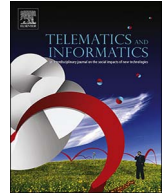


Contents lists available at [ScienceDirect](#)

## Telematics and Informatics

journal homepage: [www.elsevier.com/locate/tele](http://www.elsevier.com/locate/tele)

## Predictors of digital piracy among Turkish undergraduate students

Yavuz Akbulut<sup>a,\*</sup>, Onur Dönmez<sup>b,1</sup><sup>a</sup> *Anadolu University, Faculty of Education, Turkey*<sup>b</sup> *Ege University, Faculty of Education, Turkey*

## ARTICLE INFO

## Keywords:

Digital piracy  
 Prosecution risk  
 Higher education  
 Computer ethics  
 Social desirability

## ABSTRACT

Unauthorized downloading or duplication of copyrighted software has been a serious financial and ethical concern. Thus, the current research addressed predictors of digital piracy across two Turkish undergraduate samples. In Study 1, two structural models were tested with 465 students. Latent variables of interest were measured through 21 indicators to address past piracy, present piracy, prosecution risk and piracy attitudes. Followed by the confirmation of the factor structure, two structural models were retained. In the first model, perceived likelihood of prosecution decreased piracy through full mediation of attitudes, whereas past piracy decreased it through partial mediation of attitudes. In the second model, both variables explained current piracy through full mediation of attitudes. In Study 2, 12 social desirability items were added to current measures and tested with a new group ( $n = 190$ ). The measurement model was confirmed. While prosecution risk and social desirability was related, their contribution to current piracy behaviors was not significant. The links between past and present piracy and attitudes were still strong.

## 1. Introduction

Online connectivity opportunities and contemporary search engines provide individuals with convenient means of accessing digital content. On the other hand, digital piracy (i.e., unauthorized downloading and duplication of copyrighted digital material) remains a major worldwide problem. Along with copying/duplicating digital content without permission, unauthorized installation or downloading a single-user program to several computers are instances of digital piracy (Prasad and Mahajan, 2003). Compared to high research and development costs, unauthorized duplication of digital content is quite convenient, which creates both financial and intellectual property problems (Bhattacharjee et al., 2003). Furthermore, higher rates of unlicensed software lead to the higher likelihood of cyberattacks and debilitating malware, which caused a financial lost about \$400 billion in 2015 (Business Software Alliance (BSA), 2016). Accordingly, the use of pirated software causes security breaches in institutional computer systems (e.g., universities, enterprises), which threatens both information security and service quality (e.g., loss of personal data, service break downs and system overload) (Canbek and Sagiroglu, 2007; Gantz et al., 2014; More et al., 2015).

According to a recent global software survey the use of unlicensed digital products decreased very slowly in spite of the increased awareness precautions, constant education and enforcement (Business Software Alliance (BSA), 2016). That is, about half of the software was unlicensed in 72 of the 116 contexts, and this prevalence was above 75 percent in several markets. Thus, country-specific factors seem to play a significant role in piracy rates (Chang et al., 2017). For instance, the world average of unauthorized software use was 39 percent in 2015, whereas the average of Turkey was 58 percent (Business Software Alliance (BSA), 2016). Such differences can be explained through variations in income, less individualistic nature of the country, the level of education or the

\* Corresponding author at: Department of Educational Sciences, Faculty of Education, Anadolu University, Yunusemre Campus, 26470 Eskisehir, Turkey.

E-mail addresses: [yavuzakbulut@anadolu.edu.tr](mailto:yavuzakbulut@anadolu.edu.tr) (Y. Akbulut), [onur.donmez@ege.edu.tr](mailto:onur.donmez@ege.edu.tr) (O. Dönmez).

<sup>1</sup> Department of Computer Education & Instructional Technology, Ege University, İzmir, Turkey.

<https://doi.org/10.1016/j.tele.2018.03.004>

Received 22 November 2017; Received in revised form 19 January 2018; Accepted 4 March 2018

0736-5853/© 2018 Elsevier Ltd. All rights reserved.

degree of regulatory protections (Chang et al., 2017).

Despite the number of reports were scarce and related literature was somewhat outdated, studies showed that the digital piracy is a frequent problem across Turkish samples. Similar to the aforementioned report of Business Software Alliance (BSA) (2016) pertaining to extensive unauthorized software use in Turkey, movie piracy among Turkish users was also high (i.e., 45%, Walls, 2008). Youth of Turkey Online Report hosted by UNICEF further revealed that many online risks faced by Turkish youth stem from pirated content use (Beger et al., 2011). Another report from Informatics Association of Turkey revealed that 13 percent of 73.185 cyber-crimes registered between 1990 and 2011 were related to copyright infringement (Köksal and İlbaz, 2011). Along with the scarcity of the reports pertaining to the high digital piracy rates among Turkish users, very few scholarly studies tried to investigate the breadth and extent of Turkish users' digital piracy practices.

Previous studies in Turkey focused on computer ethics through surveying the extent of ethical judgments followed by comparisons across groups (e.g., Akbulut et al., 2008; Beycioglu, 2009). Further studies implemented alternative training scenarios or systems to ameliorate ethical decision-making in education (Kert et al., 2014) or prevent online plagiarism (Akçapınar, 2015). Structural equation models to explain antecedents of this misbehavior are limited (Akbulut, 2014), which can be used to organize further anti-piracy interventions. In this regard, this two-step survey study proposed predictors of self-reported digital piracy through structural equation modeling. In the first study, the role of previous piracy, perceived prosecution risk and attitudes on current piracy behaviors was examined. In the second study, social desirability was taken into account and integrated into current hypotheses.

## 2. Study I

### 2.1. Theoretical framework and hypotheses

Several studies have addressed the predictors of digital piracy through different theories on reasoned action (Fishbein and Ajzen, 1975) or planned behavior (Ajzen, 1991). The basic assumption of these theories is that behavioral intentions are shaped by attitude, which facilitates actual behavior. Furthermore, intentions and attitudes are mediated by individuals' perceived levels of control and subjective norms. Research variables selected through resorting to arguments of these frameworks explained a high proportion of intentions towards digital piracy (Cronan and Al-Rafee, 2008). Similarly, Nandedkar and Midha (2012) used the arguments of TRA to address vital components in music piracy. Attitude towards digital piracy was considered as a significant predictor of future intentions. In addition to confirmed relationships across attitudes, behaviors and intentions, the study underlined the contribution of perceived risks in helping individuals to avoid digital piracy. The framework was successfully used in further studies where the focus was digital movie piracy (Phau et al., 2014), software piracy (Peace et al., 2003) or unauthorized peer-to-peer (P2P) file sharing (Sang et al., 2015). Correlations between habits and attitudes have been validated in other studies as well (Aarts and Dijksterhuis, 2000; Gupta et al., 2004). Thus hypothesis 1 addressed the link between attitudes and piracy behaviors:

#### H1. Attitudes are related to current piracy

People who conduct certain behaviors frequently tend to do them in future too (Aarts and Dijksterhuis, 2000). That is, habitual behaviors are activated easily and repeated automatically. Theoretical justification for this activation can be derived from Bem's proposal of the Self-Perception Theory (1967). More specifically, it is suggested that individuals tend to derive beliefs and attitudes through resorting to their own behaviors. They simply refer to their own behaviors and circumstances surrounding those behaviors to deduce their current beliefs and attitudes. Beck and Ajzen (1991) further maintain that previous unethical misconducts explain current ones. Frequency of previous piracy explained current ones in several studies as well (e.g., Taylor et al., 2009). So, the following hypotheses were proposed:

#### H2. Previous piracy is related to attitudes

#### H3. Previous piracy is related to current piracy

Previous work further revealed that digital piracy intentions are explained by perceived likelihood of negative consequences such as prosecution (Liao et al., 2010). Basically, the probability, magnitude, proximity, immediacy or intensity of such perceived negative consequences is expected to reduce piracy (Tan, 2002). Along with prosecution, financial, social, physical, psychological or performance-related risks may be perceived by individuals (Nandedkar and Midha, 2012; Tan, 2002). These perceived risks are considered crucial predictors of risk-related behaviors whether it is risk aversion, risk taking or risk acceptance (Siegrist, 2000; Weber and Hsee, 1998). Risk research further indicate that perceived risk is related to several factors pertaining to risk characteristics or individual decision maker. For instance, while experts' risk judgements are primarily based on technical estimates, layman's risk judgements could be sensitive to further risk characteristics such as voluntary exposition, perceived dread, knowledge on risk domain or perceived control (Slovic, 1987). Further research revealed that layman's risk judgements may be emotional rather than rational (Sjöberg, 2000). Thus, studying risks in different populations is relevant.

People tend to judge the risks along with their associated benefits (Alhakami and Slovic, 1994). While weighing the risks and benefits, people tend to underestimate or overestimate given risks through developing either positive or negative attitudes (Finucane et al., 2000). More specifically, digital piracy may involve a certain degree of uncertainty which may lead to serious consequences. Thus, the magnitude of perceived risks may lead to less favorable attitudes regarding piracy (Liao et al., 2010). Accordingly, Hsu and Chiu (2004) observed that perceived risks can be a significant determinant of attitudes. A recent study in the current research context

Download English Version:

<https://daneshyari.com/en/article/6889533>

Download Persian Version:

<https://daneshyari.com/article/6889533>

[Daneshyari.com](https://daneshyari.com)