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COMMITTING DIGITAL MUSIC PIRACY: A STUDY IN PENANG

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ABSTRACT

Piracy is one of the primary challenges facing the music industry. Music piracy has accounted for substantial revenue losses in this industry in Malaysia, a country in which intellectual property regimes are deemed as a matter of concern. If music piracy is left unchecked, it may destroy the value chain of the music industry. This study aims to explore the extent to which digital music copyright violations prevails in society and examine the characteristics of copyright violators. The analysis was carried out using primary data collected from a survey carried out in Penang, a highly urbanised state in Malaysia. A descriptive approach was used for the analysis. The findings from this study offer insights into the phenomenon of music piracy in Malaysia. The incidence of violating copyright was high, with seven out of ten persons involved in illegally using digital music. Copyright violators have distinguishing characteristics that differentiate them from non-copyright violators. The results found that awareness about intellectual property rights was rather low among violators and that they had misconceptions about music piracy. While most participants agreed that effective enforcement was critical in reducing illegal music activities, fewer perceived the risks of being caught and the high costs associated with punishment. Policies aimed at increasing awareness and understanding of intellectual property rights and the possible societal implications of copyright issues were discussed. The need to enhance copyright enforcement protection in the country is also highlighted.

Keywords: Copyright; files-sharing; illegal downloading; piracy; music

INTRODUCTION

Entertainment media is commonly pirated as an alternative to the higher-priced original version. After movie piracy, music piracy has been identified as the second most common form of piracy (Britton, 2018). Music piracy is the act of copying and distributing recordings of a piece of music without the consent of the music's copyrights owners (Chiou et al., 2015). Music piracy includes the unauthorised use of copyright

media files and the infringement of the exclusive rights of the copyright owner(s), such as the right to reproduce, distribute, perform, and rent copies of the protected works to the public. A music file is protected by copyright law; hence, it cannot be copied, reproduced, or resold without the consent of the copyright owner(s). Individuals who do not pay for a copyrighted music file commit an offence by downloading that music file from illegal sources. Individuals are also prohibited from distributing a copyrighted music file, whether in digital or non-digital form, without the consent of the copyright holder(s).

Physical piracy and digital piracy are the two most common types of music piracy. Physical music piracy refers to an act of unauthorised reproduction of music cassettes as soon as new music is launched (“Definition of Piracy”, n.d.). Digital music piracy refers to an act of illegally uploading, downloading, and sharing music files without the permission of the copyright holder (Gunter et al., 2010). Individuals now have easier access to free pirated files because of the internet’s pervasiveness and the declining cost of owning a personal computer or smart device. Hence, the music industry is the first to face the threat of digital piracy. This is because digital music files can be easily encoded into smaller sizes compared than other types of media, such as films or books (Rebelo, 2014), transforming private music consumption into public music consumption.

Music piracy destroys the potential and revenue of local music industries and local performers because each successful recording exposes them to new piracy threats. Piracy harms not only the owners of the intellectual property but also consumers and taxpayers (IPI, 21 August 2007). Music piracy may result in lost output, lost investments, lost jobs, and lost tax revenues. Therefore, the true costs of music piracy go beyond the impact on the producers and distributors of sound recordings. In Malaysia, music piracy has accounted for substantial revenue losses in the music industry. In 2017, Malaysia’s entertainment and media industry lost up to RM2.3 billion in revenue and RM330 million in tax revenue (“Why Malaysia, MCMC”, 2019). If the music piracy phenomenon is left unchecked, it will destroy the value chain of the music industry. The livelihoods of music industry participants, such as composers, singers, and studio crews, will be affected. Firms in the local music industry may be unable to indulge in profit and may encounter difficulties in sustaining their economic activities.

Malaysia is listed as one of the countries whose intellectual property regimes are deemed to be a matter of concern due to piracy, especially media piracy (International Intellectual Property Alliance, 2018). The survey results of a research consultancy showed that approximately 83% of Malaysians have engaged in illegal digital downloading and streaming, which is higher than other countries, such as Singapore (61%), New Zealand (58%), and Australia (48%) (“Digital habits in”, 2017). Malaysians accounted for more than 71 million page visits to the five most active pirated sites (as of August 2017) (“Piracy is theft”, 2017). Piracy of digital video discs via virtual private networks and peer-to-peer (P2P) networks is common in emerging markets such as Malaysia (“M’sia is second”, 2016).

As digital music piracy is associated with technological accessibility, such as the accessibility of the internet and internet-enabled devices, piracy issues may be more serious, especially in areas where the internet is widely available. Penang is one of the states with a relatively high broadband penetration rate and a high household computer access rate. Many empirical studies on the intention or engagement in digital music piracy were carried out outside Malaysia (for example, Al-Rafee & Cronan, 2006; Coyle et al., 2009; Gunter et al., 2010; Rochelandet & Le Guel, 2005). Many focused on the younger generation, especially students (for example, Chiou et al., 2005; Coyle et al., 2009; Gunter et al., 2010; Jafarkarim et al., 2015; Lysonski & Durvasula, 2008) instead of the general population (Foong et al., 2012; Popham, 2011). As a result, there is a limited understanding of the digital music piracy issue in Malaysian society, where the intellectual property regime has been deemed a concern; therefore, there is a dire need to study the digital music piracy phenomenon from the perspective of end-users. This paper explores the prevalence of digital music piracy and characterises copyright violators in Malaysia, particularly in Penang, a highly urbanised state.

LITERATURE REVIEW

Empirical studies on music piracy have identified several factors that may be associated with music piracy. These factors can be categorised into six major groups: socio-demographic, technological accessibility, previous experience, legislation and enforcement, social influences, and values and beliefs.

Socio-demographic

Socio-demographic backgrounds, such as gender, age, ethnicity/nationality, income, and education, have been considered in the piracy literature. Gender may affect individuals' behaviour towards piracy. The biological sex difference towards piracy could be attributed to differences in self-control between men and women. According to the self-control theory of crime, the level of self-control may have implications for criminal behaviour, influenced by the behaviour of parents or caregivers in a child's early life (Gottfredson, 2017). Parents often monitor more closely the behaviour of female children than that of male children. This probably led to lower self-control among males that may have implications on undertaking immoral behaviour, such as music piracy (Higgins, 2006). Empirical evidence has shown that men have lower self-control than women (Gibson et al., 2010). Rochelandet and Le Guel (2005) examined a dataset of more than 2,500 French households to identify factors influencing the intensity of copying music over P2P networks. They found that male participants were more likely to copy music over P2P networks. Jafarkarim et al. (2015) also made the same observation in their study of 441 university students. Their results showed that the incidence of music piracy was higher among men (75%) than women (65%). Gunter et al. (2010) observed that the incidence of online music piracy was higher among men than women, based on survey data of 6,691 college students from the Delaware School Survey. Similarly, Coyle et al. (2009) found that male participants had higher intentions to pirate music in a study of 204 American business students.

In terms of age, younger people are more open to new technology and more comfortable with the technology required to take advantage of digital music files, and thus, have a higher tendency to engage in music piracy than their older counterparts (Rochelandet & Le Guel, 2005). Empirical evidence shows that younger people have a higher intention to pirate music (Coyle et al., 2009) and a higher likelihood to engage in copying music (Jafarkarim et al., 2015; Rochelandet & Le Guel, 2005). As for ethnicity or nationality, individuals from the same ethnic or national group may share similar cultural beliefs and norms, which may have implications for their behaviours. Empirical results support the presence of ethnicity/nationality differences towards music piracy. Gunter et al. (2010) observed that the incidence of online music piracy was higher among Asian than non-Asian participants. Jafarkarim et al. (2015) found that the incidence of music piracy was relatively higher among Malaysian students than among non-Malaysian students.

Budgetary constraints may affect the demand and consumption of pirated goods (Lee & Yoo, 2009). Individuals with budget constraints, such as those with lower incomes, might have a higher intention to engage in illegal music copying than purchasing original music (Liu, 2009). Coyle et al. (2009) found that low-income individuals had higher intentions to pirate music. Conversely, evidence from Foong et al. (2012) indicated that high-income individuals tended to have higher intentions to engage in media piracy. Individuals with higher educational attainment are better able to learn how to engage in piracy and work out possible legal loopholes to avoid detection or punishment (Goel & Nelson, 2009). However, there is conflicting empirical evidence on the relationship between education and music piracy. The result of Rochelandet and Le Guel (2005) showed that the likelihood of copying music over P2P networks was higher among low-education participants. Nevertheless, Jafarkarim et al. (2015) found that education did not affect the likelihood of engaging in music piracy.

Technological Accessibility

Digital piracy may be associated with technological accessibility, such as internet access and internet-enabled devices. Individuals with internet-enabled devices, such as smartphones, computers, tablets, etc.,

can easily access and attain information/knowledge via the internet. The development of P2P file-sharing network services and internet-enabled devices facilitates music piracy by allowing computer users to connect directly to each other and share media files, such as music, movie, and games (Goel et al., 2010). Individuals with internet-enabled devices can easily download or share digital files and use them for free and instantly. Previous empirical studies have shown that access to high-speed internet and ownership of internet-enabled devices affect consumers' decision to engage in music piracy. In a study of factors influencing music piracy in Canada, Popham (2011) observed that having access to a high-speed internet connection and owning more internet-connected devices had positive effects on the likelihood of illegally downloading music. Rochelandet and Le Guel (2005) found that spending more hours on the internet enhanced the intensity of downloading music/movies via P2P networks.

Previous Experience

Previous experience can be used to predict future illegal music downloading behaviour because these experiences produce a habituation effect that makes illegal downloading a routine (Lysonski & Durvasula, 2008). Coyle et al. (2009) showed that previous experience with digital piracy enhanced students' intention to pirate music. In contrast, Rochelandet and Le Guel (2005) discovered that previous copying experiences with other types of media files had no effect on the intensity of downloading illegal music files.

Legislation and Enforcement

The fourth group of factors is legislation and enforcement. Lack of knowledge towards intellectual property legislation and weak enforcement of legislation governing media piracy are factors that may affect individuals' decisions to engage in piracy (Liu, 2009). While one might expect that individuals knowledgeable about intellectual property rights and legislative acts are less likely to engage in music piracy because they are aware of the penalties they could face if they do so, evidence showed the opposite. Cox and Collins (2014) showed that the probability of downloading larger quantities of files was higher among individuals with greater awareness of the law.

Individuals' perceptions towards the effectiveness and enforcement of legislation may prevent them from engaging in piracy. Individuals who perceive the risk of being caught and the cost of punishment to be high would be less inclined to engage in piracy. Nonetheless, empirical results failed to reach a consensus in this regard. In a study of 15–19-year-old Taiwanese consumers, Chiou et al. (2005) found that the perceived risk towards prosecution had a negative impact on the intention of purchasing pirated music products and unauthorised duplication or downloading music files. By contrast, Cox and Collins (2014) observed that individuals who were more aware of the punishment for their illegal behaviour tended to download larger amounts of illegal media files. In the case of digital piracy, this prosecution is probably rather difficult because the storage of digital files cannot be easily identified (Goel et al., 2010). Rochelandet and Le Guel (2005) showed no significant effect of the perceived risks of being caught and punished on the intensity of downloading music over P2P networks. This was probably due to the low chances of being caught and punished (Rochelandet & Le Guel, 2005).

Social Influence

Social influence refers to the influences of socialisation agents, such as family members, relatives, friends, or media on consumer behaviour, where the opinions of others regarding certain products and services influence one's behaviour (Haque et al., 2009). Individual choices on social phenomena, such as criminal activity, may depend on the preferences and expectations of other neighbouring individuals (Rochelandet & Le Guel, 2005). Individuals may learn their behaviour from agents, such as parents, family members, peers, and mass media (Yang & Wang, 2015), which may influence their behaviour towards music piracy. Socialisation agents can either inhibit or facilitate the consumption of pirated music (Lee & Yoo, 2009). Lysonski and Durvasula (2008) found a significant positive influence of peers on the university students' intention to download illegal music and MP3s from the internet. Cox and Collins (2014) observed that

media campaigns and news related to illegal file-sharing had a negative impact on the likelihood of pirating larger quantities of music and movie files.

Values and Beliefs

The final group of factors is associated with individuals' values and beliefs in digital music activities. Moral and ethical concern indicates the psychological costs that individuals bear when they feel morally and ethically wrong about copying music (Rochelandet & Le Guel, 2005). Individuals with strong ethical and moral judgement would rather spend money on purchasing original music than engage in potentially unethical music piracy (Foong et al., 2012). Rochelandet and Le Guel (2005) suggested that individuals who are more ethically concerned are less likely to copy music over P2P networks. Similarly, Coyle et al. (2009) found that individuals who perceived piracy as unethical and illegal behaviour were less likely to engage in music piracy. Ang et al. (2001) observed that individuals who bought pirated music did not consider people who purchased counterfeit products to be unethical.

The perceived cultural diversity of content may motivate individuals to pirate more intensively (Rochelandet & Le Guel, 2005). Rochelandet and Le Guel (2005) found that a great cultural diversity of content enhanced the intensity of sharing music files over networks. In another study, Foong et al. (2012) indicated that various downloading services on the internet had tempted consumers to download pirated music intensively.

Perceived value-conscious towards pirated products affects consumers' decisions to demand pirated products. Value consciousness refers to the concern for paying lower prices, subject to the constraint of quality requirements (Ang et al., 2001). This suggests that value consciousness is associated with monetary value and product quality. Consumers who are more value-conscious tend to have a positive attitude towards pirated products (Patiro & Sihombing, 2016), which will lead to piracy. Ang et al. (2001) found that more value-conscious consumers held more favourable attitudes towards buying pirated music CDs than those who were less value-conscious. Patiro and Sihombing (2016) also observed similar results. They reported that perceived value for money and the concerns about low price and product quality positively impacted attitudes toward the intention of purchasing counterfeit products. Cox and Colin (2014) showed that individuals who perceived pirated or illegal media files as of lower quality were less likely to pirate large quantities of music and movie files.

DATA AND METHODOLOGY

Data

The analysis was carried out using primary data collected from a structured questionnaire survey. The survey was carried out between January and February 2019 in the state of Penang, Malaysia. Penang is one of the states with a high broadband penetration rate and high access to mobile gadgets (Penang Institute, 2018). The study used a convenient sampling method to collect empirical data about consumers' information related to music piracy. The participants were selected based on their convenient location. One limitation of using this sampling technique is that the empirical findings could not be generalised to the entire Penang population. This sampling method was chosen because it allows researchers to reach out to a large number of target participants at a lower cost than other sampling methods. The final sample consisted of 400 participants. The sample was stratified based on the age composition of Penang's population to have a representative sample in terms of age. The targeted participants were those aged 15 and above. The questionnaires were distributed randomly throughout Penang's Universiti Sains Malaysia and public areas, such as recreational parks, food courts, supermarkets, etc. Participants' responses were collected through either a face-to-face interview or a self-administered questionnaire.

This study looked at three types of music piracy activities: downloading, sharing, and uploading unauthorised music files. A copyright violator was defined as a participant who has reported either one or

more of the following behaviours: (a) using file-sharing services to share unauthorised music files, (b) uploading unauthorised music files for which the participant is not the copyright owner, and (c) downloading/extracting unauthorised music files online from streaming sites, file-sharing via a wireless connection, or P2P file-sharing networks, during the past three months. If a participant answered 'No' to all of the above-mentioned questions, he or she was considered as a non-copyright violator. If a participant had downloaded authorised music files from streaming platforms, such as Spotify, Apple iTunes, JOOX, and used them for offline listening within the apps, he or she was considered a non-copyright violator. A copyright violator was further classified into two groups according to the source of music consumption: (i) violators who reported engaging only in illegal music consumption, i.e., uploading, downloading, and sharing unauthorised music files via various sources, such as YouTube, wireless connection, and P2P sharing networks, and (ii) violators who reported engaging in both legal and illegal music consumption.

In the study, the identification of music copyright violators was based on the self-reported music piracy activities engaged by the participants, and no copyright violations were observed. This study excluded watching or listening to music online via streaming platforms from the list of violating copyright activities due to two reasons: (i) the act of watching or listening to music online, based on the existing Copyright Act 1987, is not considered an offence of violating copyright given that there is no act of reproduction involved in this regard, and (ii) the debate of whether the act of illegal streaming online should be considered a copyright violation is still going on.

Methods

Bivariate analysis was used to characterise the copyright violators. The participants were segregated into two groups: copyright violators (hereafter, violators) and non-copyright violators (hereafter, non-violators). For each socio-demographic factor, the percentage breakdown within each group of participants was tabulated. For categorical factors, Pearson's chi-squared test of independence was used to examine whether the distribution across categories for the factor in question differed significantly between violators and non-violators. For continuous factors, the two-sample test of means was used to examine whether there is a significant difference in the mean between violators and non-violators for the factor in question. The extent to which music piracy prevails was examined using the incidence of violating copyright, as proxied by the proportion of violators to the total number of participants within each category for the factor in question.

RESULTS AND DISCUSSION

Figure 1 presents the distribution of violators and non-violators. Out of 400 participants, 273 participants were identified as violators. The incidence of violating copyright was recorded at 68%. This indicates that seven out of ten people consumed digital music illegally. The remaining participants were non-violators, which included digital music users who reported consuming music legally, i.e., those who only downloaded authorised music files from sources, such as Spotify, Apple iTunes, JOOX, etc.

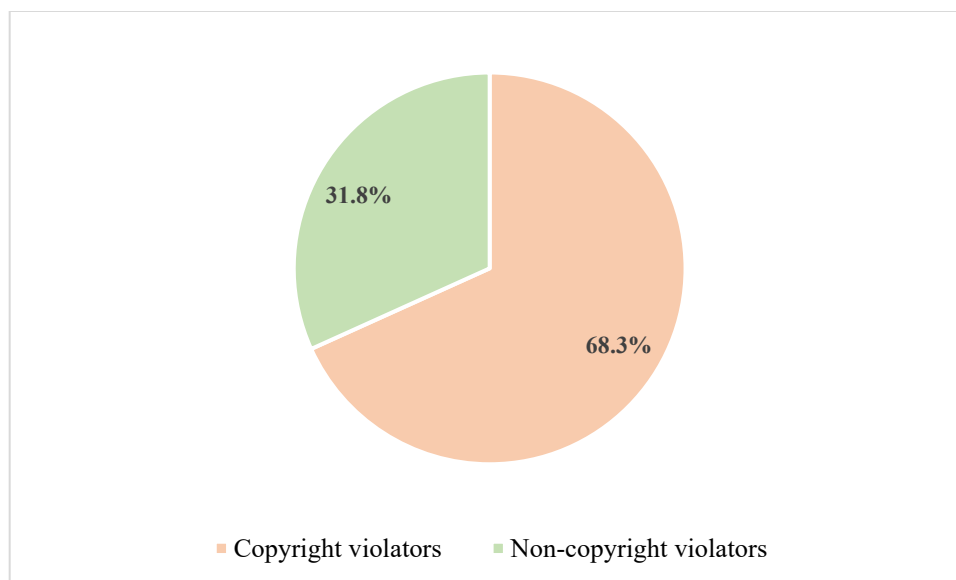


Figure 1. *The distribution of copyright violators and non-copyright violators*

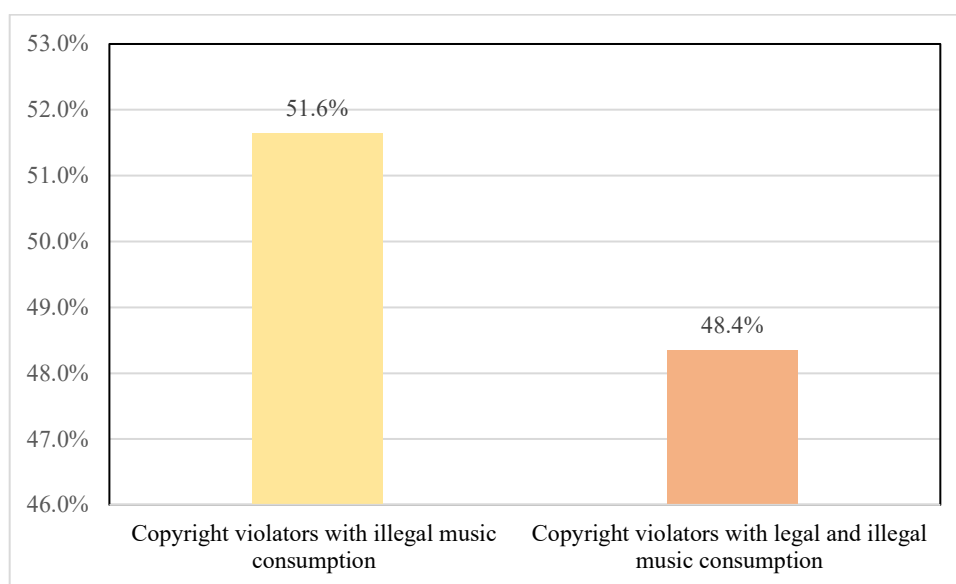


Figure 2. *Distribution of copyright violators by sources of music consumption*

As shown in Figure 2, more than half of violators were found merely engaging in illegal music consumption, such as downloading unauthorised music files, while the remaining violators reported engaging in both legal and illegal music consumption activities.

Among all of these illegal music consumption activities (Figure 3), approximately 94% of violators reported downloading unauthorised music files. This is followed by sharing (48%) and uploading (27.5%) of unauthorised music files. Nearly three-quarters of violators admitted to illegally downloading free music files from sources, such as YouTube, P2P networks, other streaming platforms, or via wireless connections.

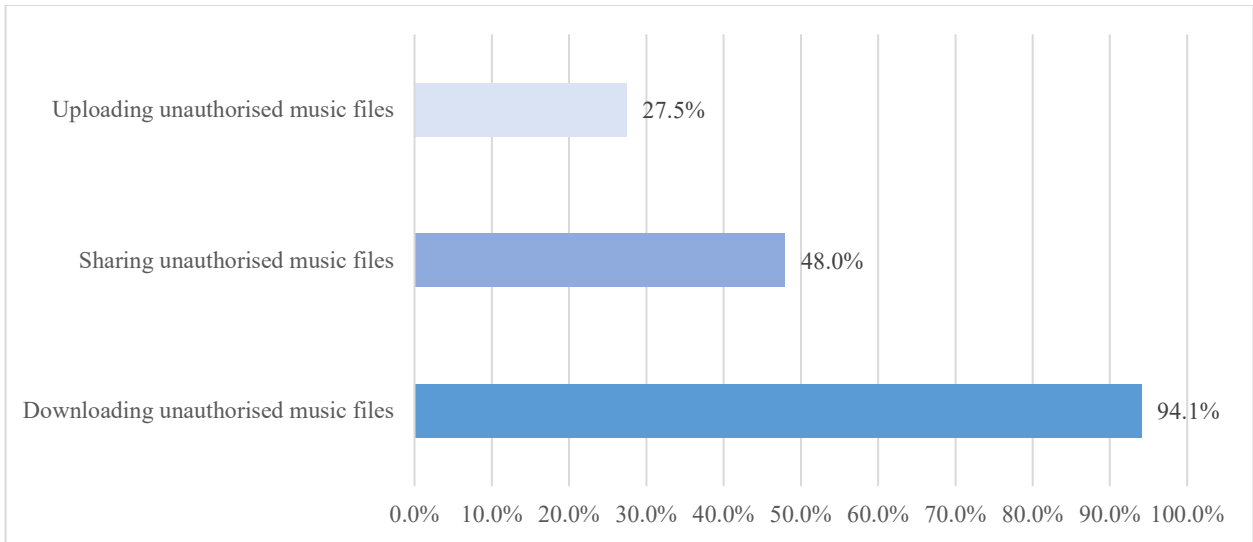


Figure 3. *The proportion of copyright violators by types of illegal music consumption activities*

Characterising Copyright Violators

Socio-Demographic Background

As shown in Table 1, approximately 70% of the violators were under the age of 40, with the highest proportion being between the ages of 20 and 29. The proportion of copyright violators appears to decline as one moves from the age group of 20-29 years to 50 years and older. The incidence of violating copyright (more than 70%) appears to be higher among those below 50 years old, suggesting that younger participants are more likely to violate copyright than older participants. As younger people are more open to technology, they are more likely to engage in music piracy than their older counterparts (Al-Rafee & Cronan, 2006). In terms of gender, the proportion of female participants who were violators was slightly higher than that of non-violators. Nevertheless, there is no significant difference in terms of the gender distribution of violators and non-violators.

In terms of education, nearly all violators have attained at least secondary education. Compared to other education levels, the proportion of violators among participants with tertiary education or higher (72.9%) and those with secondary and pre-university education (67.5%) was significantly higher than the corresponding proportion among those with primary or no formal education. Individuals with tertiary education or higher are more likely to be violators. The incidence of violating copyright among highly educated participants was higher among violators than non-violators. In contrast, the proportion of participants with secondary or pre-university education was slightly higher among non-violators than violators. A similar finding was also observed among participants with a primary or no formal education. This is plausible because individuals with lower education are less proficient with computers and thus less likely to upload, download or share unauthorised music files online.

Table 1

Socio-Demographic Characteristics of Sample, Copyright Violators, Non-Copyright Violators, and the Incidence of Violating Copyright

Factors	Categories	Column Percentage			The incidence of violating copyright
		Non-copyright violators (%)	Copyright violators (%)	Total (%)	
Age	19 & below	3.94	13.55	10.50	88.10
	20 to 29	19.69	30.77	27.25	77.06
	30 to 39	18.11	25.64	23.25	75.27
	40 to 49	16.54	18.68	18.00	70.83
	50 & above	41.73	11.36	21.00	36.90
Gender	Female	46.46	51.65	50.00	70.50
	Male	53.54	48.35	50.00	66.00
Education	No formal & primary	9.45	1.83	4.25	29.41
	Secondary & pre-U	52.76	50.92	51.50	67.48
	Tertiary and above	37.80	47.25	44.25	72.88

Source: Authors' computation based on survey data.

Technological Accessibility

Two indicators were used to examine consumers' access to internet-enabled devices: (i) the number of internet-enabled devices owned and (ii) the types of internet-enabled devices owned. Every participant has at least an internet-enabled device. The mean number of internet-enabled devices owned by the sample was 2.027 units (Table 2). Violators appear to own more internet-enabled devices than non-violators. On average, the number of internet-enabled devices owned by violators was higher than the number of internet-enabled devices owned by non-violators. Violators appear to own more internet-enabled devices than non-violators. In terms of the type of internet-enabled devices owned, smartphone ownership was the highest. Almost all of the participants own an internet-enabled device such as a smartphone. This is followed by owning laptops or tablets, and desktop computers. Violators are more likely to own internet-ready devices than non-violators, as reflected by a relatively higher proportion of violators owing laptops or tablets, and desktop computers, than non-violators.

Table 2.

Mean Values for Various Indicators

Factors	Indicators	Mean		
		Non-Copyright Violators	Copyright Violators	Total
Technological Accessibility				
Access to internet-enabled device	Number of internet-enabled devices*	1.889	2.091	2.027
	Type of devices owned:			
	a) Smartphone	0.992	0.982	0.985
	b) Laptop/tablet**	0.638	0.868	0.795
	c) Desktop/computer	0.299	0.366	0.345
	Internet monthly subscription	0.756	0.813	0.800

Access to the internet	Internet speed (excellent/very good)*	2.6378	2.3443	2.4375
	No. of hours spent on the internet**	5.094	7.849	6.975
Previous Experience				
Experience in engaging in digital music activities	Experience in uploading/downloading from the internet or sharing music files with others (years)**	2.220	5.652	4.562
Legislation and Enforcement				
Awareness of intellectual property right legislation	Well-informed about Malaysian intellectual property right**	0.1654	0.3113	0.265
Effectiveness of enforcement	Perceived high risk of being caught	0.409	0.443	0.432
	Perceived high cost of punishment	0.583	0.608	0.600
	Enforcement of copyright law reduces or eliminates unauthorised file-sharing services and/or free downloading activities	0.724	0.721	0.723
Social Influence				
The importance of ___ in influencing one's digital music behaviour:	Parents	0.024	0.040	0.035
	Family members (siblings/relatives)**	0.071	0.216	0.170
	Peer**	0.236	0.385	0.338
	Media**	0.213	0.392	0.335
Values and Beliefs				
Moral and ethical concern	Engaging in downloading/sharing unauthorised music files is morally and ethically right*	0.307	0.429	0.390
Cultural diversity	A great diversity of contents over the P2P networks or various downloading services motivates me to download and share music files more intensively**	0.480	0.648	0.595
Value consciousness	I always choose products that offer higher value for money*	0.425	0.528	0.495
	I would download the pirated music if the quality of pirated music is similar to that of original music**	0.386	0.648	0.565

Note: **, * indicates the results of the two-sample test of mean were significant at 1% and 5% levels of significance, respectively.

Three indicators were used to determine internet accessibility: subscription to an internet plan, access to high-speed internet, and the number of hours spent on the internet. Access to the internet via a monthly subscription plan provides easy access to music files online, increasing the likelihood of engaging in digital music piracy. Overall, more than four-fifths of the participants have subscribed to a monthly internet plan. More than 81% of copyright violators have subscribed to monthly internet plans. This proportion was higher than the corresponding proportion of non-violators who subscribed to monthly internet plans. In terms of internet speed, more than half of the participants rated their internet connection speed as excellent or very good. Violators are more likely to have a faster internet connection, with a higher proportion of participants rating their internet connection speed as excellent or very good than non-violators. An excellent internet

connection speed will hasten music piracy behaviour (Lysonski & Durvasula, 2008). In terms of internet usage, the average participants spent approximately 6.98 hours per day on the internet. Violators tend to spend more hours on the internet than non-violators. Individuals who spend more time on the internet are more likely to illegally download music files than those who spend less time on the internet (Rochelandet & Le Guel, 2005).

Previous Experience

In terms of experience, an average participant had 4.56 years of experience in uploading, downloading, or sharing music files. Violators had more years of experience in uploading, downloading, or sharing music files than non-violators.

Legislation and Enforcement

Participants were classified into two groups based on their awareness of intellectual property rights knowledge: those who are well-informed about Malaysian intellectual property rights legislation and those who have either limited knowledge or have not heard about it. Nearly three-quarters of participants said they had little or no knowledge of Malaysian intellectual property rights, whereas only 26.5% said they were well-informed of Malaysian intellectual property rights. This suggests that participants have a relatively low awareness and limited understanding of intellectual property rights. Nearly one-third of the participants who reported being well-informed about Malaysian intellectual property rights were copyright violators. This suggests that individuals who are well-informed about intellectual property rights legislation are more likely to violate copyright.

Three indicators were used to gauge the effectiveness of enforcement: (i) the effectiveness of copyright law enforcement in reducing or eliminating file-sharing and free-downloading unauthorised music files; (ii) the perceived risks of being caught; and (iii) the perceived cost of punishment. Approximately 72% of participants agreed that enforcing copyright laws reduces or eliminates unauthorised file-sharing and free-downloading music activities, while the remaining participants disagreed. The two-sample t-test confirmed no obvious significant difference in the corresponding proportions of violators and non-violators.

The effectiveness of enforcement depends greatly on the perceived risks of being caught and the perceived cost of punishment. When an individual perceives the law enforcement unit as a threat, it affects the individual's behaviour (Shinar & McKnight, 1985). The greater the risk of being caught and the cost of punishment, the greater the threat. Approximately 43% of participants perceived a high risk of being caught when/if they had engaged in digital piracy. In terms of perceived punishment, nearly three-fifths of participants perceived the cost of punishment as high if they had been caught committing digital piracy, while the remaining 40% did not think so. While one might expect that the greater an individual's perceived risks, the more likely the individual will comply with copyright legislation, but the results do not appear to support this. The proportion of participants who perceived high risk of being caught was higher among violators (44.3%) than non-violators (40.9%), suggesting that individuals who perceived high risk of being caught are more likely to be violators. A similar result was observed for the perceived punishment, with more violators perceiving the cost of punishment to be high. The results, to some extent, suggest that the participants did not perceive the enforcement as a threat.

Social Influence

Social agents may influence an individual's digital music behaviour. The study considered the importance of four social agents: parents, relatives/siblings, peers, and media in influencing an individual's digital music behaviour. Among these social agents, parents had the lowest importance in influencing the participants' digital music behaviour. Social agents, such as other family members, peers, and media are important influencers in affecting one's digital music behaviour. More than 33% of participants indicated that both peers and media were important influencers on their music uploading, downloading and sharing behaviours. This is followed by the influence of family members, such as siblings or relatives (17%). It was

observed that violators are more likely to be influenced by their peers, the media, and relatives or siblings. The proportion of violators who reported the influence of peers, media, relatives, or siblings on their digital music behaviour as highly important was significantly higher than the proportion of non-violators.

Values and Beliefs

An individual's values and beliefs may affect his or her digital music behaviour. This study considered three indicators: the moral and ethical concern, the cultural diversity of contents, and the value consciousness. In terms of moral and ethical concerns, approximately 39% of participants agreed that downloading or sharing unauthorised music files is morally and ethically correct. Violators are more likely to believe this than non-violators. In other words, individuals who engage in illegal free downloading or sharing of music files tend to perceive this behaviour as morally and ethically correct. A plausible explanation is that these violators are unaware that engaging in these illegal music activities is wrongdoing or unethical and thus do not feel guilty in engaging in these activities. Perhaps, consumers believe that these activities are simply moral norms in today's reality and are unaware that engaging in these activities violates one's moral standards. In addition, consumers may not consider illegal digital music activities to be theft, but rather duplications of original music, and thus were not considered unethical or immoral behaviour.

The cultural diversity of contents refers to the presence of great diversity of contents over P2P networks or various downloading services to download music files online. The extent to which the cultural diversity of contents influences an individual's digital music behaviour was evaluated based on the participant's agreement towards the following statement: "*A great diversity of contents over peer-to-peer networks or various downloading services motivates you to download and share music files more intensively.*" Nearly 60% of participants agreed that a great diversity of contents over P2P networks or various downloading services motivated them to download and share music files more intensively. The proportion of participants who agreed on the influence of great diversity of content on their digital music behaviour was higher among violators than non-violators, suggesting that cultural diversity of content has a significant influence on violators' digital music behaviour.

The value and quality consciousness were evaluated based on the participants' agreements towards the following two indicators: (a) "I always choose products that offer higher value for money"; and (b) "I would download pirated music if its quality is perceived to be similar to the original version". Almost half of the participants choose products with a higher value for money. The tendency of violators to choose products that provide more value for money is higher, as reflected by a relatively higher proportion of violators who always choose products that provide value for money when compared to the corresponding proportion of non-violators. For downloading, approximately 56% of participants will download pirated music if the quality of pirated music is the same as that of original music. The proportion of violators who downloaded pirated music was higher than the proportion of non-violators. This suggests that music if the quality of pirated music is comparable to the original music, violators are more likely to download it.

CONCLUSION

The scarcity of empirical studies on music piracy in the context of Malaysia provides a limited understanding of the phenomenon in the country. Following this, this study provides an insight into the music piracy issue by examining the prevalence of music piracy issues and characterising the copyright violators. The results of the incidence of violating copyright showed that nearly seven out of ten consumers reported engaging in some form of illegal music consumption. This signifies an alarming attack of piracy issues in the community, and serious steps must be taken to address this issue. In addition, copyright violators were found to have distinguishing characteristics that differed from non-copyright violators. Copyright violators tend to be younger, highly educated, own more internet-ready devices, and have better and more extensive internet access. They are likely to be individuals who are more value and quality

conscious. In addition, they also tend to be influenced by previous experiences and motivated by the availability of a wide range of content via P2P networks or various downloading services.

The majority of participants agreed that effective enforcement helps to reduce or eliminate unauthorised file-sharing and/or free downloading activities. Nevertheless, not many perceived the enforcement unit as a threat. Malaysians have a low level of awareness of property rights, with seven out of ten people having limited knowledge or being unaware of intellectual property rights. The extent to which a nation can combat piracy is largely dependent on the public's awareness of intellectual property rights. This could be due to the public's misinterpretation or misconception towards illegal music activities due to their limited knowledge of intellectual property rights. Approximately two-fifths of the participants agreed that engaging in free downloading or sharing unauthorised music files is morally and ethically right. Nearly four out of ten individuals with intellectual property right knowledge agreed that engaging in free downloading or sharing unauthorised music files is morally and ethically correct. Following this finding, there is a dire and urgent need to educate Malaysians regarding intellectual property rights legislation and piracy issue, including the impact of piracy issue on the economy. Policymakers may consider having public awareness campaigns and incorporating intellectual property rights issues and legislation into the education curriculum. Given the importance of social agents, especially the media, in influencing one's digital music behaviour, the media may play a more active role in educating the public about intellectual property rights, piracy issues and their impact.

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