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An estimation of the Technology Acceptance Model and Usage intensity on online social networks: the Luiss Students Case

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Dedication

I dedicate this work to the following people since without their help and support, this would not be possible: to My Parents Tonino and Anita, who have constantly supported me, not only financially, but also morally; without them I would not be the person I am today and they have provided me with great opportunities to grow as a person and as a professional; to my Grandmothers Nonna Maria and Abuelita Aura, who taught me important values to become a person of integrity and supported me in all my decisions; to my sister Marianna, who has given me strength and happiness throughout all my life; to Vivi, who was my tennis partner since the age of six and practically grew up with me, I really appreciate her help in the revision of this thesis.

I also dedicate this work to my closest friends: Blanquita, Muchi, Val, Manu, Silvi, Zonega, Kari, and Compa who have been supporting me every step of the way; and to Georginho, who encouraged me during my tennis and academic careers, I will never forget his encouraging words: *"Porque tu mente no estará fresca para entender lo que debas entender y dar lo que debas dar".*

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"I have been motivated by overcoming challenge and overcoming the hurdles and obstacles that face me. There still is plenty out there to get motivated by"

Andre Agassi

Table of Contents

List of Tables

List of Figures

Abstract

In the last decade, information technology has evolved rapidly and it has become indispensable in today's society. People are increasingly using information technologies for numerous purposes and they spend a great amount of time online. An example of these technologies is social networks, which have radically changed the way people communicate with one another, overcoming certain communication problems such as distance. However, there are still unanswered questions regarding the way people adopt and use these systems.

Although, online social networks are not a new phenomenon, they have gained popularity in recent years. Organizations are integrating this new technology into their marketing strategies; nevertheless, this can only be achieved if organizations truly understand the features and value of this technology and the positive outcomes it can generate.

This dissertation will address two issues. The first issue examines the adoption of online social networks by using the Technology Acceptance Model 1 and 2, which are frequently used when dealing with the adoption of a specific technology.

Most research studies focus on one type of social network and they have the tendency to ignore how people use online social networks. Therefore, the second issue examines the use of different types of social networks and their different levels of activeness and intensity.

Ninety-two Italian students from Luiss Guido Carli University completed a questionnaire that comprised the following variables: frequency, usage, strong and weak ties, perceptions with respect to usefulness, ease of use, and the social forces persuading usage decisions of online social networks. Findings suggest that that gender and age play an important role when adopting and using online social networks. Moreover, perceived ease of use was the only variable to prove to have statistically significant effect on the adoption of online social networks.

These outcomes contribute to the basis of future research aimed at promoting high understanding of the adoption and usage intensity of online social networks.

Keywords: online social networks; organizations; technology acceptance model; adoption; intensity.

1. Introduction

In the last decade information technology has evolved rapidly and has become indispensible in today's society. People are increasingly using information technologies for numerous purposes and spend a great amount of time online. An example of these technologies is social networks, which have radically changed the way people communicate with others, making it possible to overcome problems such as distance. This is just one of many examples of how much our life has changed due to technological innovations and how much private and sensitive information we share through them.

Communication activities through social networks can all be performed through the Internet. Thanks to the intensification of its network availability, the number of individuals using Internet has increased significantly. In fact, in 2000 only 22.9% of the European Union population used the Internet compared to 67.6% nowadays (European Union, 2010).

This dissertation will focus on two main issues. The former examines the way users adopt and use online social networks. The latter issue analyzes the factors influencing people's degree of usage and activeness on more than one online social network. In order to better understand these issues, the dissertation will present different steps.

In the first part of the dissertation I will explain the definition, evolution and the different types of online social networks such as Facebook, Orkut, Netlog, Twitter, MySpace, YouTube, LinkdIn, Flickr and Foursquare and the importance of these

in overall. Furthermore, I will explore the Technology Acceptance Model and Technology Acceptance Model 2, which will be explained in detail. These models are fundamental in order to explain the acceptance of technologies and usage intentions. Consequently, the usage of these models will help to address the first issue. In order to address the second issue, the typology of users will be examined. This in turn, will be combined with other variables in order to come up to some answers.

The data of this research will be obtained through an online questionnaire. In order to avoid the cultural factor, the questionnaire will be filled-in only by Italian students at Luiss Guido Carli University. In the following sections a detailed description of the variables, scales and hypotheses will be provided together with a detailed analysis of the results. Statistical findings obtained by the questionnaire will be exhibited and discussed thoroughly

In conclusion, it is in the aim of this dissertation to come up with answers that will contribute to the foundation of future research addressed at promoting a better understanding on the adoption and usage of online social networks.

1.1 Research Problem

There are numerous advantages of online social networks; however, there are still unanswered questions regarding the way people adopt and use these systems.

Although, online social networks are not a new phenomenon, they have gained popularity in recent years. Professionals are now able to use online social networks to do things such as organizing their business contacts and buying products; this leads to an increase in efficiency and ability to promote relationships with colleagues. In addition, organizations can implement these systems in order to gain competitive advantage and integrate them into their marketing strategies. This fact can only be satisfied if organizations have a good understanding of the nature of these systems and how they are used.

Most research studies focused on one type of social network and they had the tendency to ignore the complexity of how people use these online social networks, essentially, the use of different types of social networks and their different levels of activeness and intensity. Eszter Hargattai (USA) is the only researcher who has addressed this issue. I will use her studies in order to complement my work.

This dissertation will make a contribution on the area of online social networks, especially, for organizations that want to engage in this new technology in order to attract new customers, increase market share, and gain competitive advantage.

As mentioned earlier, this can only be accomplished by understanding the nature of these systems and how individuals use it.

For these reasons, the scope of this thesis is to come up with answers that explain two issues regarding the usage of online social networks.

The first issue to be addressed will be: How users adopt and use online social networks? I will use the Technology Acceptance Model since it has been the model used to explain the acceptance of technologies and usage intentions.

The second issue to be addressed will be: What factors influence a person's usage and activeness of more than one online social network? In order to get a better understanding of these factors, I will use a matrix made by Eszter Hargattai to determine the typology of the users. Moreover, this will be analyzed in combination with the following variables: strong and weak ties, perceived enjoyment, usage frequency, and socio-demographics.

2. Online Social Networks

Over the last decades, the Internet has greatly evolved along with online social networks. Although social networking is not a new phenomenon, its usage has increased enormously in recent years.

Organizations are changing the way they do business, especially when advertising their products through social networks in order to gain consumer loyalty and market share. For example, in 2009, Sony advertised three films:

District 9, Julie and Julia, and The Ugly Truth through Facebook. In addition, Toyota used MySpace to create a contest called "Rock the Space" where bands send their demo tapes and the winner gets a record contract. Toyota received 18,000 votes from MySpace where users were able to vote for the best demo tape. Doug Frisbie, the manager of social-media marketing for Toyota's American operations, says that the advertising exceeded the company's hopes for the brand (Blackshaw et al., 2010)

In Italy, starting January of this year, companies such as Vodafone, Tim and Benetton began participating in the launch of Facebook deal applications, which is a system that works with geolocation and smart phones. Vodafone's consumers can make use of promotions and deals by check-in in a Vodafone One store in the main cities of Italy; clients receive a card to activate a promotion called "MP3 Music Pack" – a monthly subscription of Vodafone Music where clients can download ten free songs. At Vodafone, clients' subscriptions with Facebook account for 625,000 fans, YouTube has more than 3 million users, and Twitter has more than 15,000 followers (Vodafone, 2011).

These examples demonstrate the efforts that organizations make in order to adapt to the external changes of the market and the emergence of new technologies.

In addition, consumers' involvement in the product/service market is increasing. Consumers pay particular attention to the product design and promotional messages through the Internet. It is mostly reflected in online social networks,

which allows rapid dissemination and communication among consumers (Benthon, Pitt, McCarthy, Kates, 2007).

By tradition, firms have paid little attention to this trend; yet, this is subject to change. The creative consumer is likely to be progressively more important force for innovation and change in many markets (Benthon et al., 2007).

In an article on social networking, Martin Giles states: "*Online social networks are changing the way people communicate, work and play, and mostly for the better*" (Blackshaw et al., 2010, p.1)

2.1 Definition

At its pure meaning, online social network is a system that allows a group of people to establish a relationship. An individual's social network creates a community by linking relationships between participants with common backgrounds, interests, and social environments.

The relationships can be separated into two features: stronger-ties and weaker-ties. In stronger-ties individuals maintain a relationship with their closest friends and family. In weaker-ties individuals maintain a relationship with their acquaintances (Granovetter, 1983).

According to Mislove et al., 2007, online Social Networks can be divided into Users, Links, and Groups.

Users: individuals need to register with a site and create a profile in which users can voluntarily add personal information such as gender, birthday, place of residence, interests, etc.

Links: online social networks are able to link users together. In addition, links can be created for several reasons: for business and school purposes, for making online acquaintances, and many more. A user's links are visible to those who visit the user's account unless the user specifies a private profile setting, allowing other users to see the profile only if they are connected to each other, that is, if they are friends. Therefore, users are able to navigate through the site by following a user-to-user link, looking through profile information, and any other content of visited users as they go.

Groups: Most sites allow users to construct or join a specific group of interest. The accessibility of these groups varies according to the private settings made by the administrator who can control every aspect of the group. Administrators can decide who can join the group and monitor the comments that users can post (Mislove, Marcon, Gummadi, Druschel, Bhattacharjee, 2007).

2.2 History and Different types of Online Social Networks

Online social networks have existed from the early stages of the Internet. The first identified online social network site was SixDegress.com, which was launched in 1997. This site allowed users to create profiles and lists of friends. It is important to underlie that these features already existed in most communities

and dating sites before the launch of SixDegrees. The list of friends was used in chats such as ICQ. Moreover, Classmates.com allowed people to find and connect with their high school and college friends. SixDegress was the first social network to integrate these features all together. However, it failed to become a sustainable business and in 2000 SixDegrees was no longer on the web.

Since 1999, numerous online social networks have emerged. The following figure provides a visual representation of the evolution of social networks sites:

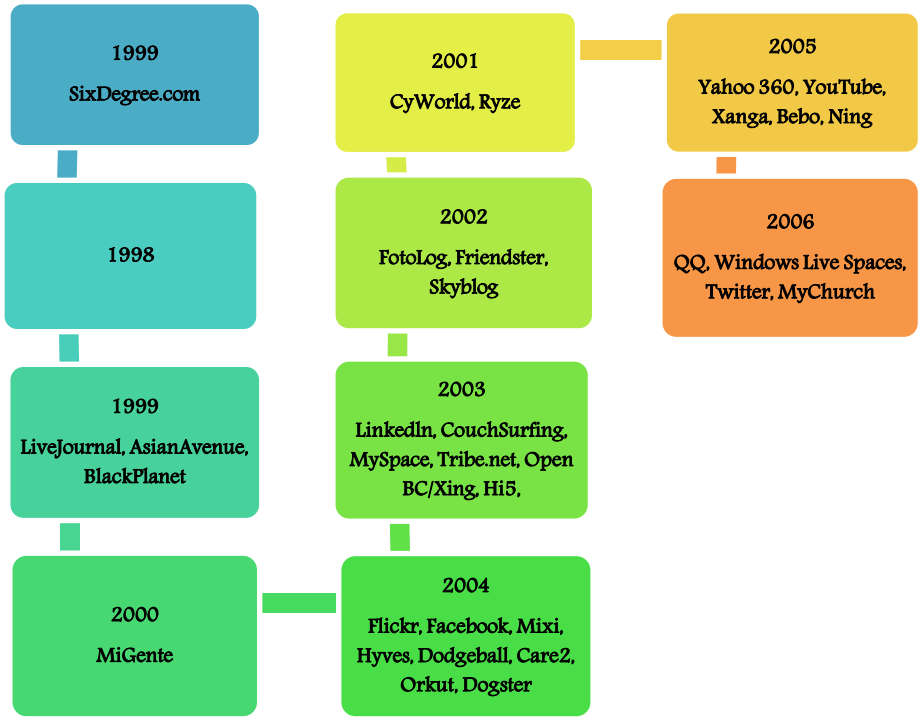

Figure #1: Evolution of Social Networks Sites.

Source: "Social Network Sites: Definition, History and Scholarship; Boyd, D; Ellison, N, Michigan State University, 2007).

Next, I will introduce some of the different online social networks in order to have a clear picture of their functionalities and approaches.

- Facebook

Facebook is a social networking source that was launched in 2004 by Mark Zuckerberg. Initially, it had limited accessibility; in other words, it was only available to Harvard students. As soon as the network started growing, other Ivy League colleges and Stanford University joined the network. In 2006, Facebook was made available to everyone age 13 and older with a valid email address. Facebook's mission is "*to give people the power to share and make the world more open and connected*" (Zucherberg, 2004).

Facebook provides the following features to its users: create a profile and see the profile of others; create a list of friends; send invitations for an event, school, party and others; upload photos, links, videos, articles; chat; and accessibility of Facebook through smart phones. Furthermore, Facebook offers hundreds of applications developed by outsiders, allowing users to design their profiles and engage in other social online activities. The last characteristic is one of the features that distinguishes Facebook from other online social networks as well as prohibiting users to fully publish their profiles (Boyd & Ellison, 2007).

According to statistical reports, Facebook accounts for more than 500 million users and is one of the most trafficked sites in the world (Zucherberg, 2004).

- Orkut

Orkut is an online community launched in 2002 by a Google employee named Orkut Büyükkökten. Orkut's main objective is *"to make social life more active and interesting"* (Orkut, 2002).

It allows users to interact with each other through scrapsbook, where users can send messages, visit other user's profile, upload photos and videos, join a community, and use Orkut through smart phones. Moreover, users can customize their profile according to their preferences.

Orkut's launch by Google allows users to connect easily through other properties of Google such as Google Email and Google Maps. Furthermore, Orkut recently introduced a new video chat feature.

According to Orkut's statistics, the social network is more popular in Brazil accounting for more than 50.60% of the users, India with 20.44%, and United States with 17.78%, among others. Additionally, 53.48% of users are between 18 and 25 years old (Orkut, 2002).

- Netlog

Netlog is an online platform launched in 2006 by Massive Media NV in Belgium. It was created with a specific target: European youth.

Some of the features that Netlog offers to its users are: create your own web page with a blog, videos, pictures, etc. so users can share it with their friends. Massive Media NV created a unique localization technology that allows all the information to be geotargeted and personalized to each member's profile. This in turn, allows users to narrow down their search and overview of the community, focusing only on other member profiles of his or her same age, range, and region.

Netlog is available in 34 languages and accounts for more than 76 million users throughout Europe (Netlog, 2006).

- Twitter

Twitter is a real-time information network launched in 2006 by Jack Dorsey. It allows users to be informed about the latest news on a certain topic of interest.

Twitter works in the following way: Users can write a small portion of information called Tweets. Each Tweet has 140 characters in length, which can provide additional information in great detail, deeper context, and embedded media.

In addition, Twitter connects businesses to customers in real-time. Businesses use Twitter to rapidly share information with people interested in their products and services, gather real-time market intelligence and feedback, and build relationships with customers. Twitter accounts for more than 200 million users.

In summary, "*Twitter is the best way to discover what's new in the world*" (Twitter, 2006).

- MySpace

My Space is a social entertainment destination powered by the passion of fans, it was launched in 2003 and is a division of News Corporation. Its target is Generation Y.

MySpace drives social interaction by giving a highly personalized experience around music and entertainment, and connects users through music, videos, TV,

films, events, among others. Also, MySpace encourages the so-called "curators", which is a unique division of users recognized for being innovators by creating, discovering, and sharing content of common interests first. In addition, it offers MySpace Music, a wide growing catalog of freely streaming video and audio.

MySpace accounts for more than 100 million users, half of them in the United States. It is located in 30 countries and is available in 16 languages (MySpace, 2003).

- YouTube

It is a video-sharing website launched in 2005 by Steve Chan, Chad Hurley, and Jawed Karim, three former PayPal employees. With the slogan "*Broadcast Yourself*", users can discover, watch, create, and share videos.

There is a variety of features that YouTube offers to its users such as rent a movie, comment on videos, upload and share videos through other Social Networks, YouTube mobile, search and browse videos, create a playlist of your favorite's videos, video editor, etc.

According to YouTube's statistics, there are more than 4 million users connected and auto-sharing to at least one social network. In 2010, more than 13 million

hours of video were uploaded and 35 hours of video are uploaded every minute. Finally, YouTube mobile gets over 100 million views (YouTube, 2005).

- **LinkedIn**

LinkedIn is a business oriented social network launched in 2003 by Reid Hoffman. It operates the world's largest professional network on the Internet with more than 100 million users in over 200 countries.

LinkedIn offers the following features: it allows users to make a list of contacts with whom they have some level of relationship called Connections. The network consists of direct connections. The connections of each user's connections are called Second-degree connections, and the connections of the second-degree connections are called Third-degree connections.

Furthermore, users can upload photos; create a profile; and look for jobs, people, or business opportunities. Also, it provides statistical information of companies users are interested in working for. In 2008, the company launched a LinkedIn mobile version (LinkedIn, 2006 a)

In a press released in March of 2011 Hoffman said, *"We're taking the aggregate data set [of our 90 million members] and turning it into new products that are useful for everyone"* (LinkedIn, 2006 b).

- **Flickr**

Flickr is a photo and video host website launched in 2004 by Ludicorp and later acquired by Yahoo. According to Flickr, the company has two main objectives: first, to facilitate the sharing of photos among users, and second, to discover new ways to organize photos and videos (Flickr, 2004).

The idea is that users can tell a story with their photos, and their friends can comment, add notes to describe the photos, add tags, etc. Moreover, users can connect with other social networks such as Facebook and Twitter. Users can upload photos from their mobile, email, browser, or Flickr desktop application (Flickr, 2004).

- Foursquare

Foursquare is a location-based mobile platform launched in 2009 by Dennis Crowley. It works by checking-in via smart phone and users are able to share their location with their friends. Foursquare leads users to a real world experience where they can bookmark relevant information about places they are interested in and read suggestions regarding near places.

Foursquare provides outsiders with the opportunity to develop more applications to the platform, and businesses can make use of this platform in order to promote their products and services to retain customers.

In addition, Foursquare accounts for more than 8 million users worldwide and around 35,000 new users each day (Foursquare, 2009).

2.3 Importance of Social Network

Technology is an ongoing force that has greatly evolved in the last decades. A Digital Era has begun where new technologies have rapidly emerged, and this has forced companies to change the way they do business.

Organizations are shifting the way they promote their products and services, and social networks play an important role in the organizations' promotion strategies. At the same time, organizations can greatly benefit from the use of social networks because it provides them with strategic advantage. For example, Kobi BBQ, an American company that offers Korean food in Los Angeles, used Twitter in order to promote its products and services. In addition, Sprinkles, an American cupcake bakery with stores all over the United States, has more than 94,000 fans on its Facebook page. Sprinkles promotes its products through Facebook and gives its customer a coupon that they can exchange for a free cake (Blackshawn, 2010).

Consumers are using digital media not only for check up services and products, but also to connect with the companies they buy from. In other words, according to Hanna et al. 2011, "*Consumers are no longer merely passive recipients in the marketing exchange process…consumers are dictating the nature extent, and content of marketing exchanges"* (Hanna, Rohm & Crittenden, 2011, p.265).

The information that a social network is able to disseminate; in other words, the ability to share, communicate, and create, influences the field of marketing. These online platforms are providing the tools necessary to create and maintain the valuable company-customer relationships (Hanna et al., 2011)

The following figure provides a better representation of the previously mentioned:

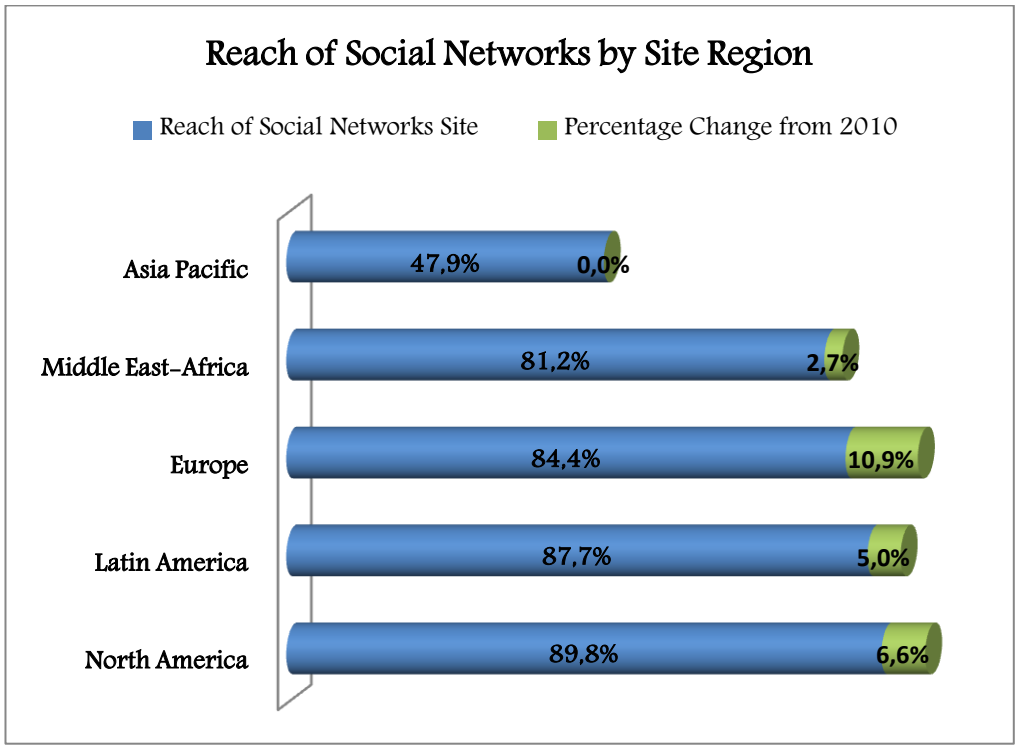

Figure #2: Reach of Social Networks by Site Region

Source:ComScore.com Media Metrix 2010

As illustrated above, the popularity of social networks is growing rapidly, especially in Europe with a 10.9 percentage point change from 2009 to 2010. Europe presents the highest penetration among the global regions.

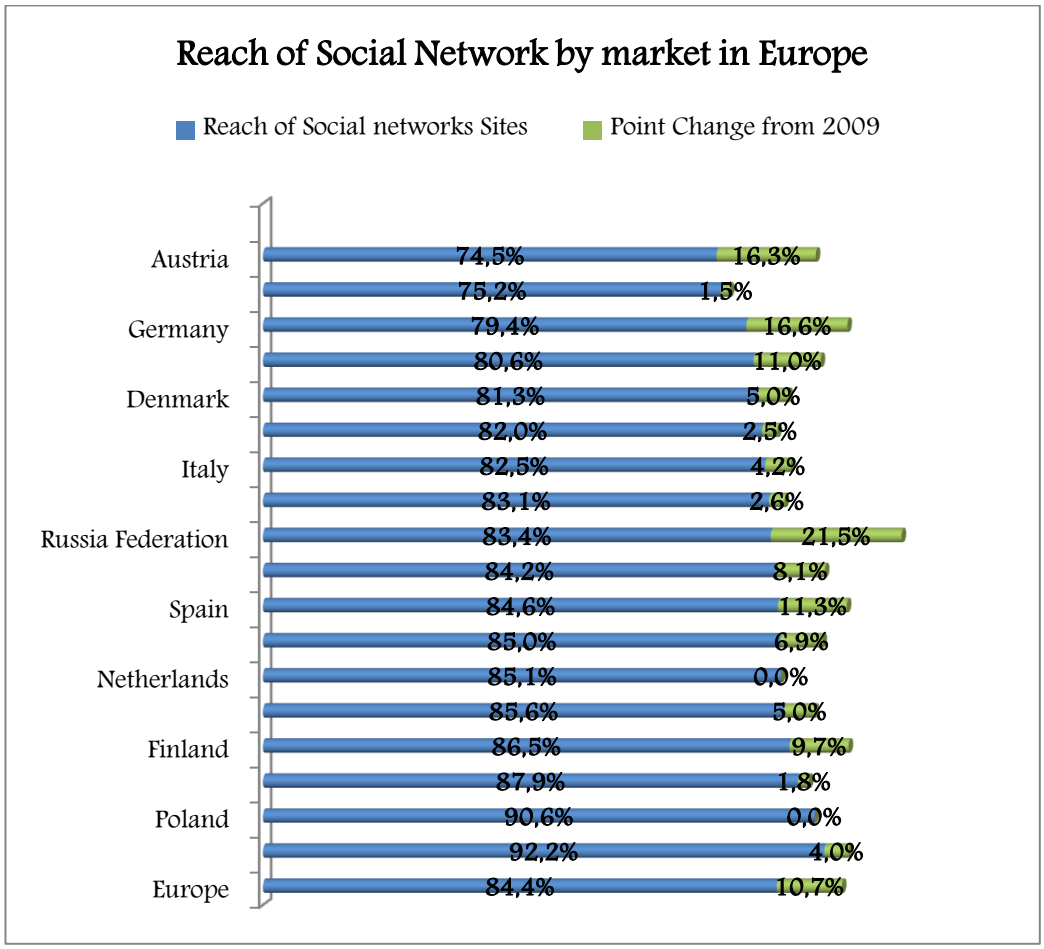

Figure #3: Reach of Social Networks by market in Europe

Source: ComScore.com Media metrix 2010

As illustrated above, the reach of online social networks in Europe has been growing in all markets, especially in the Russian Federation with a 21.5 percentage point change from 2009 to 2010.

After reviewing these statistics, it is evident that online social networks are becoming part of people's lives, and they are becoming an important vehicle for news and channels.

Overall, online social networks present many advantages. However, there is some uncertainty regarding the way people adopt and use these systems as well as the factors that might influence the usage of online social networks. For all these reasons, it is important to study and understand the adoption, usage, and activeness of online social networks

3. Theoretical Framework

There has been sufficient research in order to understand how individuals adopt or reject certain technologies. However, there is limited study on social networks in relation to technology, both at the organizational level and at the consumer level. This research will focus on the study of social networks in relation to technology at the consumer level.

The only model that proves to be certain in order to determine the facts of this study is the Technology Acceptance Model. For the sake of simplicity, I will refer to the Technology Acceptance Model as the TAM.

3.1 Technology Acceptance Model –TAM

This model derived from the Theory of Reasoned Action made by Azjen and Fishben in 1980, and concentrated on the subject of how users come to acceptance and use a technology. TAM answered the question: what causes people to accept or reject information technology? (Davis, 1989). TAM proposed

that when individuals are introduced to a new technology, there are certain variables affecting their decisions to whether they will adopt it or not, and when and how they will adopt it.

Past research suggested that among the numerous variables available that can influence this issue, two important variables have proved to be significant in this model: Perceived of Usefulness and Perceived Easy to Use.

Perceived of Usefulness explains the user's perception to the extent that technology will improve his or her job performance. This in turn, will drive users to adopt a technology. However, even if users believe that a technology will improve their job performance, they will reject it if they feel that using the technology is complex and hard. To offset this problem, Perceived Easy to Use variable needs to be taken into consideration. This variable explains the user's perception that using a technology will be free of effort (Davis, 1989). It is more likely that users will accept a technology once they have realized that the technology is simple and easy to use.

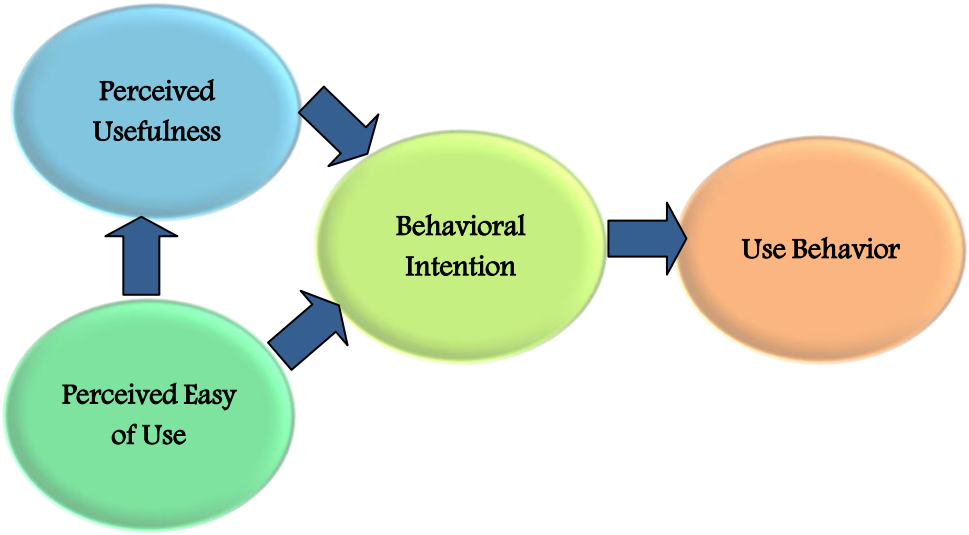

Figure #4: Technology Acceptance Model.

Source: Davis, F 1989 "Perceived Usefulness, Perceived Ease of Use and User Acceptance of Information Technology"

Given that the scope of this thesis is to find out what drives individuals to adopt and use Social Networks, it is important to emphasize that TAM is presented at the individual level while Social Networks is presented at the group level.

Therefore, there is need for a mediating variable that connects group level characteristics with individual level characteristics.

According to Kate et al. (2010), this mediating variable is Subjective Norm, which will be introduced in TAM2.

3.2 Technology Acceptance Model 2

This model is an extension of TAM and it was proposed by Venkatesh and Davis in 2000. Basically, this model deals with the same TAM variables, but it

incorporates additional variables across social influence processes. These variables are: Subjective Norm, Voluntariness and Image (Venkatesh & Davis, 2000). Nevertheless, I will only use Subjective Norm as the mediating variable between individuals and Social Networks.

Subjective norm is reliable with the Theory of Reasoned Action, which was the basis for developing TAM. According to Fishben and Ajzen (1975), Subjective Norm can be defined as "*a person's perception that most people who are important to him think he should or should not perform the behavior in question*" (Fishben & Ajzen, 1975, p.302). The motivation for a direct effect of Subjective Norm on behavioral intention is that users may choose to perform a behavior, even if they do not see a favorable outcome from performing the behavior. In other words, the user will find sufficient motivation to perform the behavior if one or more important referents think he or she should do it (Venkatesh & Davis, 2000)

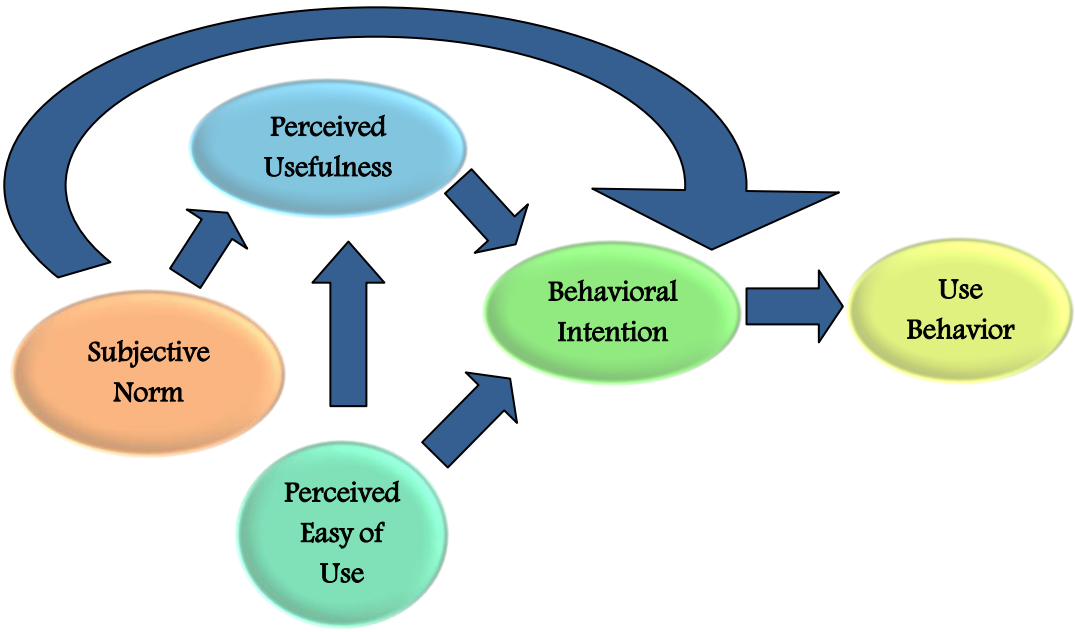

Figure # 5: Technology Acceptance Model 2

Source: Venkatesh and Davis 2000 "A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies"

In 1989 and 1991, Davis et al and Mathieson respectively, found that Subjective Norm had no significant effects on intentions. Nevertheless, in 1995, Taylor and Todd found evidence that supported that Subjective Norm does have a significant effect on intentions. It is important to mention that Davis et al (1989), found that Subjective Norm had no significant effects on intentions over and above perceived usefulness and easy to use. Therefore, they omitted Subjective Norm from the original TAM, yet they did recognize the need for additional research to *"investigate conditions and mechanisms governing the impact of social influences on usage behavior"* (Venkatesh & Davis, 2000, p.999).

4. Methodology

4.1 Variables, Scales and Hypothesis

This dissertation uses two models: Technology Acceptance Model and Technology Acceptance Model 2. The main difference between these two models is that the Technology Acceptance Model 2 introduced the Subjective Norm.

Three variables will be presented next. These three variables come from the models mentioned above.

- ### Perceived Usefulness

Davis et al., (1999) showed that Perceived Usefulness affects behavioral intention. Moreover, Venkatesh et al., (2000) showed that the most important factor affecting an employee's attitude towards adopting and using a new technology is his or her perception of usefulness of the technology. Consequently, there is a strong and consistent relationship between perceived usefulness and behavioral intention to use social networks.

H1: *"Perceived Usefulness is positively related to the use of online social networks"*

In the questionnaire, Perceived Usefulness includes thirteen items that were modified to fit the topic of online Social Networks. The measurement scale was obtained from Thompson et al., (1999); respondents were asked to

indicate their level of agreement and disagreement using a 5 point Likert scale ranging from (1) Strongly Disagree to (5) Strongly Agree.

- **Perceived Ease of Use**

According to Davis (1989) and Venkatesh and Davis (2000), if a given technology is considered to be complex or difficult to use, then users will not use the new technology. Moreover, these studies proved that there is a direct correlation between perceived ease of use and behavioral intention.

According to Willis (2008), *"Easy to use technologies are more likely to be used than those that are difficult to use, regardless of how useful they are perceived to be"* (Willis, 2008, p.16)

H2: *"Perceived Ease of use is positively related to the use of online social networks"*

Perceived ease of use was measured using six items. The items and the measurement scale were obtained from Thompson et al., (1999) and adjusted to fit the topic of social networks. Respondents were asked to indicate their level of agreement and disagreement using a 5 point Likert scale ranging from (1) Strongly Disagree to (5) Strongly Agree.

- **Subjective Norm**

As previously mentioned, the Subjective Norm was introduced later in the Technological Acceptance Model 2. Davis et al., (1989) found that Subjective Norm had no significant effects on behavioral intention over and above

perceived usefulness and perceived ease of use. However, in later studies, it was found that Subjective Norm through perceived usefulness had an indirect effect on voluntary compliance implementations. In other words, the usefulness of a given technology is influenced to some extent by how it is perceived by others (Willis, 2008).

I assume that individuals who feel more social pressure to use online social networks will consider this technology useful.

H3: *"The perception of social influences to use online social networks is associated with greater usage intention"*

Subjective Norm was measured using two items. The items and the measurement scale were obtained from Venkatesh and Davis (2000) and adjusted to fit the topic of this thesis. Respondents were asked to indicate their level of agreement and disagreement using a 5 point Likert scale ranging from (1) Strongly Disagree to (5) Strongly Agree.

- Typology of Users

In 2010, Hargittai and Hsieh, created a two by two matrix on the topic of engagement in online Social Networks. The matrix included Use Frequency (sometimes and often) and Use Diversity (one social network only and more than one social network). These factors were taken into account when studying the social implication of using online Social Networks.

		Use Diversity (number of Online Social Networks used)	
		One Social Network	More than one Social Network
Use Frequency	Sometimes	Dabbler	Sampler
	Often	Devotee	Omnivore

Table #1: Typology of Users

Source: Hargittai et al. 2010 "Predictors and Consequences of Differentiated practices on Social Networks Sites"

Basically, individuals who use "sometimes one" social network are called "Dabbler" since their engagement in this technology is modest. Those who use "sometimes more than one" social network are considered "Sampler" since they use several social networks, but with low frequency. Individuals who use "often one" social network are called "Devotee" since they dedicate a great amount of time in one social network becoming experts at using this technology. Lastly, individuals who use "often more than one" social network are considered "Omnivore" because they have higher levels of engagement in different types of social networks.

Hargittai and Hsieh (2010) found that the level of engagement was not randomly distributed among their sample. For example, gender played an important role in explaining usage intensity of social networks.

I assume that individuals using one social network with low frequency are negatively related to the concept of Subjective Norm. This is due to the fact that

Dabbler users are not influenced by what other users believe. Consequently, this has a negative effect on behavioral intention of online social networks.

H4: *"The Subjective Norm of Dabbler user exhibits a negative relation on actual usage of online social networks".*

In contrast, individuals using one social network with high frequency have a positive effect on Subjective Norm and Perceived Usefulness since their level of engagement and dedication with one social network in terms of time is high.

H5: *"The Subjective Norm and Perceived Usefulness of Devotee user exhibits a positive relation on actual usage of online social networks"*

Furthermore, in regards to Sampler and Omnivore users, I assume that both have a positive effect on Subjective Norm, but with different level of engagement due to the amount of frequency. This is because both types of users, Sampler and Omnivore, use more than one social network and engage in the adoption of new technologies.

H6: *"The Subjective Norm of Sampler and Omnivore users exhibits a positive relation on actual usage of online social networks".*

In order to measure the typology of users, respondents were asked to specify if they knew the following online social networks: Facebook, Twitter, Orkut, LinkdIn, MySpace, Netlog, Flickr, Youtube and Foursquare. Furthermore, respondents had the opportunity to choose the option of "Others" and include any online social network that was excluded from the list.

The measurement scale was taken from Hargittai and Hsieh (2010) and included the following options: "No, I have never used it"; "Tried it once, but have not used it since"; "Yes, I have tried in the past, but do not use it nowadays"; "Yes, currently use it sometimes"; and "Yes, currently use it often" (Hargittai & Hsieh, 2010).

In order to complement the typology of users, the following variables were used:

- **Usage**

Respondents were asked to indicate the online social network they use more frequently as well as to rank social networks, in the case that they use more than one, according to the respondent's usage intensity.

- **Frequency**

This variable is extremely important in determining the adoption and usage of online social networks. Frequency was measured using two questions. First, respondents were asked to specify in average the frequency of use of online social networks. Second, respondents were asked to indicate how many hours per day they spend on online social networks.

The measurement scales were obtained from Thompson et al., (1999). The first question used a 5 point Likert scale ranging from (1) Never/ Almost never to (5) Several times a day. The second question used as a 5 point Likert scale ranging from (1) Never/ Almost never to (5) More than 3 hours.

- **Stronger and Weaker Ties**

Social tie is the connection between individuals. More specifically, a tie among individuals exists when they exchange or share resources such as information and services. Studies on Social network have recognized a number of variables that distinguish ties by strength (Haythornthwaite, 2001).

The strength of a tie can be determined by the frequency, time, and intimacy within individuals or users. There are two types of social ties: strong ties and weak ties. The role of these ties is extremely important to access the different types of resources (Haythornthwaite, 2001).

On one hand, in the context of online social networks, users who experience strong ties are the ones who base their network on trust with high usage frequency and limited amount of contacts. Moreover, users with strong ties tend to persuade and influence one another compare to users who experience weak ties who do not engage in such behavior.

According to Ten Kate et al., (2010), "Research *has shown that people connected through strong ties are more accessible and willing to be helpful in sharing behaviors"* (Ten Kate, Haverkamp, Mahmood & Feldberg, 2010, p.23).

On the other hand, users who experience weak ties base their network on occasional relationship, less usage frequency, and a wider number of contacts. Weak ties might be more valuable than strong ties due to greater dissemination of information (Ten Kate et al., 2010).

The connectivity that exists among individuals based on these ties illustrates an example of social networks through resources and information that circulate among individuals. Communication is an important element in which ties are maintained, and online social network facilitates such connection (Haythornthwaite, 2001).

H7: *"Dabblers and Devotee users are characterized by having strong ties activities"*

H8: *"Samplers and Omnivore users are characterized by having weak ties activities"*

Strong tie and weak tie activities include eight items per tie. These items were obtained from Hargittai and Hsieh (2010) and modified to fit the topic of social networks. The measurement scale was obtained from Thompson et al., (1999), ranging from (1) Not at all to (5) To a great extent.

- **Perceived Enjoyment**

  In 1992, Davis et al., studied the effects of perceived enjoyment on a word processing program and concluded that perceived enjoyment had a significant effect on usage intention. This explains that if individuals experience fun, pleasure, and enjoyment they might engage in a particular behavior with a certain type of technology.

  In the context of online social networks, individuals might use a specific online social network because they feel it is fun and pleasant to use it.

H9: *"Dabbler users are characterized by a low level of Perceived Enjoyment"*

H10: *"Devotee users are characterized by a high level of Perceived Enjoyment"*

H11: *"Sampler users are characterized by a neutral level of Perceived Enjoyment"*

H12: *"Omnivore users are characterized by a high level of Perceived Enjoyment"*

This variable includes seven positive items: Fun, Pleasant, Positive, Pleasurable, Exciting, Foolish, and Enjoyable. The variable also includes seven negative items: Frustrating, Unpleasant, Negative, Painful, Dull, Wise, and Unenjoyable. The scales range from (1) positive item to (5) negative item.

- Socio-Demographic

Respondents were asked to specify Gender; Age –ranging from ages 18 to 30 years old; the faculty to which they currently belong –Economics, Political Science, and Law; and the type of degree they are currently pursuing – Bachelor or Master degree.

	Hypothesis Summary Table
H1	"*Perceived Usefulness is positively related to the use of online social networks*"
H2	"*Perceived Ease of use is positively related to the use of online social*

	networks"
H3	*"The perception of social influences to use online social networks is associated with greater usage intention"*
H4	*"The Subjective Norm of Dabbler users exhibits a negative relation on actual usage on online social networks"*
H5	*"The Subjective Norm and Perceived Usefulness of Devotee users exhibits a positive relation on actual usage of online social networks"*
H6	*"The Subjective Norm of Sampler and Omnivore users exhibits a positive relation on actual usage of online social networks"*
H7	*"Dabblers and Devotee users are characterized by having strong ties"*
H8	*"Samplers and Omnivore users are characterized by having weak ties"*
H9	*"Dabbler users are characterized by a low level of Perceived Enjoyment"*
H10	*"Devotee users are characterized by a high level of Perceived Enjoyment"*
H11	*"Sampler users are characterized by a neutral level of Perceived Enjoyment"*
H12	*"Omnivore users are characterized by a high level of Perceived Enjoyment"*

Table # 2: Hypothesis Summary

4.2 Sample

The data was obtained through a questionnaire that was created using a new service called Questionnaire Application offered by Google. The questionnaire was sent through a social network (Facebook) and via email. The participants were undergraduate and graduate students from the three faculties of Luiss Guido Carli University: Economics, Political Science, and Law. Moreover, in order to avoid cultural differences, the questionnaire was completed only by Italian students.

The questionnaire was sent to twenty students and they were asked to spread the information to other students through their networks in order to have as many participants as possible. A total of 92 students completed the questionnaire, consisting of 48 females and 44 males that represented 58% and 42% respectively of the total sample. In addition, 53 students ranged in age from 18 to 21 years old, 31 students ranged in age from 22 to 25 years old, and 8 students ranged in age from 26 to 29 years old. These students represented 58%, 31%, and 9% respectively of the total sample.

Furthermore, 79 students came from the faculty of Economics, 9 students came from the faculty of Political Science, and only 4 students came from the faculty of Law. These students represented 86%, 10%, and 4% respectively of the total sample. Overall, 82% of the sample is currently pursuing a Bachelor's degree while the other 12% of the sample is currently pursuing a Master's degree.

4.3 Method of Analysis

In order to address the first issue of this dissertation, the variables from the theoretical framework, that is, Perceived Usefulness, Perceived Ease of Use, and Subjective Norm were analyzed in the following way: each item was scrutinized according to gender, scale, and age range.

For the second issue, knowing the typology of users was essential. Therefore, I used the matrix made by Hargittai and Hsieh (2010) mentioned in Table #... in the previous section. The results were obtained by combining frequency and actual usage of online social networks for each respondent according to gender and age range.

Finally, once the typology of users per each student was established, these were combined with strong and weak ties and perceived enjoyment.

An ANOVA test was performed between perceived usefulness, perceived ease of use, and subjective norm with behavioral usage. The same technique was performed between the typology of users with strong and weak ties and perceived enjoyment.

4.4 Results

Perceived Usefulness

The percentage of the perceived usefulness of the respondents is depicted in the table below using a scale from 1(Strongly Disagree) to 5 (Strongly Agree) per item.

It was noted that the majority of the respondents "strongly disagreed" and "disagreed" when answering item "#9 to feel important" with 48% and 30% respectively of total number of respondents. In other words, the majority of the respondents do not use online social networks to feel important. Moreover, the majority of the respondents were "neutral" when answering item "#11 to get information." This explains that the majority of the respondents feel indifferent about using online social networks with the purpose of obtaining information. To conclude, most of the respondents "agreed" and "strongly agreed" when answering item "#1 to be entertained" and item "#6 to pass time when bored" with 52% and 38% respectively of total number of respondents.

Total number of respondents by percentage according to items and scale of Perceived Usefulness					
Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

#1 To be entertained	2%	2%	16%	**52%**	27%
#2 To connect with customers	18%	12%	23%	15%	**32%**
#3 To be advertized your company/school	20%	**24%**	20%	**24%**	13%
#4 To be updated	5%	0%	23%	**43%**	28%
#5 To find a date	**37%**	17%	18%	20%	8%
#6 To pass time away when bored	4%	7%	16%	35%	**38%**
#7 To relax	7%	5%	32%	**36%**	21%
#8 To find friends	20%	21%	16%	**25%**	18%
#9 To feel important	**48%**	**30%**	17%	4%	0%
# 10 To find a job or internship	**32%**	25%	27%	14%	2%

#11 To get information	24%	15%	**33%**	25%	3%
#12 To know about people's life	9%	10%	32%	38%	12%

Table # 3: Total number of respondents by percentage according to items and scale of Perceived Usefulness

Since the typology of users represent the usage and the frequency among respondents, an ANOVA test was computed with typology of users as the independent variable while each item of perceived usefulness were tested separately as the dependent variable.

Next I will discuss each item mentioned in the table above:

- Item #1: this item rated highest in respondents' acceptance in comparison with the other items. In regards to respondents between 18 and 21 years old, males agreed more than females about using online social networks for entertainment, corresponding to 16 of 27 males against 9 of 26 females. Similarly, respondents between 22 and 25 years old exhibited the same results, but this time corresponding to 10 of 15 males against 9 of 16 females. Finally, in regards to respondents between 26 and 29 years old, females agreed more than males, corresponding to 3 of 6 females against 1 of 2 males.

- Item #2: the majority of females in all age ranges use online social networks more compared to males because they want to connect with customers.
- Item #3: both females and males between 18 and 21 years old had an opposite response. The majority of females agreed about using online social networks in order to advertize their company or school while the majority of males did not.
- Item #4: both females and males between 18 and 21 years old and 22 and 25 years old, agreed about using online social networks in order to be updated. Similarly, females between 26 and 29 years old exhibited the same results. On the contrary, males between 26 and 29 years old felt indifferent and agreed (with the same number of respondents – 9 males for each scale) about using online social networks in order to be updated.
- Item #5: females between 18 and 21 years old and 22 and 25 years old had the same response. Similarly, males in both age groups exhibited the same response as well. In both age groups, females strongly disagreed about using online social networks in order to find a date. On the contrary, males in both age groups were indifferent. In regards to respondents between 26 and 29 years old, females strongly disagreed while males disagreed about using online social networks in order to find a date.
- Item #6: this item had the strongest acceptance. Females between 18 and 21 years old felt indifferent and strongly agreed (8 females of 26 females

for each scale) about using online social networks to pass time away when bored. On the contrary, males in the same age group agreed. In regards to respondents between 22 and 25 years old and 26 and 29 years old, both females and males strongly agreed and agreed about using online social networks to pass time away when bored.

- Item #7: with respect to students between 18 and 21 years old, males were more indifferent compared to females about using online social networks to relax. In regards to students between 22 and 25 years old, both males and females agreed and strongly agreed. Finally, females between 26 and 29 years old were more indifferent than males.
- Item #8: both females and males in two different age groups had an opposite effect. More in detail, females and males between 18 and 21 years old strongly disagreed and disagreed while females and males between 22 and 25 years old agreed and strongly agreed about using online social networks to find friends. With respect to students between 26 and 29 years old, females strongly agreed while males were indifferent.
- Item #9: this item had the most negative response in comparison with the other items. Females between 18 and 21 years old strongly disagreed more than males did, corresponding to 18 of 26 females against 11 of 27 males. The same results were exhibited from both females and males between 22 and 25 years old and 26 and 29 years old. In other words, ceteris paribus the age range, females revealed to have a more negative

response compared to males about using online social networks to feel important.

- Item #10: both females and males between 18 and 21 years old strongly disagreed about using online social networks to find a job or internship. The same results were obtained from females between 22 and 25 years old. However, males in the same age range felt indifferent with respect to this item. Females between 26 and 29 years old disagreed while males in the same age group disagreed and were neutral with respect to this item.
- Item #11: this item exhibited the most indifferent response in comparison with the other items. Females and males between 18 and 21 years old had an opposite response; females strongly disagreed while males agreed about using online social networks to get information. In regards to students between 22 and 25 years old, males were more neutral compared to females. Females between 26 and 29 years old were neutral and males in the same age group disagreed with respect to this item.
- Item #12: both females and males in all age ranges exhibited the same response. Females agreed more than males about using online social networks to know about people's life.

In addition, only 4 of 92 respondents included an extra reason about using online social network, that is, 3 respondents included the reason "to be connected with friends around the world" while 1 respondent included the reason "to find public events in my town."

When computing the ANOVA test for each item with the typology of users, it was found that 4 of 12 items were statistically significant, that is, "to be entertained", "to be updated", "to pass time when bored" and "to know about people's life" with a p-value of 0.001, 0.006, 0.037, and 0.007 respectively. In other words, the perception of usefulness of these 4 items varies according to the typology of users.

H1: *"Perceived Usefulness is positively related to the use of online social networks"*

According to the findings described above without statistical tests, Perceived Usefulness is positively related to the usage of online social networks, but only to some extent because not all the items of this variable have a positive response. More in detail, 7 of 12 items had a positive response (to be entertained, to connect with customers, to be updated, to pass time away when bored, to relax, to find friends, and to know about people's life); only 1 item had a neutral response (to get information); and only 1 item was unambiguous (to advertize your company or school). In other words, 24% (22 of 98 respondents) of the total sample disagreed while another 24% (22 of 98 respondents) of the total sample agreed. Taking into consideration only gender, females experienced a positive effect (15 females against 7 males) while males experienced a negative effect (15 males against 7 females). Finally, 3 of 12 items had a negative response to the use of online social networks (to find a date, to feel important, and to find a job or an internship).

However, when running an ANOVA test between perceived usefulness and behavioral usage (frequency and usage), there was not a statistically significant result. In conclusion, perceived usefulness, including the 12 items, is not positively related to the use of online social networks.

Two additional ANOVA tests were performed with the purpose of finding positive results between perceived usefulness and gender, and between perceived usefulness and age range. Although, there were not statistically significant results, an interesting aspect was found. When performing the ANOVA test between perceived usefulness and age range, the group between 18 and 21 years old obtained a statistically significant result with a p-value of 0.038. In other words, the perceived usefulness varies according to people ranging between 18 and 21 years old.

Perceived Ease of Use

The percentage of the perceived easiness of use of the total sample is shown is the table below using a scale from 1(Strongly Disagree) to 5 (Strongly Agree) per item.

5 of 6 items showed a significant acceptance of the perception of easiness when using online social networks. The second item exhibited the highest response with a 60% of the total sample. In other words, the majority of the respondents use online social networks because it is easy for them to communicate with others. In only one item, "it improves my educational

performance", the majority of the responses were neutral with a 37% of the total sample.

Total number of respondents by percentage according to items and scale of Perceived Ease of Use					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
#1 It is going to understand how it works	0%	2%	10%	**46%**	42%
#2 It is easy for me to communicate with others	1%	1%	5%	35%	**60%**
#3 It is simple for me to organize meetings or parties with my friends	2%	1%	9%	42%	**46%**
#4 It improves my educational	24%	28%	**37%**	5%	5%

performance					
#5 It is flexible to interact with	1%	1%	27%	**53%**	17%
#6 Overall, I find it easy to use	1%	2%	1%	**55%**	40%

Table #4: Total number of respondents by percentage according to items and scale of Perceived Ease of Use

Next I will discuss each item mentioned in the table above:

For items number one, two, three, five, and six the same results were observed in all age groups and both genders. Particularly, the majority of the respondents use online social networks for the following reasons: it is easy for them to understand how social networks work; it is easy for respondents to communicate with others; social networks are simple when organizing meetings and parties with friends; social networks are flexible to interact with; and overall, respondents find social networks easy to use.

- Item #5: with respect to respondents between 18 and 21 years old, females strongly disagreed about using online social networks because they have the perception that by using it, their educational performance will improve. On the contrary, males in the same age group, felt indifferent with respect to this item. Moreover, the same results were

observed with students between 22 and 25 years old and between 26 and 29 years old. Overall, ceteris paribus age range, the majority of females, that is, 33 of 48 total number of females, do not use online social networks because they do not think that their educational performance will improve. Male respondents exhibited the same results.

When computing the ANOVA test, the following variables were statistically significant: "It is easy for me to communicate with others" and "Overall, I find it easy to use" with a p-value equal to 0.005 and 0.002 respectively. In other words, the perceived ease of use of these two items changes according to the typology of users.

H2: "*Perceived Ease of use is positively related to the actual use of online social networks*"

An ANOVA TEST was performed between the variable as a whole (including all items) and behavioral usage, and it was found that perceived ease of use is statistically significant with a p-value equal to 0.003, which is below the standard threshold 0.05. In conclusion, perceived ease of use is positively related to the actual usage of online social networks.

In addition, two more additional ANOVA tests were performed: perceived ease of use with gender and age. It was found that both genders, males and females, exhibited a statistically significant result while only the age group between 18 and 21 years old was statistically significant. In other words, the perceived ease of use varies according to gender and respondents between 18 and 21 years old.

Subjective Norm

The percentage of the social influence of the sample is shown in the table below using a scale from 1 (Strongly Disagree) to 5 (Strongly Agree) per item.

It can be observed that both items have neither positive nor negative impact. Therefore, the majority of the respondents feel indifferent with respect to social influences when using online social networks. In other words, the majority of students using online social networks take into consideration other factors in a voluntary manner rather than taking into consideration what other people suggest to them.

Total number of respondents by percentage according to items and scale of Subjective Norm					
Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
People who influence my behavior think that I should use Social Networks	18%	26%	**42%**	12%	1%
People who are important to me think I	20%	21%	**38%**	20%	2%

should use Social Networks					

Table # 5: Total number of respondents by percentage according to items and scale of Subjective Norm

Next I will discuss each item mentioned in the table above:

- Item #1: For the age group between 18 and 21 years old, both males and females revealed a neutral response about using online social networks because people influence their behavior. However, it can be observed that the same number of females showing indifference with respect to this item disagreed as well. Moreover, with respect participants between 22 and 25 years old and 25 and 29 years old, both females and males were indifferent.
- Item #2: Females between 18 and 21 years old disagreed with respect to this item while males in the same age group were indifferent. An interesting finding was observed for the age ranges between 22 and 25 years old and 25 and 29 years old. Females between 22 and 25 years old agreed about using online social networks because people who are important to them think they should use it. On the contrary, males in the same age range felt indifferent. For participants between 25 and 29 years old, there was an equal response in the following scales: disagree, neutral, and agree while males had an equal response in the following scales: neutral and strongly disagree.

The results described above might have an important implication when studying social influences on the usage of online social networks. Social influences might vary according to the age range and gender.

H3: *"The perception of social influences to use online social networks is associated with greater actual usage"*

However, when analyzing the ANOVA test between subjective norm and behavioral usage, it was found statistically insignificant. Therefore, the perception of social influences to use online social networks is not associated with greater actual usage. The same results were found when making two additional ANOVA tests between subjective norm with gender and age.

Typology of Users

Findings suggest that Facebook is the most popular online social network used by the majority of the respondents, followed by Youtube with 87% and 62% respectively of the total sample. Only 10 respondents of the total sample use other online social networks as well such as Badoo, Tumblr, MSN, and Busuu. On the contrary, the least popular online social network that the majority of the respondents do not use is Orkut, followed by Foursquare, Flickr, Netlog, and LinkdIn with 97%, 95%, 84%, 73%, and 73% respectively of the total sample.

With respect to frequency, the majority of the respondents exhibited high frequency when using online social networks, ranging from several times per day to once a day with 88% of the total sample, and spending a specific amount

of time in online social networks from ½ hour to 2 hours with 55% of the total sample.

As depicted in the table below, it was observed that 73% of the total sample belongs in the typology of Omnivore. In other words, the majority of the respondents use more than one social network with high usage frequency.

Total number of respondents by percentage according to the typology of users	
Omnivore	**73%**
Sampler	7%
Devotee	9%
Dabbler	5%

Table #6: Total number of respondents by percentage according to the typology of users

H4: *"The Subjective Norm on Dabbler users exhibits a negative relation on actual usage of online social networks".*

H5: *"The Subjective Norm and Perceived Usefulness on Devotee users exhibits a positive relation on actual usage of online social networks"*

H6: *"The Subjective Norm on Sampler and Omnivore users exhibits a positive relation on actual usage of online social networks".*

An ANOVA test was performed between each typology of users and perceived ease of use, perceived usefulness, and subjective norm. It was found that all of these variables are statistically insignificant. Concluding that perceived

usefulness, perceived ease of use, and subjective norm do not vary according to each typology of user. Therefore, each of the hypotheses was rejected.

Strong ties

As it is shown in the table below the percentage of the strong ties activities of the total sample ranging from (1) Not at all to (5) To a great extent.

5 of 8 activities have a positive response, that is, most of the respondents performed regularly these 5 activities. It can be observed that the highest percentage was obtained in the activity of "only add people to my contact list that I know" with a 40%. In other words, the majority of the respondents add regularly to their contact list only people they know. Furthermore, the majority of the respondents does not perform regularly activities such as post photos of themselves and join to interest groups with 38% and 27% respectively.

Total number of respondents by percentage according to strong ties activities					
Strong ties activities	Not at all 1	2	3	4	To a great extent 5
#1 Look at your friend's photo albums	3%	26%	**29%**	25%	16%

#2 Stay in touch with friends you rarely see in person	8%	24%	17%	24%	**27%**
#3 Stay in touch with friends you see a lot	4%	11%	22%	**35%**	28%
#4 Post photos of yourself	28%	**38%**	20%	7%	8%
#5 Send private message or emails to a person within a site	5%	12%	24%	28%	**30%**
#6 Make plans with your friends	2%	15%	20%	**32%**	**32%**

#7 Only add people to my contact list that I know	14%	11%	20%	15%	**40%**
#8 Joint interest groups	23%	**27%**	21%	17%	12%

Table #7: Total number of respondents by percentage according to strong ties activities

Next I will discuss specifically each items mentioned in the table above according to typology of users and ranged in age.

- Actvity#1: it was observed that the majority of responses for omnivore users, were neutral while for sampler and dabbler users was negative, that is, sampler and dabbler users do not look regularly to their friend's photo album. On the contrary, it was shown a positive response from devotee users, meaning that, devotee do look regularly to their friend's photo album.
- Activity #2: The majority of respondents that perform regularly this activity were obtained from omnivore and devotee users while for sampler and dabbler users the majority of response was equally distributed among the scales.

- Activity #3: Again, it was observed that the majority of omnivore and devotee users perform regularly this activity on the contrary of dabbler users. Sampler users obtained an equally response among the scales.
- Activity #4: It can be observed a negative response for all typology of users, that is, the majority of omnivore, sampler, dabbler and devotee users do not post regularly photos from themselves in the social networks their used.
- Activity #5: The majority of positive responses in performing regularly this activity were obtained from omnivore, devotee and sampler users. For the majority of dabbler users it was shown an equally positive and negative response of this activity.
- Activity #6: Again it was observed that the majority of omnivore and devotee users had a positive response, that is, omnivore and devotee users make plans with their friends regularly within the social networks they used. The majority of sampler users have an equally neutral and negative response while dabbler users have a negative response. In other words, for the majority of dabbler and some of the sampler users do not make plan with their friends regularly within the social network they used.
- Activity #7: The majority of dabbler users exhibited a negative response in this activity. On the contrary, the majority of omnivore, sampler and devotee users had a positive response. More in detail, for the majority of omnivore, sampler and devotee users, they add regularly only people they know to their contact list.

- Activity #8: This was the only activity to which the majority of all typology of users exhibited a negative response, meaning that, the majority of all the typology of users does not joint to interest groups regularly when using their social network.

H7: *"Dabblers and Devotee users are characterized by having strong ties activities"*

In conclusion, according to the findings explained above and without statistical test, it was revealed according to the number of responses per scale that the majority of omnivore and devotee users are characterized by having strong ties than sampler and dabbler users does. In addition, the majority of dabbler users are characterized by having low strong ties within the social network they used. However, when performing an ANOVA test between the typology of users and strong ties activities, it was found that there is no statistical significant effect. Therefore, the hypothesis H7 was rejected.

Weak ties

As it is shown in the table below the percentage of the strong ties activities of the total sample ranging from (1) Not at all to (5) To a great extent.

It can be observed that all 7 items exhibited a very negative response. This can also be seen as the majority of the respondents do not perform regularly this type of activities. Consequently, given this result, it can be said that the majority of the respondents are characterized by having strong ties activities within their social network.

Total number of respondents by percentage according to weak ties activities					
	Not at all 1	2	3	4	To a great extent 5
Look at stranger's photo album	**42%**	34%	10%	11%	3%
Meet new friends	**58%**	25%	11%	4%	2%
Send a bulleting or a group message to a group of your friends on the network	**30%**	17%	21%	21%	11%
Stay in touch with friends	**78%**	10%	8%	2%	2%

you've only met online					
Flirt with people	**63%**	16%	8%	8%	5%
Meet people to date	**71%**	10%	12%	2%	5%
Add people to contact list you've never met	**77%**	10%	7%	3%	3%

Table # 8: Total number of respondents by percentage according to weak ties activities

For simplifications, it will not be describe in detail the results for each activity, as showed in previous variables, since the majority of the responses per each activity according to each typology of users were all negative.

H8: *"Samplers and Omnivore users are characterized by having weak ties activities"*

When running an ANOVA test between the weak ties activities and typology of users, it was found the same results showed previously, that is, there is no statistical significant effect. Therefore, H8 is also rejected.

Perceived Enjoyment

In the table below, it is showed the percentage of the perceived enjoyment of the total sample ranging from 1 as Positive item to 5 as Negative item.

It can be observed that the majority of the respondents have a positive response for each item of the perceived enjoyment except with items exciting/dull and foolish/wise where the majority of the sample had a neutral response. In overall, it can be conclude that the majority of the respondents exhibited a higher level perception of enjoyment when using online social networks.

Total number of respondents by percentage according to perceived enjoyment						
	1	2	3	4	5	
Fun	36%	**46%**	16%	0%	2%	**Frustrating**
Pleasant	35%	**42%**	20%	1%	2%	**Unpleasant**
Positive	27%	**38%**	29%	3%	2%	**Negative**
Pleasurable	25%	**41%**	30%	3%	0%	**Paintful**
Exciting	11%	29%	**50%**	9%	1%	**Dull**
Foolish	8%	21%	**59%**	10%	3%	**Wise**
Enjoyable	28%	**46%**	21%	3%	2%	**Unenjoyable**

Table # 9: Total number of respondents by percentage according to perceived enjoyment

Again, for methods of simplifications, it will not be describe in detail the results for each activity, as showed in previous variables, since the majority of the responses per each item according to each typology of users were all positive.

H9: *"Dabbler users are characterized by a low level of Perceived Enjoyment".*

H10: *"Devotee users are characterized by a high level of Perceived Enjoyment".*

H11: *"Sampler users are characterized by a neutral level of Perceived Enjoyment".*

H12: *"Omnivore users are characterized by a high level of Perceived Enjoyment".*

When analyzing the findings above without statistical test, it can be presume that for the majority of each typology of users, the level of perceived enjoyment is high. However, when examine the ANOVA test between the typology of users and perceived enjoyment as a whole, that is, taking into consideration all the items, it can be observed that there is no statistical significant effect. In conclusion, all the hypotheses made above were all rejected.

5. Conclusion and Limitations

Why are online networks so important nowadays? How do people adopt and use online social networks? Moreover, what factors influence a person's usage and activeness on more than one online social network? It is through these questions that this research tried to build a logical discussion by combining and analyzing

variables, used in order to understand the adoption and usage of new technologies.

As it was mentioned at the beginning of this dissertation, we are dealing with what is called "Digital Era" where new technologies are rapidly and continuously emerging. Consequently, organizations are forced to adapt according to the changes in the external environment: this means changing the way they do business.

More in detail, many sectors of organizations, especially marketing departments are shifting their ways to promote products and services, and this is where online social networks play a central role.

Consumers are no longer passive as they used to be in past years, they are increasingly dictating the nature extent and content of marketing exchanges. The advantages that online social networks provide in terms of communications influence the field of marketing. These online platforms are providing the tools necessary to create and maintain the valuable company-customer relationship (Hanna et al., 2011). However, there are still unanswered questions regarding this topic and this is the reason why it is important to study and better understand the mechanisms behind online social networks in order to distinguish the benefits that both consumers and organizations may receive.

In order to address the first issue of this dissertation, regarding the way people adopt and use online social networks, two models where exhibited: TAM and TAM2, fundamental when studying the adoption of new technologies.

When analyzing the variables of these models separately, without statistical tests, it was found that responses vary according to gender and age range. Specifically, the adoption of this technology is different for female individuals between a specific ranged in age than for males of the same ranged in age and so on. This is in line with the findings of Hargittai and Hsieh (2010). More specifically, they found that *"gender is an important factor when it comes to explaining intensity of social networks site usage"* (Hagittai and Hsieh, 2010, p.519).

Findings, as mentioned above, can have an important implication for organizations in determining the target of consumers when launching a product or service through online social networks. For example, empirical findings suggest that for the ranged in age between 18 and 21 years old, statistical significant effects on perceived usefulness and perceived ease of use were found, whereas for the other ranged in age individuals different results were observed.

The variables were scrutinized separately according to its corresponding items and the typology of users using one statistical test: the ANOVA test.

It was found that 4 of 12 items of perceived usefulness were statistically significant. This means that the degree of perceived usefulness of the total sample: "to be entertained", "to be updated", "to pass time when bored" and "to know about other's people life", varies according to the typology of users.

Furthermore, the degree of perceived ease of use of the total sample: "easy to communicate with others" and "in overall, I find it easy to use online social networks" were statistically significant. In others words, these two items vary according to the typology of users. The same results were obtained by doing an ANOVA test between perceived ease of use as a whole and gender.

Subjective norm was the only variable of the TAM models that had no significant results. While observing the data in detail without statistical tests, it was observed that the only group of gender and ranged in age to have a positive response was for females between 22 and 25 years old.

An ANOVA test was performed between the TAM variables and behavioral usage. It was observed that the only variable to have a statistical significant effect on actual usage of online social network was perceived ease of use. This might have an important implication when addressing the first issue of this dissertation which underlines that perceived ease of use is positively related to the actual usage of online social networks.

Overall, people might adopt and use online social networks not because they perceived its usefulness nor because people are influenced by society, but because the degree of complexibility of online social networks is low and because they can act as an important intermediary to facilitate communication among people.

As far as the second issue is concerned, Facebook is found to be the most used online social networks among the respondents. The majority of respondents

enter in the typology of users called Omnivores, which means using more than one online social network with a high frequency.

From the results, it was observed that most of the sample was characterized by having strong ties activities, although the number of contacts within one social network was not considered small as they accounted to have more than 500 contacts. It can be inferred that having strong ties does not necessarily mean that the number of contacts within the social network is small. Although, to have a certainty of this statement, empirical studies are required.

Weak activities among the respondents were not found. This result contrasts with my initial belief: by using more than one social network people may be characterized by having weak ties rather than strong ties. Moreover, a high level of perceived enjoyment was exhibited.

However, when analyzing the typology of users with strong ties, weak ties and perceived enjoyment no statistical significant effect was found. Therefore, these variables cannot explain the factors to explain people's usage and activeness of more than one online social network.

To conclude, it is important to notice a limitation on this research: the number of respondents. A significant gap among the typology of users and the number of respondents was noticed. Future research must be performed with a higher number of individuals and a more distributed sample in order to prove the findings obtained in this dissertation. Future research may focus, for example, only on factors like gender and age while explaining the nature of online social

networks. This thesis and the results obtained may contribute to spur and create a direction for further studies in unexplored fields and gaps regarding the topic.

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