Understanding the Intention to Use Netflix: An Extended Technology Acceptance Model Approach

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ABSTRACT

Developments in information and communication technologies disrupt the traditional media ecosystem. New media has led to the emergence of many digital platforms such as Netflix. Netflix has become very popular nowadays all over the world. Hence, this paper aims to reveal the determinants of intention to use Netflix based on the technology acceptance model. For this purpose, a survey of 251 respondents in Istanbul was conducted. The findings indicate that (i) self-efficacy and knowledge is positively related to perceived ease of use (PEOU), (ii) knowledge and PEOU is positively associated with perceived usefulness (PU), (iii) PU predicts attitude, (iv) attitude predicts intention to use, and (v) technology anxiety attenuates the positive effect of PU on attitude.

Keywords: Technology Acceptance Model, Digital Platforms, Netflix
JEL Classifications: C42, M31

1. INTRODUCTION

Today, media consumption is changed in terms of means, patterns, and quality, because of the advancement of information and communication technologies (ICTs) (Shim and Kim, 2018). Some of these advancements are the broadband network and smart devices which promote to develop over-the-top (OTT) services (Kim et al., 2017). OTT is one of the drivers of the new media ecosystem and the new media ecosystem, there are two keywords: mobility and internet (Kim et al., 2016). In this regard, whereas cable TVs are not preferred, OTT services get attention increasingly in order to get entertainment content (Shim et al., 2018). Now, Netflix is the most popular OTT streaming service all over the world.

Netflix allows people to get content "anywhere, anytime and any device" (Hooper et al., 2010). Because of especially this opportunity, people show great interest to it in many parts of the world. Therefore, it is substantial to investigate the determinants

of the intention to use Netflix. But it is observed that there is no study that investigates the factors affecting intention to use neither Netflix nor any other OTT streaming services.

Since it is still a gap in the literature despite required, this paper aims to investigate the determinants of intention to use Netflix. For this purpose, self-efficacy and knowledge are included in the Technology Acceptance Model model and their impacts are examined. Moreover, this paper aims to reveal the effect of technology anxiety in the relationship between perceived usefulness (PU) and attitude. Thus, this empirical study contributes to the literature by providing a comprehensive framework of factors affecting the intention to use Netflix.

This paper is structured as follows. First, the main concepts are reviewed briefly. Second, hypotheses are developed based on the theoretical background. Then, research methodology and findings are explained. Finally, discussion and conclusion are given.

2. LITERATURE REVIEW

2.1. Netflix

OTT offers video content through the Internet or IP based transmission path (Federal Communications Commission, 2013). OTT services combine several contents such as movie and music; platforms such as apps and social network platforms; and devices such as TV, PC, and smartphone (Shin et al., 2016). Namely, it provides significant flexibility to its users. Thus, people who want to get content anywhere, anytime and any device show great interest in OTT services (Hooper et al., 2010). Now, the most popular OTT streaming services are Netflix, Hulu and Amazon Prime (Adhikari et al., 2014).

Netflix is a major OTT service provider in a new mediascape that has been global (Wayne, 2018). Netflix was established as a DVD rental service in 1997 and it was serving online (Kim et al., 2016). Since then, it has undergone two changes. In 1999, it started providing unlimited DVD rentals for its customers at a monthly subscription fee and in 2007, it launched the online movie streaming service, which is the basis of its current situation (Voigt et al., 2017). As of 2012, it started to introduce its original contents (Wayne, 2018).

Now, Netflix provides its customers to commercial-free and unlimited viewing of many contents such as TV-shows, movies, and documentaries through internet-connected devices. It is the foremost subscription-based digital content delivery service (Kim et al., 2016).

2.2. Technology Acceptance Model (TAM)

TAM is used to examine the factors that affect the user's acceptance of the new technology and information system (Surendran, 2012). TAM is adapted from the Theory of Reasoned Action (TRA) by Davis (Davis, 1989). It has four main constructs: Perceived ease of use (PEOU), PU, attitude and intention to use. TAM assumes that the beliefs PEOU and PU determinative for attitude and attitude also affects intention to use (Davis et al., 1989).

PEOU is "the degree to which a person believes that using a particular system would be free of effort" and PU is "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989). Attitude refers to individuals' evaluations of favorableness or unfavorableness towards something (Lin, 2007).

Based on TAM, it is also possible for some external variables to be effective on these main structures (Davis et al., 1989). In this way, in order to explain the technology acceptance of the users in more detail, TAM can be expanded by adding external variables besides basic structures and this is an extended TAM approach.

In this study, extended TAM approach was adopted, and the external variables which are self-efficacy and knowledge are examined as factors related to PU and PEOU. Moreover, technology anxiety is investigated as a moderator between PU and attitude.

## 3. RESEARCH MODEL AND HYPOTHESİS

3.1. Knowledge, PEOU and PU

A potential barrier to adopt a specific technology is the lack of knowledge (Slade et al., 2015). Because knowledge on a specific thing leads to beliefs and awareness about benefits, impacts, and usage of it (Bang et al., 2000). Users with a high level of knowledge about a specific thing such as using mobile phone perceive it as easy to use and also be aware of its benefits more (Kim et al., 2010). In this respect, if a user is knowledgeable about Netflix, this user will believe to use it easily and get benefits by using it. For example, a user with knowledge on how to watch Netflix can use it easily through a device such as TV. Also, a user with knowledge what the contents are Netflix offer (original contents, etc.), and what the features of Netflix have (commercial-free, etc.) can understand its benefits. Therefore, we hypothesized that:

H_1: Netflix knowledge is positively related to PEOU of Netflix.
H_2: Netflix knowledge is positively related to PU of Netflix.

3.2. Self-efficacy and PEOU

Self-efficacy is a belief individual has in own ability to do actions in a specific manner (Sánchez and Hueros, 2010). For example, people with computer self-efficacy believe themselves to do anything about computer. On the contrary, people who have not self-efficacy of using computer believe that using computers

Figure 1: Research model
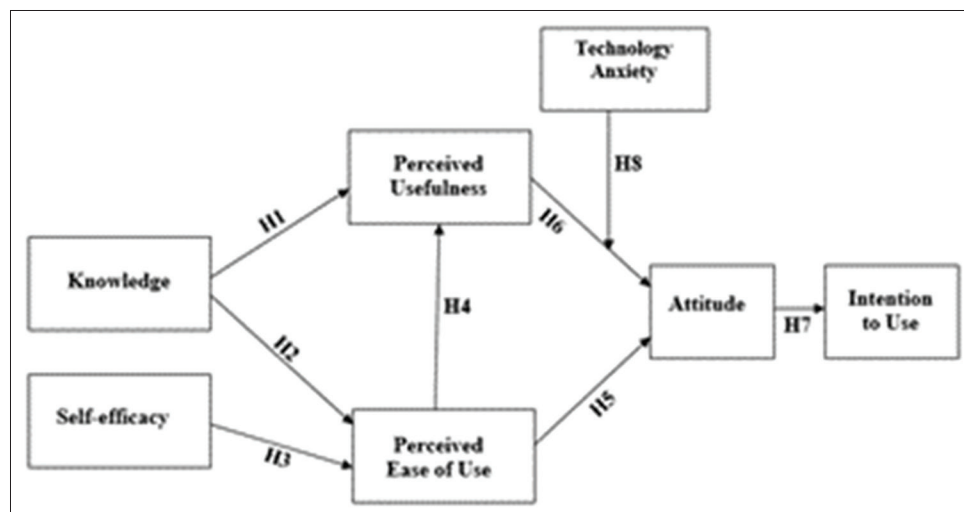
is complex and difficult. Moreover, self-efficacy determine the people perceptions about their adoption to use technology and also about their using it effectively (Reychav et al., 2019). In this respect, people with self-efficacy of using Netflix perceive that Netflix is user-friendly and using it is easy. Therefore, we hypothesized that:

H$_3$. Self-efficacy of using Netflix is positively related to PEOU of Netflix.

3.3. PEOU, PU, and Attitude

According to TAM, PEOU affects the PU and attitude (Davis et al., 1989). Any technology which is difficult to use is not possible to consider as useful (Park et al., 2014). Because it is seen as a waste of time (Davis et al., 1989). Furthermore, users do not have a positive attitude towards it. Because instead of this time-consuming technology, the equivalent of this technology that gives the same output with less effort is preferred. Namely, it is claimed that the technology, which is easy to use, will be accepted more than other technologies if all conditions are equal (Davis, 1989). Therefore, if the users perceive that Netflix can be used

easily, they will be able to perceive the benefits it will provide to them and develop a positive attitude towards it. Therefore, we hypothesized that:

H$_4$: PEOU of Netflix is positively related to PU of Netflix.

H$_5$: PEOU of Netflix is positively related to attitude toward using Netflix.

3.4. PU and Attitude

TAM assumes that PU is antecedent of attitude toward a specific technology (Davis et al., 1989). PU of Netflix is the extent to which a person perceives to get more benefits (unlimited viewing, commercial-free, original content, low price) by using Netflix instead of utilizing other technologies that provide similar services. If the user believes that one or more features and services offering by Netflix are beneficial, the evaluations of the user about using Netflix will be positive manner. Because PU is an outcome expectancy (Huang and Liaw, 2005) and it is a key factor in personal evaluations. Therefore, we hypothesized that:

H$_6$: PU is positively related to attitude toward using Netflix.

3.5. Attitude and Intention to Use

Attitude is opinions about whether a behavior favourable or unfavourable and how the user perceives the outcomes of this behavior (Verma and Sinha, 2018). Furthermore, it is the main antecedents of intention to use based on TAM (Davis et al., 1989). Namely, the positive thinking and evaluations of people about Netflix lead to the desire to use Netflix. On the contrary, negative assessments about Netflix cause them not to use it. Because if the attitude is positive, behavioral intention is likely to be positive (Verma and Sinha, 2018). Therefore, we hypothesized that:

H$_7$: Attitude toward using Netflix is positively related to intention to use Netflix.

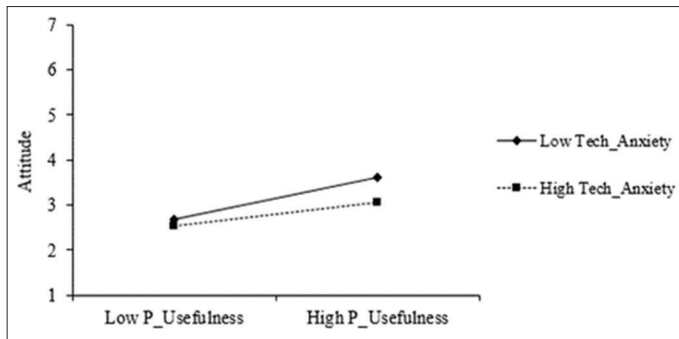**Figure 2:** Moderating effect of technology anxiety

Table 1: CFA results

Variables	Items	1	2	3	4	5	6	7
Technology anxiety	TA1	0.745						
	TA2	0.691						
	TA3	0.787						
	TA4	0.903						
Self-efficacy	SE1		0.734					
	SE2		0.907					
	SE3		0.540					
Knowledge	K1			0.799				
	K3			0.647				
	K4			0.703				
PU	PU1				0.828			
	PU2				0.873			
	PU3				0.839			
PEOU	PEOU1					0.829		
	PEOU2					0.915		
	PEOU3					0.678		
Attitude	A2						0.815	
	A3						0.813	
	A4						0.813	
	A5						0.790	
	A6						0.827	
Intention to use	IU1							0.882
	IU2							0.934
	IU3							0.897

PEOU: Perceived ease of use, PU: Perceived usefulness, CFA: Confirmatory factor analysis

Table 2: Descriptive statistics, correlation coefficients, validity and reliability scores

Variables	1	2	3	4	5	6	7
Attitude	1						
Tech_anxiety	−0.156	1					
Self-efficacy	0.408	−0.419	1				
Knowledge	0.634	−0.197	0.725	1			
P_usefulness	0.668	−0.154	0.656	0.915	1		
P_ease_of_use	0.476	−0.239	0.702	0.620	0.784	1	
Intention_to_use	0.813	−0.113	0.291	0.654	0.580	0.371	1
Means	2.617	6.049	5.443	5.984	6.215	5.664	5.766
Std. dev.	1.328	1.022	1.254	1.043	0.914	0.945	1.238
Cronbach's α	0.905	0.877	0.706	0.734	0.882	0.844	0.930
AVE	0.659	0.617	0.551	0.517	0.717	0.661	0.818
CR	0.906	0.864	0.779	0.761	0.884	0.852	0.931

Table 3: Path model

Hypotheses	Path	Path coefficient	Result
H_1	Knowledge→PU	0.678*	Supported
H_2	Knowledge→PEOU	0.290*	Supported
H_3	Self-efficacy→PEOU	0.494*	Supported
H_4	PEOU→PU	0.355*	Supported
H_5	PEOU→Attitude	−0.163[NS]	Not Supported
H_6	PU→Attitude	0.808*	Supported
H_7	Attitude→Intention to Use	0.818*	Supported

$\chi^{2/df} = 2.468$, CFI: 0.934, IFI: 0.934, TLI: 0.922, RMSEA: 0.077
[NS]P>0.05, *P<0.01. PEOU: Perceived ease of use, PU: Perceived usefulness

3.6. Moderating Role of Technology Anxiety

Technology anxiety is a fear of possible unfavourable outcomes of using technology (Sam et al., 2005). Therefore, people with higher level technology anxiety become tense and unhappy when they need to use technology and even when they think of this possibility. They also tend to look unfavorably on technology and avoid using it. Namely, technology anxiety may affect users' behaviors (Park et al., 2019). Hence, users with high technology anxiety may find it difficult to have a positive attitude even if they know the benefits of Netflix for them. Because they constantly focus on possible negative consequences. When there is a high level of technology anxiety, the relationship between PU and attitude is weak. Therefore, we hypothesized that:

H_8: Technology anxiety negatively moderates the relationship between PU and attitude toward Netflix.

Figure 1 shows the research model which contains the hypotheses of this research.

4. RESEARCH METHOD AND ANALYSIS

4.1. Measures and Sampling

To test the hypotheses, multi-item scales were adopted from the prior studies. For technology anxiety, self-efficacy, attitude and intention to use, items were adopted from Bailey et al. (2017) and items to measure knowledge, PEOU and PU were adopted from Kim et al. (2010). All of the scale items were measured by a 7-point Likert scale.

The data was gathered through an online survey. The participants are live in Istanbul and 251 usable responses were returned. Most of the respondents are male (65.7%). 99.6% of our respondents have received university or postgraduate degree and 93.6% are

Table 4: Moderated regression analysis

Variable	Model 1		Model 2	
	β	T	β	t
PU	0.597	11.608**	0.613	11.838**
Technology anxiety	−0.024	−0.475[NS]	0.479	1.659*
PU* technology anxiety	-	-	−0.510	−1.771*
R²	0.361		0.369	
F value	69.958		48.086	

[NS]P>0.05, *P<0.1, **P<0.01. PEOU: Perceived ease of use, PU: Perceived usefulness

30 years old smaller. According to the frequency of use Netflix, 21.1% of them use it every day and 31.9% are using it a few days a week.

4.2. Validity and Reliability

First of all, confirmatory factor analysis (CFA) was conducted using AMOS to evaluate measures' validity and reliability. All variables were tested in a CFA model and items which have low factor loading were eliminated in a step- by- step procedure. Table 1 shows the factor loadings of items and factor structures. The results represented the adequate model fit (Chi-square/df = 1.967, CFI: 0.946, IFI: 0.947, TLI: 0.936, RMSEA: 0.062).

Table 2 presents the descriptive statistics, correlation coefficients, and reliabilities of our variables. The average variance extracted (AVE) exceeds the threshold level 0.50 suggested by Fornell and Larcker (Fornell and Larcker, 1981). Composite reliabilities (CR) are also above the minimum acceptable value which is 0.70 (Fornell and Larcker, 1981). Furthermore, Cronbach's alpha coefficients of the variables in the range of 0.706-0.930. It implies that each Cronbach's alpha coefficients above the 0.70 as suggested by Nunnally (Nunnally, 1978). These results indicated that all of the measures have validity and reliability.

4.3. Hypothesis Testing

To test our hypotheses, structural equation modeling (SEM) analysis was employed. Results indicated that conceptual model fits well to data (Chi-square/df= 2.468, CFI: 0.934, IFI: 0.934, TLI: 0.922, RMSEA: 0.077). The results of hypotheses testing are shown in Table 3. Our results revealed that Netflix knowledge is positively related to both PEOU of Netflix ($\beta = 0.290$, P < 0.01), and PU of Netflix ($\beta = 0.678$, P < 0.01), supporting H_1 and H_2. It is also found that self-efficacy of using Netflix is positively associated with PEOU of Netflix ($\beta = 0.494$, P < 0.01), supporting H_3. PEOU of Netflix is related to PU of Netflix ($\beta = 0.355$, P < 0.01), whereas it is not related to attitude toward Netflix ($\beta = -0.163$, P > 0.05). So, H_4 is supported, but H_5 is not. Furthermore, PU of Netflix is positively related to attitude toward Netflix ($\beta = 0.808$, P < 0.01) and attitude toward Netflix is also positively related to intention to use Netflix ($\beta = 0.818$, P < 0.01), supporting H_6 and H_7.

Hierarchical moderated regression analysis (Aiken et al., 1991) is used to test the moderating effect of technology anxiety in the relationship between PU of Netflix and attitude toward Netflix. In this respect, first PU and technology anxiety as independent variables and attitude as the dependent variable were tested in Model 1. Then, interaction (PU*technology anxiety) is added in Model 2. As seen in Table 4, technology anxiety attenuates the positive effect of PU on attitude toward Netflix ($\beta = -0.510$, P < 0.1), supporting H_8. The moderating effect of technology anxiety is further illustrated in Figure 2.

5. DISCUSSION AND CONCLUSION

This study contributes to the literature by presenting an empirically tested model that demonstrates the determinants of intention to use Netflix. In this respect, knowledge, and self-efficacy are incorporated into the TAM model. This paper also investigates the moderating role of technology anxiety as a moderator between PU and attitude.

The findings reveal that self-efficacy is related to PEOU and knowledge is related to both PEOU and PU. They are consistent with previous studies (Kim et al., 2010; Liu and Tai, 2016; Sánchez-Prieto et al., 2017; Bailey et al., 2017). People who have self-efficacy of using Netflix or any other new technology, perceive that they can use it without having a problem. Furthermore, people with knowledge in a specific thing is an important to factor to perceive it as user-friendly and beneficial. In particular, new technology manufacturers should inform consumers about their products. Consumers can only believe that they can easily use and benefit from this technology when they have sufficient knowledge.

It is supported the main relationships of the original TAM model except for the relationship between PEOU and attitude. But this finding is not surprising since there are similar results in the literature (Lu et al., 2005). This may be explained by the fact that the use of Netflix is not considered as difficult, and therefore may not affect the attitude toward Netflix.

It is demonstrated that technology anxiety negatively moderates the relationship between PU and attitude. It is observed that there is no study in literature which examine the moderating role of technology anxiety on the relationship between PU and attitude. Even if people believe that a particular technology will benefit them, they may think that they can experience some adversity when using that technology. This likelihood reduces the effect of the perception that it is useful about this technology on their attitude toward it. Therefore, new technology manufacturers should be aware of this negative effect of technology anxiety. In addition, a message should be given to consumers that they will not have any problem due to this technology, will comfortable with using this technology, should not have anxiety.

There are some methodological limitations in this study. First, this study is conducted in Istanbul in Turkey. Therefore generalizability of our findings is a constraint. Second, the other possible problem is the common method variance. Third, this study is cross-sectional research. It is not certain that the conditions under which the data are collected remain the same. Also, the concepts are dynamic and may change over time.

This study offers some recommendations for future studies. It is incorporated the self-efficacy and knowledge as external variables to the TAM model in this study. Future studies may examine any other concepts such as personal innovativeness, perceived cost, and perceived quality. Furthermore, researchers may test our model in different countries. Our model may also be tested in terms of whether age has an impact on these relationships.

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