Social network games: factors influencing players’ engagement

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Social network games: factors influencing players’ engagement

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Abstract

The business of social network games increase incredibly in the last number of years. With a forecast growth rate of 32% in the next 12 months, it not possible to classify the social gaming sector as a niche. The industry needs to know who gamers are and it is crucial for game developers to find how to engage them with the product.

This study focuses on three factors they may influence users’ engagement. The first factor is the availability of the devices own by a player. The second is the player’s inclination of purchasing virtual goods within the game. Third, the feeling a player experience when enjoying a game. The study has targeted players who use social network games that run on the Facebook platform. Those players were considered the most suitable for this study since the network experienced a high network effect, which increases the users’ probability of interacting with each other’s. Social network games are, as there are named, social by nature, therefore the interaction between players is essential when considering the engagement.

For this research, data has been gathered from 100 social network players in Facebook, and numerous quantitative analyses were performed. Results display that players who purchase in-game virtual good (the spenders) are more engage than those who play for free. There is, however, no correlation between the devices and the engagement. In addition, players seems not feeling part on an online community when playing, indeed they are attracted by the act of playing since they perceive it as an easy activity.

The study aims to contribute to the existing literature pertaining social network games and to emphasis factors that contribute to the increase of the social network players’ engagement.

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Key words: Social network games, players, engagement, mobile devices, virtual goods, behavioral theories
Chapter 1: Introduction

This section aims to explain the reason behind the selection of this research’s topic, which includes a background on the subject and the interest of the researcher. In addition, it is explained how this dissertation has been organized in different chapters and sections. Research objectives, questions and hypothesis are briefly discussed. Limitations and contributions of this study are developed at the end of the chapter.

Background

According to Forbes (2013) Social network game development is the first “hot Industry for startups in 2013”. With a forecast growth rate of 32% in the next 12 months, social network games attract millions of users worldwide. A part from being profitable, the gaming sector is hosting an interesting phenomenon of disruptive innovation:

“We think social gaming will reach new audience and new people, and we think it is disruptive to current models of video games. Because games are provided as a service they can be optimize on the go to improve the product and monetization, and they’re inherently viral because they live on social platforms” (The Business Insider, 2012).

Forecast predicts that money spent on social network games will be 112 billion of dollars in the year 2015. The average time spent playing by social gamers is nine and a half hour weekly and two out of three social gamers are women; 53% of the mobile gamers are women also.

Industries want to know how to make money with this powerful tool. So far, we are aware of players’ behavior and how companies may use in-game advertisement to make a profit. Players can be considered the ones who play social network games. With concerns to the players, the
majority of them (between 95% and 99%) do not pay when playing. Social network games, in fact, use the Freemium business model, which allow users to play for free until they feel the need to have special features. The main goal for the industry has been to understand free users behavior in order to convert them on being “paying” customers. However, free users are also fundamental within the Freemium model as they provide mind share.

Free users are essential, but recent figures display that 85% of social network gamers quit after the first day. Nowadays the challenge for the industry, therefore, has become to understand how to retain customers whether buyers and free users. Beside the fact that users drop quickly, the competition is particularly high. We are in early stages of the “social network game” product; however there are more than 100 social games that run just in Facebook.

The researcher believes that the key word when studying the relationship between games and players is the engagement, intended as the players involvement with the game in terms of time spent playing, especially considering external motivations that can link to engagement, such mobile devices and money spent.

Being the goal of this research to study the factors of players’ engagement in the social network game context, the area of research to which this research intent to contribute is users online behavior. To reach online users, the researcher will develop a quantitative study that targets players between the top two social network game providers, which run on the Facebook platform.

**Interest in the subject**

The researcher is currently working for one of the principal social network available on the internet at the moment. Among the tasks that the daily job required to work on, the researcher has to study users’ behaviors in order to understand how it is possible to engage a determinate sector of the population. Before joining the social network organization, the researcher was an employee of one of the biggest games developer, publisher and distributor company. Within this
organization, the researcher was an employee in the social game - sector department, which is the one that deals with games that run on the social networks. This research is a perfect mix of the areas the researcher has been working on for many years: online engagement on one side and social network games on the other one. It has been an obvious choice for the researcher to undertake this topic for this dissertation since it is an opportunity to reflect in an academic way on what, so far, has been developed under an industry perspective only.

The researcher believes that by developing this dissertation, it may be possible to gain visibility within the work environment and, most important, she will gain more knowledge around the subject.

Last, the researcher is a fan of social games, and she considered herself particularly lucky to work in an area of deep interest. By developing the dissertation on the topics of engagement and social network games, thanks to the teachers of this M.B.A course which leave free choice to the students about the research topic, the researcher feel once again in a privileged position since it is a pleasure to deep dive on this subject.

**Limitations of this research**

The main limitation of this research is that data were gathering only for those users who play social games on Facebook. It would have been impossible for the researcher to target all social network gamers, therefore those who play on Facebook has been reached. Users who play on Facebook are more numerous to gamers of any other social network and, in addition, Facebook offers a unique and extremely strong effect, which is called “network effect” (this concept it is explained deeply in the Literature review) which is the perfect situation to experiments theories undertaken for this study. Finding and conclusions answered to the research questions of this study; however it is needed to be careful when generalizing to other social networks. Since the mechanism behind the social networks are equal it is possible to make the assumption that findings may be generalize on the all the social networks; however it is useful to keep in mind that
respondents have been asked to provide information on their experience when playing in Facebook. It would be interesting for further research to determinate that, even though social networks essentially work on the same way, to identify the differences among on games on diverse social network platforms. In addition, a Non-probability and purposive sample have been used. When using a non-probability sample, since the probability of selecting a case from the total of the population is unknown, it is impossible to generalize on the entire population on statistical ground. The same for the purposive sampling: those cannot be statistically representative.

In addition, the available time to develop this study may be considered as another limitation since it compromised the researcher ability to deep dive in every aspects of this research.

**Major contribution of this research**

Multiple researches have been done on social network games in order to identify why users purchase virtual goods with the purpose of increasing social network revenue. Since free users are equally valuable in the social network games – businesses (as they run with a Freemium business model), this study aims to assign the importance deserved by the free players. This research wants to identify which reason push users to play to social network games, no matter if these are customers (since they purchase) or users (since they do not purchase). In addition, the research aims to discover if external factors (such number of devices players have access to and their availability to spend money possibly) influence their engagement. By the end of the study, the researcher is able to provide games developers with recommendations on how to engage players.

**Methodology**

The method applied by the researcher while developing this dissertation is explained in the chapter number 3, Methodology. Without going into details, positivism is the philosophical position that has been adopted, while a deductive approach has been used. The positive approach is needed when studying social reality and this dissertation is studying a social reality. The deductive approach comes as a consequence since it is deductive by nature. The strategy that will
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allow the researcher to answer to her research questions is the survey, and a mono method has been chosen to collect and analyze data. Since it is aimed to collect a high number of responses, the researcher has opted for a quantitative analysis. Last, a cross sectional research design has been used, since this study is a snapshot over the social network gamers in 2013.

Research objectives

With regards to this dissertation, below are the research objectives:

- Analyze the relationship between users’ engagement and money spent on game play.
- Analyze the relationship between users’ engagement and mobile devices.
- Determinate the main motivation for social network games players’ engagement.

Research question

Three questions have been formulated to conduct the researcher during her dissertation:

R1) Are players who pay (payers) more engaged than players who do not pay?

R2) Are players on multiple devices more engaged than players who play on a single device?

R1) What is the main motivation that push people keeping on playing social network game?

Research hypothesis

For this research, the following hypotheses have been developed:

H1) At the increase of the money spent, the engagement increases.

H2) At the increase of the devices players have access to, the engagement increases.

H3) Users are more engaged if they feel part of the same community.
Organization of the dissertation

As follows, the layout of this dissertation

I. Title page

II. Acknowledgements

III. Abstract

IV. Table of content

V. Table of figures

VI. Chapter One – Introduction. The introduction chapter explains the background of the subject undertaken, the researcher’s interest on the topic and it provides a brief explanation around the study’s objectives, research questions and hypothesis, limitations and contributions.

VII. Chapter two – Literature Review. This chapter helps to develop a good understanding and insight into pertinent previous studies and trends that have emerged that are related to the research area of this dissertation. The literature review has been divided in three sections: i. Online Engagement, ii. Social Network Games and iii. Freemium Business Model.

VIII. Chapter three – Methodology. This methodology chapter contains details about research objectives, questions and hypothesis. It also displays the most appropriate philosophy undertaken, as well as the research approach, research strategy, research choice, time horizon, data collection and sample. Every topic is explained in relation to existing methodology concepts.

IX. Chapter four - Data Analysis and Findings. This chapter includes the quantitative analysis of the data obtained thought the answers to the surveys developed to answer to the research questions.

X. Chapter Five - Conclusion and Recommendations. Based on the findings, this chapter draws conclusions and recommendations.

XI. Self reflection. In this section, the researcher explains how this dissertation has helped to gain new skills and to develop the existing ones. Different types of learners are presented in this chapter and the researcher, after a critical analysis, identifies her in one (or more) of the possible buckets.
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XII. Bibliography

XIII. Appendix
Chapter 2: Literature Review

Introduction
The literature review chapter helps to develop a good understanding and insight into pertinent previous studies and trends that have emerged that are related to the research area of this dissertation. During the draft of this literature review, the following suggestions provided by Dees (2003) have been taken in consideration:

- References and researches have been selected from the ones recognized experts in the area undertaken.

- Considerations have been done to justify and support theories applied to the specific topic of this dissertation.

- Justifications have been made to arguments with valid evidence and a logical manner.

- The research has been supported considering and discussing previous studies that support or opposed to the research’s ideas.

Since the research topic is based on motivation that push users to be engaged on social network games, this chapter undertakes an assessment of the literature review available on the specific subject of online engagement, social network games and theories around the motivation of purchase of virtual goods. Being the subject relatively new, in fact, valid studies have been carried on the motivation that push people on purchasing virtual goods within online games, rather than studying why people play, even though they do not purchase. In this chapter, it is also explained why previous research has been focusing on motivation of purchasing rather that motivation of playing: social network games, in fact, are based on the Freemium business model, which means that the business is sustained by those users who pay for virtual goods. In the last section of this literature review, the Freemium Business model has been presented and, under a critical eye, it
has been proved that also those that do not pay are beneficial for this type of business model. With regard to the online engagement, after providing a valid definition suitable for the purpose of this research, a brief section explains the importance of mobile devices on the concept of engagement. In the section number two, the one about social network games, starts with a description on why and when social games moved to social networks in order to maximize the network effect. In the conclusion, research gaps are explained through a theoretical model.
SECTION 1: Online engagement

Academic definition and practical definition

When talking about online engagement, it is possible to reflex upon interpretations provided by the industry literature and the academic literature. Both practitioners and academic have built theories about online engagement based on the concept of online customer behavior. It is not possible to draw a line on the two different perspectives, although the component that triggers the reasoning is generally based on “the act of sharing” for practitioners and an “affective – cognitive” investment for academics.

With regards to the industry perspective, several studies have been carried on in marketing oriented environments above all. Practitioners, in fact, had to find new ways to tackle consumers’ responses to marketing affords since the introduction of social media, especially platforms like Facebook. Before the birth of social networks, marketing was intended as a one-way communication between two categories – the company and the customers – where companies have total power on the message to share. For companies to lead the new media scene, it is now needed to create a dialogue with the customers, where power and control are shared between the two categories. It is from this new scenario that emerges the importance of engagement: brands have to engage their customers so that they can keep on sharing their message for gaining new customers. The first objectives for marketers should be engaging customers (Evans and Mc Kee, 2010), and this concept has become so important that it has been coined the statement “Engage or Die” (Solis, 2010). Evan and Mc Kee (2010), add that engagement is defined as active participation and it level up customers from a position of consumers to true contributors to the success of the brand. Atherley (2011) states that engagement is active participation where customers create discussion on a specific topic. The industry literature about engagement has not explored the gaming sector deeply. Levy (2010) when talking about Facebook, analyze the fact that games provide a unique engagement opportunity in social platforms since users are able to accept, refuse and share achievements or in-game gifts. Besides this concept of engagement based on the act of sharing, few other researchers have deep dived into the meaning of online engagement by applying the cognitive and the affective aspect, which is more popular in the...
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academic literature. Mollen and Wilson, 2010, affirm the online engagement is the outcome of repeated interactions triggered by the emotional and philological investment a customer has.

The view above is common accepted by the academic literature that has described engagement on “giving someone attention”, in broadly terms. The academic perspective is affective – cognitive driven and it dominates all the literature that does not relate to marketing areas (Brodie et al., 2011). Even though the academic literature agree that engagement has to do with the affective – cognitive aspect, it is impossible to find a common definition for engagement. It appears that there are three main descriptions of this concept:

- Engagement as a complex cognitive process (Mollen and Wilson, 2010; O’Brian and Toms, 2008). This view ponders on the engagement as a process that requires focus, attention and absorption.

- Engagement as an effective component (O’Brian, 2010). This view encompasses the affective component that arise the connection with the object.

- Engagement as “act of sharing” (Evan and McKeen, 2010). As in the industry perspective, this view affirms that engagement is participating and interacting.

The gaming industry offers a unique opportunity to experiment all these concepts on the meaning of engagement, however it is an area in which no much afford has been done yet. It is commonly known that games require focus, attention and absorption, as well as the affective component are extremely powerful when deciding to play a game rather than another one. Since the introduction of social network games (this topic will be explained in detail in the following chapter “Social network games”), the “act of sharing” has become extremely important as the gamers are now
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part of a wider community and they may decide of sharing gifts and achievements with other members of the community.

For the purpose of this research, the engagement is considered as the outcome of repeated interaction triggered by the emotional, philological investment (Mollen and Wilson, 2010). In broadly terms, the time a user spend on playing, which is affected by his willing to play (cognitive component).

Perception

Before researchers started to focus on the definition of online engagement, there was another measurement for tracking customers’ interest towards to online products: the perception.

Perception is proposed as an antecedent of online engagement; therefore it is interesting to analyze its components and characteristics to have the biggest picture of online engagement. The concept of perception has been studied heavily in the last 15 years, since it was considered highly important when building a website. As Ou and Sia (2010) explained that research has found that the presence of three constructs on a website can influence the perception that users have on the product exposed. Eventually, the perception can lead to the increase of the user loyalty. This three construct are: perceived information quality, perceived enjoyment and perceived information quality. This concept of perception that link to loyalty are still used in recent researches, as they are still considered highly important when trying to understand the engagement (i.e. Liang and Yeh, 2010; Cheema et al, 2013; Ou and Sia, 2010).

In the following subchapters, it is intended to provide a brief definition for each perception and to try to provide a possible application for measuring engagement in social network games.
- **Perceived interactivity**

Interactivity is commonly used to describe the psychological state experienced by a user during the interaction with the website (Mollen and Wilson, 2010). A user perceives there is interactivity when it possible to feel control, two-way communication and responsiveness. When users feel in this situation, the website tends to be more successful.

*Application on the gaming industry*: gamers need to feel they are responsible for their action. The more the choices are during the game play, the better.

- **Perceived information quality**

“Because providing information is the basic goal of a website” (Bhatti et al., 2000). Users perceive quality of information provided by a website when they believe they are accurate, relevant, helpful and up-to-date (Ou and Sia, 2010). When users acknowledge that information available on the website match these characteristics, it tends to be more loyal.

*Application on the gaming industry* it is first important to identify what information are in social network games. There is no literature pertaining to social gaming that defines what information is. Information may be identified as the instruction on the way to play. To support this deduction, it is enough to consult the Frequent Asked Questions of many blogs dedicated to social network games. The majority of the questions space between: “What happen if I click on that feature?” till “How can I reach this achievement. Among all the outcomes, this research also wants to fill the gap on what information are indented for social network gamers. In order to validate this affirmation, this study aims to experiment this hypothesis.

- **Perceive enjoyment**

Enjoyment is a strong determinant of intention to use (Van der Haijden, 2004). If the site is not enjoyable, users will gain interest in another site.
Application on the game industry: this concert has been already used in the researches pertaining games. (E.g. Hsu and Lu, 2004; Liang and Yeh, 2010). Those researches have proved that the enjoyment is a powerful feeling that attracts gamers towards game-play.

Engagement on mobile devices

When it comes to engagement in the tech world, it is inconceivable not mentioning the importance of mobile devices. Countless researches have been done on the impact of mobile devices on users’ behaviors (i.e. Barnard et al. 2007; Shin, 2009; Choi et al. 2008).

Those researches are based on the notion of usability, which is the ease of use and learnability of a human made object. Psychologically, users tend to be more engaged to mobile devices as they see them more efficient (they are faster than fix machines), they are easier to learn, and they are more satisfying to use. Those studies have also showed that the mobile devices gain a high level of user satisfactions due to the fact that users find the mobile / software design pleasant. Mobile interfaces in fact, are more intuitive, and the audience seems to be more engaged when the product in their hands can be easily understood.

Few studies have been carried around the relationship between mobile devices and social network games: Schwabe and Goth (2005) discovered that players are engaged by the mobile game design, which reminds of Nojima (2007)’s study on the reasons why players purchase virtual goods. Players are immersed in the game when this is visually entertaining, and the resolution is the correct one.

Baber and Westmancott (2004) first, and Liang and Yeh (2011) then, demonstrate that the intention or playing a game on mobile is effected by perceived ease of use. In particular, Liang and Yeh (2011) identify four key factors that affect mobile gaming adoption: perceived ease of use, perceived enjoyment, social influence and flow. Those factors seemed to interact with each other.
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Liang and Yeh have applied those theories just in China, therefore we are not sure we may be able to apply the same findings in every context.

With concern to this research, the perception of being ease to use linked to mobile devices seems to be a valuable point that increase users’ engagement towards games on mobile.
SECTION 2: Social network games

The social network site and factors of the Network effect

Social network site, that are usually referred as SNSs, are those platforms that:

“[…] allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site” (Boyd and Ellison, 2008, p. 211).

Since the introductions of this type of platforms, social network sites have been able to attract millions of users. According to the latest report on social media provided by Nielsen (2012), there are more than 200 social networks available on the internet at the moment. The first major social network has been launched in 1997 and it was called “Six Degrees.com”. Gradually, the social networking has become a global phenomenon that has reached a massive audience in 2003 with the introduction of sites such LinkedIn, Couch surfing, My Space, Last FM, Hi5, Tribe net, Orkut. The key technological aspects of social networks site are fairly consistent: users need a profile (also known as “account”), they need to share a connection with other users on the same network and finally, they need to be able to create new interaction within the member of the same community. Social network sites, in order to differentiate themselves from other similar sites, started to implement certain features, which would link to a determinate culture. For instance, certain sites have been focusing on a specific topic (such LinkedIn, which allows users to create a network in order to find jobs opportunities), others in order to share a specific format of content (like Flickr, which is based on pictures sharing mainly), and finally, sites that have been trying to implement the connections based on share several interests (as Facebook).

Social networks experience the network effect, which in economics is referred as the effect that one user of a service has on the value of that service to the total number of users (Shankar and Bayus, 2003). It has been noticed that certain goods of services produce a greater value when there are more users consuming those goods or services. There are certain products (or services)
that need to be used with other products at the same time in order to be valuable since they have a limited value (in extreme cases, no value at all) if they are used in isolation. The consumers who take an advantage from these products (or services) compose a network, where the usefulness derived from utilization of these goods (or services) increases as additional users pay for the same good (or services). A network becomes more interesting for further participants since the number of participants increases the value of pre-existing ones.

A classical example of a network in which the concept of network effect is valid is the telephone system. If a single user owns a telephone, the device’s value is equal to zero (except the actual cost of the appliance) since the user is not able to use it. From the time when the number of the telephone holders increases, the perceived value of the single user toward to the telephone increases as a consequence, as it is now possible to use a device to connect with other devices.

In a network effect scenario, the key point is to reach a certain level of participants, which allows those participants to perceive a quantitative value that is bigger than the economic value provided by the service. The minimum level of participants able to trigger this effect is defined as “critical mass”. It has been proved that, once the critical mass has been reached, the network is likely to grow even more since users would invite potential users to be part of the network in order to take an advantage of a more convenient cost/benefits relationship.

**Social network games**

The first clear statement about the meaning of social network games is given by Björk (2010) “Social networks games are games that use social network platform”.

In the last decades, game providers have seen the potential of the network effect, and for this reason they have been creating massively-multiplayer online games (MMOs), own social networking sites (SNSs) and other online hangout (Hamari and Lehdonvirta, 2010). In the first stage of the social network gaming industry, games providers did not take an advantage of
external social network sites. Indeed, providers have been implementing browser games into these communities in which the interaction among participants was possible. For instance, the first commercial MMORPGs appeared online at the end of the 80s, such Island of Kesmai, Club Caribe and Neverwinter Nights. In the 2000s, on the other hand, there was the explosion of SNSs created only for games, such Playfish and Zynga.

In order to maximize the network effect, various game providers migrated to external social networks such Facebook, Google+ and MySpace charts since they could reach a biggest audience. For instance, the average internet user spends around six hours monthly on Facebook and more than 50% of Internet users use Facebook on their mobile phone (Shepherd, 2011). If a game runs on this type of platform, it obviously has more chances to be played by users of the platform itself. Furthermore, the network effect of a game that runs a wide platform is bigger than the same game as a standalone.

In the past, reaching a high score would have been associated with skillful play and a status of success by the individual players, while, since the advent of social network, high scores can be reached mainly thanks to the help of other players, who are willing to receive the favour back. Moreover, these “helps” have been materialized in virtual good, which they can often be purchased for real money.

The born of virtual goods
The network effect has brought the birth of the virtual good, which is one of the social network games’ trademark. Several online game providers started to take tangible images and transform them into virtual images that could be exchanged by users paying real money, becoming virtual goods (Nojima, 2008; Lahdovirta, 2008; Zackariasson, 2009; Hamari and Lehonvirta 2010).
According to Nielsen (2002), in the year 2008 over 408 million dollars have been invested in the virtual goods sector by venture capital firms. In the first six months of 2009, an extra 300 million dollars have been financed.

With regards to the social networks, the traditional business model was based on advertising. In the year 2007, major social network sites have carried out several analyses and the conclusion was that advertisements were not enough to reach an adequate return of investment. Indeed, an addition source of income had to be found; especially after the 2008 USA's economic crisis that has compromised the advertising performance further, including social network and online games. Small and medium businesses, which were deeply impacted by the crisis, started to explore a new way to generate revenues: virtual goods.

According to Lehdonvirta (2009) Virtual goods are understood to refer to objects such as characters, items, currencies and tokens that exist inside various online games and hangouts.

In broadly terms, we can say that virtual goods are an answer to the 2008 economic crisis or an alternative way to generate performance in those markets that did not have a strong advertisement industry, such in Asia.

In the summer 2007, Facebook inaugurated the first version of the application platform, which was able to direct in the same place millions of users that were using applications, including games. In parallel with the creation of the application platform, the virtual currency has been introduced in Facebook. Initially, virtual currency has been launched in order to incentivize new users on using applications after being invited by other users. With regards to social games, users will auto – generate virtual currency by playing (either based in the amount of time spent, ether reaching certain achievements), and they were able to share virtual money obtained with other users. Afterwards, developers have been studied the users’ availability to spend a small sum of money or to complete Cost per Click offers in order to gain addiction virtual currency.
Social network games: factors influencing players’ engagement

The exponential growth of the applications running on social network platforms on Facebook, Second Life, Yahoo!, have contributed to integrate the usage of virtual goods, which have become a common use products purchased by millions of users.

In addition, virtual goods became successful since they do not interfere with the user experience. While online advertisement often compromise the pattern of the online games with interruptions, virtual goods give a boost to the user experience since they allow more actions to be taken or, in general, multiple features.

Theories on why users purchase virtual goods
So far, researches examining social networks games under a user point of view have tried to find a correlation between users and purchases of virtual good. It seems that the way to measure users’ engagement is based on the purchases users’ made. Thus, this is not surprisingly as, since the introduction of the virtual goods, the game providers have been using the Freemium business model. The Freemium business model (as it will be explained further in the Chapter “The Freemium business model) provides users with a free version of a game and the opportunity to upgrade to a “Premium” version purchasing virtual gifts, powers, or any other “boosts” that allow to play more or with certain in-game helps.
Social network games: factors influencing players’ engagement

In the academic literature pertaining to social network games, several studies have been observing user’s behaviors while playing social networks games with the purpose of understanding why users purchase virtual goods.

In the table below, the principal theories on the reason of purchasing developed so far have been presented.

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Reason of purchasing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nojima 2007</td>
<td>Game immersion</td>
</tr>
<tr>
<td>Guo and Barnes 2007</td>
<td>Mix – models</td>
</tr>
<tr>
<td>Oh and Ryu 2007</td>
<td>Pattern</td>
</tr>
<tr>
<td>Lehdonvirta (2009)</td>
<td>Identity</td>
</tr>
</tbody>
</table>

Figure 1: Summary of theories on virtual goods’ purchases

Following, a brief definition for each idea proposed by the authors.

**Game immersion**

Nojima (2007) approaches the topic under an individual/ psychological perspective and he noticed that players reach a certain amount of immersion while playing and, when this happens, they find virtual goods desirable enough to purchase.

The term immersion refers to a psychological condition where the subject continues to practice a determinate activity. It is often combined by intense concentration, and a distorted notion or time and reality. The term is often used when talking about online games, especially MMORPG, since a minimum physical activity is required (moving joysticks, pressing hotkeys etc.) and an extreme concentration is needed in order to play and to interact with other players. Online games have also tried to capture the player attention creating a pseudo familiar pattern, which would remind the player, a real situation (e.g. The Sims Social) or a fantasy reality in which the user would like to live (e.g. Oregon Train).
Mix – Models

The same perspective has been used by Guo and Barnes (2007) which defines the motivations for buying in the mix of different theories: planned behavior (TPB), technology acceptance model (TAM) and the unify theory of acceptance and use of technology (UTAUT).

- Theory of the planned behavior.

The “Theory of planned behavior” (also known with the acronym TPB) has been introduced by Icek Ajzen in 1991. The theory suggests that 1) if people evaluate the suggested behavior as possible, and 2) if they think there is a benefit by performing that behavior, and 3) if they have the perception to be empowered to control the behavior, as a result they will perform this behavior with a higher intention. (Ajzen, 2011 p. 443).

In online games, the planned behavior can be identified as the perception of the user to have the situation under control. In other words to make the player feeling empowered to take decisions within the game, even if it is a feeling only. The theory of planned behavior suits the online gaming industry since it affirms that not always a gamer, when playing, has cognitive or temporal resources available in order to evaluate the situation and act accordingly, but it is often based on a quick and non-accurate analysis of the outcome.

- Technology acceptance model

The “Technology acceptance model” (also known with the acronym TAM) has been developed by Richard Bagozzy and Fred Davis between 1989 and 1992. The model confirms that 1) when a user believes that by using a certain system he benefits his performance (perceived usefulness) and 2) a user feel a system is free from effort (perceived easy to use), as a result the user decides how and when will use this system (according to Davis, 1989, and Bagozzi et al., 1992).

In online games, it seems that, when users perceived the game as useful and it is not difficult to play, it is easier to make virtual goods’ purchases.
- The unify theory of acceptance and use of technology

“The unified theory of acceptance and use of technology” (also known with acronym UTAUT) postulates that there are four core constructs (performance expectancy, effort expectancy, social influence and facilitating conditions) that determinate the behavioral intention of adopting a technology. Those core constructs are also influenced by other four subjective categories (gender, age, experience and voluntariness of use) of each individual. (According to Venkatesh et al., 2003).

In online games, it has been displayed that, especially when performance and effort expectancies are satisfied, users are more likely to purchase virtual goods. Players that feel challenged or they feel they are able to get a reward for playing, are willing to make purchases.

**Pattern**

Oh and Ryu (2007) analyze the game design and they found that positioning item in certain places during the game make them more desirable. The two researchers have based their research on two different cases studies that analyzed two Korean social games, Kart Rider and Special Force, and they have observed the games’ pattern focusing on how virtual goods in there were considered desirable enough to be purchased by players. The conclusions based on this study affirm that, in order to make an item desirable, the following criteria have to be followed:

- The game pattern has to capture the player attention. The game - action has to be perceived as funny and enjoyable by users.

- Introduction of special items to remind of exceptional events. The researchers mention the Christmas time, and they have noticed that, with the introduction of items linked to Christmas during that festivity, users were more willing to spend money.

- Not disclosing the performance advantages of an item. In other words, never let the user know the exact benefit obtain by purchasing a virtual good. An item may give a special boost to a certain
power, and this has to be explained clearly. However, details have not to be disclosed since gamers do not need to feel they need to pay to reach a target. The items need to be viewed as help, and not as a way to reach a target in order to avoid eventual disappointments.

- Balance between free items (those that must be earned by playing, such after a level of time spent within the game or as a reward for unusually good performances) and items that can be purchased with real money. The mechanism behind this thought is similar to the concept of “not disclosure” explained above: users need to feel they are able to reach higher results even though they are not spending money.

**Identity**
Lehdonvirta (2009), studies the purchasing behavior under a community / sociological perspective, documenting that users purchase items in order to communicate their self - identity to members of the same community. According to the researcher, a virtual good purchased personifies an attribute (or more than one) and when the player feels represented by this attribute, is more likely to purchase. The reason behind this belief is that players want to show to other players their personality.
SECTION 3: The freemium business model

How the model works in the gaming industry

According to Teece (2010), the freemium model has been adopted by a large number of software companies. Among the web 2.0, most of social network games use the freemium model.

Freemium is a business model, which implies two versions of the same product or service: one version is provided at no charge, while the implementation is at a positive price (according to Pujol, 2010; De la Iglesia and Gayo, 2008; Hayes, 2008).

A free version of the product is made available to anyone at no cost, while a second version which more features is available for whom is willing to pay

![Figure 2: a representation of the Freemium business model. Adaptation from Anderson, 2010](image)

An example of a games provider that has made a significant business with the Freemium business model is Zynga. Zynga is the largest developer of social games on the web to date. Among the games that became hugely popular among gamers of all ages and all over the world, there are titles such FarmVille, Zynga Poker, PetVille, Mafia War and Cafè World. According to Righscale (2011), Zynga’s Freemium business model is simple and effective: while many of its online games can be played for free, the firm sells virtual goods for real currency to its gigantic user base of gamers. In only six weeks from the launch of FarmVille, for instance, the number of daily active users grew from 0 to 10 million daily. Among this 10 million, a small percentage of them is willing to pay an insignificant sum of money on virtual goods. Anderson (2010) argues that a typical online company sites follow the 5 percent rule: 5 percent of the users (the ones who pay) support
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all the rest. This rule is indeed valid for the social network games: latest reports show that only 1 percent – 5 percent of social game’s audience purchase virtual goods. From the sales of the virtual goods, company like Zynga collects the 90 percent of its total revenue.

**Advantages of the model**

In term of quantity, buyers have more than free users. However, having more does not mean to have a better quality. Indeed, free users contribute for the quality of the product for the entire community.

According to Pujol (2010), users provide the supplier with mind share that allow planning a quality implementation of the free version of the product. On the other side, buyers will be the investor of this idea and they will pay for its realization.

![Figure 3: Pujol Model. From Pujol, 2010](image)

Pujol (2010) describes the “Side A” as early adopters and technically savvy users, who are often knowledgeable enough to never have to rely on extra services or tools that facilitate the usage of the product. In the gaming industry, the “Side A” can be identify as those players that have excellent performance skills and they do not need to purchase virtual items in order to achieve an extraordinary targets. “Side A” plays for free, but they are somehow contributing to the firm development by testing the product, create a wide community and a brand. In the social network world, it is also very popular to contribute coding or bug reports. In Facebook, for instance, every user is able to report a bug clicking on the appropriate link.
In the social games world, it is not clearly defined if the valuable variable for players stays in the qualitative on the quantitative unit. As mentioned in the previous paragraph, Nojima (2007) uses a temporal metric for his analysis, thus it not defines if the value added by paying stays on the fact of playing more or playing better. Certain virtual goods are able to increase the time of playing and, as a consequence, players who purchase spend more time during game-play. In addition, if a player purchases virtual goods, the quality of the game increases since the user has access to features that he would not have for free: those gamers are playing better. It is likely to reach certain achievements faster since paying for special boosts. On the other hand the player, if he does not pay, can try over and over again to reach the same achievement, but it is likely to spend more time doing so since he cannot rely on special boosts. In this case, free users would play more than those who purchased.

**Conclusion**

A substantial part of the research around social network games has developed several theories on the motivations that push users to pay for virtual goods [figure 1]. Yet that purchasing is a great source of revenue, retaining all the customers is equally crucial to games providers. The researcher aims to experiment theories regarding virtual goods’ purchases on all the players in order to find motivations for engagement rather than motivation for purchasing. As regard the second research gap, external factors that may increase users’ engagement, such mobile devices and money spent, have not been taken into account when measuring the game engagement. Even though few researches that consider external factors have been made (i.e. Nojima, 2007; Liang and Yeh, 2011), it seems that none has measured the engagement based on the availability of devices or the availability of financial resources. With regards to the devices, this research aims to discover if the number of devices available for each individual increase his engagement. As well for the financial situation: a player may not be willing to spend on games simply because this is against his will. Furthermore, only the 5 percent of gamers purchases virtual goods. The rest 95 percent of equally important for the business, therefore it is vital to study this big slide of the population. Also, it has not been proved that players who spend are those who play longer.
Last, this research is willing to understand if the concept of *perceived information quality* can be intended as the clarity of the way instruction on how to play are provided.
Chapter 3: Research Methodology and methods

Introduction
The purpose of this research is to find motivation that engage users on playing social network games. Based on this topic, the research develops research objectives, questions and hypothesis, which will be explain in the first part of this chapter. Then, the researcher will display the most appropriate philosophy undertaken, as well as the research approach, research strategy, research choice time horizon, data collection, data analysis and sample.

Research objectives
Saunders et al. (2009, p. 600) defines research objectives as a clear, specific statement that identify what the researcher wishes to accomplish as a result of doing a research.

With regards to this dissertation, below are the research objectives:

- Analyze the relationship between users’ engagement and money spent on game play
- Analyze the relationship between users’ engagement and mobile devices.
- Determinate the main motivation for social network games players’ engagement.

Research questions
According to Sanderson et al. (2009) the research question is a key that drives the research process and often conducts to the research objectives.

Three questions have been formulated to conduct the researcher during her dissertation:

R1) Are players who pay (payers) more engaged than players who do not pay?
R2) Are players on multiple devices more engaged than players who play on a single device?
R3) What is the main motivation that push people keeping on playing social network game?

With regard to the engagement, it has been explained in the literature review that this is measuring with the time a player uses to spend playing. The research question number 1 is aim to determinate the engagement of free users compared to players who pay. Since free players are also important in the Freemium business model, the aim is to determinate if their engagement is high and therefore to justify possible investment by companies when trying to gain new users.

With regard to the number of devices, since mobile devices increase engagement in every business, it is interesting to know if the game sector experiences the same trend. Last, theories on users’ behaviors have been tested in order to understand why players purchase virtual goods. Are those theories also valid when it comes to be engaged, even without paying?

**Research hypothesis**

According to Fraenkel and Wallen (2008) the research hypothesis are forecasts of study results about an association between two or more variables.

For this research, the following hypotheses are developed:

H1) At the increase of the money spent, the engagement increases.

H2) At the increase of the devices players have access to, the engagement increases.

H3) Users are more engaged if they feel part of the same community.

Even though free users are as important as payers in this model, the research believes that, in the game sector, payers are more engaged than free users. This is due to the fact that, as explained in the Literature review, virtual goods may consist in boosts that allow a game to play for a longer time. With regards to the number of devices, it is first needed to mention that the researcher wants to consider those a player has access to. A player may have access to three devices, but playing with two on them only. However, potentially, all of them could be used. From this, the decision to select the metric “number of devices a player has access to”. All this possibilities,
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however, are analyzed in the Data Analysis section. Last, it is hypothesized that users are more engaged if they feel part of the same community since the main reason that push games to became social is that users would be attract by other members of the community to play and they would be willing to share their achievement with them.

Research methodology

The research design can be defined as a strategy for achieving the research objectives and find a response to the researcher’s questions (Cooper and Schindler, 2008).

The researcher is undertaking an empirical study that will follow the structure on figure number 5.
This research is intended to analyze motivations for players’ engagement in social network games. For this reason, it is adopted a positive and ontological philosophy within a deductive approach, using a quantitative data through surveys. In sections below, each choice is explained according to the research onion:

![Research onion](image)

**Figure 6: Research onion. From Saunders et al., 2009**

**Research philosophy**

There are numerous philosophical positions and variants in literature, although the *Positivism* is the one that suits the researcher. Positivism. In fact, is the most suitable method for observing social reality that will lead to a production of credible data and developing hypothesis (Sanders et al., 2009 and Remenyi et al., 1998). A positivism study generally attempts to test theories, in order to increase the predictive understanding of phenomena (Burke, 2007). The researcher has developed the hypothesis from an assessment of the literature review and intends to conduct an empirical examination experimenting theories found in order to identify social network games’ players engagement.

The researcher collects data from asking specific and measurable question on a sample (social game players) and, through a statistical analysis, tackles the finding according to this philosophy.
Social network games: factors influencing players' engagement

Within the positivism approach, the research employs an Objectivism prospective, as she will tackles her audience in the way social entities exist independent of social actors. The researcher presents a specific version of the social reality, but not one that is definitive, as social phenomena are produced through social interactions and they are constantly changing. (Bryman 2008). Even though social interactions are constantly changing, the different aspects that define online players have to be taken objectively (e.g. the usage of mobile devices).

**Research approach**

The research approach taken by the researcher is deductive.

The positive approach is deductible by nature (Saunders et al., 2009). In relation to Robson (2002)’ stages, cited in Saunders et al., (2009), the researcher is progressing through the following phases:

1) Deducing hypothesis from the existing theory on social games.
2) Expressing hypothesis in operational terms.
3) Testing the operational hypothesis on a specific sample of players.
4) Examining the specific outcome of the inquiry and comparing findings.
5) If necessary, add information to existing theory. If not, repurchase intentions.

It is relevant to clarify the understanding of the problem and to precise the nature of it:

“ A deduction is a form of reasoning in which the conclusion must necessarily follow from the reason given; a deduction is valid if it is impossible for the conclusion to be false if the promises are true” (Cooper and Schindler, 1998 p. 702).

**Research strategy**

For this dissertation, the researcher employs the survey as an appropriate research strategy to answer to the research question. Survey refers to the act of obtaining data for mapping and it is a strategy that allows to gives a snapshot to a given point and depends totally on the empirical study (Denscombe, 2007), which is what this study is about. Even though none of the strategy is superior
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or inferior to another (Saunders, 2009), the researcher decides to develop a strategy based on the internet survey.

“ [...] what is the most important is not the label that it is attached to a particular strategy, but whatever it will enable (the researcher) to answer his particular research question(s) and meet his objectives. The choice of research will be guided by the research question(s) and objectives, the degree of existing knowledge, the amount of time and other researches (the researcher) has available, as well as his own philosophical underpinnings.” (Saunders, 2009 p. 141).

The survey strategy is helpful to the researcher, as she discovers motivations that engage players on play to social network games through a survey.

Research choice

The researcher applies a mono method research to collect and analyze data.

According to Saunders (2009) if the researcher chooses to use a mono method, she combines a single qualitative or quantitative data collection technique with a qualitative or quantitative data analysis procedure accordingly.

The research uses a quantitative approach. The quantitative approach choice rises from the fact that this study is, in broadly terms, around customer behavior, and the quantitative approach seems to be the most effective when measuring this unit. In fact, this approach allows to use several scale (such the Likert scale) in order not to influence or manipulate responses’ answers.
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(Sisson and Stocker 1989). Finally, the researcher combines the self-administrative questionnaire made with quantitative data analysis procedure.

Time horizon

Saunders at al. (2009) establish two studies regarding the time horizon: a cross sectional study explained as a snapshot and a longitudinal study characterized as a diary’s perspective. The most adapted study for this thesis is a cross sectional research design. There is no time time-ordering and it is only possible to examine the relationship between variables (Byron, 2008).

The researcher establishes a snapshot over the social networks games players in 2013.

Techniques and procedures

Data collection

The researcher collects primary data using a questionnaire.

Questionnaires are often used for descriptive or explanatory research (Saunders, 2009). The researcher is undertaking an explanatory research that examines and explains the relationship between variable, such number of mobile devices vs time spent on playing. For this reason, the questionnaire seems the most appropriate tool to gather this type of data.

“A questionnaire can allow the researcher to gather data relatively cheaply from a large group of people. [...] and can be given to people to complete on their own or it can be used on face to face basis” (Cameron and Price, 2009 p. 252)

The research intents to reach a high number of social network games’ players (approximately 3 hundreds), thus this is another reason for choosing questionnaires.

The researcher employs Internet surveys. Internet surveys have the same advantages and disadvantages of postal surveys in terms of answer rate and precision (McCabe, 2004), however they are fast and cheaper alternative to post and telephone surveys (Stern et al. 2007). The survey is conducted via the Smart Survey software. The link to the survey is posted in specific websites (further explanation in the Sampling section).
Based on several previous studies, the researcher believes that for Internet mediated survey the likelihood of contamination and distortion of correspondent’s answer is low. The size of the sample can be large and geographically dispersed. The likely response is variable, but it can be listed as 30%. The time taken to complete the collection has been 3 weeks.

The following steps are suggested in order to improve the response rate by Saunders et al. (2009) and Easterby-Smith et al. (2008):

- The questionnaire should be short and easy to understand.
- Explain the purpose of the study.
- Provide incentives for participation.
- Ensure data collected are confidential and anonymous.
- Use reminder to gather more responses.

In the collection phase of this dissertation, the researcher performs the follow:

- 14 questions are formulated and they are placed in a single page.
- The purpose of the study is shortly explained in the section associated to the link posted on the forums and also within the survey itself (appendix 2).
- A material incentive has not been selected, however the benefit the category of the players may gain thanks to the outcome of this research have been presented (appendix 2).
- The link is posted multiple times in order to gain visibility.

The researcher aims to have 50 responses for each of the two groups she wants to reach (further explanation on the “Sampling” section. With a forecast response rate of 30%, the researcher should reach around 100 social network game players. The length of the questionnaire is a page only, since only 14 questions are formulated for this survey.

After developing the online survey, the researcher posts a link in two specific websites, as it is further explained in the Sampling section.
Designing the questionnaire

Saunders et al. (2009) affirm that it is important to use the correct terminology and language when drafting the survey, since an exact understanding of survey question will determine an accurate data collection. For this reason, the researcher has reviewed carefully the literature review before formulate the research questions for the survey, and a terminology which will be understood simply by the sample has been used (more information in Appendix 1).

As suggested by Dilman (2007) quoted in Saunders et al. 2009), there are three kinds of data variables that can be collected with a questionnaire:

- Opinion variables, which represent the respondents’ feeling about a topic.
- Behavioral variables, which represent how the respondents act when in a particular situation.
- Attribute variables, which measure the respondents’ characteristics.

In order to ensure that data collected are answered to the research questions, the researcher follows the six-step process suggested by Saunders et al. (2009):

- Deciding if the outcome of the research is descriptive or explanatory.
- Creating investigative sub-questions for every research question.
- Identifying the level of data variable to answer to each investigative sub-questions.
- Identifying details required for each data variable.
- Developing questions able to capture the data for each variable.

According to the model above, the researcher frames 14 questions to be included in the questionnaire. These include list, category, ranking, rating, quantity and matrix questions.

The questions are divided as follows:

- Question 1 was aimed to determinate if the respondents are eligible for the test.
- Question 2 are aimed to determinate the number of games played by the respondent.
- Questions 3, 4 and 5 are aimed to establish time respondent used to play and the respondent evaluation.
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- Question 7, 8 and 9 are aimed to provide information about the respondent and the devices the respondent has access to/use to play.
- Question 6 and 11 are aimed to establish the respondent action in an ideal scenario.
- Question 10 is aimed to establish the amount of money spent on games by the respondent.
- Question 12, 13 and 14 are aimed at finding respondent’s feeling or opinion based on several statements.

A copy of the questionnaire can be found in the Appendix 2.

Data analysis

Quantitative data are in a raw before being analyzed and they need to be processed to make them useful. In order to turn the information to be exploitable, the researcher has access to different software. Among those, SPSS is the first choice of analysis, even though certain graphs have been performed with Excel. The researcher intents to calculate:

- Descriptive statistics (cross tabulation, frequency and descriptive radio statistic)
- Multivariate Statistic (Pearson correlation).

Descriptive statistic are used to give a numeric answer to the research questions and two different Pearson correlation analysis are performed to verify the relationship between variables.

Quantitative data can be classified into data types using a hierarchy of measurement, often in ascending order of numerical precision (Diamantopoulos and Schlegelmilch, 1997; Morris, 2003). Those different levels of numerical measurement drive the range of techniques available to present, summarize and analyze data. For the purpose of this study, the researcher is expressing **numerical** data.
Sampling

To collect primary data the researcher uses questionnaire on two different populations. The collection of the data for the entire population is impracticably; therefore the researcher needs to select a sample to address the survey (Sunders, 2009).

According to the Casual game association (2012), social network gamers are 779 million, and games that run in Facebook collect the higher number of users. The top 10 content providers reach more than half of the total gaming audience, as in figure below:

<table>
<thead>
<tr>
<th>Company</th>
<th>Daily Active Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zynga</td>
<td>46,042,192</td>
</tr>
<tr>
<td>Electronic Arts</td>
<td>12,367,782</td>
</tr>
<tr>
<td>Wooga</td>
<td>7,518,000</td>
</tr>
<tr>
<td>6waves Lolapps</td>
<td>5,306,300</td>
</tr>
<tr>
<td>King.com</td>
<td>5,270,000</td>
</tr>
<tr>
<td>PeakGames</td>
<td>4,580,400</td>
</tr>
<tr>
<td>Playdom</td>
<td>3,890,330</td>
</tr>
<tr>
<td>Tetris Online</td>
<td>2,100,120</td>
</tr>
<tr>
<td>GSN</td>
<td>1,852,292</td>
</tr>
<tr>
<td>Happy Elements</td>
<td>1,866,700</td>
</tr>
</tbody>
</table>

Figure 8: Facebook top 10 game providers

The researcher’s sample consists in users that play on the games provided by the top two providers, which are Zynga and Electronic Art. The researcher reaches her sample by posting a link to the questionnaire in the Fan Forum of the companies below:

This type of sampling can be defined as Non-probability and purposive sample.

A non-probability sample is suggested when:

“[…] Although a random sample will give us a true cross section of the population, this may not be the objective of the research. If there is no desire or need to generalize to a population parameter, then there is much less concern about whether the sample fully reflects the population. […] This is especially true in exploratory research in which one may wish to contact only certain persons or cases that are clearly atypical”. (Cooper and Shindler, 2009 p. 396).

Since it would be impossible to contact a valid sample for each of social network game’s players, the researcher has judged that contacting those who play through Facebook applications is the finest option, since the network effect reaches its maximum in this scenario. In order to get in touch with Facebook gamers, the researcher has found responded on the forum of EA – Social and Zynga. It is not important for the objectives of this research if the sample selected play games powered by the providers listed above, since the important factor is that respondents play games on Facebook.

A purposive sampling is a non-probability sample that confirms certain criteria. There are two major types of purposive sampling: Judgment and Quota. The quota sampling is used to improve representativeness. The rationale behind quota sampling is that certain relevant characteristics describe the dimension of the population. In the researcher case, being a player of games provided by EA – social and Zynga defines the player as social gamers, thus part of the population the researcher is willing to reach. The researcher is aware of quota sampling’s weaknesses. First, that it gives no assurance that the sampling is representative of the variable being studied. Then, the difficulties on ensure precision of data gathered.
Plan

Practical afford
With concern to the collection of data, the researcher develops her own survey according to a proper research design process. The questionnaire is printed in 20 copies that are pivot tested previously to the use. After the contingent changes, the researcher will develop a digital copy in Smart Survey. The researcher posts a link with a friendly short message in order to attract the gamers in the two forums selected. The researcher selects valid surveys only and pulls data from those into SPSS. Finally, the researcher displays findings in convenient charts, leaving out data that may be superfluous.

With concern to the physical copy of the study, the researcher prints a draft of the study as well as articles than she may need. Then, the researcher requires a correction of the dissertation draft, and finally print and binding of the final version.

Research limitation
According to Saunders et al. (2009) the researcher should reduce the possibility of getting the answer wrong which means that she has to be paid attention to two research designs: reliability and validity.

The researcher applies appropriate measures in order to not fall in mistake, however inevitable limitations concerning this paper can be grouped in three categories:

*Academic literature lacks*: social network games are a new reality with can be related to academic difficulty. The researcher finds challenging to find valuable articles pertaining this topic. As a consequence, it is difficult for the researcher to fill possible gaps arising with complementary academic articles.

*Sampling*: The researcher creates a sample frame that wants to represent the whole gamer’s community, based on the quota sampling. Being impossible to target the selected audience, the researcher targets the two major groups within the gamers’ community. There is no insurance that the data sampling is representative for the community as a whole. This concept has been
presented in deeply in the \textit{introduction} section (Chapter 1) under the paragraph "Limitation of this research".

\textbf{Personal Biases:} The questionnaire is designed by the researcher that tried to minimize the subjectivity of the questions. The researcher follows the questionnaire design process and kept in mind the research objectives; however she is conscious that some questions and analysis are always subjective.

\section*{Research ethics}

Saunders (2009 p.184) defines ethics as the appropriateness of your behavior in relation to the rights of those who became the subject of your work, or are affected by it.

It relates to the way the researcher clarifies and formulates the research topics, the way data are obtained, accessed and stored and finally the way findings are displayed in a moral and responsible way.

The researcher is aware that and she is tackling a wide audience that is supposed to be quite young and easy going. In order to attract them, the researcher uses friendly informal short message link to the survey. As a consequence, the researcher employs a \textit{Pervasive ethical transgression}, which admits the research has element ethically questionable. This occurs whenever participants are not given full details about the research, or when there is variation in the amount of knowledge about research (Punch, 1994).

The researcher also considers:

- Ethical issue during design and gaining access.

Most of the ethical problems can be anticipated. The researcher is not applying any pressure on intended participant, as it is the players’ choice to click on the link for the survey.
- Ethical issue during data collection.

The use of internet while gathering data can generate several issue related to confidentiality and anonymity. Thus, the answers to the questionnaire are linked directly to the researcher survey account. The researcher is careful when transferring data from survey monkey to SPSS in order to avoid a leakage of information.

- Ethical issues data storage.

Personal data are information relating to identified or identifiable persons. The researcher complies with the Irish data protection legislation. The researcher processes person data fairly and lawfully and she will retain them for the specific purpose of the study only. Data are kept secure for the time of the research and they are destroyed after the usage.

- Ethical issues related to analysis and reporting.

The researcher represents data honestly in the extends to the analysis and reporting stages. Conclusion is presented in respect with the category of social game players in order to avoid harassment on their behalf.
Chapter 4: Data Analysis and Findings

Introduction
The aim of this chapter is to process and analyze data in a raw form obtained by the surveys in order to transform them in information that can be used to answer to the dissertation’s research questions. Every analysis, which has been represented in this chapter through graphics or charts, displays a brief description of the findings. It is important to note that, since the number of the respondents taking part of the survey is 100, frequency and percentage do correspond.

Players profiles
All the respondents taken into account have confirmed that they play games on the Facebook platform, as shown in the pie chart below.

Figure 9: Participants who play games on Facebook

The question number 1 “Do you play games on Facebook?” was aimed to select only the participants eligible for this research. Hence, it is possible to say that the 100% of the respondents participating to this survey were eligible for this study.
Question number 2 “How many games on Facebook do you play per week on average?” was aimed to understand if players prefer to play to multiple games rather than focusing on a single one.

The number of games utilize by participants ranks from 1 to 6 maximum.

The chart shows that the majority of the players enjoy 2 games per week in average (34%). Respondents who have selected 1 game only were the 26%. People playing on 3, 4, 5 or 6 games correspond to the 40% of the sample, slightly decreasing from 16% to 2%. This graphic shows that the absolute majority is represented by players that utilize 1 or 2 games on weekly bases (60% in total).
Social network games: factors influencing players’ engagement

Question number 3 “How many hours do you spend playing games on Facebook per week in average?” is fundamental since it represents the players’ engagement. As explained in the literature review, for the purpose of this study the engagement is measured on the amount of time users spend playing.

The majority of the respondents (46%) claims to play less than an hour per week. Respondents who spend between 1 and 5 hours are nearly as many as those who play less than an hour (for a total of the 42%). Users who play between 6 and 15 hours are approximately about one seventh of those who play from 0 to 5. It is clear from this graph that there is a dramatic drop from the bucket 1 – 5 to the bucket 6 -10. This may be explained for the fact that the absolute majority of the users tent to play for less than an hour per game session, as shown in the chart in the next page.
Question number 4 “How much time do you spend for game session on average?” reports that the 88% of the sample plays less than an hour for game session. As these two figures were interpreted, when playing less than an hour for each game session, it is difficult to reach more than 5 hours a week as a total.
Question 7, 8 and 9 were aimed to gather data about the relationship between devices and respondents. It was intended to discover which devices each player has access to (question 7), which of those are shared with another person (question 8) and which they used to play games on Facebook (question 9).

Almost the total of the testers claims to have a smartphone (96%). The smartphone is also the devices most utilized in order to play games: 68% per of the respondents affirm they use a smartphone to access to Facebook games, while 60% for play on laptop, 46% on desktop e 32% on tablet.

Figure 13: Devices owned, shared and utilized by players
Social network games: factors influencing players’ engagement

Proportions between the answers given to these three questions have been made. The scope it is to determinate the percentage of those who share a device that they own. The same calculation has been performed for define the number of players who use a device to play if they own it.

<table>
<thead>
<tr>
<th></th>
<th>Desktop</th>
<th>Laptop</th>
<th>Smartphone</th>
<th>Tablet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share vs access to</td>
<td>45,7%</td>
<td>41,1%</td>
<td>10,4%</td>
<td>61,9%</td>
</tr>
<tr>
<td>Use to play vs access to</td>
<td>65,7%</td>
<td>88,2%</td>
<td>70,8%</td>
<td>76,1%</td>
</tr>
</tbody>
</table>

The following considerations have been formulated:

- Among all the ones that affirm to have access to a desktop, the 66% claims to use it to play games on Facebook. The 46% share it with another person.
- Among all the ones that affirm to have access a laptop, the 88% claims to use it to play games on Facebook. The 41% share this with another person.
- Among all the ones that affirm to have access to a smartphone, the 71% claims to use it to play games on Facebook. The 10% only share it with another person.
- Among all the ones that affirm to have access to a tablet, the 65% claims to use it to play games on Facebook. A high percentage (62) shares it with another person.

Based on this information, it is possible to confirm that the tablet and smartphone are the devices that players prefer to play games. The reason behind this is that that they are more portable than laptop. In addition, as explained in the literature review under the section “Engagement on mobile devices” user may prefer the design of mobile devices over the fixed ones. Also, they perceive mobile devices easier to use than those who are not mobile. However, users who enjoy playing with a laptop are almost as many as those who play with smartphone: there is only a 2% difference between the two categories.
Another topic this research is aimed to focus on is the relationship between money spent on virtual goods. In the literature review, it has been explained how, in a freemium model business, users who do not pay as equally as important as those that make purchases. In a freemium model, in average, the 95% of users do not make purchases while the 5% that pay sustain the business.

Question number 10 “How much money do you spend playing games on Facebook per week on average?” gathers information on the amount of money spent by users on weekly bases.

The 82% of the sample affirm that they do not spend when the play, which is less than the 95% forecasted. This may be due to the fact that respondents were selected from game forums, therefore their level of interest in games may be higher than the player population in general. In other words, if a user is following or posting on specific forums, he is more likely to be an “active” player than those who play with no specific interest on being updated on the latest news about games. The 8% of the players selected spend between 0 and 5 euro on weekly bases, the same percentage for those who spend between 6 and 10 euro. Only the 2% claim to spend from 11 to 15 euro. The maximum amount of money invested on Facebook games is therefore 15 euro per week, since no respondents selected the option “between 16 and 20 euro” and the option “more than 20 more”.

Figure 14: money spent for virtual goods
Players perception

It has been asked players to give an opinion of the amount of time they spend playing (question number 5: “The time you spend playing is:”).

![Figure 15: opinion on the time spent playing](image)

The absolute majority of the respondents claim that the time they spend playing is about right (86%). The 10% of the sample has a negative opinion on the time they spend playing, as they confirm that the time they spend playing is more than they would like. Last, the 4% only think that they do not spend enough time on game – play.
Respondents have been asked if, potentially, they would like to spend more time playing. The 64% deny this option while the 26% confirm that, if they did not have time restrictions such as school, taking care of the family or any other daily activity, they would be willing to spend more time playing.

Figure 16: availability to spend more time playing
Social network games: factors influencing players’ engagement

A cross tabulation have been performed in order to check if gamers than believe that do not spend enough time on games they are willing to play more if they has the chance and the opposite.

<table>
<thead>
<tr>
<th>Opinion on the time spent playing</th>
<th>Availability to play more</th>
<th>Yes</th>
<th>No</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than I would like</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>10.0%</td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td>15.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>About right</td>
<td>32</td>
<td>54</td>
<td>86</td>
<td>86.0%</td>
</tr>
<tr>
<td></td>
<td>88.9%</td>
<td>84.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than I would like</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>4.0%</td>
</tr>
<tr>
<td></td>
<td>11.1%</td>
<td>0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Column Total</td>
<td>36</td>
<td>64</td>
<td>100</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>36.0%</td>
<td>64.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 17: players’ availability to play more based on current time spent.

Respondents provided the more obvious answer: those who feel they spend too much time playing they are not willing to play more, while those who play less than they would like confirm the possibility to spend more time playing.

In question number 7, the sample has been asked do agree or disagree with the possibility to start spending money or to spend more on games (“If you did not have financial restriction, would you be willing to start paying / paying more for playing?"
Social network games: factors influencing players’ engagement

Figure 18: availability to spend money or to start paying on games

The 66% is not available to spend more or to start paying, while the 34% claim that, if they did not have financial restriction, they would be willing start paying or to pay more.

A cross tabulation analysis have been performed in order to check the different type of answers provided to this question by players that do not play (so those that intended this question as a possible starting to pay) and those that already spend money (so those that intended this question as a possible increase of the money spent on games).

<table>
<thead>
<tr>
<th>Availability to pay more / start paying</th>
</tr>
</thead>
<tbody>
<tr>
<td>To spend money</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>No (0 euro)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Yes (From 1 euro to 15 euro)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Column Total</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Figure 19: Availability to spend more or starting playing based on the current expenses

The majority of those do not spend would not start spending not even in a financial restrictions free scenario (the 78%), while those that already spent would be willing to spend more (the 89%).

As this tabulation has been interpreted, the Facebook gamer’s category can be divided in two groups: those that are against paying and those that are not. There is a strong negative perception by the free users about the idea of making purchases for games.

Question number 13 “From 1 to 10, please rank what you enjoy the most when playing games on Facebook” is aimed to understand what users like when playing. This question is similar to the question number 12 “Please mark how you feel when playing games on Facebook” since the focus
Social network games: factors influencing players’ engagement

is on what users like. Enjoyment and feeling have been considered in a different way for this study. In fact, a player may feel that is doing an easy activity, however it does not enjoy it.

From the ten topics that have been questioned, below a weighted calculation.

<table>
<thead>
<tr>
<th>Item</th>
<th>Total score</th>
<th>Overall rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having fun</td>
<td>902</td>
<td>1</td>
</tr>
<tr>
<td>Being challenged</td>
<td>838</td>
<td>2</td>
</tr>
<tr>
<td>Being focus</td>
<td>772</td>
<td>3</td>
</tr>
<tr>
<td>Being relaxed</td>
<td>682</td>
<td>4</td>
</tr>
<tr>
<td>Being rewarded</td>
<td>656</td>
<td>5</td>
</tr>
<tr>
<td>Power of decision</td>
<td>558</td>
<td>6</td>
</tr>
<tr>
<td>Perceived usefulness</td>
<td>362</td>
<td>7</td>
</tr>
<tr>
<td>Having a virtual life</td>
<td>310</td>
<td>8</td>
</tr>
<tr>
<td>Sharing my virtual life with other virtual lives</td>
<td>208</td>
<td>9</td>
</tr>
<tr>
<td>Influencing others with my virtual life</td>
<td>208</td>
<td>9</td>
</tr>
</tbody>
</table>

![Figure 20: players' enjoyment](image)

Items rank first are valued higher than the following ranks, where the score is a sum of all the weighted rank counts.

This table displays that players enjoy having fun when playing a game. Gradually, the enjoyments they have are **being challenged, being focus, being relaxed, being rewarded** and **power of decision** in a decreasing order. There is a drop (from almost 200 score difference) in the last four items of the list: **perceived usefulness, having a virtual life, sharing my virtual life with other virtual lives** and **influencing others with my virtual life**. These last two items collect the same result and they are therefore rank as 9th in the rank.

The aim of the questions number 14 was to ask users’ opinions on ten topics than extrapolated from the literature review *(Do you agree on the following statement on games on Facebook?)*
A Likert scale of four ranks has been chosen to accommodate players’ opinions. Since a taken of position was needed for this question, the neutral option was not provided. Hence, we can categorize as agreeing all those respondents that select the answer Rather yes and Totally, and as disagreeing all those that answer Not at all and Rather no.

In order to evaluate the value obtained by each statement, the weighed mean has been calculated. Each observation (from “Not at all” to “Totally”) has been multiply by a weight (from 1 to 4) respectively, then divided by the sum of the respondents. For each weighted mean, the interpretation has been provided.

Figure 21: players’ opinions for selected statements

1) I like the idea of spending money for playing in occasions that I consider special (e.g. my birthdays, holidays etc.).

**Weighted mean:** \[
\frac{(62\times1) + (14\times2) + (18\times3) + (6\times4)}{100} = 1.68
\]
Interpretation: Rather not. Even though in the literature review has been explained that the personal background is important to determinate his purchasing behavior, it seems that respondents are not willing to spend money in occasions which mean something to them.

2) I believe that spending money on games on Facebook is a waste.

Weighted mean: 3.22

Interpretation: Rather yes. The majority of the players thinks that purchases made in Facebook’s games are a waste of money. Even though respondents were selected from Forums, so they are meant to be highly involved with the game dynamic, the majority of them still thinks spending money in games is a waste.

3) I feel I am able to improve my score only if I am paying

Weighted mean: 2.60

Interpretation: Rather yes. Players believe that spending money on games is a waste; however they perceived they can improve their scores only if they are willing to pay. Since they are not paying, they may blame bad performance for the fact that are not purchasing virtual goods.

4) If I get used to play on a device, it is difficult to switch to another one

Weighted mean: 2.36

Interpretation: Rather not. Users seem to find easy to switch from a device to another device. This may be due to the fact that games are first developed for desktop first, and then for mobile generally. Since mobile devices are perceived easy to use, as explained in the literature review, it should be easy to pass from a desktop to a mobile.

5) When a game I am used to play is developed on a new device, I want to try it
Social network games: factors influencing players’ engagement

**Weighted mean: 2.70**

**Interpretation:** **Rather yes.** This answer confirms the one above. Users are willing to try new devices when possible.

6) I find important that the instructions on how to play are well explained

**Weighted mean: 3.40**

**Interpretation:** **Rather yes.** This answer is extremely important for the purpose of this study. In the literature review has been explained that users who value the information in a website as clear and organized trust more the same website rather than others. It has been supposed that information, in the gaming industry, are the instruction on how to play. We may confirm this idea with moderation since overall this question has obtained a *rather yes*.

7) It is important to know who is part of the online community

**Weighted mean: 1.88**

**Interpretation:** **Rather not.** Users do not agree of the fact that it is important to feel part of an online community. It is important to say that all the statements around the online community (as it will be explained in the following analysis) obtained negative results. This is quite unexpected since, from the literature review, it seems that games migrated to the social network since members would communicate between themselves and engage them on playing.

8) I would like to learn how to play without letting other member of the community know

**Weighted mean: 2.46**

**Interpretation:** **Rather not.** As well as all the questions about the online community, respondents do not seem to care about the online community, not even when it comes to privacy issues.
Social network games: factors influencing players’ engagement

9) I enjoy to share my achievements with other member of the community

Weighted mean: 1.92

Interpretation: Rather not. Same as above, players have no enjoyment to share their experience with an online community.

10) I prefer to focus on a single game, rather than play more games in the same period of time

Weighted mean: 2.84

Interpretation: Rather yes. As well as the average of the games a user play on weekly bases (the 40% of the respondents play one or two games on weekly basis), players confirm again they prefer to play more to again rather than share the time they invest on playing on multiple games.
The relationship between money and engagement

The hypothesis that has been formulated for this question is that at the increase of the money spent, the engagement increases.

Where the **money** is the amount spent on virtual goods’ purchases and where the **engagement** is measured in hours playing.

In order to measure the strength of the linear dependence between the two variable taken in consideration (amount of money a user spend and the number of hours a user play, both in weekly bases), two analysis may be performed: the *Pearson product - moment correlation* or the *Spearman rank correlation*.

To evaluate which of the tests is suitable for this research, it is necessary to analyze the distribution of the two variables taken in consideration.

The two variables considered in this test are:

X: MONEY

Y: HOURS

The variable Y is linked to question number 3 in the survey, in which respondents have been asked to select the number of hours they spend playing on Facebook games on weekly bases. On the other hand, the variable X is linked to question number 10 in the survey, in which respondents have been asked to select the amount of money spent playing on Facebook games on weekly bases.
Since both data on the graphs above follow a Gaussian distribution, it is suitable to perform a Pearson correlation.

As follow, the Pearson correlation between the two variables.

**Correlation matrix**

<table>
<thead>
<tr>
<th></th>
<th>Q3. How many hours do you spend playing games on Facebook per week?</th>
<th>Q10. How much money do you spend playing games on Facebook per week?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q3. How many hours do you spend playing games on Facebook per week?</td>
<td>Pearson correlation 1.577**</td>
<td>Pearson correlation 1.577**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.577**</td>
<td>1</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
Social network games: factors influencing players’ engagement

Figure 23: Pearson correlation matrix for "money" and "engagement"

Sig. (2-tailed) is equal to .000. This value indicated the probability of making a mistake when assuming that the relationship explained above is accurate.

Based on this probability value, it is possible to make the following considerations:

- Since the value is below the established threshold for considering the relationship statistically significant (<.05), it is possible to confirm that the relationship between the money spent and hours playing exists and it is supported.
- It is possible to generalize the result that has been obtained on the entire population.

The Pearson coefficient for the relationship between the hours playing and the money spent is .577.

Based on this coefficient, it is possible to make the following considerations:

- Since the value is included between the coefficient -1 and +1, a correlation between the two variables exists.
- As the value of the coefficient is positive, it means that there is a direct relationship between the two variables: when one of the variable increases, then the other variable increases also.
- The relationship between the two variables is moderated. Since 1 indicates the perfect relationship and .577 corresponds to less than half of that, it is not possible to states that there is a strong relationship.

Based on the validity of the Sig. (2-tailed) and the value assigned to the Pearson coefficient, it is possible to conclude that there is a moderate interdependence between the amount of money users spend and their engagement with the game. Therefore, it is possible to validate the hypothesis that at the increase of the money spent, the engagement increases.
The relationship between devices and engagement

The hypothesis that has been formulated for this topic is that at the increase of the number of devices, the engagement increases.

Where the **devices** are those a user has access to and the **engagement** is measured in hours playing.

The number of devices each user has access to has been calculated by summing the answers given to question number 7 in the survey. The question allows multiple choices, since it asks to the respondents to select the type of devices among 5 choices. As follow, a frequency analysis of the number of devices selected in total within the question.

![Figure 24: number of devices own by respondents](image)

The majority of the respondents have access to 3 devices (38 respondents), while 34 affirm to have access to 2 devices. 6 respondents state to have access to 6 devices only and 22 to 4 devices.
As in the section about the correlations between money and time, in order to measure the strength of the linear dependence between the two variable taken in consideration (numbers of devices a user has access to and the number of hours a user play in weekly bases) two analysis may be performed: the *Pearson product - moment correlation* or the *Spearman rank correlation*.

To assess which of the tests is suitable for this study, it is necessary to evaluate the distribution of the two variables selected.

The two variables considered in this test are:

X: DEVICES

Y: HOURS

The variable number X has been calculated in the section above. The variable Y is linked to question number 10 in the survey, in which respondents have selected the number of hours they spend playing on Facebook games on weekly bases.

![Figure 25: Gaussian distribution for the variables "devices" and "engagement"](image)

Once again, since both data on the graphs above follow a Gaussian distribution is then suitable to perform a Pearson correlation.
As follow, the Pierson correlation between the two variables.

Correlation matrix

<table>
<thead>
<tr>
<th></th>
<th>Q3. How many hours do you spend playing games on Facebook per week?</th>
<th>tot_dispositivi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson correlation</td>
<td>1</td>
<td>.100</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.322</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.100</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.322</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Figure 26: Pearson correlation matrix for "devices" and "engagement"

Sig. (2-tailed) is equal to .322. Since the value above is below the established threshold for considering the relationship statistically significant (<.05), the relationship cannot be considered statistically significant.

Statistically is it impossible to define interdependence between the number of devices users have access to and their engagement. As a consequence, it is possible to deny the hypothesis that at the increase of the number of devices a player has access to, the engagement increases.
Theories on virtual goods purchase applied on engagement

Users are more engaged if they feel part of the same community.

In order to validate this hypothesis, it is first needed to evaluate if respondents feel part of the community. If a reasonable number of players feel part of the community, it is then possible to calculate the relationship between their grade of feeling and the hours spent playing.

Players feeling on the community

The survey allowed gathering information about how users feel when playing games on Facebook. The question number 12 “Please mark how you feel when playing games on Facebook” is a matrix of choices in which respondents could select only one opinion for each topic. A Likert scale of five parameters has been chosen to accommodate users’ opinions.

In the graph chart below players’ responses have been summarized.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Very</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influencing the community</td>
<td>38</td>
<td>40</td>
<td>16</td>
<td>42</td>
<td>2</td>
</tr>
<tr>
<td>Expressing identity</td>
<td>42</td>
<td>32</td>
<td>20</td>
<td>42</td>
<td>2</td>
</tr>
<tr>
<td>Part of community</td>
<td>20</td>
<td>46</td>
<td>20</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>Doing an easy activity</td>
<td>2</td>
<td>34</td>
<td>36</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Doing a useful activity</td>
<td>42</td>
<td>38</td>
<td>8</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Liking the pattern</td>
<td>4</td>
<td>18</td>
<td>22</td>
<td>50</td>
<td>6</td>
</tr>
<tr>
<td>Empowered to decide</td>
<td>10</td>
<td>12</td>
<td>48</td>
<td>22</td>
<td>8</td>
</tr>
<tr>
<td>Rewarded</td>
<td>8</td>
<td>10</td>
<td>66</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Challenged to achieve performance</td>
<td>10</td>
<td>12</td>
<td>14</td>
<td>54</td>
<td>10</td>
</tr>
<tr>
<td>Immersed in the game</td>
<td>6</td>
<td>18</td>
<td>58</td>
<td>14</td>
<td>4</td>
</tr>
</tbody>
</table>

Figure 27: players’ feelings
The only valid consideration that is possible to make by this graph is that the absolute majority of the respondents selected to be “Somewhat” immersed in the game when playing (58%).

In order to estimate the value obtained by each statement, the weighted mean has been calculated. Each observation (from “Not at all” to “Extremely”) has been multiply by a weight (from 1 to 5) respectively, and then divided by the sum of the respondents. For each weighted mean an interpretation has been provided.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1=N.A.A</th>
<th>2= Slightly</th>
<th>3=Somewhat</th>
<th>4=Very</th>
<th>5=Extremely</th>
<th>Weighted Mean</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immersed in the game</td>
<td>6</td>
<td>18</td>
<td>58</td>
<td>14</td>
<td>4</td>
<td>2.92</td>
<td>Somewhat</td>
</tr>
<tr>
<td>Challenged to achieve performance</td>
<td>10</td>
<td>12</td>
<td>14</td>
<td>54</td>
<td>10</td>
<td>3.42</td>
<td>Somewhat</td>
</tr>
<tr>
<td>Rewarded</td>
<td>8</td>
<td>10</td>
<td>66</td>
<td>14</td>
<td>2</td>
<td>2.92</td>
<td>Somewhat</td>
</tr>
<tr>
<td>Empowered to decide</td>
<td>10</td>
<td>12</td>
<td>48</td>
<td>22</td>
<td>8</td>
<td>3.06</td>
<td>Somewhat</td>
</tr>
<tr>
<td>Liking the pattern</td>
<td>4</td>
<td>18</td>
<td>22</td>
<td>50</td>
<td>6</td>
<td>3.36</td>
<td>Somewhat</td>
</tr>
<tr>
<td>Doing a useful activity</td>
<td>42</td>
<td>38</td>
<td>8</td>
<td>12</td>
<td>0</td>
<td>1.90</td>
<td>Slightly</td>
</tr>
<tr>
<td>Doing an easy activity</td>
<td>2</td>
<td>8</td>
<td>34</td>
<td>36</td>
<td>20</td>
<td>3.64</td>
<td>Very</td>
</tr>
<tr>
<td>Part of community</td>
<td>20</td>
<td>46</td>
<td>20</td>
<td>14</td>
<td>0</td>
<td>2.28</td>
<td>Slightly</td>
</tr>
<tr>
<td>Expressing identity</td>
<td>42</td>
<td>32</td>
<td>20</td>
<td>4</td>
<td>2</td>
<td>1.92</td>
<td>Slightly</td>
</tr>
<tr>
<td>Influencing the community</td>
<td>38</td>
<td>40</td>
<td>16</td>
<td>4</td>
<td>2</td>
<td>1.92</td>
<td>Slightly</td>
</tr>
</tbody>
</table>

Figure 28: weighted means for players’ enjoyment
Social network games: factors influencing players’ engagement

This is the way the weighted mean has been calculated (E.g. I feel immerse in the game):

\[
\frac{(6*1) + (18*2) + (58*3) + (14*4) + (4*5)}{100} = 2.92.
\]

As the graph has been interpreted, users agreed only the fact that, when playing, they are performing an easy activity. The majority of the respondents do not take a clear opinion about the feeling of being immersed, challenged, rewarded, empowered or liking the game pattern. Last, the feeling of doing a useful activity and all the statements regarding the online community (belonging, expressing identity and influence) were disagreed by the responded.

**Conclusion**

Players that responded to this survey do not feel part of an online community. Considering only those who has claimed to feel part of the online community, there is no correlation with the time they spend playing.

Only 14 respondents do feel part of an online community and the time they spend playing is not correlated.

<table>
<thead>
<tr>
<th>Time spent playing</th>
<th>Feeling part on a online community</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all</td>
</tr>
<tr>
<td>Less than 1 hour</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>40%</td>
</tr>
<tr>
<td>Between 1 and 5 hours</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>40%</td>
</tr>
<tr>
<td>Between 6 and 10 hours</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Between 11 and 15 hours</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0%</td>
</tr>
</tbody>
</table>

*Figure 29: Players’ feelings based on the time spent playing*
Social network games: factors influencing players' engagement

There is no correlation between the two variables. Users are not more engaged if they feel part of an online community as well as users are not more engaged if they are not feeling part of an online community.

Based on this assumption, we can deny the hypothesis that users are more engaged if they feel part of the same community.
Chapter 5: Conclusions and recommendations

Introduction
This chapter is aimed to explain the validation or the denial of the hypothesis formulated in the introduction (further explained in the methodology chapter) through the findings from the data analysis. It also provides a link between the findings and theories and ideas discussed in the literature review chapter. Recommendations deducted by those conclusions are provided.

Findings and conclusions
The first research question formulated was: Are players who pay (payers) more engaged than players who do not pay?

For this research question, the hypothesis developed has been: At the increase of the money spent, the engagement increases.

Based on the findings display in the data analysis chapter, it was possible to CONFIRM this hypothesis. Gamers who purchase virtual goods spend more time playing than those who do not spend.

In the literature review it has been underlined that there are two possibilities available:

1) Gamers who purchase play more since certain virtual goods are able to increase the time of playing, as a consequence their time during game-play is higher. They also enjoy a better quality of the game.

2) Gamers who do not purchase play more since they need more time to reach achievement that are more likely to be achieved easily by those who pay thanks to special boosts. The game’s quality is not high, but at least it is totally free of charge.

It is possible to say that players prefer to play with a better quality and, the more they pay, the more they are engaged with the game. It seems there is a vicious circle in which users pay to gain
certain achievements, and, once they gain them, they want to reach higher ones, so he pays again and the time they spend playing increases, over and over again.

The second research question formulated was: Are players on multiple devices more engaged than players who play on a single device?

For this research question, the hypothesis formulated has been: At the increase of the devices players have access to, the engagement increases.

Based on these dissertation findings, it is possible to DENY this statement. There is no statistical evidence that a correlation between the numbers of devices a player has access to and his time spent playing exists.

It has been said in the literature review that mobile devices increase the engagement since they are portable (which means accessible in many situations, such daily commuting etc.) and easy to use. As a consequence, the sum of all the devices a player has access to (fix or portable) should have increase his engagement. Also, based on the data analysis developed, users are willing to try new versions of the games in several devices. However, this idea has to be rejected. It may be possible that users are deducting the extra time spent playing on portable devices from the time spent on fixed ones. In other words, they play more on portables and less on fixed ones, so the time they spend playing overall is the same.

The last research question formulated for this study was: What is the main motivation that pushes people keeping on playing social network game?

For this research question, the hypothesis formulated has been: Users are more engaged if they feel part of the same community.

By analyzing the data obtained by the questionnaire, it is possible to DENY the hypothesis.

As explained in the literature review, the latest studies on engagement and social networks claim that users are more engaged when in a community, since other players attract them. Also, it is
extremely important the “sharing” factor: users are sharing their achievements, powers and boosts with other players in order to help them and received the favour back.

Respondents show they have no interest in any activity that is related to the online community. This study has been developed around games that run on a Facebook platform. Since there are millions of users on this platform, the network effect reach its maximum, therefore the idea of being a community should be deeply integrated. On the other hand, it may be possible to justify the negative perception of the online community when regards to games since Facebook is often seen a community of friends. Players may tend to feel in the community only when are surrounded by other players, so in specific platforms developed only for games.

**Recommendations**

Based on this research, it is possible to provide the following recommendation to games developers who are willing to launch their games:

- It is true that free users are important in this type of business; however users who play are more engaged. If there is an investment to be made, it would be more profitable to spend on payers. It is likely that who pays is willing to pay more than before, rather than try to push free players to spend. A same consideration may be valid when granting services. In many cases, the customer service is not able to cover the request of all the players for the high volume received. When prioritizing the requests, it may be worth to prioritize payers, since are those who play the most.

- The number of devices available for each player does not increase their engagement. It may be worth not spending funds in order to create different games for different devices, but customize the same version of the game that will be able to run on multiple devices.

- If the games are launched on the Facebook platform, users are not feeling part of the same community. It may be useful to create a restrict system to put in touch only those users who pay to certain games.
**Conclusion**

Thanks to this study it has been possible to deep dive in the area of interest for the researcher – social network games. As a consequence, the researcher has been able to apply several theories on this business area and to observe phenomena on players. It is hoped that this study can contribute to further research that will be made in this sector and to provide games developers with insights and ideas of improvement.
Chapter 6: Self-reflection on own learning and performance

Introduction
In this section the researcher aims to explain the skills acquired or improved during the process of development of this dissertation. The learning cycle developed by Kolb (1974) and the individual stiles set by Honey and Mumford (1986) have been presented in this chapter in order to evaluate which method has been undertaken by the researcher while approaching the dissertation. Last, the research has tried to assess how the outcome of this analysis can be applied to the researcher’s career or everyday life.

Learning styles
Kolb and Kolb (2005) state that “the concept of learning style describes individual difference in learning based on the learner’s preference for employing different phases of the learning cycle”. The researchers specify that, based on previous research, the individuals shape different learning method during the course of their life and those are influenced by the individual’s personality, type of job, degree of education and specialization.

The term” learning styles” has been coined by Kolb et al. (1971) and describes individual difference in the way people learn. In addition, Kolb et al. (1971) claim that learning, since it makes sense from experience, is a circular process that includes experiences, which are followed by considerations and lesson learnt based on their experience.
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Kolb’s learning cycle is presented in the figure below.

![Kolb's learning cycle diagram](image)

**Figure 30: Kolb’s learning cycle. Adaptation from Kolb, 1971**

During the development of this dissertation, but also in the classes undertaken for this M.B.A. course, the researcher has continuously analyzing experiences, reflect upon those to develop concepts and apply those in the study - course. Classes provided for the Master in Business Administration are especially based on case study, which are real life situations. It is required to the students to develop and theorize the lessons learn deducted by the cases studies and to apply them to other real life situations, which may be news appearing to the most relevant journals or scholars’ experiences in organizations.

Honey and Mumford (1986, cited in Cameron, 2007) developed four different learning stiles, which depends on every single stage of Kolb’s learning process. The reason behind the assumption of four stiles of learning stays on the fact that each individual prefer a stage among the four proposed by Kolb. The four type of learners proposed by Honey and Mumford are:

- **Activists**

  Activists are those learners who enjoy experimenting new experiences. These learners are open-minded on taking new challenges and action immediately when facing a new task. Brainstorming is the preferred choice when tacking new experiences and, for this reason, they prefer to work in groups. They are often defined as *gregarious* and they immerse themselves in the new adventure totally.
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Strengths: their enthusiasm and engagement in the activity.

Weaknesses: their conclusions are not always accurate since they do not reserve time to consolidate their findings. Often they tend to center all the activities around themselves and they do not let everyone in the group contribute equally.

- Reflectors

Reflectors are those learners who consider all the pros and cons when facing a new challenge. These learners tend to be cautious before making any assumption. When working in a group, reflectors are often quieter than other members and they enjoy observing the action making. They need to collect data and information for each topic in consideration before starting to work on it.

Strengths: their tolerance and their critical observation skills.

Weaknesses: their lack of decision-making.

- Theorists

Theorists are those learners who adjust and integrate observation into a complex logical process. These type of learners study theories and they try to spot those theories in a series of fact and events. They are perfectionist and tidy and they work within a pre-establish scheme where everything has to fit. Theorists are extremely objective when approaching a task and they dislike any form of subjectivity.

Strengths: their analytical skills and their logic.

Weaknesses: Their rigidity for anything that does not fit their logical mindset. For this reason, it is often difficult for them to work with activists.

- Pragmatisms

Pragmatists are those learners who are willing to experiment new ideas and theories in practice scenarios. These types of learners enjoy practical solutions for skill development based on the
feedback obtained. Opposite to the theorists, pragmatisms first experiment, and then they drawn theories.

Strengths: their skills to get straight to the point and their realism.

Weaknesses: their tendency to seize first findings for the solution of the entire problem.

**Influence of the learning style on the research**

The learning style that reflects the researcher is a mix of theorist and reflector style. In order to validate this hypothesis, the researcher has undertaken a learning style questionnaire provided during the course “Project Management tools and techniques”. The higher score have been obtained by the theorist style, just followed by the reflector style.

The researcher believes that being in between two learning style is positive since there are more strengths to put in practice. On the other hand, it is also true that there are more weaknesses to take into account. The two learning styles had a huge influence on her approach to the M.B.A. modules and to this dissertation. During the selection of the dissertation’s topic, the researcher has benefited from the theorist strengths of being good at asking probing questions. As well, the disciplined approach that characterizes theorists has helped on being structured on developing the dissertation draft and on the delivery time also. The researcher has planned word count, contents to fit and dead line for each sections based on academic books about the argument. As well as the reason behind the research topic: all the possibilities have been analyzed carefully and the final decision has been made considering personal interests together with the availability of information about the topic. On the other hand, skills that belong to the reflectors have helped the researcher to draw logical conclusions from the data collected and to tie every section of the dissertation research (literature review, data analysis and conclusions) in a logical matter.

The researcher has been penalized by her tendency to slow down when making certain decisions. This dissertation has been developed in a very short time limit. In this scenario, there is no time to stop and reflex about the same concept over and over again like a reflector. As well, the researcher’s low tolerance for disorder and ambiguity has created some difficulties. For instance, during the development of the data analysis section, the researcher aimed to have perfect graphs
By being able to finalize this dissertation, the researcher believes to have been able to overcome her limitations. It has been difficult to find a balance between using researcher’s skills at their best and overcoming weaknesses that may have compromised the draft of the dissertation. The researcher strongly believes that this dissertation has been a great exercise for developing new skills and overcoming limitations, which has concluded a two years course in which those skills and limitation had been faced.

**Development of skills**

During the writing of this dissertation, the researcher has faced some critical experiences, which have been turned into a great way of learning. First of all, even though the researcher wrote a thesis for her previous university degree, this type of dissertation has been totally a new experience. The researcher was never introduced to a dissertation structure before, and terms like “qualitative and qualitative analysis” were absolutely new. It has been though to learn these notions, but this has definitely increased the knowledge acquired in this Master. The researcher has also experienced some issues in order to find a topic to suit a Master level. It has been fundamental to gather information among specialist in the sectors undertaken, asking advices to professors and talking to formal students in order to have an idea of the experience to face.

Among the multiple skills the researcher has developed, the following are the most remarkable:

- **Cognitive skills**

  The researcher has a humanistic academic past. Developing this dissertation, the researcher has finally learnt business models and implications that are applicable for a numerous of professional profiles. The researcher is now confident on stepping up and says her opinion about economic topics at work and in the private life both.
- Research and investigative skills

The researcher has understood the importance of research. A good paper is based on influential articles and primary - secondary researches which can be trusted only if they fulfill determinate criteria. Identifying these criteria was an area of lack, so the researcher has learnt how to find accurate resources that guarantee reliability and precision to papers. This skill improved allowed the researcher to be identified as a *Monitor Evaluator* from her peers recently and it has been considered as a valuable quality. The researcher is able to identify reliable database and professional service networks that can be used for future work related goals.

- Numeracy and quantitative skills

The researcher knew how to pull numbers and stats using different software (Excel, SPSS among all), but she was often unable to fulfill the expectation when it comes to explaining findings and advocacy. Being able to realize a thesis based on quantitative research, the researcher feels now empowered to advocate for the data collected and present findings in an accurate manner.

- Writing skills

The researcher is not a native English speaker, therefore writing the dissertation in English has been a massive effort. There were many occasions during the progress of this dissertation where the researcher faced difficulties. By being able to respect the word count and being understandable, the researcher has improved her writing skills. This dissertation can be used as a proof that the researcher is able to lead project in English to possible work requests.

**Application of learning**

The researcher has a previous experience of over three years in multinational companies. This experience has triggered her decision for undertaking a Master course in Business Administration since the outcome proposed was to expand the knowledge on business related subjects in various
Social network games: factors influencing players’ engagement

scenarios. The researcher can now confirms to be able to identify patterns on several businesses and being able to apply theories learned on real word situations.

The dissertation has been an exercise to improve the time management skills. The researcher is now practical and realistic when approaching deadlines and she is able to prioritize (and reprioritize) tasks depending on the urgency of each.

With the regards to the M.B.A course and all the modules undertaken, the researcher has developed verbal and presentation skills, as well as team working skills. The researcher is now able to identify her role within a group. Nowadays, big companies are in favor of the cooperation between several departments and the researcher is now able to approach the group work with more confidence.

To sum up, thanks to the multiple skills improved and gained thanks to this dissertation and to this Master course, the researcher believes she will be a valuable fit for several roles in different organizations.
References


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## Appendix

### Appendix 1

This chart represents how the bases of theories on users’ behavior or the ideas developed by previous researcher have been reported in the questionnaire in order to be understood by the respondents.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Users’ behavior theories used / ideas</th>
<th>Players feelings (Q12)</th>
<th>Players enjoyment (Q13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nojima (2007)</td>
<td>Game immersion</td>
<td>Feeling immersed in the game</td>
<td>Being focused</td>
</tr>
<tr>
<td>Guo and Barnes (2007)</td>
<td>Theory of the planned behavior (TPB)</td>
<td>I feel empowered to decide my next move</td>
<td>Power of decision</td>
</tr>
<tr>
<td></td>
<td>Technology acceptance model (TAM)</td>
<td>I feel I am doing a useful activity that does not require much effort</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The unify theory of acceptance and use of technology (UTUAT)</td>
<td>I feel I am doing a useful activity</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>I feel I am myself to achieve higher performance within the game</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>I feel my efforts are rewarded within the game</td>
<td></td>
</tr>
<tr>
<td>Oh and Ryu (2007)</td>
<td>Pattern</td>
<td>I feel I like the game’s pattern</td>
<td>Having fun</td>
</tr>
<tr>
<td>Lehdonvirta (2009)</td>
<td>Identity</td>
<td>I feel I am part of an online community</td>
<td>Having a virtual life</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I feel I am expressing my self- identity within the online community</td>
<td>Sharing my virtual life with other virtual lives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I feel I am influencing other members in my online community</td>
<td>Influencing others with my virtual life</td>
</tr>
</tbody>
</table>
Appendix 2

Social network games: why do we play?

Hi and thanks for taking the time to answer this survey. It should not take more than 10 minutes to complete.

The objective of this survey is to find motivation that push people to play social network games.

Remember, your responses will be 100% anonymous and the data collected will be analyzed only by me.

1. **Do you play games on Facebook?**
   - Yes
   - No

2. **How many games on Facebook do you play per week on average?**
   - Less than 1 hour
   - Between 1 and 4 hours
   - Between 4 and 10 hours
   - Between 10 and 20 hours
   - More than 20 hours

3. **How many hours do you spend playing games on Facebook per week on average?**
   - Less than 1 hour
   - Between 1 and 4 hours
   - Between 4 and 10 hours
   - Between 10 and 20 hours
   - More than 20 hours

4. **How much times do you spend per game session on average?**
   - Less than 1 hour
   - Between 1 and 4 hours
   - Between 4 and 10 hours
   - Between 10 and 20 hours
   - More than 20 hours

5. **Time you spend playing in:**
   - More than I would like
   - About right
   - Less than I would like

6. **If you did not have time restrictions (work, School, taking care of the family or any other daily activity), would you like to spend more time playing?**
   - Yes
   - No

7. **Which device(s) do you have access to (tick all that apply)?**
   - Desktop
   - Laptop
   - Smartphone
   - Tablet
   - Others

8. **Please select the device(s) you share with another person - such family member, flatmates etc. (Tick all that apply).**
   - Desktop
   - Laptop
   - Smartphone
   - Tablet
   - Others

9. **Please select which device(s) you use to play games on Facebook. (Tick all that apply)**
   - Desktop
   - Laptop
   - Smartphone
   - Tablet
   - Others

10. **How much money do you spend playing games on Facebook per week on average?**
    - I do not spend
    - Between 0 and 5 euro
    - Between 5 and 10 euro
    - Between 10 and 50 euro
    - Between 50 and no euro
    - More than 20 euro

11. **If you did not have financial restrictions, would you be willing to start paying / paying more for playing?**
    - Yes
    - No
Social network games: factors influencing players’ engagement

12. Please mark how you feel when playing games on Facebook.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Very</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel immersed in the game</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel I am putting myself to achieve higher performance within the game</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel my efforts are rewarded within the game</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel empowered to decide my next move within the game</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel I like the game's pattern</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel I am doing a useful activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel I am doing an easy activity that does not require much effort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel I am part of an online community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel I am expressing my self-identity within the online community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel I am influencing other members in my online community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. From 1 to 10, please rank what you enjoy the most when playing games on Facebook.
1. Most enjoyable to 10. Least enjoyable

- Being focused
- Being challenged
- Being rewarded
- Power of decisions
- Having fun
- Feeling relaxed
- Perceived usefulness
- Having a virtual life
- Sharing my virtual life with other virtual lives
- Influencing others with my virtual life
### Social network games: factors influencing players’ engagement

14. Do you agree with the following statements on games on Facebook?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all</th>
<th>Rather not</th>
<th>Rather you</th>
<th>Totally</th>
</tr>
</thead>
<tbody>
<tr>
<td>I like the idea of spending money for playing to&lt;mile&gt;maintain that I consider special (e.g., my birthdays, holidays etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I believe that spending money on games on Facebook has a positive impact on my life</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel it is more enjoyable to improve my score only if I am paying</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is easier to play on a device, it is difficult to switch to another one</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When a game is used to play is developed on a new device, I want to try it</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I find it important that the instructions on how to play are well explained</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is important to know who is part of the online community</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would like to learn how to play without letting other member of the community know</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I enjoy to share my achievements with other member of the community</td>
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<tr>
<td>I prefer to focus on a single game, rather than play more games in the same period of time</td>
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</tbody>
</table>

Finish Survey