Dear Author,

Here are the proofs of your article.

- You can submit your corrections **online**, via **e-mail** or by **fax**.
- For **online** submission please insert your corrections in the online correction form. Always indicate the line number to which the correction refers.
- You can also insert your corrections in the proof PDF and **email** the annotated PDF.
- For fax submission, please ensure that your corrections are clearly legible. Use a fine black pen and write the correction in the margin, not too close to the edge of the page.
- Remember to note the **journal title**, **article number**, and **your name** when sending your response via e-mail or fax.
- **Check** the metadata sheet to make sure that the header information, especially author names and the corresponding affiliations are correctly shown.
- **Check** the questions that may have arisen during copy editing and insert your answers/ corrections.
- **Check** that the text is complete and that all figures, tables and their legends are included. Also check the accuracy of special characters, equations, and electronic supplementary material if applicable. If necessary refer to the *Edited manuscript*.
- The publication of inaccurate data such as dosages and units can have serious consequences. Please take particular care that all such details are correct.
- Please **do not** make changes that involve only matters of style. We have generally introduced forms that follow the journal's style.
  Substantial changes in content, e.g., new results, corrected values, title and authorship are not allowed without the approval of the responsible editor. In such a case, please contact the Editorial Office and return his/her consent together with the proof.
- If we do not receive your corrections **within 48 hours**, we will send you a reminder.
- Your article will be published **Online First** approximately one week after receipt of your corrected proofs. This is the **official first publication** citable with the DOI. **Further changes are, therefore, not possible.**
- The **printed version** will follow in a forthcoming issue.

Please note

After online publication, subscribers (personal/institutional) to this journal will have access to the complete article via the DOI using the URL: http://dx.doi.org/[DOI].
If you would like to know when your article has been published online, take advantage of our free alert service. For registration and further information go to: http://www.link.springer.com.

Due to the electronic nature of the procedure, the manuscript and the original figures will only be returned to you on special request. When you return your corrections, please inform us if you would like to have these documents returned.

Metadata of the article that will be visualized in OnlineFirst

ArticleTitle	Lowering the pirate flag: a TPB study of the factors influencing the intention to pay for movie streaming services	
Article Sub-Title		
Article CopyRight	Springer Science+Business Media, LLC, part of Springer Nature (This will be the copyright line in the final PDF)	
Journal Name	Electronic Commerce Research	
Corresponding Author	Family Name	**Vollero**
	Particle	
	Given Name	**Agostino**
	Suffix	
	Division	Department of Political, Social and Communication Studies
	Organization	University of Salerno
	Address	Via Giovanni Paolo II, 132, 84084, Fisciano, SA, Italy
	Phone	+39 089 962154
	Fax	
	Email	avollero@unisa.it
	URL	
	ORCID	http://orcid.org/0000-0003-0282-1761
Author	Family Name	**Sardanelli**
	Particle	
	Given Name	**Domenico**
	Suffix	
	Division	Department of Political, Social and Communication Studies
	Organization	University of Salerno
	Address	Via Giovanni Paolo II, 132, 84084, Fisciano, SA, Italy
	Phone	
	Fax	
	Email	
	URL	
	ORCID	
Author	Family Name	**Siano**
	Particle	
	Given Name	**Alfonso**
	Suffix	
	Division	Department of Political, Social and Communication Studies
	Organization	University of Salerno
	Address	Via Giovanni Paolo II, 132, 84084, Fisciano, SA, Italy
	Phone	
	Fax	
	Email	
	URL	

	ORCID	
Author	Family Name	**Bottoni**
	Particle	
	Given Name	**Gianmaria**
	Suffix	
	Division	Department of Sociology
	Organization	City University of London
	Address	Northampton Square, London, EC1V 0HB, UK
	Phone	
	Fax	
	Email	
	URL	
	ORCID	

	Received
Schedule	Revised
	Accepted

Abstract	The launch of several movie streaming services has raised new questions about how online consumers deal with both legal and illegal options to obtain their desired products. This paper investigates the factors influencing consumers' intentions to subscribe to online movie streaming services. These services have challenged the dramatic growth in their illegal counterpart in recent years. Taking the theory of planned behavior as a starting point, we extended existing models in the literature by incorporating factors that are specific to consumer behavior in this particular field. A quantitative survey was conducted for the Italian market, and structural equation modeling was used for data analysis. Attitudes, involvement with products, moral judgement and frequency of past behavior were found to be the most important factors in explaining the intention to pay for movie streaming services. The paper provides insights for policy makers and industry managers on the marketing communication strategies needed to minimize the risk of digital piracy.

Keywords (separated by '-')	Streaming services - Subscription intention - Movie industry - Digital piracy - Structural equation modeling
Footnote Information	

Journal : SmallExtended 10660	Article No : 9346	Pages : 26	MS Code : ELEC-D-16-00136	Dispatch : 1-4-2019

Electronic Commerce Research
https://doi.org/10.1007/s10660-019-09346-7

Lowering the pirate flag: a TPB study of the factors influencing the intention to pay for movie streaming services

Domenico Sardanelli[1] · Agostino Vollero[1] · Alfonso Siano[1] · Gianmaria Bottoni[2]

Abstract

The launch of several movie streaming services has raised new questions about how online consumers deal with both legal and illegal options to obtain their desired products. This paper investigates the factors influencing consumers' intentions to subscribe to online movie streaming services. These services have challenged the dramatic growth in their illegal counterpart in recent years. Taking the theory of planned behavior as a starting point, we extended existing models in the literature by incorporating factors that are specific to consumer behavior in this particular field. A quantitative survey was conducted for the Italian market, and structural equation modeling was used for data analysis. Attitudes, involvement with products, moral judgement and frequency of past behavior were found to be the most important factors in explaining the intention to pay for movie streaming services. The paper provides insights for policy makers and industry managers on the marketing communication strategies needed to minimize the risk of digital piracy.

Keywords Streaming services · Subscription intention · Movie industry · Digital piracy · Structural equation modeling

1 Introduction

Digital piracy has been threatening the software, music and movie industries for decades [15, 81]. Peer-to-peer sharing, illegal downloads and streaming still represent a convenient alternative to DVDs or subscription-based premium TV

✉ Agostino Vollero
avollero@unisa.it

[1] Department of Political, Social and Communication Studies, University of Salerno, Via Giovanni Paolo II, 132, 84084 Fisciano, SA, Italy

[2] Department of Sociology, City University of London, Northampton Square, London EC1V 0HB, UK

services. From 2011 to 2015, while file sharing has remained at the same level, internet video traffic has grown by 176% globally [19, 20]. Both video streaming and file sharing platforms (such as torrent platforms), however, have been primarily used to avoid the payment of movies, thus resulting in the infringement of copyrights, as demonstrated in several studies [30, 39].

The emergence and popularity of movie streaming services, i.e. an alternative business model in which consumers pay a small fee for the right to temporarily access a set of movies (without possessing physical files on their devices), represents an interesting challenge from both the perspective of consumer behavior and e-commerce technology. The global diffusion of online providers of on-demand streaming media, such as Netflix, has in fact boosted the legal market and rekindled the business and academic debate around digital piracy and purchasing behavior [14, 18, 47, 82].

The literature has usually tackled this issue from the side of illegal downloading or streaming [69, 88], by focusing only on the factors that influence this dishonest behavior. In addition, legal sanctions seem to have had little impact on reducing digital piracy [24, 28, 29, 70]. It is thus more effective to find alternative ways to encourage purchases, rather than discouraging the illegal acquisition of media products. Extending our knowledge of consumers' shopping activities on the Web, i.e. subscription-based streaming services, is therefore likely to be a more effective way of dealing with digital piracy.

While the literature has highlighted the need to further explore the interaction between legal and counterfeit products [17, 21], there is a marked paucity of literature on the intention to pay for streaming media services while taking into account the availability of illegal alternatives [14, 23]. Such scarcity is likely to negatively affect the ability of policy makers and practitioners to change consumer attitudes and behaviors toward digital piracy. Poort et al. [70, p. 391] suggest that policy makers and industry managers should focus "on removing any legal or practical obstacles for comprehensive and attractive legal online models […]. Researchers could support this by studying the dynamics between the adequacy of legal supply and file sharing".

This paper thus examines the determinants of consumer intentions to pay for online movie streaming services in the context of the multiple alternatives available online, both legal and illegal. In fact, purchasing such services can be seen as a kind of ethical behavior [16, 72]. In other words, the willingness to pay for these services is deemed to be in opposition to the illegal acquisition, namely the downloading or streaming of pirated files, rather than to not purchasing. Recent studies seem to confirm that once an individual is willing to enjoy music or movies on the Internet, they have two main alternatives: to buy or to steal [82]. These two options are not totally mutually exclusive and can overlap, even in terms of the same specific consumption decision: one could decide first to get a pirated movie and then to pay for it on the Internet; however the opposite is rarely considered. Although these actions can coexist, they represent two possible outcomes of a particular consumption decision, and they are not independent of each other at all. This study is thus grounded in behavioral models and examines the intention

Journal : SmallExtended 10660 | Article No : 9346 | Pages : 26 | MS Code : ELEC-D-16-00136 | Dispatch : 1-4-2019

of online subscription to movie streaming services in the context of two opposing alternative behaviors that can also occur simultaneously.

Using the theory of planned behavior [1], this paper examines concurrently the attitudes, the impact of the social acceptance of unauthorized copying of movies and the influence of familiarity with online shopping (interpreted as past behavior) on the intention to pay for online streaming services. However, this standard model has been extended considering the specific nature of the investigated behavior—that is the online purchase of digital entertainment products. Thus, we consider both the involvement with the product and the interference of the illegal shortcut to get these same products for free (i.e. moral judgement on digital piracy).

The structure of the paper is as follows. Section 2 explains the conceptual framework and Sect. 3 presents the associated research hypotheses. In Sect. 4 we discuss the methodological choices and report on the analytical procedures used. We then provide the main research findings (Sect. 5) and lastly, we discuss the implications of our findings (Sect. 6) and provide future research directions (Sect. 7).

2 Conceptual background

Online consumer behavior has traditionally been approached from a social psychology perspective. Generally, an individual's decision to engage in a specific behavior (e.g. subscribing to a streaming service) is often determined by an individual's evaluation (i.e. attitude) of how that behaviour is likely to affect her/him. An attitude is a person's tendency to evaluate a certain object with some degree of favor–disfavor [9, 31] and as such, it can have both a cognitive (e.g. good–bad evaluation) and affective nature (e.g. reactions reflecting enduring happy–sad or pleasant–unpleasant affective states toward an object). Thus, in order to understand consumer subscription behavior in relation to a legal online streaming service and go beyond its random components, it is essential to consider peoples' attitudes. However, over the years, several researchers have pointed out that attitudes alone are not sufficient to explain and predict why people act in a certain way: specific attitudes can be truly predictive only when they refer to spontaneous behaviors [3, 38], when people act on the spur of the moment.

The theory of reasoned action (TRA) [2], and its extension, the theory of planned behavior (TPB) [1] account for deliberate behaviors and specify further systematic determinants beyond attitudes. TRA and TPB are well-established models used to study behavior in online settings [55, 61]. TRA takes into account attitudes and subjective norms as the fundamental predictors of intention to perform a certain behavior. In addition, TPB also considers perceived behavioral control as an antecedent of behavioral intention. Specifically, subjective norms indicate the agreement of a reference group with a certain behavior, and the perceived behavioral control includes the confidence (based on availability of resources or lack of opportunities) of an individual in her/his abilities to perform that behavior [1].

As reported in George [36], there is a long tradition of TPB application both in information systems and in Internet purchasing studies. In the last decade, the TPB model has been successfully adopted (in its original form or in a modified version)

to explain a large number of intentions related both to online purchasing and to online access to different products/services, such as Internet banking [77], online bookstores [89], digital music [53], online specialty food [54], pirated digital content [69], and use of social media for transactions [41].

In this study, we focus on the intention to legally (rather than illegally) access movies online, using a TPB approach.

A fundamental premise is that paying for movie streaming services is a form of ethical behavior, since it implies that consumers judge a legal subscription as being a more valuable option than its illegal counterpart. TPB thus provides a strong conceptual framework for evaluating how attitudes relate to the willingness to perform a certain purchasing behavior online, especially when judgements regarding ethics and privacy are central [36, 69, 85, 88].

In order to fully adapt TPB to the exploration of subscription intention of online movie services, we examined other constructs that affect this specific behavior. TPB, as a general theory of behavior, does not highlight the particular beliefs associated with the target behavior, so that it is generally left to the researcher to determine what beliefs underpin the attitudes [36]. Firstly, involvement, intended as the level of interest an individual has in a particular product category (or, in wider terms, as the level of arousal triggered in a subject by a product category) [43, 65, 67] is purported to be a very influential aspect of movie consumption behavior in online settings [23], due to its impact on attitude development [71]. More interestingly, involvement seems to be independent of the legal or illegal acquisition of movie services [23], and thus perfectly fits our assumptions. Secondly, we specify the role of moral judgement, as TPB has been frequently accused of neglecting the role of internal moral tension [58], by emphasizing the impact of external inputs on the intention to perform a specific behavior. In fact, several papers have shown that moral equity should play an important role in digital piracy practices [57, 79] and in the acquisition of legal alternatives.

Both involvement and moral judgement are thus added as integrating factors in our extended TPB conceptual model (see Fig. 1).

All the relationships between the constructs are specified in order to have a full picture of the determinants affecting subscription intention in purchasing movie streaming services.

3 Hypotheses development

As already stated, attitudes refer to the feeling towards a behavior and are a function of the beliefs regarding the consequences of performance and the evaluation of those consequences [27]. Previous studies have shown that attitudes play an essential role in explaining the online purchase of films and TV series, as well as illegal access to these products [22, 69]. Hence, we firstly state:

H1 The intention to pay for movie streaming services is influenced by the attitude toward this type of purchasing.

Journal : SmallExtended 10660 | Article No : 9346 | Pages : 26 | MS Code : ELEC-D-16-00136 | Dispatch : 1-4-2019

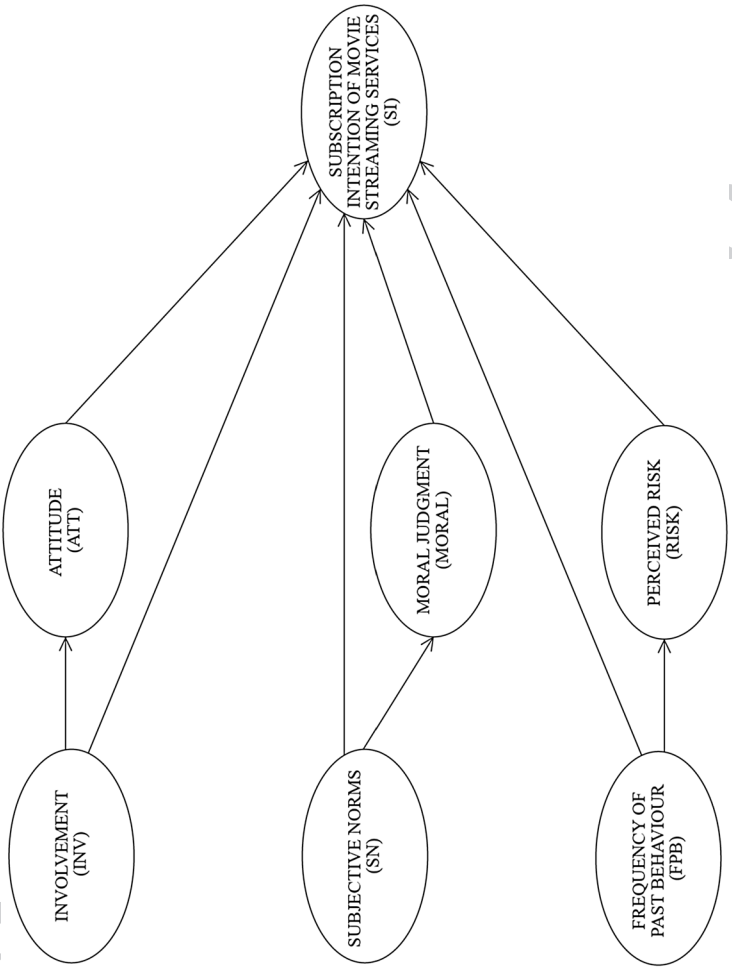

Fig. 1 Conceptual model

Consumer's willingness to spend money on their desired movies, which are easily available (even if illegally), is deemed to be directly influenced by their involvement in the movie category [43], which has been relatively neglected in the literature on digital piracy [23].

Involvement is an enduring state of emotional attachment that is intrinsically motivated by the congruence between the product and the individual's self-image, or by the pleasure gained from thoughts concerning the product and its use [43]. Previous studies on traditional media products have shown that involvement could have a direct influence on the purchasing effort [71]. In particular, highly involved consumers in movies are more likely to distinguish the quality of files, thus preferring copyrighted to pirated files [23]. We thus infer that greater consumer involvement with the movie category could also lead to attributing an associated monetary value. Hence, we propose that the involvement in films and TV series could directly increase the intention to buy online.

H2 Involvement in movies positively influences the intention to pay for movie streaming services.

At the same time, highly-involved consumers tend to value the reliability and variety offered by the subscription-based streaming services more positively, especially when such services are compared to other channels that provide access to movie products. These positive attributes are also less likely to suffer from negative evaluations concerning the price. Increased interest in movies as a whole should also enhance the amount of cognitive elaboration regarding the distribution channels of this product and thus lead to a positive evaluation of those channels that ensure a better quality [68]. The role of involvement as an antecedent of the attitude formation of purchase-decision engagement has been also confirmed by Mittal and Lee [62]. Therefore, we propose that:

H3 Attitude mediates the impact of involvement on the intention to pay for movie streaming services.

Although the original TPB model includes the regulatory power of external inputs from social interactions, it neglects to explain the role of internalized ethical values in leading behavioral intention [58], especially for acts involving moral tension [11]. Previous studies on digital piracy have also shown that low moral equity and beliefs, as well as the low awareness of the social costs of digital piracy (e.g. on the work of authors and producers) play a role in increasing the propensity to illegally acquire media products [17, 57, 79]. Thus, given that subscription to online streaming services is frequently considered as just one option among many (often illegal) possibilities offered by the Web to get films and TV series, shopping itself can be regarded as an ethical behavior [16, 72]. Moral judgement may thus play an essential role in persuading decision makers to reject illegal channels and opt for online buying [42]. The ethical evaluations we are interested in are those regarding digital piracy and not online shopping, as the latter behavior does not generate any

Journal : SmallExtended 10660	Article No : 9346	Pages : 26	MS Code : ELEC-D-16-00136	Dispatch : 1-4-2019

moral dilemma. Rejecting piracy should increase the likelihood of a user paying for movie streaming services. Therefore, we state that:

H4 Moral judgement regarding the illegal acquisition of movies influences the intention to pay for movie streaming services.

Subjective norms are the result of the evaluation of peers regarding the behavior and importance that individuals attribute to these opinions [1, 2]. Digital piracy may be sensitive not only to internal ethical evaluations, but also to social sanction [22, 24]. Hence, in the context of our study, subjective norms are interpreted as peer rejection of the illegal acquisition of movies, which is a deviant behavior compared to online purchasing. It is supposed that the higher the evaluation of perceived subjective norms (important others have a negative opinion towards the behavior), the greater the intention to subscribe to a movie streaming service. This hypothesis is corroborated by Lin et al. [56] who showed the significant effect of subjective norms on the intention to subscribe to fee-based online music services. Following this reasoning, we thus propose that:

H5 Subjective norms regarding the illegal acquisition of movies influence the intention to pay for movie streaming services.

Peers' rejection of digital piracy constitutes an external normative framework in which the individual is embedded and it is also expected to affect the strength of the moral judgements that the individuals themselves are going to form. In other words, the external normative influence of peers is internalized by the subject, thus constituting a direct antecedent of the internal moral judgement [6]. This mediated relationship means that TPB can be integrated with moral assessments. We consider an extended normative framework which includes external and internal(ized) norms together as potentially inspiring controversial actions [90]. Therefore, we propose that:

H6 Moral judgements mediate the influence of subjective norms regarding the illegal acquisition of movies on the intention to pay for movie streaming services.

TPB also aims to explain behaviors that are not completely under volitional control and for which subjects do not entirely perceive themselves as able to act as they would like to. This type of behavior makes it necessary to also include perceived behavioral control as a predictor of the intention and of the behavior [1], also in the case of digital piracy [69].

However, we aim to specify what it means to perceive control in subscribing to an online streaming service, in order to identify the relevant dimensions constituting control perception. The increasing familiarity with digital technology and the diffusion of user-friendly e-commerce systems have drastically flattened the e-shopping

learning curve, usually considered as a problematic behavior.[1] In fact, movie streaming services usually offer consumers a "free" option (with some limitations) or a free trial period. However, the subscription is still problematic, in the sense that it is not under the complete control of the user. It might be hindered by the risk of not getting a fair deal or by the general unwillingness to share personal and financial data [4]. Thus, the behavioral control is mainly represented by the degree of concern regarding the uncertainty of the process, which might end in fraud, an undesired product or also the anxiety derived from the sharing of data. In our study, we argue that that these concerns are primarily summarized by the perceived risk and by the familiarity with online buying, proxied by the frequency of past purchases of media products and contents [66].

H7 Intention to pay for movie streaming services is influenced by the past frequency of online purchasing of media products.

H8 Intention to pay for movie streaming services is negatively influenced by the perceived risk of online purchasing.

Lastly, we need to define the relationship between these two aspects of perceived behavioral control. Previous online shopping experience is not only a strong positive predictor of online purchase intention for digital products but is also negatively related to perceptions of product and financial risks [25]. It is therefore likely that the more a consumer is used to buy online using e-commerce systems, the less she/he is likely to perceive a risk in using it [35].

H9 The frequency of the previous purchasing of media products negatively influences the perceived risk of online purchasing.

These hypotheses elicit a nomological network of relationships that explains the variations in online subscription to movie streaming services intentions in the context of the distinct alternatives that consumers are aware of. As we have shown, the constructs included in the model take into account the choices available to consumers. Thus the whole model reflects the connections between the main forces driving consumers in their acquisition choices and ultimately their intentions to subscribe to streaming services.

[1] Both the theory of trying (TT) [8] and the model of goal-directed behavior (MGB) [66] have considered problematic behaviors, perceived as goals by the decision makers. However, although TT and MGB represent an expansion of TPB, they fit better with performances involving some kind of learning or trial-and-error process, which may truly make it reasonable to distinguish between intention to try and intention to use (as TT does) or between desire and intention to act (as MGB does). Likewise, a further specification of an attitude (e.g. toward the successful achievement of the goal or toward the failure as in the theory of trying), it is reasonable only for actions connected to a goal and to an arduous trial period. This does not appear to be the case of the subscription of movie streaming services (with the awareness of the easy alternative, i.e. illegal channels).

Journal : SmallExtended 10660	Article No : 9346	Pages : 26	MS Code : ELEC-D-16-00136	Dispatch : 1-4-2019

Lastly, we propose that the overall model may vary on the basis of the amount of media consumption, i.e. level of exposure to different media [51]. In fact, both movies and the online channels through which movies are made available, can be considered as media products. In addition, according to Google Consumer Barometer (over 130,000 respondents around the world in 2014/15) 56% of people use other media devices (radio, computer, smartphone, games console, etc.) in parallel to watching videos online, while 44% only watch streaming video online. Therefore, light and heavy media users should display different behavioral patterns [76], both in their film/TV series consumption and in their purchase/download preferences.

4 Methodology

4.1 Survey instrument

The survey instrument was developed using established scales from the pre-existing literature on TPB (Table 1). Subscription intention was the fundamental criterion variable and was conceptualized as the likelihood to choose the legal alternative to obtain movies, through subscription to an online on-demand streaming service, also being aware of the possibility to obtain them illegally and for free. All of the items were measured using a self-designating 11-point scale ranging between "Strongly disagree" (0) and "Strongly agree" (10).[2] However for the items concerning attitude and subscription intention, a semantic differential scale was used, anchored by two opposite adjectives (e.g. bad/good, likely/unlikely, etc.). The frequency of past online purchasing was measured with a 6-point Likert scale (ranging from "never" to "very often") concerning the purchase of films, TV series and music. We used media consumption as the control variable for the multiple group SEM analysis. This variable was measured through a six-point frequency scale ("never", "less than 30 min", "about 1 h", "about 2–3 h", "about 3–4 h", "more than 4 h") concerning the daily use of different media (TV, radio, newspapers, magazines, Internet, etc.). The points of the scale were chosen sufficiently wide to enable participants to collocate themselves with sufficient precision, while at the same time limiting biases in recall. After averaging individual scores across the media types, each subject was classified as either a "light media user" or "heavy media user", depending on the average score being below/equal to three (corresponding to a maximum of 1 h of media consumption per day) or above. Thus, measuring media consumption on a scale with an even number of items also enabled us to split the score range in half in relation to classifying the subjects into light and heavy media users. The survey included questions on basic demographics (gender, age, education level, occupation

[2] The use of a 11-point scale is justified by the need to produce continuous measurements that are more appropriate for the maximum likelihood estimator used in our research (implemented as MLR in Mplus) [45] and are better suited to the socio-cultural context of our research (Italy) in which individuals are quite familiar with this type of scale since they represent the grading system used in the Italian school system.

Table 1 Measurement model

Constructs	Unstandardized (SE)/ standardized (SE) factor loadings	Composite reliability (CR)	Average variance extracted (AVE)	Main source
Subscription intention (SI): Think about a website offering you a subscription-based on-demand service of movie streaming, with an unlimited archive of films, TV series, etc. from the 1950s to the present day. An example is Netflix. Such a service would cost about 8 euros per month. Even being aware of free but illegal alternatives, would you consider paying for such a service?		.908	.714	[60]
It's unlikely that I'd buy it/It's likely that I'd buy it	1.000 (–) 0.806 (0.029)			
It's really not like me to buy it/It's typical of me to buy it	1.026 (0.044) 0.908 (0.020)			
There is no way I'd buy it/I'd buy it for sure	0.983 (0.049) 0.929 (0.020)			
It's too expensive/It's a fair price	0.777 (0.056) 0.719 (0.032)			
Attitude toward the subscription of movie streaming services (ATT): Buying films or TV series on websites (such as Amazon, Netflix, etc.) instead of getting them illegally is …		.862	.611	[2]
Foolish/wise	1.000 (–) 0.720 (0.038)			
Unsatisfying/satisfying	0.921 (0.067) 0.731 (0.035)			
Disadvantageous/advantageous	1.177 (0.095) 0.786 (0.029)			
Useless/useful	1.273 (0.086) 0.880 (0.020)			

Journal : SmallExtended 10660 | Article No : 9346 | Pages : 26 | MS Code : ELEC-D-16-00136 | Dispatch : 1-4-2019

Journal : SmallExtended 10660 | Article No : 9346 | Pages : 26 | MS Code : ELEC-D-16-00136 | Dispatch : 1-4-2019

Table 1 (continued)

Constructs	Unstandardized (SE)/ standardized (SE) factor loadings	Composite reliability (CR)	Average variance extracted (AVE)	Main source
Involvement with the movie category (INV): Films and TV series …		.918	.789	[43]
Are an integral part of my life	1.000 (–) 0.842 (0.020)			
Are fascinating to me	0.919 (0.035) 0.933 (0.016)			
Move me	0.870 (0.036) 0.887 (0.017)			
Perceived subjective norms about digital piracy (SN): How much do you agree with the following statements?		.748	.599	[2]
My friends do not approve of download/sharing films and TV series' without paying for them	1.000 (–) 0.726 (0.059)			
Digital piracy is not looked kindly upon by my friends	1.255 (0.189) 0.819 (0.067)			
Moral judgement about the illegal acquisition of movies (MORAL): It is well known that there are different ways to watch movies through the Internet, for example by torrents, streaming, p2p (peer-to-peer). How much do you agree with the following statements?		.745	.525	[42]
Watching movies illegally harms the authors and producers	1.000 (–) 0.676 (0.052)			
Downloading movies (without paying) is dishonest	1.540 (0.180) 0.990 (0.050)			
Digital piracy is fair, because it allows everyone to freely enjoy cultural products (Reversed)	0.550 (0.086) 0.372 (0.057)			

Table 1 (continued)

Constructs	Unstandardized (SE)/ standardized (SE) factor loadings	Composite reliability (CR)	Average variance extracted (AVE)	Main source
Perceived risk in online buying (RISK): By purchasing movies on the Internet …		.903	.756	[4]
I put my financial data at risk (credit card, prepaid card, etc.…)	1.000 (–) 0.848 (0.030)			
I run the risk of fraud	1.097 (0.043) 0.933 (0.020)			
Hackers could infiltrate my computer	0.946 (0.055) 0.824 (0.035)			
Frequency of past behavior (FPB): How often have you purchased online each of the following products?		.767	.534	[62]
Films	1.000 (–) 0.793 (0.038)			
TV series	0.970 (0.081) 0.847 (0.038)			
Music	0.647 (0.082) 0.507 (0.053)			

In the unstandardized solution the first indicator of each factor is constrained to 1 to set the measurement scale of the latent factor

Journal : SmallExtended 10660 | Article No : 9346 | Pages : 26 | MS Code : ELEC-D-16-00136 | Dispatch : 1-4-2019

Journal : SmallExtended 10660 | Article No : 9346 | Pages : 26 | MS Code : ELEC-D-16-00136 | Dispatch : 1-4-2019

and location). On the basis of the above-mentioned elements, a self-administered questionnaire was prepared and delivered through a web-based survey service.

4.2 Sample

Given the research objective, the population of interest is made of the Italian Internet users that are virtually willing to subscribe a streaming on-demand service. As it is impossible to determine the entire Internet population, we had defined a sampling frame of online communities [63]. The rationale behind this choice is the need to evaluate attitudes and intentions of people who still have knowledge of the legal/illegal pros and cons in this industry in Italy. By using the keywords "forum film serie tv" and inspecting the first three pages of SERP results, we identified four Italian communities (out of 14) which met the relevance, activity, interactivity, substantiality, heterogeneity and richness criteria [52]. Data were collected between May and October 2015. A total of 539 responses were obtained. The survey data were then checked to eliminate incomplete forms leaving 453 questionnaires for the analysis. The gender ratio of the respondents was 49.3% male and 50.7% female. All eligible respondents were aged between 15 and 63 with an average of 30 (36.7% aged between 15 and 24; 39.7% between 25 and 34; 12.4% aged 35–44 and 11.2% over 45 years old). Approximately half (49.5%) of the respondents had completed high school and about one-third had a university degree. The basic demographics of these respondents were consistent with the active population using the Internet in Italy, especially with people who have the highest Internet usage rates [49].

The sample size was in line to what Stevens [84] recommends for structural equation modeling, i.e. a sample size of at least 400 to prevent model misspecification. In addition, the sample size is above the minimum requirement of 435 (87 free parameters of the measurement model), resulting from the 5:1 ratio of sample size to number of free parameters [12], and is also above the Marsh and Bailey's [59] suggestion of at least 200 observations, given an indicators to latent variables ratio of 3. Hair et al. [40] indicate different factors (e.g. multivariate normality, model complexity, average error variance of the indicators, etc.) that need to be considered when deciding sample size. They recommend a rough ratio of 10:1 of respondents to items. Taking all of these factors into account, our sample size can be deemed appropriate.

5 Findings

5.1 Measurement and structural model

Because of the complexity of the general model proposed, we first developed a measurement model to identify the latent constructs by a confirmatory factor analysis (CFA). The preliminary CFA helps us to support the validity and reliability of proposed constructs by evaluating the measurement model and the properties of the observed indicators that measure these constructs. The measurement model was then extended to include the structural relations between the latent dimensions

Table 2 Correlations among constructs

	ATT	SI	INV	RISK	MORAL	FPB	SN
ATT	*0.78*						
SI	0.46	*0.84*					
INV	0.16	0.25	*0.89*				
RISK	−0.13	−0.16	−0.2	*0.87*			
MORAL	0.28	0.24	−0.02	0.03	*0.72*		
FPB	0.35	0.39	0.34	−0.23	0.06	*0.73*	
SN	0.18	0.05	−0.23	0.14	0.37	−0.03	*0.77*

On-diagonals are square roots of AVE

previously measured. All the analyses, conducted in Mplus 7, were performed on a covariance matrix using MLR estimator [7], which is a maximum likelihood estimator with robust standard errors, adjusted for non-normality.

The goodness of fit of the models was assessed using the MLR Chi square statistic, that is asymptotically equivalent to Yuan–Bentler [91] T_2 test statistic, the comparative fit index (CFI) [13] and the root mean square error of approximation (RMSEA) [83].

The measurement model proposed has seven continuous latent factors measured by 22 items in total. Subscription intention (SI) is measured by a scale of four items as well as attitude (ATT), involvement (INV), moral judgement (MORAL), perceived risk in online purchasing (RISK), and frequency of past behavior (FPB) constructs are measured by three items; finally, the subjective norms (SN) construct is measured by two items.

Although the Chi square was significant—χ^2 (N = 453) = 351.474, df = 188, $p < .001$—all the other indices pointed to a good fit (RMSEA = .044; CFI = .959; TLI = .950). In addition, all the standardized factor loadings were significantly different from zero ($p < .01$) (see Table 1).

To assess the convergent validity of the measurement model we considered the average variance extracted (AVE) and the composite reliability (CR). All the AVE (ranging from .525 to .789) and CR values (from .745 to .918) were above the recommended cut-off point [10, 40], thus suggesting a good internal consistency of the measurement model. To assess discriminant validity, Fornell and Larcker [34] suggest that the factors underlying the constructs should share a greater amount of variance with their items than with the other constructs in the model. Therefore, the square root of the AVE for each factor should be greater than the correlation with other constructs. For all the constructs, the levels of the square root of AVE were greater than the correlation involving the constructs, thus suggesting a good discriminant validity of the measurement model (Table 2).

To this measurement model, we added the casual paths to test the hypotheses presented above. Figure 2 shows the structural model with four endogenous latent factors (SI, ATT, MORAL, RISK), three exogenous latent factors (INV, SN, FPB), and 22 observed variables. The structural model shows a good fit [44, 46]: χ^2 (N = 453, df = 197) = 423.547, RMSEA = .050, CFI = .944 and TLI = .934.

Journal : SmallExtended 10660	Article No : 9346	Pages : 26	MS Code : ELEC-D-16-00136	Dispatch : 1-4-2019

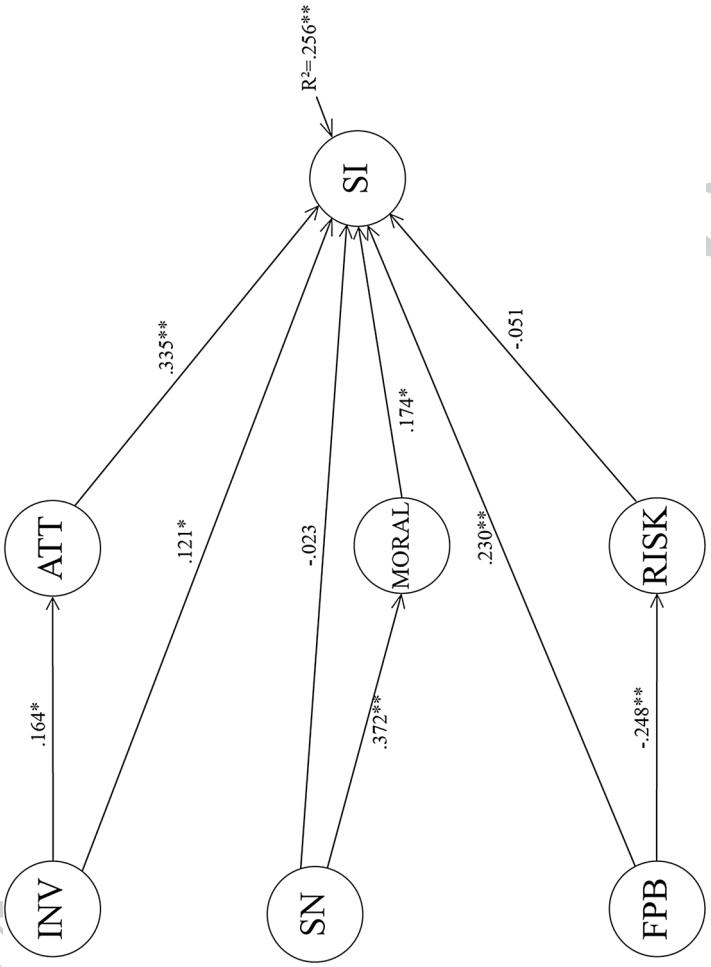

Fig. 2 Structural model (standardized coefficients). *Significant at $p < .05$; **significant at $p < .001$

Table 3 Structural model (standardized coefficients)

	Estimate	T value	Two-tailed p value
SI on			
ATT	0.335	5.409	0.000
MORAL	0.174	3.036	0.002
RISK	−0.051	−0.848	0.396
INV	0.121	2.015	0.044
SN	−0.023	−0.349	0.727
FPB	0.230	3.267	0.001
ATT on INV	0.164	2.741	0.006
MORAL on SN	0.372	5.968	0.000
RISK on FPB	−0.248	−4.121	0.000

All the structural regression coefficients are significant ($p < 0.05$), except for those of RISK and SN on SI (see Table 3).

SI is predicted by attitude, moral judgment, involvement and frequency of past behavior. More specifically, attitude (ATT) seems to be the best predictor of the intention to pay for a movie streaming service ($\beta = .335$). In turn, ATT is predicted by the involvement (INV) ($\gamma = .164$). In addition, the frequency of past behavior (FPB) exerts a positive effect ($\gamma = .230$) on SI as well as moral judgment (MORAL) ($\beta = .174$) and involvement (INV) ($\gamma = .121$).

The perceived risk in online purchasing (RISK) and the subjective norms (SN) however do not show a significant influence on SI. The social pressure component of the model, measured by the construct SN, positively affects the general moral judgment regarding illegal downloading ($\gamma = .372$) which in turn influences SI ($\beta = .174$). Finally, as expected, the frequency of past behavior (FPB) negatively influences the perceived risk in online purchasing (RISK) ($\gamma = -.248$).

5.2 Multiple group analysis

We performed a multiple group analysis to evaluate the model described above in terms of two distinct groups based on different levels of media consumption.

To compare structural coefficients among different groups, the measurement model needs to be the same in the groups identified and the items need to be measured on the same scale across groups [26]. To evaluate the measurement invariance of the model, we constrained the factor loadings to be equal across groups (low media consumption and high media consumption). The multiple group measurement model shows a good fit: χ^2 (total N = 453, low N = 192 and high N = 261, df = 392) = 565.729, RMSEA = .044, CFI = .958 and TLI = .950, suggesting that the measurement model is invariant.

Journal : SmallExtended 10660 | Article No : 9346 | Pages : 26 | MS Code : ELEC-D-16-00136 | Dispatch : 1-4-2019

Table 4 Multiple group model (standardized coefficients)

	Estimate	T value	Two-tailed *p* value
Light media users			
SI on			
ATT	0.222	2.377	0.017
MORAL	0.174	2.142	0.032
RISK	−0.037	−0.427	0.669
INV	0.301	3.221	0.001
SN	0.101	0.941	0.347
FPB	0.183	1.623	0.105
ATT on INV	0.178	2.049	0.040
MORAL on SN	0.296	3.748	0.000
RISK on FPB	−0.322	−4.415	0.000
Heavy media users			
SI on			
ATT	0.425	5.453	0.000
MORAL	0.167	2.130	0.033
RISK	−0.051	−0.669	0.504
INV	0.024	0.325	0.745
SN	−0.084	−0.961	0.337
FPB	0.288	3.326	0.001
ATT on INV	0.157	1.955	0.051
MORAL on SN	0.447	6.187	0.000
RISK on FPB	−0.203	−2.317	0.021

5.2.1 Light media users

The multiple group structural model fits the data well: RMSEA is .051, CFI is .941 and TLI is .933 with the $\chi^2 = 655.471$ (total N = 453, low N = 192 and high N = 261, df = 410). Regarding the group with a low media consumption ($R^2 = .255$), all the coefficients are significant ($p < 0.05$) except SN and RISK on SI, exactly like in the previous model (see Table 4).

However, the frequency of past behavior becomes a non-significant predictor factor of subscription intention ($\gamma = .183$). In the group with a low media consumption, the best predictor of SI becomes the direct effect exerted by INV ($\gamma = .301$). Instead the influence of ATT is lower than in the general model ($\beta = .222$). With reference to the normative constructs, the moral judgements of light media users' are less determined by subjective norms ($\gamma = -.296$), when compared to the general sample. Lastly, FPB negatively influences the perceived risk in online purchasing ($\gamma = -.322$) to a greater extent, while positively influencing to a lesser extent the intention of subscription to movie streaming service ($\gamma = .183$). The other parameters remain almost unvaried (Fig. 3).

Journal : SmallExtended 10660 | Article No : 9346 | Pages : 26 | MS Code : ELEC-D-16-00136 | Dispatch : 1-4-2019

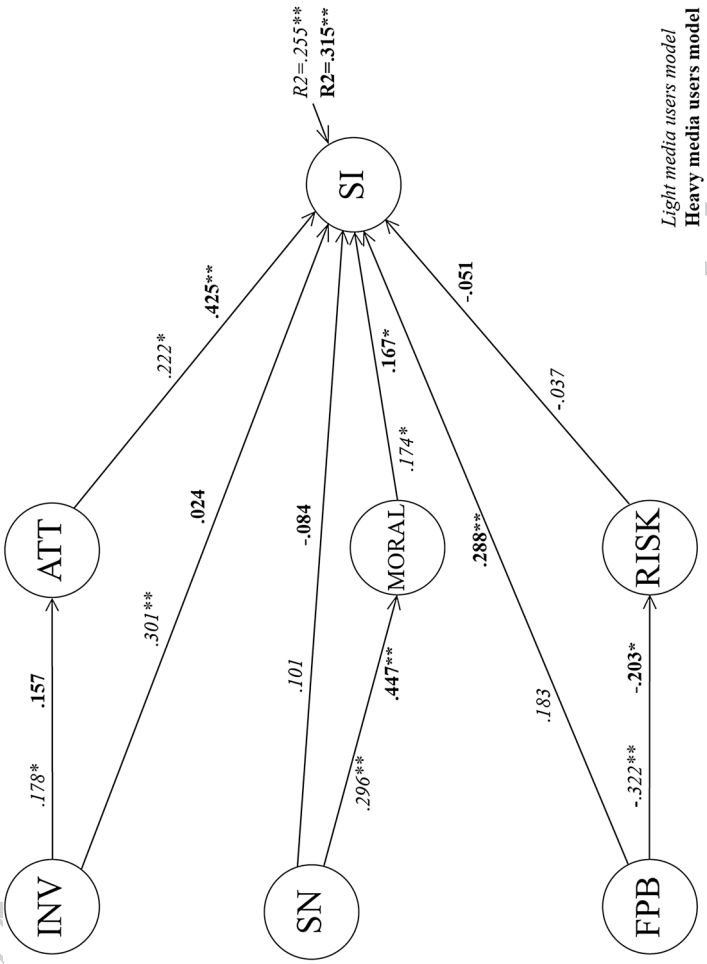

Fig. 3 Multi group structural model (standardized coefficients). *Significant at $p < .05$; **significant at $p < .001$

Journal : SmallExtended 10660	Article No : 9346	Pages : 26	MS Code : ELEC-D-16-00136	Dispatch : 1-4-2019

5.2.2 Heavy media users

In the group with a high media consumption ($R^2 = .315$), all the coefficients are significant ($p < 0.05$) except for SN and RISK on SI. In addition, the effect exerted by the involvement on ATT is very slightly non-significant ($p = .051$), while the direct effect of INV on SI disappears, becoming a non-significant predictor of this intention. The major predictor of SI is attitude ($\beta = .425$; general model $\beta = .335$, low model $\beta = .222$). SN affects the general moral judgment about the illegal downloading ($\gamma = .447$) to a greater extent than the general model and the light media users model. Finally, frequency of past behavior appears to have a greater influence on RISK ($\gamma = -.203$), than the general model and the light media users' model. At the same time, heavy media users show a stronger direct impact of FPB on SI ($\gamma = .288$). All other parameters remain almost unvaried (Fig. 3).

6 Discussion and implications

The results of this study show the high significance of attitude toward online purchasing in influencing this specific buying behavior (*H1 supported*). This is in line with studies analyzing the intention to subscribe to music streaming services [17] and also studies focused on digital piracy intention [69]. More interestingly, product involvement seems to play a role in influencing the subscription intention of movie streaming services both directly and indirectly (*H2 and H3 supported*). However, this pattern appears to be slightly different when evaluated among light and heavy media users respectively. Subscription intention by people with low media consumption is influenced more by their involvement in the movie category than by their attitude toward online shopping. Interestingly, the opposite happens among people with a strong media consumption, as their subscription intention is mainly influenced by the attitude toward online shopping, whilst a direct relationship between involvement and intention is nearly non-existent. This suggests that light media users, who are less used to the online environment, rely more on external motivations—namely, their involvement with films and TV series—to stimulate behavioral intention. Conversely, among heavy media users, attitude toward online shopping is a much more immediate antecedent of intention to actually engage in purchasing. The fact that they were involved or not in the movie category is irrelevant to their propensity to buy online.

This implies that the movie industry and media companies should focus on sources of consumer involvement, especially those related to product characteristics that lead to differentiation and may increase interest, such as Netflix's micro genre classification and associated personalized experiences. Stressing consumer involvement should be particularly effective among light media consumers, since, by enjoying the experience of movies more, they could develop a greater propensity to subscribe to a streaming service.

The normative framework regarding digital piracy was also found to have a positive influence on subscription intention (*H4 supported*). Unlike traditional TPB conceptualizations, this study highlights that subjective norms have almost no direct

impact on behavioral intention (*H5 not supported*). This finding is in line with other studies employing TPB models (regarding online shopping or digital piracy) which found the influence of subjective norms on behavioral intentions to be insignificant [22, 55]. The influence of external social norms is instead mediated by the internalized ethical norms regarding digital piracy (*H6 supported*). While subjective norms contribute to the moral judgement of the individual, they only indirectly affect behavioral propensity. As Internet use and online shopping is mainly a private affair [78], it is understandable that the perceived acceptance of digital piracy by peers can lead to rejecting this behavior only if public disapproval succeeds in changing the individual's mind first. In addition, perceived social sanctions exert a greater effect in generating an internalized censure toward illegal downloading/streaming in heavy media users than in the people with a low media consumption. It could be that the emulation of heavy users inherent in using media, entails a more automatic internalization of their peers' inputs. In a sense, parasocial interactions, which people exhibiting massive media use are exposed to [37, 75], lead to a need to seek out social influence and follow peer behaviors [32, 50].

The fact that moral judgment is mainly explained by subjective norms could suggest that policy makers should give much more emphasis to strategies to prevent illegal downloads or streaming. They should show that unethical conduct has been progressively limited to a small number of individuals and that indeed most people usually buy this type of product. This descriptive exposition of the declining trend in digital piracy may be much more persuasive than the threat of legal action.

In addition, various studies [33, 80, 87] have shown that opinion leaders also tend to use media to a greater extent. Thus, our study once again highlights the importance of marketing policies aimed at opinion leaders and taking advantage of their ability to diffuse the rejection of digital piracy. Heavy media users, as potential informal influencers, could be activated by some kind of social reward for intense word-of-mouth activities [60]. Unlike economic rewards, social rewards (social acceptance, approval, respect, prestige, etc.) are intrinsic and non-monetary in nature, and act as a source of gratification for the subject. Social rewards could be activated by gamifying the word-of-mouth process (through collectible badges, levels, or trophies), by developing content-creation contests, by involving influencers in advertising, or even by simply thanking users for their engagement.

Lastly, the frequency of the previous online purchasing of digital entertainment services is significant in explaining subscription intention (*H7 supported*), and its impact is bigger among heavy media users than among light media users. In fact, as we have already seen for the attitude toward online shopping, the habit of online shopping is more likely to translate into an actual propensity to buy when the user is accustomed to the online environment.

From a practical standpoint, the option of creating different versions of services (combining on-demand models and loyalty schemes) is consistent with the objective to generate familiarity in buying movies online. Perceived risk is partially explained by the frequency of past online purchases (*H9 supported*), however for the most part this construct has lost its significance, because it no longer seems to affect e-shopping behavior (*H8 not supported*), probably due to the increasing diffusion of e-commerce. This suggests that the media and telco companies could both stimulate

Journal : SmallExtended 10660 | Article No : 9346 | Pages : 26 | MS Code : ELEC-D-16-00136 | Dispatch : 1-4-2019

the first purchase, after the usual free trial periods, and create opt-out subscription-based programs, commonly reputed to be more risky.

Since the results of the multiple group analysis highlight the lower sensitivity of light media users' behavioral intention to attitude, habit and social norms, it is also more important to enable this type of consumer to become accustomed to movie streaming services, by offering them economic rewards, such as vouchers (also combinable ones) and gift awards for the subscription.

Marketing actions addressed at heavy and light media users could thus complement each other. On the one hand, marketers need to reach and mobilize heavy media users through social rewards, pushing them to be advocates of the streaming service, on the other, firms should motivate light media users by means of differentiation, personalization and interactivity of the service, and by providing them with instrumental benefits for making a subscription.

7 Conclusions, limitations and further research

The consumption of illegal copies of digital movies has been a significant threat to the movie industry since the late 1990s. Despite the entertainment industry's efforts to mitigate this practice, the issue is still important. The typical countermeasures of illegal download/streaming of digital services have often been ineffective [70, 86].

We contribute to the literature by focusing on the factors influencing a user's intention to subscribe to a movie streaming service. To the best of our knowledge, no research has focused on this behavioral intention within a framework that explicitly incorporates the availability of illegal channels of movie acquisition.

The fundamental structure of the proposed model is based on the TPB, and was chosen because it effectively classifies antecedents of behavioral intention into significant dimensions, applicable to any type of behavior. This paper thus gives partial confirmation to previous studies [69, 85, 88] in showing that TPB is appropriate in investigating the purchasing behavior of digital entertainment services. We have adapted and extended this theory to make it more effective in explaining conduct in online contexts when ethical concerns play a major role. The insignificant influence of subjective norms on intention further corroborates this effort to extend the original model. In fact, the specificity of online subscription downsizes the role of perceived social norms, while highlights that internal moral judgements are prominent for this type of behavior [5]. Social norms can affect behavioral intention only to the extent that they induce private acceptance in the individuals and not simply public compliance. In addition, we distinguish two components of perceived control of the subscription behavior, namely the perceived risk and the frequency of past behavior. The former has been found to have a little impact on the actual intention, while the latter counts most. This result outlines that the increasing competences of online users has corroded previous generalized concerns about privacy and safety.

In addition, this pattern of relationships between the variables in this nomological network seems stronger by dividing users regarding their media consumption. The greater explained variance of subscription intention in the model of heavy media users shows that for this type of consumers, subscribing to a legal streaming service

is more deliberate, involving a strong attitudinal preference and familiarity with the Internet environment. Instead, for light media users, the attitudes and frequency of previous past behavior are still important predictors of behavioral intention, but not as strong as for heavy media users. In fact, for light media users, the involvement of consumers in the movie category takes on much greater importance than for heavy media users. When consumers are less interested in media consumption, they engage in the subscription of a streaming service in a more unsystematic way, and the most important determinant of their behavioral intention appears to be their interest in the movie category. It would thus be interesting for future research to look at the direct relationship between attitude beliefs and the actual behavior, without the mediation of behavioral intention.

One limitation of this study lies in its use of a sample from a single country (Italy) where the largest services of on-demand streaming media were launched less than three years ago and levels of digital piracy are still quite high [48]. Both cross-cultural and longitudinal research is needed as the illegal consumption of films is a global issue which constantly changes over time. The model developed for this research can be further refined and applied to other industries (e.g. music and publishing) that are still having to deal with the significant impact of digital piracy and in which distribution models based on streaming or other forms of temporary access can help to mitigate this phenomenon.

Further research is thus warranted to substantiate the link between the moral judgment (and associated social norms) on digital piracy and the legal purchasing of films and TV series. It would be equally interesting to gain a better understanding of the antecedents of purchasing attitudes, especially the consumer involvement in products.

The present research gives also some indications on employing different paradigms in studying the willingness to pay for streaming services. One promising direction of research would be investigating this phenomenon through the lens of the cognitive dissonance framework [73]. This means to further explore how the need to reduce the conflict between personal values (i.e. beliefs of inappropriateness of piracy behaviour) and individual benefits derived from piracy behaviour affects the intention to subscribe legal streaming services. In particular, streaming-based piracy practices provide new instantiations of the techniques of neutralization that the digital pirates adopt in order to reduce the cognitive dissonance arising from their misbehavior [74]. Future research could also shed light on the stage in which these self-justification processes come into place (i.e. before engaging in digital piracy or after committing the act), and how policy makers can contrast them.

From a managerial perspective, our study suggests that the “conversion” of digital pirates into online buyers should be stimulated by both government policy and marketing communications which focus on offering better value for consumers than illegal downloads or streaming. This is in line with recent contributions [28, 70], who recommend strategies that provide a superior quality of alternatives than previously based coercion. Lastly, the significance of past behavior combined with the above-mentioned factors also highlights the need to further analyze the effectiveness of both social and economic rewards, also considering the differences between light and heavy media users.

Journal : SmallExtended 10660	Article No : 9346	Pages : 26	MS Code : ELEC-D-16-00136	Dispatch : 1-4-2019

References

1. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211.
2. Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. Englewood, Cliffs, NJ: Prentice-Hall.
3. Ajzen, I., & Fishbein, M. (2000). Attitudes and the attitude-behavior relation: Reasoned and automatic processes. *European Review of Social Psychology, 11*(1), 1–33.
4. Aldas-Manzano, J., Lassala-Navarre, C., Ruiz-Mafe, C., & Sanz-Blas, S. (2009). The role of consumer innovativeness and perceived risk in online banking usage. *International Journal of Bank Marketing, 27*(1), 53–75.
5. Al-Rafee, S., & Cronan, T. P. (2006). Digital piracy: Factors that influence attitude toward behavior. *Journal of Business Ethics, 63*(3), 237–259.
6. Arvola, A., Vassallo, M., Dean, M., Lampila, P., Saba, A., Lähteenmäki, L., et al. (2008). Predicting intentions to purchase organic food: The role of affective and moral attitudes in the theory of planned behaviour. *Appetite, 50*(2), 443–454.
7. Asparouhov, T. & Muthen, B. (2003). *Full-information maximum-likelihood estimation of general two-level latent variable models with missing data.* Technical report. Los Angeles: Muthén and Muthén.
8. Bagozzi, R. P., Davis, F. D., & Warshaw, P. R. (1992). Development and test of a theory of technological learning and usage. *Human Relations, 45*(7), 659–686.
9. Bagozzi, R. P., Gopinath, M., & Nyer, P. U. (1999). The role of emotions in marketing. *Journal of the Academy of Marketing Science, 27*(2), 184–206.
10. Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science, 16*(1), 74–94.
11. Beck, L., & Ajzen, I. (1991). Predicting dishonest actions using the theory of planned behavior. *Journal of Research in Personality, 25,* 285–301.
12. Bentler, P. M. (1990). Fit indexes, Lagrange multipliers, constraint changes and incomplete data in structural models. *Multivariate Behavioral Research, 25*(2), 163–172.
13. Bentler, P. M. (1992). On the fit of models to covariances and methodology to the Bulletin. *Psychological Bulletin, 112,* 400–404.
14. Borja, K., Dieringer, S., & Daw, J. (2015). The effect of music streaming services on music piracy among college students. *Computers in Human Behavior, 45,* 69–76.
15. Byers, S., Cranor, L. F., Cronin, E., Korman, D., & McDaniel, P. (2004). An analysis of security vulnerabilities in the movie production and distribution process. *Telecommunications Policy, 28*(7), 619–644.
16. Carrington, M. J., Neville, B. A., & Whitwell, G. J. (2010). Why ethical consumers don't walk their talk: Towards a framework for understanding the gap between the ethical purchase intentions and actual buying behaviour of ethically minded consumers. *Journal of Business Ethics, 97*(1), 139–158.
17. Cesareo, L., & Pastore, A. (2014). Consumers' attitude and behavior towards online music piracy and subscription-based services. *Journal of Consumer Marketing, 31*(6/7), 515–525.
18. Choice (2015). Research update: CHOICE Digital Consumers Paying for Content - Behaviour and Attitudes. white paper. Available at: https://www.choice.com.au/electronics-and-technology/internet/internet-privacy-and-safety/articles/choice-piracy-survey-2015. Last accessed June 16, 2016.
19. Cisco (2012). Cisco visual networking index: Forecast and methodology, 2011–2016. White Paper. San Jose, CA: Cisco.
20. Cisco (2016), Cisco visual networking index: Forecast and methodology, 2015–2020. White Paper. San Jose, CA: Cisco.
21. Commuri, S. (2009). The impact of counterfeiting on genuine-item consumers' brand relationships. *Journal of Marketing, 73*(3), 86–98.
22. Cronan, T. P., & Al-Rafee, S. (2008). Factors that influence the intention to pirate software and media. *Journal of Business Ethics, 78*(4), 527–545.
23. Culiberg, B., Koklic, M. K., Vida, I., & Bajde, D. (2016). Examining the effects of utilities and involvement on intentions to engage in digital piracy. *Computers in Human Behavior, 61,* 146–154.
24. D'Astous, A., Colbert, F., & Monpetit, D. (2005). Music piracy on the web: How effective are anti-piracy arguments? Evidence from the theory of planned behavior. *Journal of Consumer Policy, 28*(3), 289–310.

25. Dai, B., Forsythe, S., & Kwon, W. S. (2014). The impact of online shopping experience on risk perceptions and online purchase intentions: Does product category matter? *Journal of Electronic Commerce Research, 15*(1), 13–24.
26. Davidov, E., Meuleman, B., Cieciuch, J., Schmidt, P., & Billiet, J. (2014). Measurement equivalence in cross-national research. *Annual Review of Sociology, 40,* 55–75.
27. Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science, 35*(8), 982–1003.
28. De Corte, C. E., & Van Kenhove, P. (2017). One sail fits all? A psychographic segmentation of digital pirates. *Journal of Business Ethics, 143*(3), 441–465.
29. Depoorter, B., Parisi, F., & Vanneste, S. (2005). Problems with the enforcement of copyright law: Is there a social norm Backlash? *International Journal of the Economics of Business, 12*(3), 361–369.
30. Dunlap, T. M., & Kurtz, N. A. (2011). Electronic evidence in torrent copyright cases. *Digital Evidence and Electronic Signature Law Review, 8,* 171–178.
31. Eagly, A. H., & Chaiken, S. (2007). The advantages of an inclusive definition of attitude. *Social Cognition, 25*(5), 582–602.
32. End, C. M. (2001). An examination of NFL fans' computer mediated BIRGing. *Journal of Sport Behavior, 24*(2), 162–182.
33. Feick, L. F., & Price, L. L. (1987). The market maven: A diffuser of marketplace information. *Journal of Marketing, 51,* 83–97.
34. Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50.
35. Gefen, D., Karahanna, E., & Straub, D. W. (2003). Inexperience and experience with online stores: The importance of TAM and trust. *IEEE Transactions on Engineering Management, 50*(3), 307–321.
36. George, J. F. (2004). The theory of planned behavior and Internet purchasing. *Internet Research, 14*(3), 198–212.
37. Giles, D. C. (2002). Parasocial interaction: A review of the literature and a model for future research. *Media Psychology, 4*(3), 279–305.
38. Glasman, L. R., & Albarracin, D. (2006). Forming attitudes that predict future behavior: A meta-analysis of the attitude-behavior relation. *Psychological Bulletin, 132*(5), 778–822.
39. Greenberg, M. (2015). The economics of video piracy. *PIT Journal*. Available at: http://pitjournal.unc.edu/article/economics-video-piracy. Last accessed June 16, 2016.
40. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective* (7th ed.). Upper Saddle River: Pearson Education.
41. Hansen, J. M., Saridakis, G., & Benson, V. (2018). Risk, trust, and the interaction of perceived ease of use and behavioral control in predicting consumers' use of social media for transactions. *Computers in Human Behavior, 80,* 197–206.
42. Hennig-Thurau, T., Henning, V., & Sattler, H. (2007). Consumer file sharing of motion pictures. *Journal of Marketing, 71*(4), 1–18.
43. Higie, R. A., & Feick, L. F. (1989). Enduring involvement: Conceptual and measurement issues. *Advances in Consumer Research, 16*(1), 690–696.
44. Hox, J. J. (2010). *Multilevel analysis: Techniques and applications*. London: Routledge.
45. Hox, J. J., Maas, C. J., & Brinkhuis, M. J. (2010). The effect of estimation method and sample size in multilevel structural equation modeling. *Statistica Neerlandica, 64*(2), 157–170.
46. Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indices in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1–55.
47. IFPI (2014). Digital music report 2014. http://www.ifpi.org/downloads/Digital-Music-Report-2014.pdf. Last accessed June 14, 2016.
48. Irdeto (2015), *Irdeto piracy and business intelligence quick read report: 2015 Academy Award® Nominated Films*. Available at: http://irdeto.com. Last accessed November 24, 2015.
49. ISTAT (2014). Internet@Italia 2013: La popolazione italiana e l'uso di Internet. Available at http://www.istat.it/it/files/2014/11/Internet@Italia2013-def.pdf. Last accessed April 01, 2016.
50. Kassing, J. W., & Sanderson, J. (2009). "You're the kind of guy that we all want for a drinking buddy": Expressions of parasocial interaction on Floydlandis.com. *Western Journal of Communication, 73*(2), 182–203.
51. Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *The Public Opinion Quarterly, 37*(4), 509–523.

Journal : SmallExtended 10660	Article No : 9346	Pages : 26	MS Code : ELEC-D-16-00136	Dispatch : 1-4-2019

52. Kozinets, R. V. (2010). *Netnography: Doing ethnographic research online*. Thousand Oaks: Sage Publications.
53. Kwong, S. W., & Park, J. (2008). Digital music services: Consumer intention and adoption. *The Service Industries Journal, 28*(10), 1463–1481.
54. Liang, A., & Lim, W. M. (2011). Exploring the online buying behavior of specialty food shoppers. *International Journal of Hospitality Management, 30*(4), 855–865.
55. Lin, H. F. (2007). Predicting consumer intentions to shop online: An empirical test of competing theories. *Electronic Commerce Research and Applications, 6*(4), 433–442.
56. Lin, T. C., Hsu, J. S. C., & Chen, H. C. (2013). Customer willingness to pay for online music: the role of free mentality. *Journal of Electronic Commerce Research, 14*(4), 315.
57. Lysonski, S., & Durvasula, S. (2008). Digital piracy of MP3 s: Consumer ethical predispositions. *Journal of Consumer Marketing, 25*(3), 167–178.
58. Manstead, A. S. R. (2000). The role of moral norm in the attitude–behavior relation. In D. J. Terry & M. A. Hogg (Eds.), *Attitudes, behavior and social context: The role of norms and group membership* (pp. 11–30). Mahwah, NJ: Lawrence Erlbaum Associates.
59. Marsh, H. W., & Bailey, M. (1991). Confirmatory factor analyses of multitrait-multimethod data: A comparison of alternative models. *Applied Psychological Measurement, 15*(1), 47–70.
60. Melancon, J. P., Noble, S. M., & Noble, C. H. (2011). Managing rewards to enhance relational worth. *Journal of the Academy of Marketing Science, 39*(3), 341–362.
61. Ming-Shen, W., Chih-Chung, C., Su-Chao, C., & Yung-Her, Y. (2007). Effects of online shopping attitudes, subjective norms and control beliefs on online shopping intentions: A test of the theory of planned behaviour. *International Journal of Management, 24*(2), 296–302.
62. Mittal, B., & Lee, M. S. (1989). A causal model of consumer involvement. *Journal of Economic Psychology, 10*(3), 363–389.
63. Nonnecke, B., Andrews, D., & Preece, J. (2006). Non-public and public online community participation: Needs, attitudes and behavior. *Electronic Commerce Research, 6*(1), 7–20.
64. Oliver, R. L., & Swan, J. E. (1989). Consumer perceptions of interpersonal equity and satisfaction in transactions: A field survey approach. *Journal of Marketing, 53,* 21–35. AQ1
65. Park, C. W., & Young, S. M. (1986). Consumer response to television commercials: The impact of involvement and background music on brand attitude formation. *Journal of Marketing Research, 23*(1), 11–24.
66. Perugini, M., & Bagozzi, R. P. (2001). The role of desires and anticipated emotions in goal-directed behaviours: Broadening and deepening the theory of planned behaviour. *The British Journal of Social Psychology, 40,* 79–98.
67. Petty, R. E., & Cacioppo, J. T. (1979). Issue involvement can increase or decrease persuasion by enhancing message-relevant cognitive responses. *Journal of Personality and Social Psychology, 37*(10), 1915–1926.
68. Petty, R. E., Haugtvedt, C. P., & Smith, S. M. (1995). Elaboration as a determinant of attitude strength: Creating attitudes that are persistent, resistant, and predictive of behavior. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (Vol. 4, pp. 93–130). London: Psychology Press.
69. Phau, I., Lim, A., Liang, J., & Lwin, M. (2014). Engaging in digital piracy of movies: A theory of planned behaviour approach. *Internet Research, 24*(2), 246–266.
70. Poort, J., Leenheer, J., van der Ham, J., & Dumitru, C. (2014). Baywatch: Two approaches to measure the effects of blocking access to The Pirate Bay. *Telecommunications Policy, 38*(4), 383–392.
71. Pucely, M. J., Mizerski, R., & Perrewe, P. (1988). A comparison of involvement measures for the purchase and consumption of pre-recorded music. *Advances in Consumer Research, 15*(1), 37–42.
72. Randall, D. M., & Gibson, A. M. (1991). Ethical decision making in the medical profession: An application of the theory of planned behavior. *Journal of Business Ethics, 10*(2), 111–122.
73. Redondo, I., & Charron, J. P. (2013). The payment dilemma in movie and music downloads: An explanation through cognitive dissonance theory. *Computers in Human Behavior, 29*(5), 2037–2046.
74. Riekkinen, J. (2016). Dissonance and neutralization of subscription streaming era digital music piracy: An initial exploration. In *PACIS 2016, proceedings of the 20th Pacific Asia conference on information systems*, Chiayi, Taiwan, June 27–July 1 2016, paper 251. Available at: https://dblp.org/db/conf/pacis/pacis2016.html. Last accessed October 31, 2018.
75. Rubin, R. B., & McHugh, M. P. (1987). Development of parasocial interaction relationships. *Journal of Broadcasting & Electronic Media, 31*(3), 279–292.

762 76. Schultz, D. E. (2006). Media synergy: The next frontier in a multimedia marketplace. *Journal of*
763 *Direct, Data and Digital Marketing Practice, 8*(1), 13–29.
764 77. Shih, Y. Y., & Fang, K. (2004). The use of a decomposed theory of planned behavior to study Inter-
765 net banking in Taiwan. *Internet Research, 14*(3), 213–223.
766 78. Shim, S., Eastlick, M. A., Lotz, S. L., & Warrington, P. (2001). An online prepurchase intentions
767 model: The role of intention to research. *Journal of Retailing, 77*(3), 397–416.
768 79. Shoham, A., & Ruvio, A. D. M. (2008). (Un)ethical consumer behavior: Robin hoods or plain
769 hoods. *Journal of Consumer Marketing, 25*(4), 200–210.
770 80. Shoham, A., & Ruvio, A. (2008). Opinion leaders and followers: A replication and extension. *Psy-*
771 *chology & Marketing, 25*(3), 280–297.
772 81. Simpson, P. M., Banerjee, D., & Simpson, C. L., Jr. (1994). Softlifting: A model of motivating fac-
773 tors. *Journal of Business Ethics, 13*(6), 431–438.
774 82. Sinclair, G., & Green, T. (2016). Download or stream? Steal or buy? Developing a typology of
775 today's music consumer. *Journal of Consumer Behaviour, 15*(1), 3–14.
776 83. Steiger, J. H., & Lind, J. C. (1980). Statistically based tests for the number of common factors.
777 *Annual Meeting of the Psychometric Society Iowa City, IA, 758,* 424–453.
778 84. Stevens, J. (1996). *Applied multivariate statistics for the behavioral sciences*. Mahwah, NJ:
779 Erlbaum.
780 85. Tan, B. (2002). Understanding consumer ethical decision making with respect to purchase of pirated
781 software. *Journal of Consumer Marketing, 19*(2), 96–111.
782 86. Taylor, S. A., Ishida, C., & Wallace, D. W. (2009). Intention to engage in digital piracy a conceptual
783 model and empirical test. *Journal of Service Research, 11*(3), 246–262.
784 87. Venkatraman, M. P. (1989). Opinion leaders, adopters, and communicative adopters: A role analy-
785 sis. *Psychology & Marketing, 6*(1), 51–68.
786 88. Wang, X., & McClung, S. R. (2011). Toward a detailed understanding of illegal digital download-
787 ing intentions: An extended theory of planned behavior approach. *New Media & Society, 13*(4),
788 663–677.
789 89. Wu, S. I. (2006). A comparison of the behavior of different customer clusters towards Internet book-
790 stores. *Information & Management, 43*(8), 986–1001.
791 90. Yoon, C. (2011). Ethical decision-making in the Internet context: Development and test of an initial
792 model based on moral philosophy. *Computers in Human Behavior, 27*(6), 2401–2409.
793 91. Yuan, K. H., & Bentler, P. M. (2000). Three likelihood-based methods for mean and covariance
794 structure analysis with nonnormal missing data. *Sociological Methodology, 30*(1), 165–200.

797

Journal:	**10660**
Article:	**9346**

Author Query Form

Please ensure you fill out your response to the queries raised below and return this form along with your corrections

Dear Author

During the process of typesetting your article, the following queries have arisen. Please check your typeset proof carefully against the queries listed below and mark the necessary changes either directly on the proof/online grid or in the 'Author's response' area provided below

Query	Details Required	Author's Response
AQ1	Reference [64] was provided in the reference list; however, this was not mentioned or cited in the manuscript. As a rule, if a citation is present in the text, then it should be present in the list. Please provide the location of where to insert the reference citation in the main body text.	