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## **THE EFFECT OF THE THEORY OF PLANNED BEHAVIOR AND THE THEORY OF ETHICS IN DIGITAL PIRACY<sup>1</sup>**

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### **ABSTRACT**

*This study aims to analyze and describe the factors that influence Turkish computer users' behaviors related to digital piracy in the context of the theory of planned behavior and ethical models. Relational research model was used to reveal the relationship between variables. Structured questionnaires were used for obtaining data and research units were easily sampled. Both single and multi-variable statistical analysis methods were used while analysing research data and after all structural equilibrium model and path analyses were carried out for testing the hypotheses. While habit the additional factor of the model and the perceived behavioral control factor does not affect the behavior of the individual; attitude and subjective norm factors have influence on intention. Also, intention factor affects the behaviors of the individual for digital piracy as expected. In the context of general ethical theory, perceived benefit factor forming the teleological ethics does not affect the intention of the individual but it affects the attitude with the perceived risk factor. It is also accepted that the moral obligation and justice factors forming the deontological ethics affect the subjective norm and the moral obligation affects the intention of the individual on the digital piracy.*

**Keywords:** Digital Piracy, Consumer Behavior, The Theory of Planned Behavior, The Theory of Ethics

**JEL Codes:** M30, M31, M39

## **DİJİTAL KORSANLIKTA PLANLI DAVRANIŞ TEORİSİ VE ETİK KAVRAMININ ETKİSİ**

### **ÖZ**

*Bu çalışma, Türk bilgisayar kullanıcılarının dijital korsanlıkla ilgili davranışlarını etkileyen faktörleri, planlı davranış teorisi ve etik modeller bağlamında analiz etmeyi ve tanımlamayı amaçlamaktadır. Değişkenler arasındaki ilişkiyi ortaya koymak için ilişkisel araştırma modeli kullanılmıştır. Veri toplamak için yapılandırılmış anketler kullanılmış ve araştırma birimleri kolayda örneklenmiştir. Araştırma verilerinin analizinde hem tek değişkenli hem de çok değişkenli istatistiksel analiz yöntemleri kullanılmış ve sonuçta tüm yapısal denge modeli ve hipotezlerin test edilmesinde yol analizleri yapılmıştır. Araştırma sonuçları incelendiğinde, alışkanlık ve algılanan davranışsal kontrol faktörlerinin bireyin davranışını etkilemediği, niyet faktörünün etkilediği; tutum ve subjektif norm faktörlerinin niyeti ve niyet faktörünün de bireyin davranışlarını etkilediği görülmektedir. Genel etik teorisi kapsamında teleolojik etiği oluşturan algılanan yarar faktörünün bireyin niyetini etkilemediği görülürken, algılanan risk ile birlikte tutumunu etkilediği; deontolojik etiği oluşturan ahlaki yükümlülük ve adalet faktörlerinin subjektif normu ve ahlaki yükümlülük faktörünün de, bireyin niyetini etkilediği kabul edilmiştir.*

**Anahtar Kelimeler:** Dijital Korsanlık, Tüketici Davranışları, Planlı Davranış Teorisi, Etik Teori

**Jel Kodları:** M30, M31, M39

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## **1. INTRODUCTION**

From competition to communication; digitalization has a profound effect ranging from health to social area. In the meantime, the numbers of digital products and amount of sales have reached considerable levels in terms of global and local economy. In today's digital world, it is noticeable that the consumers and the companies serving them can access online products more easily than ever all over the world. In particular, the abolition of existing differences in contracts and copyright laws, increasing trust among consumers in cross-border online sales as well as taking immediate steps against geographical restrictions have increased the importance of e-commerce. So, digital products has become influential in many areas such as entertainment, education and software directly affect all stakeholders (users, legislators, producers, intermediaries, etc.).

Digital product piracy is also a phenomenon that has become a growing problem in this digital age. The digital piracy has been defined as the illegal act such as downloading, sharing and distributing of digital goods without permission from the copyrightholder (Yu, 2012: 364; Gopal et al., 2002: 3). It contains various form as software, programme, music, video, e-book etc. (Wolfe and Higgins, 2009: 43). So, the dimensions of the problem are larger than it's been thought. The loss of the innovation initiatives, reduction of employment numbers, risk of the loss for the information for the individual and/or commercial users, tax loss for the governments and decline in sales for the companies are the important consequences of the digital piracy (Hill, 2007: 17). According to report of Institute for Policy Innovation(IFPI), the US economy's loss due to illegal downloading is approximately \$58 billion in total output per year. Also, 373,000 employees lose their jobs and the US government loss in annual tax revenue is \$2.6 billion per year (Sang et al., 2015: 333). The statistics of the digital music piracy also reflects the important numbers as global revenues of digital recorded music sales declined by 42% in nominal terms, from \$25.2 to \$14.6 billion (Liebowitz, 2013: 265). According to IGEA (Interactive Games &Entertainment Association) data in Australia, local game manufacturers and distribution companies have been losing sales of approximately \$ 100 million each year since 2008. In this period, it is estimated that approximately 1 billion dollars will be lost in the whole sector with increasing acceleration (Phau and Lyang, 2012: 740).

The digital piracy has caused real threat to the development of the digital goods, artists' creativity and the safety of the both individual and commercial users. Therefore, researchers from different fields such as social-psychology, philosophy, marketing and information systems

trying to find the reasons behind the piracy behavior and understand the attitudes of individuals towards this behavior either with behavioral or ethics theory.

The purpose of this study is to bring up a matter integrated model to understand the behavioral intention of individuals to commit digital piracy, which combines both behavioral theory and ethics theory.

## **2. LITERATURE REVIEW**

### **2.1. Digital Piracy**

As a result of the development and increase of technology based applications, digital applications in communication, entertainment, education or other fields form the basis of today's economy. While the economic and social impact of digital products goes up dramatically, digital piracy becomes common problem for all the stakeholders as well. Digital product piracy is an act of reproduction, use and distribution of information products and/or digital technologies without the consent of its legal owners (Belleflamme ve Peitz, 2014: 1). In the literature of the concept of digital product piracy, entertainment piracy (Music, film, video games, etc.) and software and program related piracy are examined separately (Higgins and Wolfe, 2009: 43).

With the emergence of sharing sites such as Toorent, bittorent, megaupload the film piracy has been increasing every year. The subtitle translation programs have also been a factor for the film piracy (Peukert et al., 2013: 1). The most important development that led to the spread of music piracy is the emergence of sites in the early 2000s that allow access and sharing of online and interactive music files such as Napster. As a result of this development, CD and DVD sales have been declining and artists, distributors; producers have suffered enormous losses (Peitz and Waelbroeck, 2004: 6). Also, downloading thousands of songs, video clips on the internet or copying sounds on media such as CDs, DVDs and transferring them to smart mobile phones or personal computers is an easy and cheap way. The video piracy is a little bit of different from other piracy types because it's seen as a kind of socialization channel. The online games offer free entertainment to the user, called "casual video games" and the platform provides the opportunity to compete with the other user brings the sense of satisfaction and success in competition (Marchand et al ., 2013: 152). The software piracy is the most common one among other piracy types. It refers to the reproduction and sale of the software that the original and registered manufacturers have released to the market by imitation. Not only the technology wise, but also the brands of manufacturers, logos are also made similar (Swinyard,

et al., 2013: 566).

While we have been witnessing all piracy actions, legal and technological precautions have been taken to slow down piracy and reduce its effects by software companies, hardware providers, legislators, institutions, organizations etc. The World Intellectual Property Organization, known as WIPO, is one of the organizations under the umbrella of the United Nations. The organization was established to protect the rights of producers and authors, to prevent piracy and to promote production efficiency in related areas.

WIPO Author Rights Agreement (WIPO Copyright Treaty) and WIPO Performances and Phonograms Agreement (WPPT - WIPO Performances and Phonograms Treaty) were arranged in 2002 (Yu, 2007: 4). In both of these agreements, the provision of digital works online was subject to a special rights classification. With the legal arrangements within the scope of WIPO, only the owners can determine the platform, time and specific situations for users to use, share etc. Also, the parties to the agreement have to create their own legal infrastructure to make necessary arrangements to prevent piracy of digital products and to determine the criminal conditions related to crime (Dinwoodie, 2006: 206). In USA, The Millennium Copyright Laws have been adopted in order to make the necessary arrangements regarding the actions taken by users in online platform and to ensure inter-legal integration at the international level too (<https://kb.iu.edu>, 2017). The technological solution for digital piracy DRM (Digital rights management) can be defined as technologies for monitoring and controlling the use and transmission of digital products. According to another definition; it is defined as technological methods that impose restrictions on the conditions under which online users can use content that prevents the copying (Adelsbach et al., 2005: 47). In DRM systems, the existing file is encoded and protected with a "key". In addition to the specified key, an additional encrypted license allows the file to be stored in the system (Subramanya et al., 2006: 32).

In order to reduce the harmful effects of digital product piracy on all stakeholders (owners, producers, intermediaries, etc.), important organizations have been established especially since the late 1990s. These organizations aim to track and capture and punish those who engage in digital piracy for individual or commercial purposes. Business Software Alliance (BSA), Software and Information Industry Association (SIIA) and Microsoft Organization help to take legal measures by developing anti-piracy programs against digital product piracy.

## **2.2. The Theory of Planned Behavior (TPB)**

Social psychology has gained an important place in researching people's attitudes and behaviors as a result of interdisciplinary interactions (Kağıtçıbaşı, 1999: 26). The Theory of Planned Behavior (TPB) of Ajzen was developed from the Causal Action Theory which was created in 1975 and intends to explain variables that may have an impact on behaviour. According to theory; attitudes, subjective (subjective) norms and perceived behavioral control factors all explain intent and intent describes intentional behavior. However, perceived behavioral control can explain behavior in some cases by means of intention alone and sometimes directly without behavior factor (De Leeuw et al., 2015: 129). According to Ajzen (2008: 538), TPB plays an important role in understanding and explaining consumer's unique behaviors such as providing information about a product or brand, making decisions about where to shop or use any product/service especially in the field of consumer behavior.

When we look at the elements of TPB, attitude is one of the important elements of the theory. According to Kağıtçıbaşı (1999: 110), attitude is a tendency that regularly forms one's thoughts, feelings and behaviors related to the psychological object. What must be understood from the expression of a psychological object is that people can develop an attitude towards anything they think or imagine. This object might be behavior, organization or human.

Subjective norms are defined as a social factor and refer to the social barriers or ease that one feels about performing or not performing any behavior. In fact, subjective norms are variable that has been put forward to explain why attitudes are insufficient in explaining behaviors (Ajzen, 1991: 188). From a general framework, if a person believes that his/her reference group wants him or her to realize the behavior that he/she considers important and positively interacts with, he/she feels social pressure to perceive the behavior as a necessity (Armitage and Christian, 2003: 189).

Perceived behavioral control is person's abilities and perceptions about whether the behavior is under control while performing any behavior. The level of perceived behavioral control is graded according to the frequency of effects that facilitate or prevent behavior. These factors are personal inadequacies, abilities, emotions as being called internal control; opportunities, commitment and barriers as being called external control (Sutter and Paulson, 2017: 23). This variable was added to the causal action model and as a result of most analytical studies on TPB, it was stated that it contributed significantly to the prediction of behavioral intentions and behavior (Armitage and Conner, 2001: 472).

According to Ajzen (1991: 185), various conditions must exist in order for intent and perceived behavioral control to fully explain the behavior to be performed: First of all intention and perceived behavioral control scale must be in harmony with the behavior to be estimated. The other condition is that the elements expressed as intention and perceived behavioral control remain constant during the time interval in which people respond and perform the behavior. The events occurring in the time interval during the two situations may create different intentions, but may also change the perceived behavioral control. Another important point in explaining the behavior that is realized is how to establish a relationship between behaviors that occurred in the past and present behaviors (Ajzen, 2002: 111).

### **2.3. The Theory of Ethics**

Ethics is defined as collection of standards that allow selection the individual's behavior and moral standards (Greene, 2004: 360). It is also called as philosophy of morality from another perspective and defined as the branch of philosophy that examines the approaches and answer the basic questions such as “how to behave?” etc. Therefore, the main purpose of ethics is to investigate the problems of individuals in their personal and social lives and to investigate which is right or wrong actions (Akarsu, 1984: 62).

The researchers who study on digital piracy, generally try to put forth an ethical decision-making model as a base model with ethical factors (Gopal and Sanders, 1998; Shang et al., 2008; Thong and Yap, 1998). The most common ethical decision-making model they use is the Hunt and Vitell's (1986) ethical decision model. It's called a general theory of marketing ethics and contains both deontological and teleological evaluations on the issues.

In deontological approach, individuals' behavior is divided into two boundaries as true or false and the result of a certain behavior is not matter at all. The important part is the individual's intention to perform this behavior (Staveren, 2007: 23). According to Kant, the representative of the deontological approach; the behaviors that individuals want to perform must be based on certain movements must be obeyed by individuals. He states that the main intention or task that ensures the realization of the actions is more important rather than the simple consequences of the actions (Kidder, 1996: 24). The fact that the deontological approach puts individuals at the center and makes the element of respect the focal point has led to the formation of the doctrine of rights. This approach later became concrete with the Declaration of Human Rights (Bayrak, 2001:12). The theory of rights has focused on fundamental rights and freedoms that will facilitate the lives of individuals. The situations encountered other than the mentioned definitions are considered unethical (Arıkan, 1995: 175). So, deontological

ethics in digital piracy literature is represented in terms of moral obligation and justice. According to Haines and Haines (2007) and Cronan and Al-Rafee (2008); both of these factors help researchers to understand consumers' intention who act to perform digital piracy.

According to the teleological theory, which is also called consequentialist, an action is not considered as good or bad by itself. Whether the action is good, depends on the direct results of the action. As a result, the action is good if the individual benefits (Trevino and Nelson, 2007: 96). Teleological ethics in digital piracy literature are represented in terms of perceived consequences which contains perceived risks and perceived benefits. These factors reflect potential positive or negative outcome for any act or behaviour (Yoon, 2010: 407). As it's expected from the factors, the higher perceived risk decreases the chance of the action and the higher perceived benefit increases the action by the individual (Peace, 2003; Chiou, 2005).

### **3. METHODOLOGY**

#### **3.1. The Research Model and Hypothesis Development**

The study has been constituted with a relational applied research model and has been developed by using the model of general theory of ethics and The Planned Behavior model (TPB) consisting of deontological and teleological sub-dimensions. The model, which was created by integrating two basic models, aims to determine the reason to commit piracy for individuals and predict their actions. The Theory of Planned Behavior, which was formed by elements of attitude, intention, personal norm, perceived behavioral control and behavior, was developed in 1991 by Ajzen. By adding habit variable to TPB, attitudes and behaviors of the individuals which have become automated have also been tried to be explained. The integrated research model was adapted from Yoon (2012). By adding behavior factor to Yoon model, cognitive behaviors that individuals may exhibit about piracy actions have been tried to be revealed more clearly. The variables in the model and the relationships between these variables are schematized in figure 1.

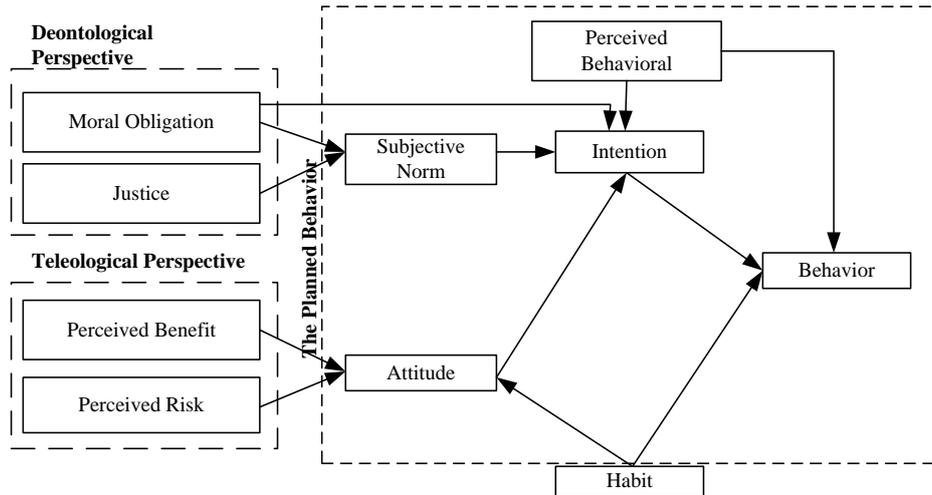


Figure 1. Research Model

The hypotheses of the study are as follows:

H<sub>1</sub>= Subjective norms toward digital piracy will affect an individual's behavioral intentions to commit digital piracy.

H<sub>2</sub>= Attitude toward digital piracy will affect an individual's behavioral intentions to commit digital piracy.

H<sub>3</sub>= Perceived behavioral control will affect an individual's behavioral intentions to commit digital piracy.

H<sub>4</sub>= Moral obligation affects the behavioral intention of the individual toward digital piracy.

H<sub>5</sub>= Perceived benefit affects the behavioral intention of the individual toward digital piracy.

H<sub>6</sub>= Moral obligation affects the subjective norm of the individual toward digital piracy.

H<sub>7</sub>= Justice affects the subjective norm of the individual toward digital piracy.

H<sub>8</sub>= Perceived benefit affects the attitude of the individual toward digital piracy.

H<sub>9</sub>= Perceived risk affects the individual's attitude toward digital piracy.

H<sub>10</sub>= Habit affects the attitude of the individual toward digital piracy.

H<sub>11</sub>= Intentions to digital piracy affect the individual's behavior to commit digital piracy.

H<sub>12</sub>= Perceived behavioral control to digital piracy affect the individual's behavior to commit digital piracy.

H<sub>13</sub>= Habit affects the behavior of the individual toward digital piracy.

The first three, eleventh and twelfth hypotheses were constructed in accordance with the planned behavior theory developed by Ajzen in 1991. According to this theory, subjective norms, attitudes and perceived behavioral control factors have an effect on determining the intention of the individual; The factor of intent is also effective in the behavior of the individual.

The fourth and sixth hypotheses of the research are related to the concept of moral obligation. The concept of moral obligation, which is considered as an element of deontological ethics, refers to the sense of doubt or repression that the individual feels on the point of his decision to realize the behavior or not. The concept has been accepted as an important factor in the investigation of unethical behaviors such as digital piracy (Cronan ve Al-Rafae, 2008). Several researchers stated that the moral obligation factor sets normative standards on information technology related issues and that these normative standards affect the individual's environment and intend to commit the behavior (Haines ve Leonard, 2007; Ajzen, 1991; Yoon, 2012). Also, when we examine the studies that try to find out the relationship between ethical theories and intentions, it is seen that researches on different subjects such as sustainable food consumption-consumer ethics (Vermeir and Verbeke, 2005), green marketing-consumer and business ethics (Chan et al., 2008) have been conducted. In the same way; the studies about the ethical decision-making situation and subjective norm of the health care workers for their patients (Randall and Gibson, 1991) and the support and working intentions of volunteer (Warburton and Terry, 2000) show that the importance of the relationships for moral obligation, intention and subjective norms in different fields.

According to Hunt and Vitell (1986), teleological evaluation affects the intention of the individual as an independent element. Although the individual thinks that the behavior that he/she intends to perform is unethical, he/she can still commit that behavior by observing the results of the behavior. At the same time, researches related to the technology acceptance model named as TAM (Technology Acceptance Model) were also common as factors affecting the intention of the individual. In this context, the fifth hypothesis is needed to be tested.

Fishbein and Ajzen (1975), while developing the Theory of Reasoned Action, which forms the basis of the Planned Behavior Theory, states that attitude has become a distinct belief, depending on the evaluation of the individual in the conduct of a particular behavior. Hunt and Vitell (1986), while forming the theory called the General Theory of Marketing Ethics, similarly stated that the attitude of the individual depends on the possible consequences of the

individual. Based on this information in the literature, the eighth hypothesis related to the perceived benefit concept of the study has been established.

The concept of justice as an element of the deontological ethics approach also includes the concepts of honesty and equality. According to Kohlberg (1969), the concept of justice is the most important concept in the development of moral thought. Rawls, known for his study on Kant's ethical theory, stated that the concept of justice is the most important virtue in determining and sharing basic rights and responsibilities in social institutions and social environment as well as in individuals. As it's seen, the concept of justice is accepted as universal norm in an ethical approach and can affect the subjective norms of individuals against digital piracy. So the seventh hypothesis of the study is about justice-subjective norm relationship.

Perceived risk usually refers to the situation related to negative results. Chiou (2005) stated that perceived risk of individuals in digital piracy during the decision process affects their attitude against digital piracy. Peace (2003) stated that the accuracy and severity of punishment affect individuals' attitudes towards software piracy. So, the ninth hypothesis of the study is about the perceived risk-attitude relationship.

Habit is used for case-behavior sequences that an individual makes and automates. It is stated that the individual will not only affect their attitudes but also their behaviors depending on their past experiences. Limayem, (2004); Ajzen (1991) also stated the effect of habit factor in TPB on the attitude and behavior of the individual so can be added as exploratory factor. So the tenth and thirteenth hypothesis of the study is about habit-attitude and habit-behavior relationship.

### **3.2. Population and Sample**

The population of research is active internet users between the ages of 18-65 in Turkey. According to Turkey Statistical Institute information technology research in 2017, 61.2% of 53.765.231 people between the ages of 16-74 periodically stated that they regularly spend time on the internet ([www.resmiistatistik.gov.tr](http://www.resmiistatistik.gov.tr), 2017). Thus, the population is approximately 32.905.000 people.

In the study, the sampling technique was chosen from the techniques which are not based on random to determine a high representative sample and considering that the sample should represent the mainstream well (Altunışık et al., 2007: 129). Also, easy sampling technique is the shortest way to obtain data quickly and cheaply when there is no exact information about the number of population or when it is too large (Nakip, 2003: 183). In the

research, it has been tried to reach as many individuals who have different socio-cultural and socio-economic characteristics as possible. For this purpose, a questionnaire was applied on 500 individuals with different demographic characteristics in İstanbul (305), İzmir (86) and Ankara (109). It is thought that these three big cities will receive immigration from different cities and reflect the population with the least number of errors. For sample size calculation, 384 is sufficient in 0,05 significance level and 0,05 sample error when the population is larger than 100,000 (Altunışık, 2007).

### **3.3. Preliminary Test**

Before the questionnaires were finalized, 50 students were pre-tested in order to determine the reliability of the questionnaires to be understood by the responders. Cronbach-Alpha and item total correlation for each implicit variable were at an acceptable level (George & Mallery, 2003).

The item total correlations of the items in the scale were calculated for TPB and ethical scale item analysis. The total score of each dimension was used to calculate corrected item total correlations. At the end of the test, the corrected total item correlations, expressed as below in the table 1. For item analysis results, the ideal value for corrected item correlation values is 0.30 and above (Özgüven, 1994; Tekin, 1996; Turgut, 1997). Therefore, the values of the scale items are considered appropriate.

As a result of the reliability study, the internal consistency value for TPB size of 24 items was calculated as 0,915 while it was calculated as 0,851 for the ethical dimension consisting of 12 items. The internal consistency reliability coefficients of the scales were found to be above 0.70 (Tezbaşaran, 1997). These coefficients show that the items in the scale are consistent with each other, in other words, the reliability of internal consistency is high.

Table 1 shows the corrected total item correlations ( $r_1$ ) of the test for the reliability and analysis of ethical behavior in Digital Piracy and the Cronbach-Alpha values of the items taken in case of deletion of the items.

**Table 1.** TPB and Ethic Corrected Total Item Correlations and Cronbach-Alpha Values

ITEMS	ETHIC		TPB	
	r1	$\alpha$	r1	$\alpha$
MO1	0,662	0,829		
MO2	0,646	0,831		
MO3	0,363	0,850		
JST1	0,497	0,842		
JST2	0,415	0,847		
PB1	0,565	0,837		
PB2	0,630	0,832		
PB3	0,346	0,853		
PB4	0,434	0,846		
PR1	0,626	0,838		
PR2	0,552	0,839		
PR3	0,539	0,832		
PBC1			0,545	0,912
PBC2			0,556	0,911
PBC3			0,448	0,913
PBC4			0,596	0,911
SBN1			0,422	0,914
SBN2			0,553	0,911
SBN3			0,508	0,912
HBT1			0,551	0,912
HBT2			0,606	0,910
HBT3			0,619	0,910
HBT4			0,662	0,909
ATT1			0,701	0,908
ATT2			0,635	0,910
ATT3			0,726	0,908
ATT4			0,637	0,910
BHV1			0,397	0,915
BHV2			0,648	0,910
BHV3			0,633	0,910
BHV4			0,669	0,909
INT1			0,593	0,911
INT2			0,612	0,910
INT3			0,447	0,913
INT4			0,508	0,912
INT5			0,339	0,929

### 3.4. Data Collection and Coding

A structured questionnaire was used to collect data. In the process of data collection, Bayes Research Training and Consultancy Services Company reached 500 participants residing in Istanbul, Izmir and Ankara via face-to-face questionnaires. The data collected with 500 questionnaires obtained from the participants. They were analyzed using single and multivariate statistical analysis method.

The questionnaire consists of 3 sections and a total of 40 questions. The first part covers 4 variables (age, gender, educational status and monthly income) related to the demographic

characteristics of the participants. The second part is related to TPB (Perceived behavioral control, intent, subjective norm, attitude, habit and behavior) and in the last part, there are a total of 12 statements related to ethics (moral liability, justice, perceived risk and perceived benefit). In the questionnaire, 7-point likert scale was used to measure the expressions other than demographic questions as 1- ‘‘ Strongly Disagree’’ and 7- ‘‘Strongly Agree’’.

To constitute the items of survey, behavioral control was adapted from Taylor and Todd (1995), attitude was adapted from Peace (2003) and intentions against digital piracy in TPB framework were adapted from Cronan and Al-Rafae (2008). Within the framework of the deontological ethical approach, moral obligations and justice were adapted from Reidenbach and Robin (1988), Haines (2007); the perceived benefit and perceived risk items related to the theological ethical approach were adapted from Shang et al., (2008), Peace (2003) and Tan et al., (2002); the habitual items included in the model were adapted from Limayem et al., (2004) and subsequently added behavior items were adapted from Schlegelmilch et al., (1996) and Lee (2008).

### **3.5. Data Analysis**

In order to reach the purpose of this research and to be able to test hypotheses, the SPSS and LISREL statistics package programs were used. Descriptive analysis was used to find out the results of the preliminary test and demographic characteristics of the sample. Cronbach-Alpha was adopted to test reliability. Using LISREL, confirmatory factor analysis (CFA) was conducted to prove the validity of each instrument, while structural equation modeling (SEM) was used to test hypotheses.

## **4. FINDINGS**

In this part of the study, descriptive statistical findings related to the participants and the interpretive statistical findings obtained from the data set are included.

**Table 2.** Demographic Characteristics of the Sample

Variables	Category	Frequency	Percent
<b>Gender</b>	Female	280	56,0
	Male	220	44,0
<b>Education</b>	Primary and Secondary Education	26	5,2
	High school	149	29,8
	University	245	49,0
	Master	80	16,0
<b>Age Range</b>	18-24	130	26,0
	25-34	172	34,4
	35-44	153	30,6
	45-54	31	6,2
	55-64	14	2,8
<b>Monthly Average Income</b>	0-1500 TL	229	58,9
	1501 TL-2500 TL	116	29,8
	2501 TL-3500 TL	21	5,4
	3501 TL and more	7	1,8
<b>TOTAL</b>		500	100

#### 4.1. Reliability Analysis and Structural Equation Model

To analyze the data obtained from the sample, in order exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and finally structural equation modeling (SEM) methods were used. One of the most important assumptions of the structural equation model (SEM) is the multivariate normality assumption (Raykov and Marcoulides, 2006). Mardia (1970) test based on the results of the multivariate normality test conducted by LISREL, Captcha value was found ( $p=0,059>0,05$ ). So, the date set is adequate for the multivariate normality assumption.

EFA provides to reduce variables to a basic dimension in order to facilitate the interpretation of a different number of variables which are thought to be related (Doğan and Başokçu, 2010: 65). CFA is the factor analysis used to test the compliance of the factors determined by exploratory factor analysis to the factor structures determined by hypothesis. Final step SEM has a structure that can make the difference between the variables difficult to reveal and is a method that can easily test the models which are difficult to solve (Ayyıldız and Cengiz, 2006: 64).

Before finding the results of the factor analysis for the items, KMO and Bartlett Sphericity tests are necessary to see if the sample adequacy is acceptable and also correlation matrix is an identity matrix, which would indicate that variables are unrelated.

**Table 3.** KMO and Barlett Sphericity Test

<b>FACTORS</b>	<b>KMO</b>	<b>Barlett's Sphericity</b>	
		<b>Chi-square</b>	<b>Sig.</b>
Perceived Behavior Control	0,824	336.674	0,000
Intention	0,889	705.816	0,000
Subjective Norm	0,892	664.524	0,000
Attitude	0,841	970.426	0,000
Habit	0,817	376.921	0,000
Behavior	0,853	410.002	0,000
Moral Obligation	0,799	607.040	0,000
Justice	0,806	152.966	0,000
Perceived Benefit	0,864	771.016	0,000
Perceived Risk	0,877	466.221	0,000

In Table 4, the results of KMO and Barlett Sphericity test shows that the items of the study are suitable for factor analysis. So, the factor values of the items in the research are indicated in the table below.

**Table 4.** TPB Exploratory Factor Analysis Results

<b>ITEMS/FACTORS</b>	<b>Mean</b>	<b>SE.</b>	<b>FL</b>
<b>Perceived Behavior Control (Cronbach-Alpha:0,78)</b>			
PBC1	4,59	2,46	0,809
PBC2	3,54	2,41	0,678
PBC3	5,15	2,27	0,780
PBC4	4,11	2,42	0,671
<b>Intention (Cronbach-Alpha:0,78)</b>			
INT1	2,38	2,11	0,663
INT2	3,30	2,53	0,699
INT3	3,40	2,51	0,580
INT4	3,92	2,58	0,571
<b>Subjective Norm (Cronbach-Alpha:0,75)</b>			
SBN1	3,59	2,46	0,785
SBN2	3,76	2,45	0,781
SBN3	3,33	2,39	0,799
<b>Attitude (Cronbach-Alpha:0,87)</b>			
ATT1	3,51	2,47	0,824
ATT2	3,41	2,45	0,833
ATT3	3,42	2,45	0,787
ATT4	3,43	2,27	0,753
<b>Habit (Cronbach-Alpha:0,85)</b>			
HBT1	2,55	1,77	0,802
HBT2	2,10	2,10	0,820
HBT3	2,59	2,09	0,797
HBT4	2,27	1,89	0,823
<b>Behavior Cronbach-Alpha:0,78)</b>			
BHV1	4,66	2,35	0,806
BHV2	5,55	2,00	0,749
BHV3	4,80	2,24	0,737
BHV4	3,95	2,20	0,637

**Table 5.** General Ethic Exploratory Factor Analysis Results

ITEMS	Mean	SE.	FL
<b>Moral Obligation (Cronbach-Alpha:0,68)</b>			
MO1	4,15	2,45	0,859
MO2	3,45	2,35	0,770
<b>Justice (Cronbach-Alpha:0,60)</b>			
JST1	3,54	2,05	0,850
JST2	3,08	1,95	0,809
<b>Perceived Benefit (Cronbach-Alpha:0,79)</b>			
PB1	5,49	1,95	0,838
PB2	4,85	2,27	0,859
PB3	5,43	2,08	0,859
PB4	4,16	2,43	0,563
<b>Perceived Risk (Cronbach-Alpha:0,72)</b>			
PR1	3,47	2,41	0,842
PR2	3,16	2,30	0,838
PR3	3,02	2,25	0,793

In the literature, it is stated that the factor load of 0,40 can be taken as the lower cut-off point in the studies conducted in the social sciences (Neale and Liebert, 1980). So, it can be foreseen that INT5 (0,306) item which is lower than 0,40 cut-off point should be removed from the questionnaire. Also, although the load value of MO3 item has a value of 0.67, it's subtracted from the scale as it is seen as overlapping (multiple factors).

The Cronbach-Alpha value for the dimensions obtained after the exploratory factor analysis was 0.925 for the PDT model scale consisting of 23 items and 0.849 for the overall ethical theory scale consisting of 11 items. The reliability values showed that the scales used in the study were highly reliable. The reliability value of each dimension is given in the table below.

**Table 6.** Reliability Values of Factors

Factors	Cronbach-Alpha *	Item
Perceived Behavioral Control	0,78	4
Intention	0,78	4
Subjective Norm	0,75	3
Attitude	0,87	4
Habit	0,85	4
Behavior	0,78	4
Moral Obligation	0,68	2
Justice	0,60	2
Perceived Benefit	0,79	4
Perceived Risk	0,72	3

In the framework of the conceptual model, there are four theoretical implicit factors (Moral obligation, justice, perceived benefit and perceived risk) for General Ethics and six theoretical implicit factors (Perceived Behavioral Control, subjective Norm, attitude, intention,

habit and behavior) for TPB. In order to interpret their validity, single factor confirmatory factor analysis was applied at the primary level and is shown in Table 7 and Table 8.

**Table 7.** Planned Behavior Theory Scale Parameter Estimation

Items	$\lambda$	T Values	P	CR	AVE	MSV	ASV
PBC1	0,65	13,43	0,000	0,708	0,502	0,423	0,309
PBC2	0,59	12,09	0,000				
PBC3	0,64	13,28	0,000				
PBC4	0,67	13,97	0,000				
SBN1	0,85	21,78	0,000	0,898	0,746	0,557	0,323
SBN2	0,89	23,41	0,000				
SBN3	0,85	21,74	0,000				
INT1	0,55	11,81	0,000	0,764	0,511	0,592	0,277
INT2	0,74	17,35	0,000				
INT3	0,68	15,32	0,000				
INT4	0,70	16,14	0,000				
ATT1	0,86	22,79	0,000	0,924	0,753	0,576	0,345
ATT2	0,91	24,70	0,000				
ATT3	0,86	22,60	0,000				
ATT4	0,84	21,70	0,000				
HBT1	0,81	20,22	0,000	0,877	0,640	0,364	0,292
HBT2	0,79	19,57	0,000				
HBT3	0,78	19,14	0,000				
HBT4	0,82	20,60	0,000				
BHV1	0,66	14,33	0,000	0,776	0,509	0,322	0,284
BHV2	0,53	11,01	0,000				
BHV3	0,71	15,69	0,000				
BHV4	0,81	18,56	0,000				
<b>Model Fit Index</b>	$\chi^2 = 666,35$ (P = 0.00), Df = 235, $\chi^2 / Df = 2,84$ , NFI:0,96, CFI:0,97 GFI:0,90, RMSEA:0,071						

**Table 8.** General Ethics Theory Scale Parameter Estimation

Items	$\lambda$	T Values	P	CR	AVE	MSV	ASV
MO1	0,69	14,03	0,00	0,723	0,621	0,456	0,323
MO2	0,85	18,34	0,00				
JST1	0,77	16,38	0,00	0,726	0,570	0,474	0,305
JST2	0,74	15,70	0,00				
PBN1	0,64	9,18	0,00	0,796	0,501	0,391	0,287
PBN2	0,86	13,05	0,00				
PBN3	0,66	9,29	0,00				
PBN4	0,64	11,12	0,00				
PR1	0,76	17,90	0,00	0,840	0,636	0,352	0,265
PR2	0,85	20,74	0,00				
PR3	0,78	18,35	0,00				
<b>Model Fit Index</b>	$\chi^2 = 142,74$ , (P=0,00) Df = 36, $\chi^2 / Df = 3,96$ , NFI: 0,96; CFI: 0,97; GFI:0,90; RMSEA: 0,078						

After confirmatory factor analysis, convergence and divergence tests are required to confirm construct validity (Fornell and Larcker , 1981). For convergent validity, all CR values for the scale are expected to be greater than AVE values and AVE values greater than 0.5. So, when we look at the predicted values, the critical ratio values are greater than average variance extracted (AVE) values and AVE values are all greater than 0.5. Also, standard regression loads whereas overall standard regression coefficients were found to have values of 0.7 and above. For divergent validity, Maximum Squared Variance and Average Shared Square Variance must be calculated and the conditions where  $MSV < AVE$  ,  $ASV < MSV$  and the square root of AVE are greater than the inter-factor correlation must be met (Yaşlıoğlu, 2017: 82). So, the correlation values are shown in Table 9.

**Tablo 9.** Correlations, Means and Standard Deviation Values

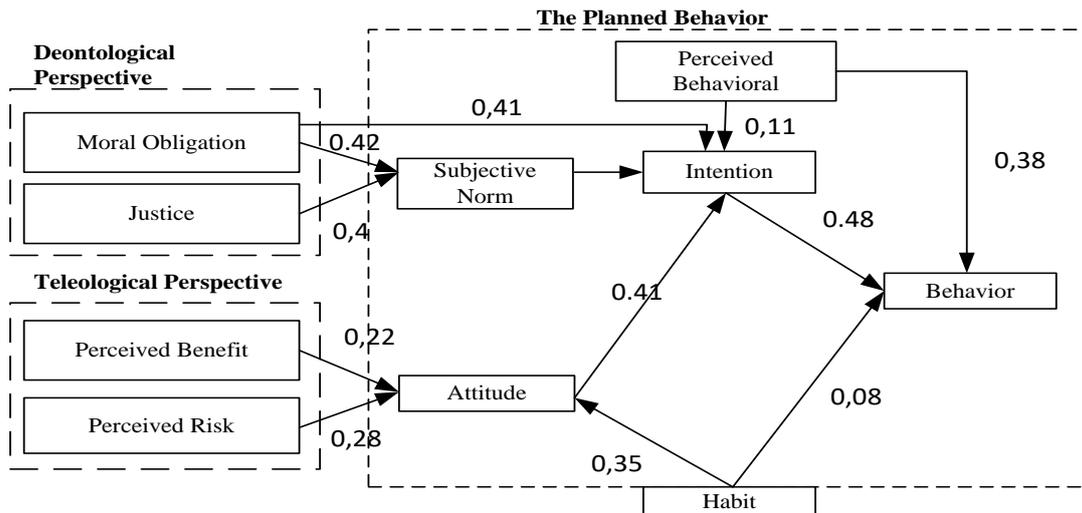
Items	$\bar{x}$	$\sigma$	1	2	3	4	5	6	7	8	9	10
1.Perceived Behavior Control	3.96	0.92	<b>0,708</b>									
2.Attitude	3.41	0.94	0.667	<b>0.867</b>								
3.Intention	3.42	0.85	0.634	0.736	<b>0.714</b>							
4.Subjective Norm	3.67	1.01	0.579	0.688	0.646	<b>0.863</b>						
5.Behavior	4.02	0.93	0.708	0.802	0.774	0.807	<b>0.713</b>					
6.Habit	2.53	0.87	0.543	0.713	0.681	0.735	0.656	<b>0,80</b>				
7.Moral Obligation	3.55	0.99	0.411	0.564	0.722	0.677	0.683	0.769	<b>0.798</b>			
8.Justice	3.26	1.00	0.369	0.412	0.592	0.681	0.624	0.671	0.677	<b>0.788</b>		
9.Perceived Benefit	4.03	0.76	0.386	0.499	0.615	0.633	0.711	0.588	0.642	0.722	<b>0.707</b>	
10. Perceived Risk	3.38	1.18	0.434	0.522	0.697	0.671	0.781	0.777	0.771	0.588	0.602	<b>0.793</b>

\*\*Inter-factor Correlation Significant at 0.01 level

As we look at divergent validity, all MSV values are smaller than AVE, all ASV values are smaller than MSV and the square root of AVE are greater than the inter-factor correlation as they must be. Thus, it can be stated that the scale meets the divergent validity condition too.

In order to develop models in the study after the confirmatory factor analysis, the findings in the literature study were transformed into hypotheses and the model was formed within the scope of these hypotheses. To test the model and analyze the structural relationship between measured variables and latent constructs, SEM (Structural Equation Model) was used.

The measurement values between the variables in the model structure are shown in Table 10 and the standardized regression coefficient values of the hypotheses related to the model measured in the study are shown in Figure 2.



**Figure 2.** Results of Research Model

**Table 10.** Model Measurement Values

	Path	T Values	$\beta$	R <sup>2</sup>	P	Results
H <sub>1</sub>	SBN – INT	3,34	0,22	0,77	***	Accepted
H <sub>2</sub>	ATT – INT	7,15	0,41		***	Accepted
H <sub>3</sub>	PBC-INT	1,64	0,11		0,248	Refused
H <sub>4</sub>	MO-INT	4,55	0,41		***	Accepted
H <sub>5</sub>	PBN-INT	0,87	0,05		0,025	Refused
H <sub>6</sub>	MO – SBN	5,72	0,41	0,56	***	Accepted
H <sub>7</sub>	JST –SBN	5,58	0,40		***	Accepted
H <sub>8</sub>	PBN-ATT	4,19	0,19	0,42	***	Accepted
H <sub>9</sub>	PR-ATT	4,54	0,28		***	Accepted
H <sub>10</sub>	HBT-ATT	6,25	0,37		***	Accepted
H <sub>11</sub>	INT-BHV	5,45	0,48	0,52	***	Accepted
H <sub>12</sub>	PBC-BHV	6,08	0,40		***	Accepted
H <sub>13</sub>	HBT-BHV	-1,39	-0,08		0,28	Refused
<b>Uyum İyiliği Değerleri</b>		$\chi^2 = 1945,73$ (P = 0.00), Df = 529, $\chi^2 / Df = 3,67$ , GFI = 0.90, NFI = 0.96, CFI = 0.96, RMSEA = 0.076				

\*p<.001

### 5. CONCLUSIONS AND IMPLICATIONS

In our study, there is a positive relationship between subjective norms and individuals' intention to commit digital piracy such as the studies of D'Astous, Colbert ve Montpetit (2005). It is important that subjective norms affect the intentions of individuals in Turkey about digital piracy, reflect socio-psychological decisions in order to perform illegal behavior and express the positive or negative social pressure and motivation that the reference groups feel upon itself.

When we look at the hypothesis that examines the relationship between attitude and intent, there is a positive relationship between them as the previous studies of Peace and Galletta, 1996; Cronan and Al-Rafee, 2008; Wang and Mclung, 2012. It's also important that

the factor with the highest value affecting the intention factor stands out as the attitude in our study. The main reason for this might be concept of attitude, unlike other concepts, consists of the cognitive, emotional and behavioral components that individuals have when they anticipate their intentions. The positive relationship between intention and behavior to commit piracy in our study is similar to Cronan ve Al Rafee (2008) and Kwong, (2003). As Ajzen (1991: 183) defined the intention most impactful element for predicting the behavior of a person, it's been the same in our study too.

The assumption that there was a significant relationship between perceived behavioral control and the intention to display the behavior of digital piracy could not be confirmed. This may be due to the fact that active computer users Turkey can easily learn how to make digital piracy from different platforms, even if they do not consider themselves to be capable of displaying digital piracy behavior. Unlike our study, Taylor and Todd (1995) and Kwong and Park (2008) stated that individuals' knowledge and skills are the most important factors in illegally obtaining piracy. Another assumption is that there is a relationship between the perceived behavior control and the behavior of the individual performing digital piracy. Although perceived behavioral control does not affect the intention, it appears to have a positive and significant effect on the element of digital piracy behavior.

It is interesting that there is a significant but positive relationship between moral obligation and subjective norms of individual against digital piracy. It can be said that individuals who intend to perform digital piracy, do not have enough information about the concept of digital piracy or do not find the action as ideally unethical in Turkey. Goles (2008) and Yoon (2012), in their study on university students, have found a negative correlation between the degree of moral responsibility that individuals feel and the element of the subjective norm.

In our study, as in the previous hypothesis, the act of digital piracy was not found to be unethical, but individuals stated that they were either unstable or regret with mean of 4.53. Therefore, there is a positive relationship between moral obligation and digital piracy but unlike studies in general literature. Cronan and Al-Rafee (2008), Yoon (2012) and Phau et al., (2014) stated that there is a negative relationship between the degree of moral obligation of individuals and the intention of digital piracy. As they pointed out when individuals think that the concept of digital piracy is not a moral behavior, individuals naturally have a less intention of acting it.

It seems that individuals in our country do not see any ethical problem in digital piracy regarding the subjective norm against digital piracy and justice as an element of the

deontological ethics concept. Unlike our study, Thong and Yap (1998) and Yoon (2012) stated that university students, who copy the software in china, still think that it is not fair and heavy pressure on them.

The hypothesis that there is a positive relationship between perceived benefit and individual's attitude towards digital piracy is accepted as similar research results (Chiou et al., 2005; D 'Astous et al., 2005; Goles et al., 2008 and Peace et al., 2003).

The hypothesis that there is a significant relationship between the perceived benefit and the individual's intention towards digital piracy is rejected. While individuals in Turkey determine their attitudes towards digital piracy in parallel with the perceived benefits; they do not specifically monitor factors such as price and time savings, productivity, fun time, socialization etc.

In contrast to previous studies in the literature, there is a positive relationship between the perceived risk and the individual's attitude towards digital piracy in this study. It's obvious that individuals in our country either do not have much information about the legal risk dimension or they do not have any concerns about penalties even if they think that the laws on digital piracy in Turkey are enough or not. Unlike this study, Liao et al., (2010) and Yoon (2012) stated that there is a significant and negative correlation between perceived risk and their attitudes towards digital piracy in their studies on Chinese university students.

In our study, the hypothesis that states the relationship between habit and individual's attitude towards digital piracy was accepted. The habit of individuals positively influences their attitude towards digital piracy according to their positive or negative experiences in their past experiences. Similar to the results of our study, Limayem et al., (2004), Larose et al., (2005), Lysonski and Durvasula (2008) and Yoon (2012) stated that there is a significant and positive relationship between habits and individuals' attitudes towards digital piracy.

The last hypothesis testing the relationship between digital piracy behavior and habit factor was rejected. Therefore, habits of individuals in Turkey, does not significantly affect the display of piracy action and is not seen as a predictor for future piracy actions. Also, Godin (2003) and Goles et al., (2008) stated that the habit factor that depends on past experiences can only affect behavior in certain situations.

Digital piracy is tried to be prevented by proactive studies (EU legal and legislative arrangements led by EU member states and USA, right relations such as establishment of DRM monitoring systems, publicity etc.). The fact that digital piracy is a relatively new term in

Turkey, internet users do not have sufficient information. In our study, it is seen that individuals in Turkey are not afraid to perform digital piracy behavior and do not have any concern about criminal sanction. While the general ethical theory with deontological and teleological ethic dimension reflects the conscience and moral values of individuals as well as decision making and behavior; it is striking that internet users in Turkey accept the piracy actions and go ahead performing against the ethical principles.

According to the results of our research; the concept of digital piracy has to be explained better to the society especially all stakeholders of digital world. Civil society organizations, legislators, producers and relevant academics are required to exhibit the necessary activities in the social media environment to prevent the piracy actions. When individuals intend to engage in digital piracy or perform behavior; they usually do not consider the perceived risk factor. Therefore, it is necessary for all stakeholders to establish anti-deterrence laws for these actions which prevent both economic and technological development. Also, software and hardware professionals should be more involved to develop the DRM (Digital Right Management). By this way, sharing all digital materials without legal permission in online platforms can be reduced meaningfully.

In the future studies, cost-piracy relationship can be tested by adding the digital product cost factor to our research. In his study, Peace et al., (2003) stated that digital product costs had an effect on attitude factor under TPB. In addition, the additional factors that reflect more individual characteristics of digital product users such as lifestyle and social factors in the studies to be carried out within the scope of TPB-ethics may further help to explain the digital piracy better. Due to time and cost constraints, our surveys were reached to individuals living in just three big cities in Turkey. In future studies, the survey on individuals living in different regions of Turkey may reflect their perspectives about digital piracy better and let us to compare them.

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