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The Determinants of Digital Piracy Behaviour in Malaysia

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Abstract

The advancement of technology has facilitated sustainable and significant development in supporting digitalisation of business operations, including but not limited to electronic commerce, but also resulting in a significant increase in digital crimes, particularly online piracy. Many consumers seek out pirated content and the majority of them do not perceive it as something that could eventually harm the creative industry or perceive it as a wrong practice. Therefore, the problem of online piracy becomes rampant. This research investigates the direct and indirect relationships between deviant peer associations, perceived benefits, attitude towards digital piracy, subjective norms, self-efficacy, digital piracy intention and actual digital piracy behaviour. A total of 450 samples were gathered via an online self-administered questionnaire survey. The data was evaluated by structural equation modeling (PLS-SEM) and statistical package for social sciences (SPSS). According to the statistical findings, all of the direct and indirect relationships among the seven variables are significantly supported. This study provides theoretical and managerial implications by demonstrating that digital piracy intention has a significant relationship on actual digital piracy behaviour as well as deviant peer associations have a significant relationship on an individual's attitude towards digital piracy. This study concludes with some limitations and recommendations for the future digital piracy research.

Keywords: attitude towards digital piracy, deviant peer associations, actual digital piracy behavior, digital piracy intention, perceived benefits, self-efficacy, subjective norms

1. Introduction

The advancement of technology has created the proliferation of digital piracy (Aversa, Hervas-Drane & Evenou, 2019). Digital piracy causes a significant disaster impact on the global economy and society. In Malaysia, the annual loss due to digital piracy is projected to be RM3 billion to the entertainment and media industries, RM500 million in taxes, and the loss of thousands of jobs in Malaysia (Bedi, 2021). Piracy has grown so common that many people have forgotten it is a crime (Nathan, 2021). Many consumers seek out pirated content knowingly and the majority do not perceive it as something that could eventually harm the creative industry or perceive it as a wrong practice (Yeap, 2019). Therefore, this research will investigate the determinants of digital piracy behaviour.

There are very limited empirical studies analyse the actual digital piracy behaviour in Malaysia. Most researches have been done in countries such as China, Indonesia and Portugal as well as focused on determining the participants' intentions rather than their actual engagement behavour in digital piracy (Yoon, 2011, Arli & Tjiptono, 2016, Hati, Fitriasih & Safira, 2019, Casidy, Phau & Lwin, 2016 & Meireles & Campos, 2018). Digital piracy is regarded as a global issue that affecting practically every country. Thus, it is a necessary to conduct more research on other countries such as Malaysia. Moreover, when being properly measured, intentions account for a substantial portion of the variance in the actual behaviour (Fishbein, 2008). Despite the substantial correlations between intention and behaviour, it is normal for people to fail to act even when they have acquired the intentions (Ng, 2020). This discrepancy is known as the intention-behaviour gap (Ng, 2020; Sheeran & Webb, 2016; Faries, 2016). Intention may not always correspond to actual involvement because there may be situational or external factors that may influence an individual's decision-making (Sahni, Jain & Gupta, 2017). Therefore, this research aims to fill the gap by determining the actual digital piracy behaviour among Malaysians through intention rather than just focus on digital piracy intention as a dependent variable.

Furthermore, most researches have investigated the certainty of punishment and the severity of punishment as the determinants that affecting digital piracy behaviour through attitude to the intention of digital piracy (Yoon, 2011, Meireles & Campos, 2018; Hati et al., 2019). It shows that there is a lacking of research in studying the deviant peer associations as a determinant that affecting digital piracy behaviour through attitude to the intention of digital piracy and subsequently affecting the actual behaviour of online piracy. Deviant peer associations are linked to the differential association from the social learning theory, they offer an individual with differential reinforcement, deviant imitation and definitions for conforming and criminal behaviour (Wolfe & Higgins, 2009; Holt, Bossler & May, 2011). According to the social learning theory, individuals become deviant and continue to engage in criminal behaviour through a continuous social leaning process which is based on differential associations (Holt et al., 2011). There is an evidence proved that having peers who pirate digital products positively link to one's digital piracy behaviour (Lee, Paek & Fenoff, 2018; Morris & Higgins, 2010; Wolfe & Higgins, 2009). Therefore, this research aims to fill the gap by adding the deviant peer associations as a social factor that influencing the digital piracy behaviour in the Malaysian context.

Therefore, the purposes of this research are to: (1) examine the various positive relationships between deviant peer associations, perceived benefits, attitude towards digital piracy, subjective norms, self-efficacy, digital piracy intention and actual digital piracy behaviour; (2) the mediator role of attitude towards digital piracy on the various relationships between perceived benefits, deviant peer associations and digital piracy intention; (3) the mediator role of digital piracy intention towards the various relationships between attitude towards digital piracy, subjective norms, self-efficacy and actual digital piracy behaviour.

2. Literature Review

2.1 Theoretical Background

Social Learning Theory (SLT) - Akers' SLT is the result of revisions and changes to the Differential Association-Reinforcement Theory (DART) by Burgess and Akers in 1966, which in turn DART is a reformulation of Differential Association Theory by Sutherland in 1947 (Cochran et al., 2015). In criminology, Akers' SLT emphasises that criminal behaviour is learned (Wolfe & Higgins, 2009; Higgins, Fell & Wilson, 2007). This theory explains deviant and criminal behaviour by focusing on variables that can influence and inspire criminal conduct as well as those that undermine or foster conformity (Wolfe & Higgins, 2009). The Akers' SLT consists of four fundamental concepts which are differential reinforcement, definitions, imitation and differential association to explain the mechanisms by which individuals internalise and learn the norms and values associated with deviance or conformity (Lee, Jeong & Paek, 2019). Differential reinforcement includes any benefits and potential punishments for individuals that engaging in a particular behaviour (Gagnon, 2018). Moreover, the individual's own meaning, attitudes or evaluative judgments associated with a specific behaviour is known as definitions (Cochran et al., 2015; Kabiri et al., 2016). Furthermore, imitation is defined as an individual engages in a particular conduct after observing or modelling the same conduct of role model (Carvalho & Ossorio, 2021; Cochran et al., 2015). In addition, differential association is a way for learning deviance-related activities or things by observing punishing and rewarding norm violation results and a source of definitions unfavourable and favourable to deviant conduct as well as by being exposed to non-conforming and conforming behavioural models (Tittle, Antonaccio & Botchkovar, 2012). Among all the social learning theory components, definitions and differential association have been proven to have the greatest predictive potential (Gagnon, 2018). Therefore, this research will only focus on differential association as it is referred to deviant peer associations.

Theory of Planned Behaviour (TPB) - TPB is an expanded version of theory of reasoned action (TRA) (Koay, Tjiptono & Sandhu, 2021). The objective of TPB is to overcome the limitations of TRA, which allow for the explanation and prediction of behaviour under control (Barbera & Ajzen, 2020). TPB states that people's intentions are the most important component that influencing behaviour, assuming that people's intentions represent an individual's willingness to engage in a specific behaviour (Aziz et al., 2018). In order to deal with non-volitional situations, TPB added the perceived behavioural control (PBC) variable to the existing two variables which are subjective norms and attitudes towards the behaviour (Jain, 2020). According to Ajzen (1991), there are three beliefs influence human behaviour which are attitudinal belief (attitudes towards the behaviour), normative belief (subjective norms) and control belief (PBC). Attitude towards the behaviour is the extent to which a person has a positively or negatively opinion of the action in issue (Fang et al., 2017). Subjective norms are the societal pressures to refrain from performing the behaviour (Ajzen, 1991). PBC is the perceived difficulty or ease of doing the behaviour that reflecting a prior experience (Ajzen, 1991). Basically, individuals' actual behaviour is directly controlled by their behavioural intention, which in turn affected by their PBC, subjective norms and attitude toward completing the behaviour (Yoon, 2011). Therefore, this theory has played a critical role in establishing a thorough understanding of behaviour from both social and personal

perspectives (Jain & Khan, 2017).

2.2 Actual Digital Piracy Behaviour

A digital piracy behaviour refers to the consumption of an unlawful copy of a digital goods, content or service such as software, films, video, music or e-book without the payment to or approval from the copyright owners (Pham, Dang & Nguyen, 2020; Hinduja, 2012). The actual digital piracy behaviour can also be referred as the act of distributing, using, purchasing, downloading or reproducing in digital formats or using technologies without the permission of the copyright owners (Belleflamme & Peitz, 2014; Eisend, 2019). It is frequently carried out by a single person for the personal use of unauthorised software or other digital products such as self-cracking, self-hacking, using cracked software, sharing or storing unlawful digital products, sharing cracking experience and encouraging illegal use are all examples of digital piracy activities (Pham et al., 2020). Therefore, people who engage in digital piracy do not consider their actions to be wring and do not feel guilty about it (Fuaad, Kassim, Nasir & Ali, 2017). Generally, research on piracy behaviour is primarily focused on behavioral intentions (e.g., Pham et al., 2020, Eisend, 2019 & Phau, Lim, Liang & Lwin, 2013). It is often assumed that intentions are a strong predictor of actual behaviour (Ramayah, Ahmad, Chin & Lo, 2009).

2.3 Deviant Peer Associations

Deviant peer associations refer to differential association based on Social Learning Theory (SLT) (Wolfe & Higgins, 2009). Generally, differential association is originally designed to describe criminal participation, it has the greatest influence on criminal behaviour (Boman & Mowen, 2018). According to the Social Learning Theory (SLT), individuals who associate differently with their family, peers and other people will expose themselves to attitude towards deviance or deviant conduct (Lowenstein, 2020; Lee et al., 2019). Specifically, deviant peers may directly or indirectly involve in identifications, interactions and both nonverbal and verbal communications with others (Lowenstein, 2020; Lee et al., 2019). According to Akers (1998), individuals who engage with deviant peers are more inclined to adopt definitions that favourable to commit crime which are reinforced by the anticipated punishments and rewards. Therefore, this study will determine whether the deviant peer associations affect the attitude of an individual towards online piracy.

2.4 Perceived Benefits

The notion of positive outcomes expected by performing a particular behaviour is referred as perceived benefits (Champion, 1999). Each behaviour or act is believed to have a potential favourable or unfavorable effect (Arli & Tjiptono, 2016). Individual behaviour is influenced by the specific outcome of a particular action (Yoon, 2011). In fact, the combination of emotional or hedonic related benefits and the performance or utilitarian associated benefits can determine the degree of an individual's perceived benefits (Herjanto, Gaur & Hong, 2017). In other words, individual should experience both intrinsic benefits (perceived enjoyment) or extrinsic benefits (perceived usefulness) in order to reap the perceived benefits (Herjanto et al., 2017). Moreover, perceived benefits are one of the determinants of attitudes towards digital product piracy (Koay et al., 2021).

2.5 Subjective Norms

Subjective norms are comprised of two parts which are the motivation to follow with those particular referents as well as the normative beliefs, which is defined as a person's subjective likelihood that a particular normative referent wants the persons to do a specified conduct (Casidy et al., 2016). It is a social determinant of behavioural intentions (Arli & Tjiptono, 2016). Moreover, it is the notion that a significant group of people or individual would support and approve a specific behaviour (Ham, Jeger & Ivkovic, 2015). It may exert pressure on individuals to perform or refrain from performing the behaviour in issue, regardless of their own opinions toward the given action (Jain & Khan, 2017; Jain, 2020). Family, friends, and colleagues may be among the several influencers included in the subjective norms (Jain & Khan, 2017). Their beliefs, ideas and thoughts have a significant impact on an individual's perception of behaviour (Koay et al., 2021).

2.6 Self-Efficacy

Self-efficacy is a conviction in one's capability to perform the course of action on one's needs in order to accomplish one's desires (Fitriasih, Hati & Achyar, 2019). It is one of the representations of PBC that serves as a predictor of criminal behaviour (Hati et al., 2019). Basically, in the context of internet ethics, self-efficacy will act as an operationalisation of PBC as it encompasses conviction, knowledge, skills in addition to individual's perceived facilitation (Corte & Kenhove, 2015). Self-efficacy shows not only an individual's competence but also assessment of what individual is capable of doing with whatever skills he or she has (Corte & Kenhove, 2015). In this research, self-efficacy is defined as individuals' assessment of their capacity to involve in digital piracy behaviour in various settings, particularly their technological competence (Phau, Teah & Liang, 2016).

2.7 Attitude towards Digital Piracy

Individual's attitude towards digital piracy is defined as his or her positive or negative assessment of pirating any digital products (Tjiptono, Arli & Viviea, 2015). Attitude is a psychological propensity that is demonstrated by assessing a specific entity favourably or unfavourably (Jain, 2014). Modern psychologists noted that attitude is a form of fundamental psychological features that includes cognitive, emotional and conative inclinations that display consistency and persistence in actions (Fang et al., 2017). One convincing justification for the importance of attitude is that it can be influenced by persuasive messages and other means (Al-Rafee & Cronan, 2006). Attitude is a strong determinant of behavioural intention as according to the TPB (Jain, 2020; Koay, Tjiptono & Sandhu, 2020).

2.8 Digital Piracy Intention

One's attitude towards the conduct such as unfavourable or favourable judgment of the behaviour, the subjective norms such as social acceptance or approval to execute or not execute the behaviour as well as the PBC which is the ease with which the behaviour can be performed influence the intention of an individual (Arli & Tjiptono, 2016). Fishbein and Ajzen (1975) define intention as the willingness of an individual try to enact it as well as the effort that individual will exert in conducting the behaviour. In other words, intention is simply described as how difficult someone is willing to attempt and how much determination they have to complete a behaviour (Mamman, Ogunbado & Abu-Bakr, 2016). Intention expresses an individual's level of motivation to engage in a behaviour (Fishman, Lushin & Mandell, 2020). Normally, the actual behaviour of an individual corresponds to his or her desire to undertake an action as intention is a major driver of behavioural implementation (Arli & Tjiptono, 2016; Moullin, Ehrhart & Aarons, 2018).

2.9 Hypotheses Development

2.9.1 Deviant Peer Associations and Attitude towards Digital Piracy

As a form of social agents, the peers have a direct impact on the attitude towards digital piracy as peer association provides opportunities and emotional supports for clarifying engagement, acceptance and validation that facilitating self-definition (Yang & Wang, 2015). Deviant peers create a social setting in which an individual is exposed to and learn the knowledge, attitudes and norms that oppose or support a specific activity (Lee, Paek & Fenoff, 2018). Skinner and Fream (1997) state that friends can be a medium of communication for individual to learn the "technical" aspects of computer crime such as providing an access to pirate the software or how to bypass a security system. Therefore, people will be more favourable to pirate digital products if they are influenced by peers who involve in digital piracy based on SLT (Lee, Fenoff & Paek, 2019). In line with SLT, deviant peers foster a favourable environment for the development of positive attitudes towards deviant behaviour (Marcum, Higgins & Ricketts, 2014). In other words, deviant peer associations will affect the attitude towards digital piracy of an individual. Therefore, it can be hypothesised as:

H1: Deviant peer associations are positively related to attitude towards digital piracy

2.9.2 Perceived Benefits and Attitude towards Digital Piracy

Prior to engaging a particular behaviour, an individual will assess the negative or positive repercussions of that behaviour (Koay et al., 2021). Therefore, a person is more inclined to engage a particular behaviour if he or she is sure that it will result in favourable results with little risks (Koay et al., 2021). The fundamental rationale is that an individual favours to participate in the online piracy in order to gain certain desired outcomes (Vida et al., 2012; Hati et al., 2019). The perceived advantages of engaging in the online piracy such as convenience and saving of money or time will influence attitude towards digital piracy significantly (Arli & Tjiptono, 2016). In terms of time and effort, illegal downloading, copying or sharing is thought to be more convenient than acquiring licenced product (Tam, Feng & Kwan, 2019). Moreover, the low-cost advantage of pirated digital products over legitimate digital products has been identified as a motivator for consumers to purchase pirated digital products, sometimes the economic gains provided by pirated digital products outweigh any quality losses (Cesareo & Pastore, 2014). Furthermore, the excitement or enjoyment or satisfaction of committing an unlawful act encourages such online piracy behaviour (Cesareo & Pastore, 2014). Hence, the more customers recognise the advantages of digital piracy, the greater probable they are to be favourable toward it (Arli, Tjiptono, Casidy & Phau, 2018). Therefore, it can be hypothesised as:

H2: Perceived benefits are positively related to attitude towards digital piracy

2.9.3 Attitude towards Digital Piracy and Digital Piracy Intention

It has been discovered that attitude has a strong impact on intention based on the notion that individuals are more

motivated to engage in behaviour when they have a positive attitude (Al-Rafee & Cronan, 2006; Koay et al., 2021). If one's attitude can be changed, then one's intention and subsequently behaviour may be influenced (Al-Rafee & Cronan, 2006). According to TPB, attitudes are evaluations that people make about the behaviour that they favour or disfavour (Dilmperi, King & Dennis, 2017). The more positive a person's attitude towards an action, the more likely that person will engage in that behaviour (Fang et al., 2017). Previous empirical research has found that those who have a positive attitude towards online piracy may try to engage in digital piracy since they do not believe it is a wrongful practice (Fuaad et al., 2017; Arli et al., 2018; Casidy et al., 2016). In the same situation, someone who has an unfavourable attitude against online piracy may refrain themselves from engaging in online piracy activities (Fuaad et al., 2017). As many empirical studies that derived from the TPB, attitudes are one of the most important factors that determining people's intentions toward online piracy (Fuaad et al., 2017). Therefore, it can be hypothesised as:

H3: Attitude towards digital piracy is positively related to digital piracy intention

2.9.4 Subjective Norms and Digital Piracy Intention

In line with TPB, when an individual encounters some social pressures, he or she will tend to conduct a certain form of behaviour (Arli & Tjiptono, 2016). For instance, when the referent groups such as siblings, parents or relatives perceive the behaviour as socially acceptable, individuals are more likely to engage in that behaviour (Koay et al., 2021). Individuals may be motivated to pirate digital materials that influenced by their surroundings, particularly social factors such as rules, values and norms adopted by a society (Hati et al., 2019). The stronger the perceived pressures to execute an action, the more probable it is that the behaviour will be performed (Dilmperi et al., 2017). Several empirical researches indicate the existence of a positive relationship between subjective norms and the digital piracy intention (Arli & Tjiptono, 2016; Fitriasih, Hati & Achyar, 2019; Meireles & Campos, 2018). Therefore, it can be hypothesised as:

H4: Subjective norms are positively related to digital piracy intention

2.9.5 Self-Efficacy and Digital Piracy Intention

Self-efficacy means a person's belief in his or her own capability to commit a crime in order to fulfill his or her desires (Fitriasih, Hati & Achyar, 2019). Therefore, individuals who engage in digital piracy should have confidence in their ability or understand how to unlawfully download or install digital materials (Phau, Teah & Liang, 2016). It indicates that people may engage in digital piracy more frequently as a result of their ability to do so (Corte & Kenhove, 2015). According to TPB, when individuals believe that they have the means to do so such as perceived ease of performing the behaviour as they have confidence in their ability to conduct the behaviour, are more likely to have strong intention in performing digital piracy behaviour (Jain & Khan, 2017). Hati et al. (2019) assert that the greater a person's self-efficacy, the greater the person proclivity to take risks. Therefore, it can be hypothesised as:

H5: Self-efficacy is positively related to digital piracy intention

2.9.6 Digital Piracy Intention and Actual Digital Piracy Behaviour

According to Koklic (2016), the intention of an individual to involve in the digital piracy, is considered as a conscious plan to perform the conduct results in actual participation in pirating digital content from the Internet. For example, Taylor (2012) discovers that the intention to involve in the digital piracy affects the individual's actual digital piracy behaviour, which is described as the total number of suspect digital files uploaded and downloaded. In line with TPB, the intention of a person to do an action leads to that person actual behaviour (Phau et al., 2013). An individual is expected to carry out a behaviour if he or she has the intention (Balau, 2018). It indicates that individual who has stronger intention will more likely to perform the behaviour (Balau, 2018). Pham et al. (2020) argue that the intention to engage in digital piracy has a favourable impact on digital piracy behaviour. Therefore, it can be hypothesised as:

H6: Digital piracy intention is positively related to actual digital piracy behaviour

2.9.7 Deviant Peer Associations, Attitude towards Digital Piracy and Digital Piracy Intention

As mentioned above, deviant peers foster a favourable environment to the development of positive attitudes towards deviant behaviour (Marcum et al., 2014). In line with the social learning theory, people will be more favourable to pirate digital products if they are influenced by the peers who engage in digital piracy (Yang & Wang, 2015). Moreover, in line with the theory of planned behaviour, individuals will try to engage in digital piracy while they have positive attitudes (Fang et al., 2017). People are more likely to discuss or share the digital pirated product's content with peers if the level of association increases and therefore the likelihood to learn

about the digital piracy behaviour increases which create the intention to pirate (Yang, Wang & Mourali, 2015). Based on the arguments above, deviant peer associations are indirectly affecting digital piracy intention through attitude towards digital piracy. Therefore, it can be hypothesised as:

H7: Attitude towards digital piracy mediates the relationship between deviant peer associations and digital piracy intention

2.9.8 Perceived Benefits, Attitude towards Digital Piracy and Digital Piracy Intention

Individuals' attitude towards digital piracy are influenced by possible benefits when they consider the assumption that digital piracy can improve performance without raising effort or expense to be an advantage of digital piracy (Arli & Tjiptono, 2016). The more individuals recognise the advantages of online piracy, the greater inclined they are to favour for it (Arli et al., 2018). It means that people have positive attitude towards digital piracy when they recognise the advantages. As mentioned above, attitude has a strong impact on intention based on the notion that individuals are more motivated to engage in behaviour when they have a positive attitude (Al-Rafee & Cronan, 2006; Koay et al., 2021). The more positive a person's attitude towards an action, the more likely that person will engage in that behaviour according to the theory of planned behaviour (Fang et al., 2017). Based on the argument as above, perceived benefit is indirectly affecting digital piracy intention through attitude towards digital piracy. Therefore, it can be hypothesised as:

H8: Attitude towards digital piracy mediates the relationship between perceived benefits and digital piracy intention

2.9.9 Attitude towards Digital Piracy, Digital Piracy Intention and Actual Digital Piracy Behaviour

It has been discovered that attitude has a significant influence on intention (Al-Rafee & Cronan, 2006). The more positive a person's attitude towards digital piracy, the more likely that person will engage in digital piracy (Fang et al., 2017). If the person has a stronger intention to engage digital piracy, the more likely the actual digital piracy behaviour will be implemented. According to TPB, it claims that a person's intention to execute a behaviour leads to the actual behaviour of a person through the attitude towards the behaviour (Leeladharan & Vijayan, 2019). If one's attitude can be changed, then one's intention and subsequently behaviour may be influenced (Al-Rafee & Cronan, 2006). Based on the argument above, digital piracy intention is indirectly affecting actual digital piracy behaviour through attitude towards digital piracy. Therefore, it can be hypothesised as:

H9: Digital piracy intention mediates the relationship between attitude towards digital piracy and actual digital piracy behaviour

2.9.10 Subjective Norms, Digital Piracy Intention and Actual Digital Piracy Behaviour

Dilmperi et al. (2017) argue that the stronger the perceived pressures to execute an action, the more probable it is that the behaviour will be performed. According to TPB, if the person believes that his or her significant referents have favourable attitudes regarding digital piracy, they will be more likely to engage in it as this will be interpreted as endorsement of that behaviour by others who are important to them (Petrescu, Gironda & Korgaonkar, 2018). When an individual has a stronger intention, he or she will more likely to perform the behaviour (Balau, 2018). It indicates that people who has strong intention to engage digital piracy will really involve in illegal downloading, sharing or copying the digital materials. In other words, Pham et al. (2020) conclude that the intention to engage in digital piracy has a favourable impact on digital piracy behaviour. Based on the argument above, subjective norms are indirectly affecting the actual digital piracy behaviour through subjective norms. Therefore, it can be hypothesised as:

H10: Digital piracy intention mediates the relationship between subjective norms and actual digital piracy behaviour

2.9.11 Self-Efficacy, Digital Piracy Intention and Actual Digital Piracy Behaviour

Hati et al. (2019) argue that a person will have an intention to engage in digital piracy behaviour when he or she has stronger self-efficacy. It means that when a person has confidence in his or her ability to pirate the digital materials will tend to engage in digital piracy. Pham et al. (2020) assert that the intention to engage in digital piracy has a favourable impact on digital piracy behaviour. The argument from Balau (2018) concludes that self-efficacy is indirectly affecting actual digital piracy behaviour through digital piracy intention. Therefore, it can be hypothesised as:

H11: Digital piracy intention mediates the relationship between self-efficacy and actual digital piracy behaviour

2.10 Conceptual Framework

Based on the above hypotheses development, a conceptual framework is presented in Figure 1 as below:

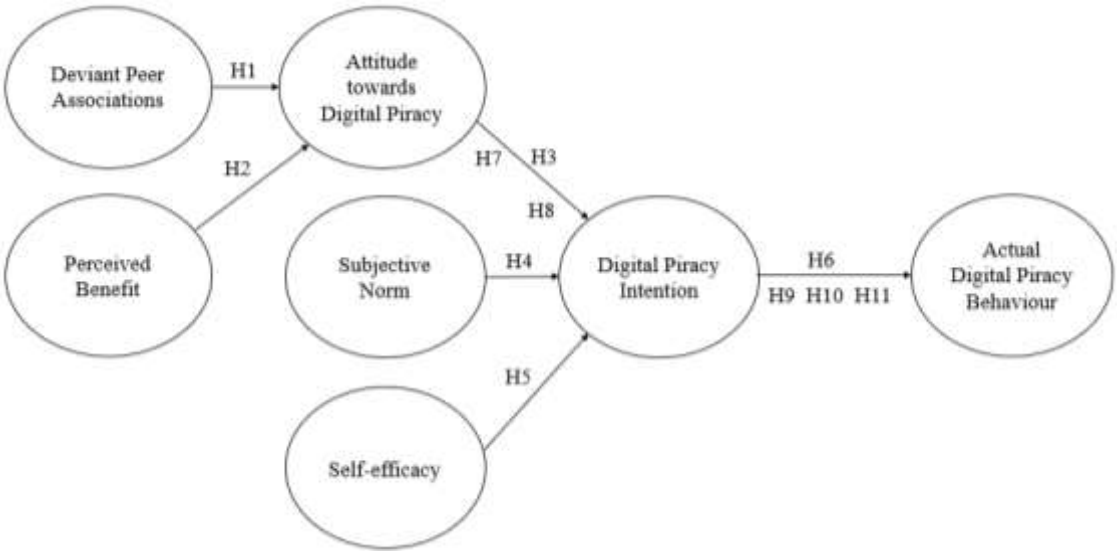

Figure 1. Conceptual Framework

3. Methodology

3.1 Research Design

For this research, quantitative research approach will be used to test hypotheses and theory with the data (Apuke, 2017). Furthermore, quantitative research approach involves a larger sample that is chosen at random, which contributes to the study's trustworthiness (Rahman, 2017). Moreover, this research will adopt a cross-sectional study approach to collect accurate data that allows for the creation of robust findings and the potential new hypotheses that may be tested for the future research (Zangirolami-Raimundo, Echeimberg & Leone, 2018). To identify the characteristics of young internet users in Malaysia, primarily data will be collected through a self-administered survey via online among the young internet users (Ponto 2015).

3.2 Data Collection Method

This research uses online self-administered questionnaire survey to acquire quantitative primary data from the respondents. Through the online survey, the information is directly gathered digitally, making raw data available for processing extreme rapidly and respondents can complete the questionnaire at their convenience (Dell'Olio, Ibeas, Ona & Ona, 2018). Researchers can efficiently collect vast amounts of data efficiently by using online survey since they can collect data in relatively short time frames and require less human resource efforts to collect and manage data (Regmi et al., 2016). Furthermore, the online survey is created in Google Form and its link is shared to targeted respondents via social media such as Instagram or WhatsApp.

3.3 Sampling Design

The target population in this study would encompass all of the youths in Malaysia with the range of age in between 18 to 40 as they are the largest demographic group online, accounting for 67.8% of Malaysia's 28.7 million internet users (Malaysian Communications and Multimedia Commission, 2020). The youths utilise digital media primarily as a communication tool, to gain access to entertainment and multimedia as well as to build their own image (Tomczyk, 2021). Snowball sampling is applied when one respondent introduces other respondents, normally from his or her relatives, acquaintances or people known to him or her (Bhardwaj, 2019). Therefore, this study will adopt snowball sampling as it is effective for hidden or rare populations where individuals are difficult to contact and identify (Turner, 2020). Kadam and Bhalerao (2010) state that an adequate sample size is crucial in any study. The study will target 450 respondents as the sample size, which is above the estimated sample sizes calculated based on the formula developed by Cochran (1963) and Yamane (1967).

3.4 Measure

The questionnaire design is divided into two sections. Section A relates to the demographic questions and comprises 4 closed-ended questions such as gender, age group, education level and profession. Whereas, Section B covers the scaled-response questions that included 30 items that measuring 7 constructs as proposed in the

conceptual framework. Three items of deviant peer associations (DP) are adapted from Lee, Fenoff and Paek (2019) which are measured through 7-point Likert scales anchored by "1=None" to "7=All of them". Moreover, four items of perceived benefits (PB) are adapted from Yoon (2011) which are measured through 7-point Likert scale anchored by "1=Strongly Disagree" to "7=Strongly Agree". Furthermore, four items of attitude towards digital piracy (ATT) are adapted from Yoon (2011) which are measured through 7-point Likert scales. The first item of ATT is anchored by "Very Foolish" (1) to "Very Wise" (7); the second item of ATT is anchored by "Very Harmful" (1) to "Very Beneficial" (7); the third item of ATT is anchored by "Very Bad" (1) to "Very Good" (7); the last item of ATT is anchored by "Very Unfavourable" (1) to "Very Favourable" (7). In addition, three items of subjective norms (SN) are adapted from Arli and Tjiptono (2016) which are measured through 7-point Likert scale anchored by "1=Strongly Disagree" to "7=Strongly Agree". Self-efficacy (SE) consists of four items that are adapted from Phau et al. (2013) which are measured through 7-point Likert scale anchored by "1=Strongly Disagree" to "7=Strongly Agree". Digital piracy intention (INT) consists of four items that are adapted from Petrescu et al. (2018) which are measured through 7-point Likert scale anchored by "1=Strongly Disagree" to "7=Strongly Agree". Lastly, three items of actual digital piracy behaviour (UB) that are adapted from Pham et al. (2020). The detailed of the measurement can be referred to Appendix A1.

3.5 Data Analysis Method

For the data analysis methods, 450 samples would be analysed by using Statistical Package for Social Sciences (SPSS) version 28.0.1 and SmartPLS version 3.2.9 in this study. In the data analysis and finding sections, preliminary analysis (non-response bias, common method variance and multivariate normality test), descriptive analysis (demographic and constructs), measurement model and structural model will be evaluated.

4. Data Analysis and Finding

4.1 Preliminary Data Analysis

In this study, the non-response bias analysis is carried out by using the independent samples t-test through SPSS. All demographic variables including gender, age, educational level and profession are examined by using independent samples t-test with the early respondent group and the late respondent group as suggested by Sheikh and Mattingly (1981). If the p-value threshold is more than 0.05, the study is free of non-response bias (Behar-Horenstein & Feng, 2017). All the four demographic variables including gender, age, educational level and profession are not significantly different from each other as the p-value for all demographic variables are greater than 0.05, it can be concluded that the responses collected in this study is free from non-response bias.

According to Rodriguez-Ardura & Meseguer-Artola (2020), inaccurate assumptions about scales' validity and reliability can be made due to the common method variance such as respondents may be less thorough in providing more consistent responses with within-scale and possibly even across-scale metrics. Therefore, statistical remedies can be used to detect potential sources of bias whether a single component explains the majority of variances (Podsakoff et al., 2003). The Harman single-factor test is used in this study to estimate the common method variance by using SPSS. According to the results, the cumulative percentage value for extraction sum of squared loadings is 48.918%, which is lower than the threshold value of 50% that suggested by Podsakoff et al. (2003). As a conclusion, there is no common method variance issue occurs in this study.

Moreover, multivariate normality test is used to determine whether all the observed variables in this study is normally distributed. Mardia's multivariate skewness and kurtosis method is one of the extended methods for multivariate normality test (Wulandari, Sutrisno & Nirwana, 2021). Therefore, Mardia's multivariate normality test is used in this study to evaluate the multivariate normality test for the variable in this study by using WebPower internet website as recommended by Hair et al. (2017). According to the results, the data collected from this study is not normally distributed as the b-value of kurtosis is 89.4644, which is greater than the threshold value of 3 which is suggested by Yuan et al. (2005).

4.2 Descriptive Analysis

Table 1 shows the demographic profile of the respondents, with 64.9% of the respondents are female whereas 35.1% of the respondents are male. In term of age, majority of the respondents are aged between 21 to 30 years old (72.9%) and minority (1.8%) of the respondents are aged 51 years old and above. For the highest educational level, majority of the respondents are bachelor degree holders (68.9%) and minority of the respondents are at others educational level (0.9%). Among the 450 respondents, 37.3% of the respondents are students whereas 6.4% of the respondents are software developer or IT.

Table 1. Demographic Profile of 450 Respondents

Demographic Variables	Description	Frequency (N)	Percentage (%)
Gender	Male	158	35.1
	Female	292	64.9
Age	18 - 20 years old	45	10
	21 - 30 years old	328	72.9
	31 - 40 years old	34	7.6
	41 - 50 years old	35	7.8
	51 years old and above	8	1.8
Educational Level	SPM/ A-level/ STPM	64	14.2
	Diploma/ Foundation	51	11.3
	Bachelor Degree	310	68.9
	Postgraduate (Master/PhD/etc.)	21	4.7
	Others	4	0.9
Profession	Student	168	37.3
	Accountant/Auditor	32	7.1
	Software Developer/ IT	29	6.4
	Engineer/Architect	44	9.8
	Administration/ Management	92	20.4
	Others	85	18.9

4.3 Constructs and Correlational Analysis

As shown in Table 2, the standard deviation values for all constructs are within the range from 3.676 (UB) to 4.899 (PB) and the mean values for all constructs are within the range from 14.03 (UB) to 21.11 (SE). Besides, Table 2 also showed the correlations of each construct at the 0.01 probability level. Based on the results shown, DP possesses a moderate correlation with PB, ATT, SN, SE, INT and UB with 0.550, 0.606, 0.559, 0.533, 0.603, and 0.524 respectively. Furthermore, PB possesses a moderate correlation with ATT, SN, SE, INT, and UB with 0.563, 0.553, 0.558, 0.606 and 0.528 respectively. Moreover, ATT possesses a moderate correlation with SN, SE, INT and UB with 0.590, 0.525, 0.626 and 0.520 respectively. In addition, SN possesses a moderate correlation with SE, INT and UB with 0.573, 0.591 and 0.534 respectively. For SE, it possesses a moderate correlation with INT and UB with 0.571 and 0.526 respectively. Lastly, INT possesses a moderate correlation with UB with the correlation value of 0.566.

Table 2. Summary of the Mean, Standard Deviation and Pearson Correlation of Construct

	Mean	Std. Deviation	DP	PB	ATT	SN	SE	INT	UB
DP	14.09	3.803	1						
PB	20.01	4.899	.550**	1					
ATT	18.37	4.299	.606**	.563**	1				
SN	15.11	3.684	.559**	.553**	.590**	1			
SE	21.11	4.886	.533**	.558**	.525**	.573**	1		
INT	18.81	4.677	.603**	.606**	.626**	.591**	.571**	1	
UB	14.03	3.676	.524**	.528**	.520**	.534**	.526**	.566**	1

** Correlation is significant at the 0.01 level (2-tailed).

Note. DP (Deviant Peer Associations), PB (Perceived Benefits), ATT (Attitude towards Digital Piracy), SN (Subjective Norms), SE (Self-Efficacy), INT (Digital Piracy Intention), UB (Actual Digital Piracy Behaviour).

4.4 PLS-SEM Assessment

Following the completion of Preliminary Analysis, Descriptive Analysis, Constructs and Correlational Analysis, PLS-SEM with the bootstrapping approach will be adopted in this study for the non-normally distributed in multivariate normality test (Field, 2018). PLS-SEM is used to develop the measurement model and structural model in this study (Hair et al., 2017). The conceptual measurement model used in PLS-SEM is presented in Figure 2.

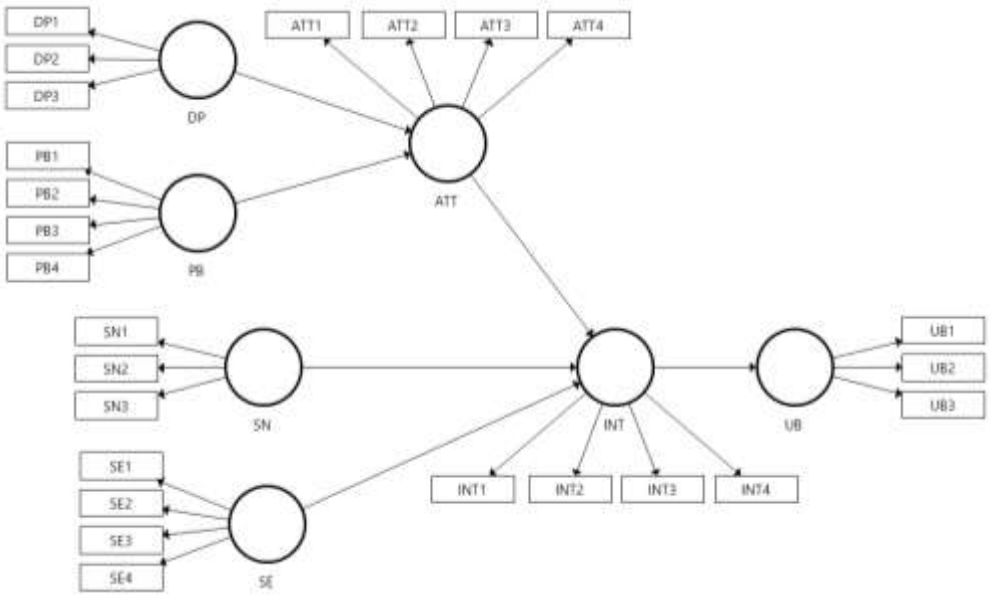

Figure 2. Conceptual Measurement Model adopted in PLS-SEM

Table 3. Internal Consistency and Convergent Validity of The Constructs

Constructs	Indicators	Outer Loadings	t-value	Cronbach's Alpha	Dijkstra Henseler's rho (ρA)	Composite Reliability (CR)	Average Variance Extracted (AVE)
ATT	**ATT1**	0.864	65.847	0.883	0.884	0.919	0.740
	ATT2	0.859	64.444				
	ATT3	0.863	67.813				
	ATT4	0.856	56.63				
DP	**DP1**	0.894	76.635	0.893	0.895	0.933	0.823
	DP2	0.915	117.248				
	DP3	0.913	101.716				
INT	**INT1**	0.867	71.698	0.893	0.894	0.926	0.758
	INT2	0.881	79.967				
	INT3	0.830	45.176				
	INT4	0.903	96.95				
PB	**PB1**	0.886	77.884	0.898	0.903	0.929	0.765
	PB2	0.881	78.631				
	PB3	0.865	59.671				
	PB4	0.868	69.325				
SE	**SE1**	0.870	58.991	0.896	0.896	0.927	0.762
	SE2	0.872	59.449				
	SE3	0.871	71.891				
	SE4	0.878	74.241				
SN	**SN1**	0.894	76.952	0.891	0.895	0.932	0.821
	SN2	0.912	97.821				
	SN3	0.912	108.342				
UB	**UB1**	0.898	82.844	0.889	0.891	0.931	0.818
	UB2	0.905	108.333				
	UB3	0.910	95.352				

4.5 Assessment of Measurement Model

In this study, the conceptual framework is mainly reflective as the measurement items for each construct are interchangeable and share a similar theme (Hair et al., 2017). The factor loadings, internal consistency, convergent validity and discriminant validity are examined in the following sections.

According to Table 3, all the factor loading of the indicators are ranging from 0.830 to 0.915 which fulfill the threshold value of 0.708 as suggested by Hair et al. (2014). Moreover, this study is also assessing the internal consistency by using Cronbach's alpha. The Cronbach's alpha values for all constructs are ranging from 0.883 to 0.898, which are greater than the threshold value of 0.70 as suggested by Hair et al. (2017). Besides, the Dijkstra Henseler's rho (pA) in this study achieved a satisfactory reliability value range from 0.884 to 0.903, which are

greater than the threshold value of 0.70 as suggested by Dijkstra and Henseler (2015). Furthermore, the composite reliability value is ranging from 0.919 to 0.933, which are greater than the threshold value of 0.70 as suggested by Nunnally and Bernstein (1994). With the results indicated, all the reliability of the indicators are met with the internal consistency assessment.

Apart from that, the average variance extracted (AVE) values for all constructs are ranging from 0.740 to 0.823, which are greater than the cut off value of 0.5, indicating satisfactory convergent validity in this study as suggested by Fornell and Larcker (1981). In addition, the t-values for all indicators are ranging from 45.176 to 117.248, which are all greater than 1.96 at 95% confidence level.

Henseler, Ringle and Sarstedt (2015) claimed that HTMT has the better performance using a Monte Carlo simulation analysis and HTMT has greater sensitivity and specificity rates compared to the Fornell-Lacker and cross-loadings criterion. Therefore, this study adopts HTMT to assess the discriminant validity. According to Table 4, all of the correlation values among the latent variables are ranging from 0.586 to 0.705, which are lower than the threshold value of 0.85 and no value of 1 is included in the lower and upper levels of the 90% Bootstrap Confidence Interval (CI) (Henseler et al., 2015). As a result, the latent measurement constructs are determined to be strongly discriminant with each other. The measurement model in this study has adequate reliability, convergent validity and discriminant validity. The following sections will explain the assessment of model fit.

Table 4. Discriminant Validity of The Constructs

	ATT	**DP**	**INT**	**PB**	**SE**	**SN**	**UB**
ATT							
DP	0.682* CI. 90 (0.607, 0.750)						
INT	0.705* CI. 90 (0.630, 0.771)	0.676* CI. 90 (0.599, 0.741)					
PB	0.632* CI. 90 (0.544, 0.713)	0.614* CI. 90 (0.519, 0.695)	0.675* CI. 90 (0.591, 0.695)				
SE	0.591* CI. 90 (0.501, 0.673)	0.596* CI. 90 (0.504, 0.680)	0.638* CI. 90 (0.551, 0.714)	0.620* CI. 90 (0.533, 0.701)			
SN	0.665* CI. 90 (0.586, 0.734)	0.628* CI. 90 (0.543, 0.700)	0.663* CI. 90 (0.572, 0.740)	0.619* CI. 90 (0.527, 0.705)	0.641* CI. 90 (0.555, 0.719)		
UB	0.586* CI. 90 (0.489, 0.674)	0.587* CI. 90 (0.497, 0.665)	0.636* CI. 90 (0.552, 0.713)	0.592* CI. 90 (0.501, 0.674)	0.589* CI. 90 (0.501, 0.667)	0.600* CI. 90 (0.511, 0.676)	

*The value of 1 does not include in the lower and upper limits in the 90% Bootstrap Confidence Interval (CI)
Note. Figures in bracket are the lower and upper limits of the 90% confidence interval (LL,UL)

4.6 Assessment of Model Fit

The overall goodness-of-fit (GoF) should be determined for a model assessment in order to ensure the model is well fitted with the data obtained as suggested by Henseler, Hubona and Ray (2016). In this study, NFI, RMS theta and SRMR are the model fit measurement used to test the model through PLS-SEM. Table 5 shows the NFI values in the saturated model and estimated model are 0.892 and 0.882 respectively, which are lower than the threshold value of 0.90 as suggested by Byrne (2016). Moreover, the RMS theta value of this study is 0.14 which is within the threshold value of 0.12 to 0.14 as suggested by Henseler et al. (2016). Furthermore, the SRMR value in the saturated model is 0.037, which satisfied the threshold value of less than 0.08 as suggested by Henseler et al. (2014). However, the SRMR value in the estimated model is slightly greater than the threshold value of 0.08 with the value of 0.096.

In summary, the model in this study does not have good fit as not all of the values met the threshold. Nevertheless, the model meets the academic requirements for overall model fitness as it will be assessed by a series of model assessments such as validity and reliability tests, explanation ability, predictive ability and significance of path coefficient of the model to ensure the random error is at a minimum level, hence, the research findings are more credible (Henseler et al., 2016). The following section outlines structural model assessment.

Table 5. Results of SRMR, NFI and RMS Theta

Standardised Root Mean Square Residual (SRMR)		Normed Fit Index (NFI)		Root Mean Square Residual Covariance (RMS theta)
Saturated Model	**Estimated Model**	**Saturated Model**	**Estimated Model**	
0.037	0.096	0.892	0.882	0.14

4.7 Assessment of Structural Model

In this section, the assessment of lateral collinearity (VIF), path coefficient, coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2) by using blindfolding and PLSpredict would be examined.

Due to the significant correlations of each set of predictor constructs might bias the standard errors and point estimates, the structural model regressions must be assessed for potential collinearity issues (Hair et al., 2021). According to Table 6, all the inner Variance Inflation Factor (VIF) values of independent variables are ranging from 1.000 to 1.799, which are less than the threshold value of 3 (Hair et al., 2017), indicating that the collinearity issue does not occur in this study.

Table 6. Lateral Collinearity Assessment (VIF)

	ATT	DP	INT	PB	SE	SN	UB
ATT			1.670				
DP	1.437						
INT							1.000
PB	1.437						
SE			1.617				
SN			1.799				
UB							

According to Table 7, the path coefficient for all six direct hypotheses are strongly supported because the t-value is greater than 1.645 (one-tailed) and the p-values are lower than threshold value of 0.05 as suggested by Hair et al. (2017). Particularly, DP and PB are discovered to have a substantial positive direct relationship on ATT; ATT, SN and SE are discovered to have a substantial positive direct relationship on INT as well as INT posits a significant positive relationship on UB, showing that H1 to H6 are statistically supported. There is no zero between lower and upper limits of the 95% confidence interval for any of the direct hypotheses.

Table 7. Path Coefficient of Structural Model

Hypotheses	Relationship	Path Coefficient	Standard Deviation	T-value	P-value	Confidence Interval (BC)		Decision
						LL	UL	
H1	DP -> ATT	0.423	0.046	9.173	0	0.347	0.500	Supported
H2	PB -> ATT	0.334	0.049	6.856	0	0.253	0.415	Supported
H3	ATT -> INT	0.354	0.050	7.010	0	0.270	0.436	Supported
H4	SN -> INT	0.244	0.053	4.647	0	0.163	0.335	Supported
H5	SE -> INT	0.245	0.044	5.556	0	0.175	0.319	Supported
H6	INT -> UB	0.568	0.044	12.813	0	0.487	0.634	Supported

Note. BC= Bias Corrected, LL= Lower Level, UL= Upper Level

With all the supported direct hypotheses, it is crucial to assess the total influence of the independent variables on the dependent variables by using the coefficient of determination (Ramayah et al., 2018). According to Table 8, the R^2 adjusted value for ATT is 0.444, indicating a substantial level of predictive accuracy as suggested by Cohen 1988. In other words, 44.4% of the total variance of ATT is explained by its independent variables which are DP and PB. Moreover, the R^2 adjusted value for INT is 0.503, which means there is 50.3% of the total variance of INT is explained by its independent variables which are ATT, SN and SE, indicating a substantial level of predictive accuracy. Lastly, 32.1% of the total variance of UB is explained by its independent variable which is INT as the R^2 adjusted value for UB is 0.321, indicating a substantial level of predictive accuracy. In summary, all of the hypotheses have a substantial level of predictive accuracy.

Table 8. Coefficient of Determination (R^2) Assessment

Hypotheses	Relationship	R Square Adjusted	Level
H1	DP -> ATT	0.444	Substantial
H2	PB -> ATT		
H3	ATT -> INT	0.503	Substantial
H4	SN -> INT		
H5	SE -> INT		
H6	INT -> UB	0.321	Substantial

The effect size (f^2) is also critical for analysing how strongly the exogenous construct contributes to describing the endogenous construct in terms of R^2 (Ramayah et al., 2018). As proposed by Cohen (1988), threshold values of 0.02, 0.15 and 0.35 will be used to evaluate small, medium and large effect size respectively. As shown in Table 9, DP (f^2=0.225) possesses a medium effect size on ATT whereas PB (f^2=0.140) possesses a small effect size on ATT. Besides, ATT possesses a medium effect size on INT (f^2 value=0.152) whereas SN and SE possess a relatively small effect size on INT with the f^2 values of 0.067 and 0.075 respectively. Lastly, INT possesses a large effect size on UB where its f^2 value is 0.476.

Table 9. Effect Size (f^2) Assessment

Hypotheses	Relationship	f Square	Effect Size
H1	DP -> ATT	0.225	Medium
H2	PB -> ATT	0.140	Small
H3	ATT -> INT	0.152	Medium
H4	SN -> INT	0.067	Small
H5	SE -> INT	0.075	Small
H6	INT -> UB	0.476	Large

Besides, this study will assess the predictive relevance of the independent variables on the dependent variables using Stone-Geisser's Q^2. According to Table 10, the Q^2 values of ATT, INT and UB are 0.323, 0.373 and 0.253 respectively, which are greater than zero, indicating that the independent variables have sufficient predictive relevance for the dependent variables as suggested by Fornell & Cha (1994).

Table 10. Predictive Relevance (Q^2) Assessment

Dependent Variables	Q Square
ATT	0.323
INT	0.373
UB	0.253

Apart from that, PLSpredict provides a means to analyse a model's out-of-sample predictive power such as a model's accuracy in forecasting the result value of new cases (Shmueli et al., 2019). According to Table 11, all indicators have Q^2predict values greater than zero for the PLS-SEM as suggested by Fornell & Cha (1944). According to Shmueli et al. (2019), when the research is not normally distributed, MAE error will be identified for the predictive relevance effect. Since the data in this study is not normally distributed, hence, MAE values will be used instead of RMSE. When the MAE values are compared, the findings show that minority of the MAE error of the indicator (1 out of 11 indicators) is negative in which meet the requirement (Q^2predict of PLS greater than zero; MAE error values are negative (PLS-SEM < LM), indicating that the model produces a low predictive power. In summary, the model developed has predictive relevance in Q^2 and low predictive relevance in Q^2predict by integrating the Q^2 assessment from blindfolding technique and Q^2predict from the PLSpredict procedure.

Table 11. PLSpredict Assessment

Items	PLS			LM			ERROR (PLS-LM)		
	RMSE	MAE	Q ²_predict	RMSE	MAE	Q ²_predict	RMSE	MAE	Q ²_predict
ATT4	1.031	0.798	***0.304***	1.004	0.785	0.34	0.027	***0.013***	-0.036
ATT3	1.029	0.783	***0.322***	0.988	0.763	0.374	0.041	***0.020***	-0.052
ATT2	1.037	0.808	***0.368***	1.02	0.8	0.388	0.017	***0.008***	-0.02
ATT1	1.013	0.779	***0.305***	1.002	0.77	0.321	0.011	***0.009***	-0.016
INT3	1.103	0.847	***0.346***	1.103	0.847	0.346	0	***0***	0
INT4	1.107	0.847	***0.414***	1.093	0.837	0.429	0.014	***0.010***	-0.015
INT2	1.008	0.777	***0.386***	1.019	0.789	0.373	-0.011	***-0.012***	0.013
INT1	1.026	0.781	***0.359***	1.018	0.774	0.368	0.008	***0.007***	-0.009
UB3	1.204	0.91	***0.28***	1.155	0.849	0.337	0.049	***0.061***	-0.057
UB2	1.09	0.841	***0.275***	1.046	0.789	0.332	0.044	***0.052***	-0.057
UB1	1.19	0.929	***0.244***	1.175	0.92	0.263	0.015	***0.009***	-0.019

4.8 Mediation Hypotheses Assessment

The model developed in this study consists of five mediation hypotheses to investigate the indirect relationship between variables. As shown in Table 12, H7 (β =0.265, t = 7.212, p < 0.05) and H8 (β =0.209, t = 5.944, p < 0.05) are supported, indicating that DP and PB have a significant indirect relationship on INT through ATT. Moreover, H9 (β =0.201, t = 5.984, p < 0.05), H10 (β =0.139, t = 4.130, p < 0.05) and H11 (β =0.139, t = 4.794, p < 0.05) are supported, indicating that ATT, SN and SE possess significant indirect relationships on UB through INT. As a result, it can be concluded that all the five mediation hypotheses are statistically supported.

Table 12. Bootstrapping Results of The Mediation Hypotheses

Hypotheses	Relationship	Path Coefficient	Standard Deviation	T-value	P-value	Confidence Interval (BC)		Decision
						LL	UL	
H7	DP -> ATT -> INT	0.265	0.037	7.212	0	0.195	0.340	Supported
H8	PB -> ATT -> INT	0.209	0.035	5.944	0	0.142	0.279	Supported
H9	ATT -> INT -> UB	0.201	0.034	5.984	0	0.140	0.273	Supported
H10	SN -> INT -> UB	0.139	0.034	4.130	0	0.079	0.212	Supported
H11	SE -> INT -> UB	0.139	0.029	4.794	0	0.089	0.203	Supported

Note. BC= Bias Corrected, LL= Lower Level, UL= Upper Level

4.9 IPMA

Apart from that, Importance and Performance Matrix (IPMA) is a useful and simple method to enhance the findings of the basic PLS-SEM outcomes using latent variable scores (Hair et al., 2017). It is used to compare the average values of the latent variables scores (performance) and the total effects of structural model (importance) of a specific dependent variable to identify significant areas for the model's special focus or the management activities improvement (Hair et al., 2017).

According to Figure 3 and Table 13, the result indicates that the IPMA of digital piracy intention (INT) has the highest importance index values and moderate performance index values, hence, it is the suggested emphasis area for the related parties. The related parties are advised to keep concentrate or focus on the individual's intention of online piracy. Government can put more aggressive enforcement of the legal rights of copyright holders or using digital rights management (DRM) technology as well as businessman can reduce the price of copyright digital products in order to reduce the individual's intention to pirate the digital products.

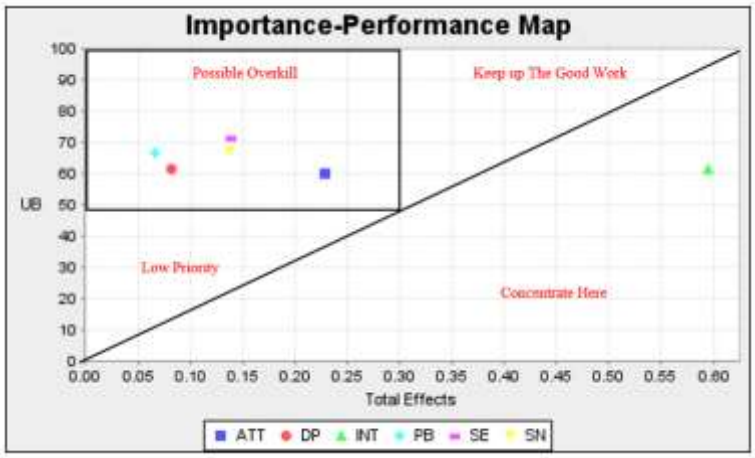

Figure 3. Importance Performance Map with IPA grid partition

Table 13. IPMA Assessment

Construct	Importance (Total Effect)	Performance (Index Values)
ATT	0.228	59.859
DP	0.082	61.508
INT	0.594	61.604
PB	0.067	66.595
SE	0.139	71.156
SN	0.138	67.223

5. Conclusion

In conclusion, the research findings revealed that all the direct and indirect relationships between deviant peer associations, perceived benefits, attitude towards digital piracy, subjective norms, self-efficacy, digital piracy intention and actual digital piracy behaviour are significantly supported. This study provides an understanding on the impact of digital piracy intention on the actual digital piracy behaviour by using theory of planned behaviour. Meanwhile, this study filled the knowledge gap in prior studies by analysing the gap in between the actual digital piracy behaviour and the digital piracy intention. The result indicates that the intention is an important determinant of behaviour and it plays a critical role in acting as a mediator to strengthen the relationship between attitudes towards digital piracy, subjective norms, self-efficacy and actual digital piracy behaviour. While attitude towards digital piracy acts as a mediator role in strengthening the relationship between perceived benefits, deviant peer associations and digital piracy intention. With the use of social learning theory, this study also provides evidence that deviant peer association is one of the determinants that triggers individuals' digital piracy intention through their attitude towards digital piracy.

With the understanding for the actual digital piracy behaviour among Malaysian internet users, the related parties such as copyright holders, industry players or government could understand the influences of the examined variables towards the actual digital piracy behaviour in Malaysia. Government is suggested to execute public anti-piracy campaigns to educate the consumers about the advantages of legally purchased digital products and the risks of illegal downloading such as sharing the details of the legal implications and some educational tips on how to detect legal activities and sites on the social media (Facebook) to ensure all internet users are aware of the information and encourage them to think critically about how they acquire music, movie, software and other forms of intellectual property. Furthermore, copyright holders are suggested to use digital watermarking to protect them from threats such as digital multimedia piracy (Patil, Maniar, Pai & Kulkarni, 2015).

However, this study has a number of limitations that may contribute to the future research directions. This study mainly focuses on examining the personal and social variables as determinants that influencing the actual digital piracy behaviour. Therefore, different contextual situations and perspectives are demanded for further studies in determining the factors that affecting actual digital piracy behaviour in Malaysia such as cultural and economic perspectives. Furthermore, this study does not segregate experienced and non-experienced consumers. Thus, future research should investigate whether experienced consumers or non-experienced consumers have higher intention to pirate digital products and thus leading to the actual digital piracy behaviour.

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Appendix

Table AI. Questionnaire Design

Variables	Measurement Items	Sources
Deviant Peers (DP)	**1** How many of your closest friends have intentionally downloaded, uploaded, created or shared with another person a pirated digital product during past four years? **2** How many of your closest friends downloaded or uploaded a pirated copy of a movie using BitTorrent or another type of torrent programme during the past four years? **3** How many of your closest friends downloaded or uploaded a pirated copy of computer software (e.g., Microsoft Office) using BitTorrent or another type of torrent programme during the past four years?	Lee, Fenoff & Paek (2019)
Perceived Benefits (PB)	**1** I would save money if I pirated digital products. **2** If I pirated digital products, I would save time in acquiring them. **3** I would have more digital products if I pirated digital products. **4** I would enhance my work performance if I pirated digital products.	Yoon (2011)
Attitude towards Digital Piracy (ATT)	**1** Digital piracy is either a foolish or wise idea. **2** Digital piracy is either a harmful or beneficial idea. **3** Digital piracy is either a bad or good idea. **4** Overall, I have either an unfavourable or favourable attitude towards digital piracy.	Yoon (2011)
Subjective Norm (SN)	**1** Most of the people who are important to me would approve if I pirated digital products. **2** Most of the people who are important to me would think it was okay if I pirated. digital products **3** Most of the people who are important to me would think it was a good idea if I pirated digital products.	Arli & Tjiptono (2016)
Self-efficacy (SE)	**1** It is easy for me to access digital products for free from the internet. **2** It is easy for me to install the software for free from the internet. **3** It is easy for me to use software download digital products for free from the internet. **4** It is easy for me to download digital products for free from the internet.	Phau et al. (2013)
Digital Piracy Intention (INT)	**1** In the future, I will pirate digital products. **2** In the future, I intend to pirate digital products. **3** All things considered, I am likely to pirate digital products in the future. **4** All things considered, I believe that I will pirate digital products in the future.	Petrescu, Gironda & Korgaonkar (2018)
Actual Digital Piracy Behaviour (UB)	**1** I frequently share pirated digital products. **2** I encouraged others to use pirated digital products. **3** I frequently used pirated digital products.	Pham, Dang & Nguyen (2020)