

# Surfing the Social Networks

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**Abstract.** This research aims to determine why people use Social Networks using an adaptation of the UTAUT2 model. The proposed model considers Subjective Norm, Perceived Playfulness, Perceived Ease of Use, and Perceived Usefulness as predictors of the Intention to Use. Five social networks were chosen in order to carry out this research: Facebook, Twitter, Instagram, WhatsApp, and LinkedIn. Findings shows that social networks are more useful to serve his or her purposes when more people close to the individual are using them. Perceived Playfulness proves to be a strong predictor of Intention to Use Facebook, Instagram, and WhatsApp, all these social networks are used for leisure purposes. Perceived Usefulness proves to be the most powerful predictor for Intention to Use in LinkedIn, this social network is mainly used for work purposes. Finally, both Perceived Playfulness and Perceived Usefulness are good predictors of Intention to Use Twitter. Implications are discussed.

**Keywords:** Social Network · Internet · Intention to Use

## 1 Introduction

It is usual to find people walking the streets while they interact with their smartphones as there are millions of applications that can be used at all times. According to Smith (2015), 45 billion messages are sent daily on Facebook, more than 30 billion Whatsapp messages are sent daily, and more than 80 million photos per day are shared on Instagram. However, what determines why a user utilizes a social network? Is it simply an application design that capture a large number of people or is there something else? Does it only depend on the users to decide which social networks will be used and which will not? This article seeks to answer these questions using an adaptation of the UTAUT2 (Venkatesh et al. 2012) model.

## 2 Literature Review

Created as an extension to the technological world of Theories of Reasoned Action, the Technology Acceptance Model (Davis 1989) corresponds to one of the most renowned, analyzed and studied models in literature seeking to understand how and why users accept and use technology. This model is based on Perceived Ease of Use and Perceived Usefulness variables, which predict Intention of Use. TAM2 was created after TAM1

and explains the intention to use certain technology in terms of social influence and cognitive processes (Venkatesh and Davis 2000). For this purpose, Subjective Norm, Image, Job Relevance, Quality Output, Result demonstrability, Experience and voluntariness constructs are applied. Three years the Unified Theory of Acceptance and Use of Technology was published (Venkatesh et al. 2003), which seek to predict the intended use through the Performance Expectancy, Effort Expectancy and Social Influence variables, which have a definition very similar to the Perceived Usefulness, Perceived Ease of Use and Subjective Norm variables respectively. Facilitating Conditions variables are added, which has a direct effect on the Use Behavior and is defined as the degree to which an individual believes that certain organizational infrastructures and techniques exist to support the use of a system (Venkatesh et al. 2003). The last two new variables correspond to Gender and Age, which, like Experience and Voluntariness, play a role of moderating variables. More recently, UTAUT2 emerges as an UTAUT extension, to study the acceptance and use of technologies in a consumption context (Venkatesh et al. 2012). This model incorporates three new variables, these being Hedonic Motivation, Price Value and Habit.

According to Schneider et al. (2009), in the social networking field, many authors seek to explain the use of Online Social Networks. Users commonly spend more than half an hour interacting with the OSNs while the byte contributions per OSN session are relatively small. Ellison et al. (2007) suggests that Facebook might provide greater benefits for users experiencing low self-esteem and low life satisfaction. As for Twitter, according to Java et al. (2007), people use microblogging to talk about their daily activities and to seek or share information. As for Instagram, motives were positively associated with both usage and self-presentation (Cheung 2014). People use social networks such as Facebook, Twitter and Instagram for the sole purpose of entertainment and maintaining contacts with their friends (Narula and Jindal 2015). As shown, there are various motives for using social networks. According to Brandtzæg and Heim (2009), people use social networks to contact new people, keep in touch with friends and general socialization, which are closely related to the subjective standard. Xu et al. (2012), suggest that user utilitarian gratifications of immediate access and coordination along with hedonic gratifications of affection and leisure could be related to Perceived Usefulness, Perceived Ease of Use and web-site social presence respectively and were positive predictors of Social Network site usage.

### 3 Methodology

The study considers an initial exploratory review phase of previous history regarding intention to use information and communication technologies, in addition to reviewing the use level and motives of some popular social networks. In a second, conclusive stage, 456 people answer an online questionnaire to learn what motivates them to use social networks. The questionnaire is based on the UTAUT2 model, as explained below, and a direct question is added to clarify the main use that people assign to social networks studied in this article.

The proposed model considers the following variables: Subjective Norm (SN), Perceived Playfulness (PP), Perceived Ease of Use (PEU) and Perceived Usefulness (PU) as predictors of the Intention to Use (IU).

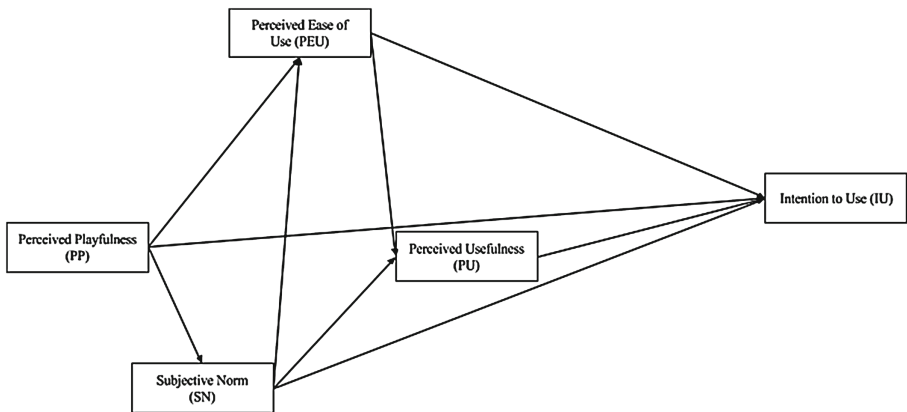
Subjective Norm is defined as the degree in which people have the impression that other people who are important to them believe that they should use a new system (Venkatesh et al. 2003), therefore, the Subjective Norm is closely linked to the intention of using Social Networks (Chen 2014; Li 2011; Pelling and White 2009).

Perceived Playfulness is defined as the pleasure that the individual feels when he or she behaves in a certain way or carries out a particular activity (Moon and Kim 2001), then the Playfulness acts as a predictor of the intention to use Social Networks (Sledgianowski and Kulviwat 2009).

Perceived Ease of Use defined as the degree in which a user believes that using certain technology is free from effort (Davis 1989) and Perceived Usefulness defined as the degree in which a person believes that using certain technology will improve his or her job performance (Davis 1989). As stated, Perceived Ease of Use and Perceived Usefulness are predictors of the Intention to Use a Social Network (Sledgianowski and Kulviwat 2009).

Intention to Use (IU) defined as the set of motivational factors that indicate how much people are willing to try or how much effort they plan to exercise in order to develop a certain behavior (Ajzen 1991).

Figure 1 shows the Structural model with latent variables and proposed relationships.



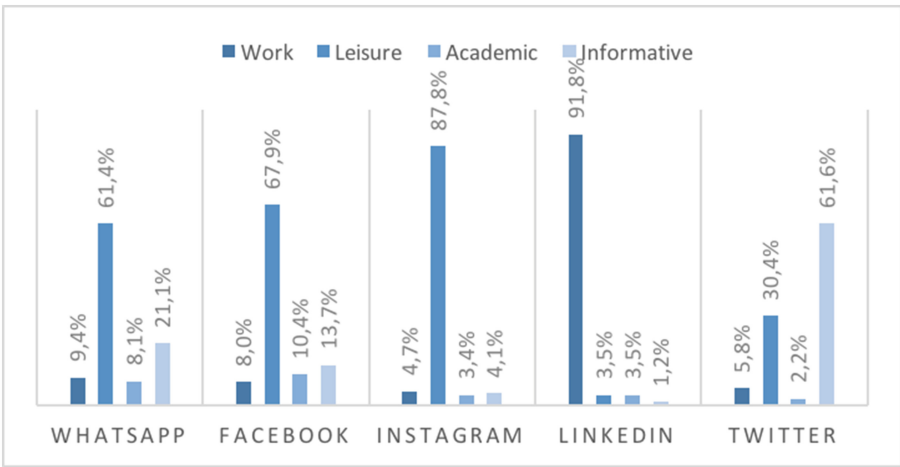
**Fig. 1.** Proposed model

To achieve the study's objective, the proposed model shown in Fig. 1 was used and five social networks were chosen: Facebook, Twitter, Instagram, WhatsApp, and LinkedIn.

## 4 Analysis and Results

The most widely used social network is WhatsApp, with 90 % of people who admit using it many times a day, which is closely linked to the characteristics of the application as it is primarily used to exchange instant messages. Facebook also has one of the highest frequencies of use.

Leisure is closely linked to the intention of use for each social network. In fact, Facebook is primarily used for leisure, followed by informative and academic purposes. Similarly, 61.4 % of WhatsApp users use it for leisure, also followed by informative and academic purposes. Instagram is used primarily for leisure unlike LinkedIn that is used primarily for work purposes. Moreover, Twitter is used for informational purposes in 61.6 % of cases and only 30.4 % for leisure as shown in Fig. 2.



**Fig. 2.** Purpose of use

Then the intensity of use for each of the studied social networks is analyzed. As shown in Fig. 3, the most widely used social network is WhatsApp, with 98 % of people who admit using it many times a day, which is closely linked to the characteristics of the application as it is primarily used to exchange instant messages. Facebook also has one of the highest frequencies of use. The questionnaire shows that 73.7 % of participants declared using Facebook many times a day and 19.5 % about once a day. As for Instagram, 29.6 % reported not using it while 26 % said they use it many times a day. The least used social network is LinkedIn, with 31 % of users who said they do not use it and 37 % who only revise it once a week. Twitter experienced a similar situation, with 29 % of non-users and 22 % who use it once a week.

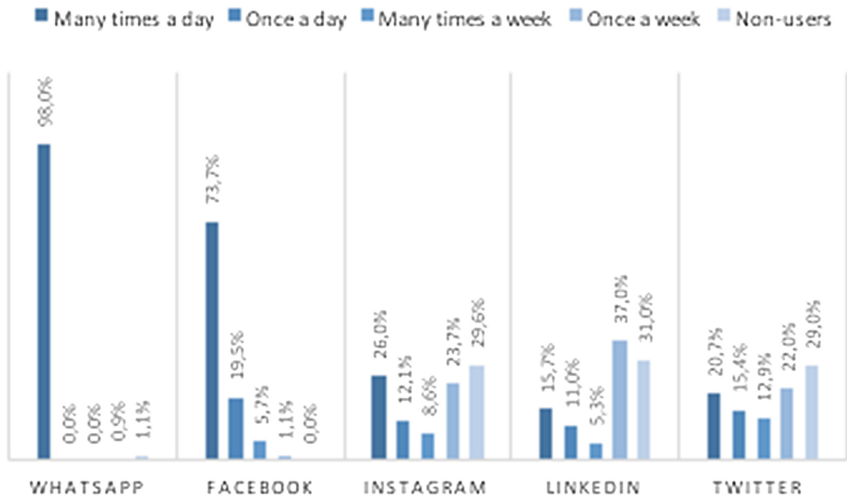


Fig. 3. Intensity of use

Thus taking into account Figs. 2 and 3, it can be assumed that people use more frequently social networks when the purpose is leisure.

Table 1 shows a reliability analysis performed on the scales used, obtaining satisfactory results across five social networks.

Table 1. Cronbach Alpha for each social network

|     | Facebook | Twitter | Instagram | Whatsapp | Linkedin |
|-----|----------|---------|-----------|----------|----------|
| PEU | .882     | .919    | .907      | .891     | .916     |
| PP  | .780     | .854    | .811      | .770     | .796     |
| PU  | .804     | .840    | .847      | .765     | .884     |
| SN  | .844     | .874    | .822      | .864     | .909     |
| IU  | .833     | .899    | .889      | .832     | .899     |

Subsequently, the structural model was analyzed, obtaining adequate absolute, incremental, and parsimony adjustment for each case. Table 2 shows the standardized estimates resulting from structural equation modeling.

Subjective Norm does not exert a significant influence on Perceived Ease of Use, but it does on Perceived Usefulness. This can be interpreted as individuals perceiving that social networks are more useful to serve his or her purposes when more people close to the individual are using them. Precisely, social networks possess the characteristic of being able to interact with many people. Additionally, Subjective Norm only significantly affects the Intention of use for LinkedIn, Twitter and Whatsapp. Perceived Ease of Use does not exert any significant influence on Intention to Use in any of the 5 social networks. That may be because people also relate the concept of ease-of-use with the Perceived Playfulness variable, and would absorb part of the variance that Perceived

**Table 2.** Standardized estimates for each social network

|                     | Facebook | Twitter | Instagram | Whatsapp | Linkedin |
|---------------------|----------|---------|-----------|----------|----------|
| PEU $\leftarrow$ SN | -.028    | .055    | .033      | -.022    | .132     |
| PEU $\leftarrow$ PP | .620     | .641    | .665      | .668     | .616     |
| PU $\leftarrow$ SN  | .400     | .265    | .367      | .352     | .490     |
| PU $\leftarrow$ PEU | .101     | .032    | -.110     | .188     | .026     |
| PU $\leftarrow$ PP  | .247     | .303    | .323      | .328     | .278     |
| IU $\leftarrow$ SN  | .042     | .265    | .013      | .116     | .298     |
| IU $\leftarrow$ PU  | .223     | .521    | .457      | .275     | .654     |
| IU $\leftarrow$ PEU | -.054    | -.017   | -.014     | .074     | .029     |
|                     | .806     | .597    | .836      | .425     | .274     |

Ease of Use effectively explains from intention to use, as indicated by Cheong and Park (2005), Shin et al. (2011) and Park and Ohm (2014). Perceived Ease of Use should be excluded from a user acceptance model for a particular technology or service because it often decreases the reliability and validity of a research model for mobile technologies. It could also be that ease is not important since users have certain experience and habits using these 5 social networks.

Perceived Playfulness proves to be a powerful predictor of Perceived Ease of Use. This corresponds to the issues raised previously about the close relationship that both variables possess, which can be interpreted as the more a person is trained in using a social network, the more willing he or she will be to interact with it, perceiving it to be easy to use. In addition, Perceived Playfulness is the best predictor of Intention to Use Facebook, Twitter, Instagram, and WhatsApp. This was to be expected since these social networks are used for leisure purposes. Considering that Facebook and Instagram had the highest intended use estimators and that the subjective norm is not significant, it can be assumed that these two social networks are mostly used for fun.

In regards to LinkedIn, Perceived Usefulness proves to be the most powerful predictor for Intention to Use, unlike what occurs in the other social networks, where Perceived Playfulness is more influential. In this regard, this social network is mainly used for work purposes, thus, people associate it with being more useful. It is necessary to highlight that people tend to associate the concept of utility with aspects relating to the workplace.

With respect to Twitter, both Perceived Playfulness and Perceived Usefulness are good predictors of Intention to Use. It is noteworthy that this social network is used for informational purposes and secondly for purposes of leisure, concepts related to Perceived Usefulness and Perceived Playfulness variables, respectively.

## 5 Discussion

Perceived Playfulness turned out to be one of the best determinants when predicting the intention to use Facebook, Instagram, Twitter and WhatsApp, while the best determinant for LinkedIn was Perceived Usefulness. This was also an important variable for Twitter. These results fit perfectly with what results given by the univariate analysis

related to purpose of use, which indicate that the top four social networks are used mostly for leisure, looking very are linked to leisure purposes, an aspect linked to Perceived Playfulness, while LinkedIn is used mainly for work, a topic closely linked to Perceived Usefulness. This is also true in a second instance in regards to Twitter.

The study tested an adaptation of the UTAUT2 (Venkatesh et al. 2012) to predict the intended use of five social networks, achieving satisfactory results for all cases. The main contribution of this study is that one cannot make generalizations of social networks since the factors that motivate and influence the intention to use a particular social network depends largely on the use attributed to them. For this reason, Facebook, WhatsApp and Instagram, used primarily for leisure, take particular importance in Perceived Playfulness, unlike LinkedIn, used primarily for work, taking particular importance in Perceived Usefulness.

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