie A. Zeithaml, "Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence," *Journal of Marketing* 52, 3 (July 1988): 8.

[21] Cheng L. Wang, Li R. Ye, Yue J. Zhang, and Dat Nguyen, "Subscription to Fee-Based Online Services: What Makes Consumer Pay for Online Content," *Journal of Electronic Commerce Research* 6, 4 (January 2005): 309.

state of readiness, organized through experience, exerting a directive and dynamic influence upon the individual's response to all objects and situations with which it is related"[22] while Bem defined attitudes as "attitudes are likes and dislikes."[23] Multi-attribute attitude models have been argued for long that attitudes (overall summary evaluations) are comprised of beliefs and evaluations regarding to expected outcomes.[24]

Peace, Galletta, and Thong, stated that the theft of software and other intellectual property has become one of the most visible problems in computing today with punishment severity and punishment certainty.[25] And if software cost having direct effects on the individual's attitude toward software piracy, whereas punishment had a significant effect on perceived behavioral control as well. This is complied with research by Beck and Ajzen (1985) which connected the theory of planned behavior and predicted intentions, showing that there was a high degree of correlation which was a clear indicator to predict behavior that will occur in the future.[26]

MUSIC PIRACY

Giletti investigated the consumption of digital music deriving from the theory of planned behavior (TPB) which placed an emphasis on the role of norms and attitudes in the formation of intentions to either purchase music or download it for free.[27] It was shown that these preferences affect the treatment of digital music as a cultural heritage with many consumers willing to pay for digital music, but threat of legal repercussions has little effect on their decision to execute piracy or not. While younger consumers view illegal downloading as a norm which is supplemented by the idea that the Internet is free. Fortunately, affinity with artists does help to moderate digital music piracy.

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[22] Gordon W. Allport, "Attitudes," in *Handbook of Social Psychology*, ed. Carl Murchison (Worcester, MA: Clark University Press, 1935), 802.

[23] Daryl J. Bem, *Beliefs, Attitudes, and Human Affairs* (Belmont, CA: Brooks/Cole, 1970), 24.

[24] Icek Ajzen, and Martin Fishbein, *Understanding Attitudes and Predicting Social Behavior* (Englewood Cliffs, NJ: Prentice-Hall, 1980), 39.

[25] A. Graham Peace, Dennis F. Galletta, and James Y.L. Thong, "Software Piracy in the Workplace: A Model and Empirical Test," *Journal of Management Information Systems* 20, 1 (2003): 161.

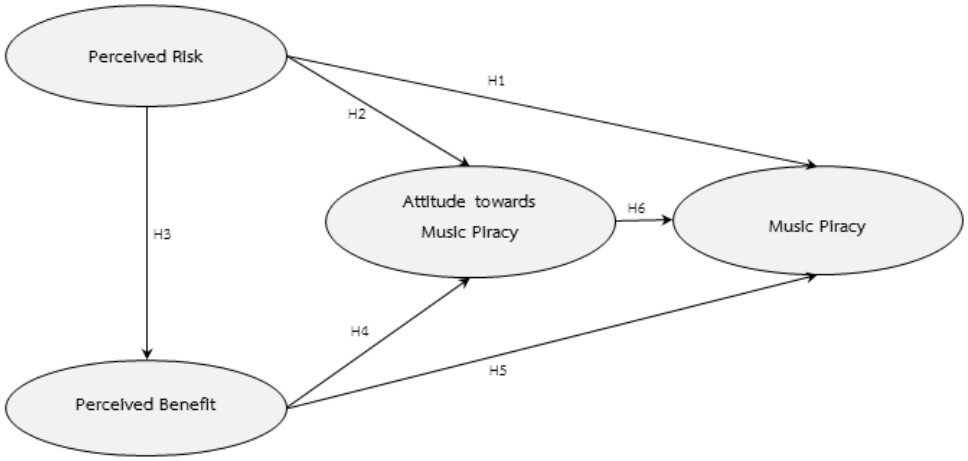
[26] Lisa Beck, and Icek Ajzen, "Predicting Dishonest Actions Using the Theory of Planet Behavior," *Journal of Research in Personality* 25, 3 (September 1991): 299.

[27] Theodore Giletti, "Why Pay If It's Free? Streaming, Downloading, and Digital Music Consumption in the iTunes Era" (MSc, London School of Economics and Political Science, 2011).

Davis further observed that usefulness has a greater correlation with usage behavior than did ease of use significantly.[28] According to Venkatesh which stated that previous research has established that perceived ease of use is an important factor influencing user acceptance and usage behavior of information technologies.[29] Downloading unauthorized music files, consider as committing a crime which is deemed unethical, but the peer-to-peer systems (thus ease of use) have boosted its popularity and become the killer application for the music industry.[30] Several other studies have indicated a willingness to contribute to the copyright infringement.

The researchers therefore after a preliminary review of the literature wish to propose the following research methodology to determine the variables affecting digital music piracy as shown in Figure 1 below.

Figure 1 Conceptual Framework



SAMPLE AND DATA COLLECTION

Sample size suggestion usually depends on how the model is complicated, but typically ranges between 15 to 20 questionnaires per observed variable, with entire sample size should

[28] Fred D. Davis, "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology," *MIS Quarterly* 13, 3 (September 1989): 321.

[29] Viswanath Venkatesh, "Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance," *Journal of Information Systems Research* 11, 4 (December 2000): 344.

[30] Chen, Shang, and Lin, 420.

exceed 200 cases.[31] Therefore, a ratio of 20:1 is acceptably reliable for a structural equation model analysis.[32] Thus, the study's sample size of 300 individuals for 20 observed variables (20 x 15 = 300) was highly reliable. The questionnaire was administered to 300 Y-generation music users who have experienced in illegally online music access or download. The questionnaire was established from the theories and related reviewed literature as a tool to measure the proposed research model.

MEASUREMENT

Five experts in the involved music industry were asked to check the questionnaire's reliability to ensure that the prospective questionnaire's responders can be collected with reliability and consistency according to the method of the Item-Objective Congruence (IOC), the screening of the survey questions. If the result of ∑x/n is above 0.5, it will be considered as valid. There were 30 questionnaires were responded as a trial prior to the actual survey to check as samples if the questionnaire has a tendency of reliability and consistency. The reliability value was calculated by using Cronbach's to ensure internal consistency within the items.[33] According to Best and Kahn, when calculating Cronbach's Alpha, if it ranges from 0 to 1 and a value of ≥ 0.70, it reflects good reliability of the questionnaire.[34] According to the pre-test, Cronbach's Alpha has an average of 0.936, indicating reasonable reliability.[35] All questionnaire items used a 7-point agreement scale response format,[36] with 1 representing the manager strongly disagrees with the item's statement, while 7 representing the manager strongly agreed with the item's statement.

STATISTICAL ANALYSIS OVERVIEW

The researchers adopted the survey method for data collection, whose hypotheses were investigated by the use of the software SmartPLS (Partial Least Square) 2.0 to examine the general fit of the proposed model with data and to identify the overall casual relationships among

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[31] Joseph F. Hair, and others, *Multivariate Data Analysis*, 6th ed. (Upper Saddle River, NJ: Pearson Prentice Hall, 2006), 33.

[32] Randall E. Schumacker, and Richard G. Lomax, *A Beginner's Guide to Structural Equation Modeling*, 3rd ed. (New York: Routledge, 2010), 17.

[33] Lee J. Cronbach, "Coefficient Alpha and the Internal Structure of Tests," *Psychometrika* 16, 3 (September 1951): 297-334.

[34] John W. Best, and James V. Kahn, *Research in Education*, 8th ed. (Boston: Allyn & Bacon, 1998), 9.

[35] Joseph F. Hair, and others, 6.

[36] Rensis Likert, "Likert Technique for Attitude Measurement," in *Social Psychology: Experimentation*, ed. William S. Sahakian (Scranton, PA: Intext Education Publishers, 1972), 101-119.

constructs. Measurement and data collection implies an evaluation of the measurement model, which for the study included: 1) the individual item reliabilities, 2) the model's convergent validity, and 3) discriminant validity.

ANALYSIS AND RESULTS

According to the analysis result of scale validity and reliability, scale investigation has been conducted using internal consistency measurement Cronbach's Alpha to calculate the average value of the correlation coefficient. It was found that alpha coefficients ranged from 0.8180 to 0.9606. The corrected item to total correlation (CITC) was used in the data collected to purify items. The researcher suggested the items with a CITC score of higher than 0.5 are acceptable. Individual item reliability was examined by looking at the loadings, or correlations, of each indicator on its respective construct. For reflective indicators, it is generally accepted that items must have a factorial load (λ) of 0.707 or above (Table 1) (Hair et al, 2006).

Table 1 Convergent validity of the latent variables

Construct/Item	Loading	t-stat
Music Piracy (MUP)		
MUP1	0.962	167.595
MUP2	0.968	215.618
MUP3	0.959	138.680
Attitude towards Music Piracy (ATM)		
ATM1	0.851	50.964
ATM2	0.892	66.394
ATM3	0.837	30.065
ATM4	0.712	20.293
Perceived Risk (PER)		
PER1	0.718	26.945
PER2	0.787	26.736
PER3	0.864	65.088
PER4	0.845	40.100
Perceived Benefit (PEB)		

Construct/Item	Loading	t-stat
PEB1	0.771	29.414
PEB2	0.802	30.428
PEB3	0.850	47.276
PEB4	0.806	31.447

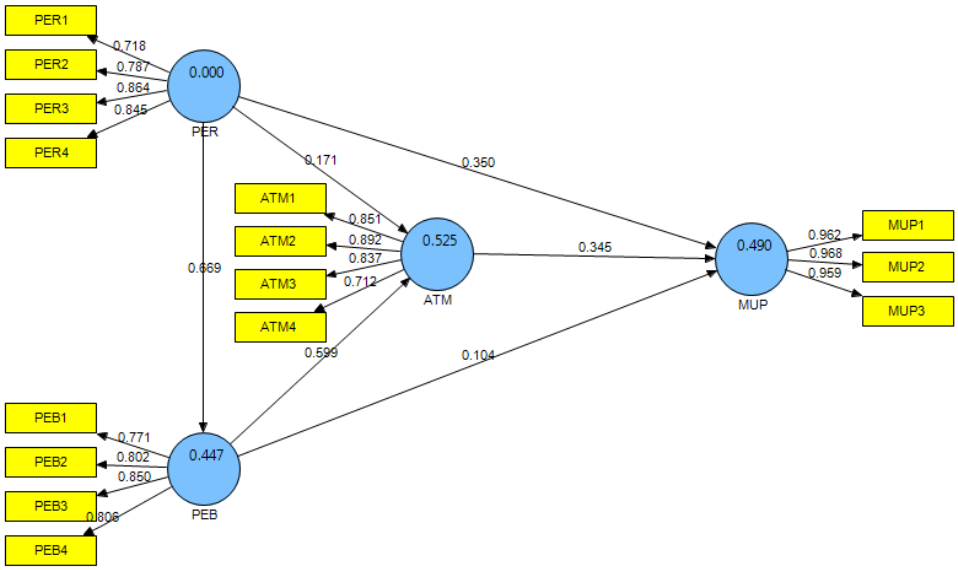
Table 2 shows factor analysis results affecting Thai digital music piracy with composite reliability in Table 2 greater than 0.70 with the AEV values also greater than 0.50. Coefficient of determination (R^2) values are also higher than 0.20, representing the reliability of the measurement.[37] Reliable measurements can be found in the column of interest which is higher than the cross construct correlation values in the same column. Results from the analysis of structural equation modeling of the variables that influence digital music piracy are shown in Figure 2 and Table 3.

Table 2 Statistics showing the discriminant validity

Construct	CR	R^2	AVE	cross construct correlation			
				PER	PEB	ATM	MUP
Perceived Risk (PER)	0.8802		0.6487	**0.8054**			
Perceived Benefit (PEB)	0.8823	0.4468	0.6522	0.6688	**0.8076**		
Attitude (ATM)	0.8950	0.5247	0.6821	0.5713	0.7131	**0.8259**	
Music Piracy (MUP)	0.9744	0.4903	0.9270	0.6166	0.5843	0.6194	**0.9628**

[37] Jörg Henseler, Christian M. Ringle, and Rudolf R. Sinkovics, "The use of Partial Least Squares Path Modeling in International Marketing," in *Advances in International Marketing,* Vol. 20 (Bingley, UK: Emerald, 2009), 277-319.

Figure 2 Final Model



An Influence of each of the variables that affect music piracy is shown in Table 3 below.

Table 3 Direct (DE), indirect (IE), and total (TE) effects of the independent variables

Dependent Variable	R^2	Effect	Independent Variables		
			Perceived Risk	Perceived Benefit	Attitude Towards Music Piracy
Perceived Benefit	0.447	DE	0.669	N/A	N/A
		IE	0.000	N/A	N/A
		TE	0.669	N/A	N/A
Attitude towards Music Piracy	0.525	DE	0.171	0.599	N/A
		IE	0.400	0.000	N/A
		TE	0.571	0.599	N/A
Music Piracy	0.490	DE	0.350	0.104	0.345
		IE	0.267	0.207	0.000
		TE	0.617	0.311	0.345

All hypotheses had statistical significance which is considered to have high reliability (Table 4) by $|t| \geq 1.96$, means significance at $p \leq 0.05$.[38]

Table 4 Results of hypotheses testing

Hypotheses	coef.	t-stat	Results
H1: Perceived Risk *directly affects* **Music Piracy**	0.350	17.6747	Supported
H2: Perceived Risk *directly affects* **Attitude towards Music Piracy**	0.171	15.2933	Supported
H3: Perceived Risk *directly* **Perceived Benefit**	0.669	19.7526	Supported
H4: Perceived Benefit *directly affects* **Attitude towards Music Piracy**	0.599	9.5450	Supported
H5: Perceived Benefit *directly affects* **Music Piracy**	0.104	5.1554	Supported
H6: Attitude towards Music Piracy *directly affects* **Music Piracy**	0.345	4.5591	Supported

DISCUSSION AND CONCLUSION

According to the data analysis, it has shown the reliability has been tested by excesses of CITC above 0.5 and the Cronbach's Alpha of the entire questionnaire above the threshold of 0.7 at the level 0.936. The research was modeled and tested the hypotheses through a structural equation model analysis through the software SmartPLS. All factor loadings are above 0.707 which show high correlations between observed variables. All data have passed the measurement of goodness of fit which all CR above 0.7, R^2 above 0.2, AVE above 0.5, and values of all square root of AVE (Bold values) exceed the correlation with other constructs. According to the result, labels, artists, or music company related need to focus on users' perceived risk, perceived benefit and attitude. These three factors affecting are the music piracy behavior while the perceived risk is the

[38] Ibid.

most influence factor making the users intent or not to commit illegally digital piracy action both directly and indirectly. This is consistent with Chiou, Huang, and Lee[39] and Tan[40] stated that the users know it is less risk to commit digital piracy which is different from stealing physical products from shelves, and it does not harm their devices. This is also interesting to find out attitude towards music piracy is an essential role as a mediator which increases effects from perceived benefit and perceived risk when they indirectly pass through the attitude 199.04% and 76.28% respectively resulting in creating a greater total effect for both which is consistent to Ajzen and Fishbein stating that the attitude is an important factor that can predict and influence the behavioral intention of any individual.[41]

According to Wade[42], the first battle in the war between the pirates and the industry has wound down, with the industry winning the courts and the pirates still controlling the Internet. For the major labels, winning the next battle will mean that the status quo needs to be changed and new business models must be created. The first major digital music industry success was made by Steve Jobs of Apple Computer, Inc. in his online music store, iTunes. After its launch in early 2003, iTunes accounted the legal downloading of over 25 million songs in 2003 and was named Time invention of the year. It was a disarmingly simple concept: sell songs in digital format for less than a dollar and let buyers play them whenever and wherever they like—as long as it's on an Apple iPod. Watching this success, the music labels rushed to license their catalogs for sale on the Internet and convince those that download it to do so legally, but as the research has suggested, with limited success. Technology always seems to intervene and make illegally acquiring digital music easier as was witnessed by the movement from dial-up networks to broadband, to peer to peer (P2P) and now to Internet enable smartphones. In Thailand, according to Wuttipong[43] the major labels have felt an extreme impacted as a result of this piracy. It has earnestly attempted to solve the problem. However, during the early half of the 2000s, no solution could be found. The reasons behind this can be explained by two significant factors; the

[39] Chiou, Huang, and Lee, 161-174.

[40] Tan, 99-111.

[41] Icek Ajzen, and Martin Fishbein, 39.

[42] Jared Wade, "The Music Industry's War on Piracy," *Risk Management Magazine* 51, 2 (February 2004), http:// tinyurl.com/hqu8wn5.

[43] Nalin Wuttipong, "The Thai Popular Music Industry: Industrial Form and Musical Design" (PhD. diss., University of Nottingham, 2012).

difficulty in arresting the piracy perpetrators and the lack of knowledge of copyright laws amongst Thai music consumers.

Simply encouraging concern in consumers might not be enough to gain revenue back from the piracy business, meaning that major labels need to modify their business model in order to deal with this situation as piracy still remains a significant issue in the Thai entertainment industry. Whilst the period between 1982 and 1994 may be characterized as the golden age of Thai popular music, the period between 1997 and 2006 may be regarded as its polar opposite, an era during which album sales plummeted, piracy was prevalent, and the policies of musical corporations limited the financial investment in music production.[44] Additionally, the effects of multiple economic recessions have been far-reaching and enduring. The economic turmoil was further exacerbated by problems associated with various technological advancements (the development of MP3 technology, the Internet, broadband and now today's smartphones). These technological factors combined with economic turmoil in the post-1997/2008 periods contributed to the major and minor labels confronting significant obstacles to their sustainability and the management of their labels. Revenues dropped, organizations collapsed, and artists sent packing from all these changes. Today, the industry is still trying to find its way out of the black-hole with industry experts projecting further losses into the foreseeable future. Full notice has been given by countless experts on how the Internet is transforming the entire music industry just as cassettes and CDs have done in the past. The only question that remains is who will take control of the Internet and the digital music downloading business—the industry or the pirates?

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