CATÓLICA-Lisbon School of Business and Economics

The strategic impact of social networks on the online gaming industry

Strategic Use of Technology

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Abstract

This dissertation focuses on assessing the strategic potential of social networks by answering the following research question: **Is there any strategic impact of social networks on the online gaming industry?**

In order to analyze the strategic potential of social networks for online games, we identify the main factors that online players consider as crucial for them to keep playing. These factors can either be related to the game's strategy itself, such as all the details, graphics and ambiguity present in online games, or to the social interaction that games enable their members through the creation of communities and communication channels, or to other reasons like the opportunity of playing different roles from real life. After developing a list including all factors that keep players retained to online games, we formulate three hypotheses. Hypothesis 1 states that players keep playing online due to the game's features themselves such as its strategy and graphics, while Hypothesis 2 states that it is the social connectivity present in online games that makes players keep retained to the game. According to Hypothesis 3, on the other hand, players keep playing online due to other reasons such as the possibility of playing different roles from their routine. The three hypotheses are tested in a survey that we conduct to a sample of online players, in which respondents are asked which of the features included in the three hypotheses they consider as crucial to keep playing. They mention that the existence of social interaction in online games is indeed a retaining factor to keep playing. This allows us to confirm the hypothesis that players keep playing online due to the social connectivity present in the games, namely Hypothesis 2

The social connectivity that players consider as crucial for playing online is mostly provided throughout social networks to online games. According to the resource-based view theory, social networks are valuable, rare, non-substitutable and potentially imperfectly imitablesources of sustained competitive advantage in the online gaming industry. As they have the potential of giving an online gaming company a competitive advantage towards its rivals, social networks can also have a strategic impact on the online gaming industry.

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I. Introduction

1.1) Research purpose

According to Datamonitor's report from 2010, the Internet access market has been growing at a high speed, with forecasts of reaching $333.5 billion by 2015 (Datamonitor, 2010). The same study shows that these figures represent a growth of 39.9% compared to the value of $238.3 billion in 2010. In fact, the number of 550.9 million Internet users worldwide in 2010 is expected to grow 26.7% by 2015 to 698 million (Datamonitor, 2010). According to the same report, competition is fierce in this market, as competitors are attracted by high growth rates (Datamonitor, 2010).

One of the categories that have been growing within the Internet access market is the online social gaming (Datamonitor, 2011), especially with the launch of games such as Farmville and Angry Birds. In his research report for RW Baird, the analyst Colin Sebastian forecasted a 10% annual growth for the overall gaming industry worldwide, reaching revenues of $80 billion in 2014. This prediction assumes that revenues of some of the gaming segments will decrease or remain the same. However, it also assumes that mobile and online games will seek an increase of revenues by 15% to 20%, leading in the end to the overall 10% industry growth.

According to the same analyst, both the PC gaming market and social games will continue to grow in 2012, especially with console games incorporating more and more social features. Most of the games are played within social networks that link lots of players all over the world, collecting relationships between users and explaining how they are linked (Wasserman and Faust, 1994). The focus on the social networks' development has been increasing, as the improvement of online and social features as well as new visualization methods have been contributing to shape and change the design of social media tools (Rosen et al, 2010). Another fact is the growing number of members adhering to social networks such as Facebook, where over 500 million members already had an account by March 2011, compared to 1 million members in the end of 2004 (Hua and Haughton, 2012).

Nielsen's study involving 10 global markets shows that over three quarters of people using the Internet spend their time on social networks and blogs (Nielsen, 2011). According to another study made by the same company in 2010, Americans spend almost 23% of their time on social networks and blogs, and the second top way of spending time online is online gaming (Nielsen, 2010). Zynga, the company that launched games such as FarmVille and CityVille on Facebook, had already gathered 238 million players per month in January 2011, which is six times bigger than its biggest competitor, Hasbro (Datamonitor, 2010). Also Nightclub City, developed by

Booyah, can be played on Facebook and has gathered 12 million people since April 2010 (Datamonitor, 2010).

Besides, the need of increasing communication and interaction between users has been leading to the creation of online communities where most users share their interests, personal or professional (Hua & Haughton, 2012). An example of this is in the Nightclub City game, which consists of managing a nightclub or a concert venue. This requires inviting friends on Facebook in order to hire them as co-workers, which leads to the building of an online community within the game and guarantees that members continue to play (Datamonitor, 2011). The fact that these members need to be connected on social networking sites such as Facebook leads us to the question whether having an account there would play a strategic role on their adherence to the games. Furthermore, according to the Forfás report on the Irish games sector from 2011, companies operating in the online gaming industry are looking for an increase in their set of consumers (Forfás, 2011). This study states that the ambitions of the Irish games industry by 2015 are not only its internationalization, innovative and technological improvements, but also a "unique ability to understand the customer". Also, according to the same report, consumers' requirements of a more personalized user experience are contributing to the development of interactive features. Social networks such as Facebook create tools for personalizing contents and stimulate the games design (Forfás, 2011), suggesting that there may be a strategic contribution of social features in online games in general.

This dissertation focuses on understanding the strategic impact of social networks on the value that is delivered to the customer and seeking an answer to the following research question:

Is there strategic potential for social networks in the online gaming industry?

The answer to the research question tells us how the interviewed players perceive social features such as online sharing communities and emotions coming from teamwork, cooperation and competition as critical factors to retain them to the games, which helps us to assess whether social network-related characteristics are strategic in this growing industry.

The results of this dissertation may lead us to the hypothesis that the analyzed features are strategic for companies to compete in the online gaming industry.

1.2)Methodology

The methodology that is applied to answer the research question is divided into two parts.
In the first part, a literature review is made in order to overview the trends that have been occurring in the online gaming industry. Industry reports, such as Datamonitor's reports, the Forfás report and case studies, provide us insight about research highlights in this industry, mainly regarding its growth, its value chain and key factors to players' experience. Also information regarding social networks is provided through articles from journals such as the one written by Lee et al in the Journal of Brand Management (2011). Finally, the main assumptions and ideas of a strategic framework, the resource-based view, are explained so that we have a guideline of how to analyze social networks' strategic potential for the online gaming industry, later in this dissertation.
In the second part of the methodology, a model based on the literature review is developed in order to evaluate whether gaming features provided by social networks have a strategic impact on the online gaming industry or not. This model is developed according to the following steps:

1. Elaborating a list of the characteristics of social networks applied to online games, as well as assessing whether these features are valued by players or not

The literature tells us what features are usually present in online games. In the first step of the methodology, we make a list of these features so that we have a set of characteristics that can possibly make players retain to online games. These aspects can either be related to the game's characteristics themselves, such as its strategy and its graphics, or to social aspects enabled by the game such as cooperation, competition and teamwork, or even to another set of aspects that have to do with other characteristics such as the possibility of playing different roles from real life.
Then, a questionnaire is developed and assigned to different players in which we ask if the features among the list play an important role for them while playing the games. In this way, it is assessed which of the characteristics are valued by online gaming customers. This step allows us to confirm one of the following hypotheses:

Hypothesis 1: Players keep playing online games due to the game's strategy itself
Hypothesis 2: Players keep playing online games due to social connection to other people
Hypothesis 3: Players like games due to reasons unrelated to both individual and collective work

2. Among the most valued features, assessing whether they have a strategic potential for the games

After the first step of the methodology, we get a set of features present in online games that are valued by players, which are included in one of the three hypotheses. The second step consists in assessing whether they play a strategic role in the online gaming industry. In order to do that, we use the resource-based view framework which allows us to understand social network capabilities in the delivery of a sustained competitive advantage. If the social network-related features are valuable, rare, imperfectly imitable and non-substitutable, they can provide a sustained competitive advantage to the online gaming industry.

1.3)Structure

This dissertation is organized into six chapters. The next chapter consists of the literature review, in which several research studies, industry reports, papers and journal articles tell us the facts about the online gaming industry, as well as how value is delivered to players. It also explains how fast social networks have been growing and what has been the impact of sharing communities in different social networks, as well as online games. In the third chapter, we develop a research model by creating a list of features that are valued by online players, according to the information provided by the literature review. This list leads us to the formulation of three hypotheses including all features, mentioned in the second part of the chapter. Chapter IV explains how we get information about players' experience with these aspects, as well as the results provided by their answers. At this point we are able to confirm one of the three hypotheses and to apply the resource-based view to assess whether there is strategic impact for social platforms on the online gaming industry or not. Chapter V contains the conclusion of this dissertation, both summarizing its main findings and giving recommendations for future research. The last chapter contains all references.

II. Literature review

Chapter II introduces us to the main trends and concepts that one should be informed about in order to understand the online gaming industry. First of all, we explain the trends that have been taking place in the online gaming industry, as well as the main factors that are crucial for value creation there. Also the features that are valued by players are assessed so that we get to know more about customers' demands in this industry. Then, we describe the evolution of social networks and give examples of some of the most visited platforms. The issue of the increasing social networks' popularity leads us to the emergence of sharing communities there and consequently to the importance that the enhancement of relationships between members has been assuming. Therefore, network relationships are also analyzed according to the network theory and afterwards the role of online communities in enhancing business relationships is assessed. The last concept we explain in this chapter is the resource-based view, a framework used in order to see whether resources can deliver a competitive advantage or a sustained competitive advantage to a certain company.

2.1) Trends in the online gaming industry

The analyst Colin Sebastian's forecast of 15% to 20% increase in revenues both in the mobile and online games is indicative of the online gaming industry's high financial potential. One of the categories that have been growing within the Internet access market is the online social gaming (Datamonitor, 2011), especially with the launch of games such as Farmville and Angry Birds. Games including social features are also expected to grow in 2012, which will lead to an increasing interaction among members. The fact that games will include more and more social characteristics means that players will have to talk more often to each other in order to make progress throughout the game. Social aspects are part of online games such as Massively Multiplayer Online Games (MMOG), allowing their members to interact with people from different countries. First Person Shooters, driving simulators and strategy are some of the aspects that one may find in this kind of games, and it is only possible to play if the user is online. Another popular type of games consists of Massively Multiplayer Online Role Playing Games (MMORPG), whereby users not only play with each other, but also have the opportunity to assume a character's role within the game. Most players enjoy assuming another person's role as it allows them to think about tasks, responsibilities and problems that are different from their daily grind. In Star Wars Galaxies, for example, players are able to

control how their characters look like in terms of gender, skin tone, age and all kinds of body features such as height, eye color, among others (Yee, 2006). World of Warcraft is the number one MMORPG and already 8 million people have been playing it all around the world since January 2007 (www.blizzard.com/press).

MMORPG include complex combat-oriented collaborations for users that are not beginners anymore. According to the research made by Yee (2006), MMORPG members spend an average of 22.72 hours per week and their high involvement in the games has been leading to the fact that they experience not only positive situations but also negative ones. In fact, 27% of the players asked in Yee's study claim that their most positive experience occurred in such games during the last 7 days, and 18% throughout the last 30 days. Negative experiences have also occurred, with 33% of respondents saying that they have happened during the last 7 days, and 23% during the last 30 days (Yee, 2006).

The games played by Yee's survey's respondents have been including more and more social features, as collaboration among users is needed for them to communicate effectively and build efficient strategies for the game's community as a whole. In addition to these features incorporated in the games, social networks have also been promoting interaction among their users, especially with the creation of games within Facebook (Yee, 2006), the social network that had already gathered 500 million members by March 2011 (Hua and Haughton, 2012). In fact, game development agencies such as EA-Games, Playfish and Zynga signed contracts with Facebook, Myspace and others, which consist of using social networks as their main distribution channels for online games. With the growth in the social gaming industry that has started in 2010, big companies such as Disney have been investing in the industry, expecting to seek high profit. In fact, when we look solely to the US market, already 52% of adults play online games, 21% of which play them frequently (Yee, 2006).

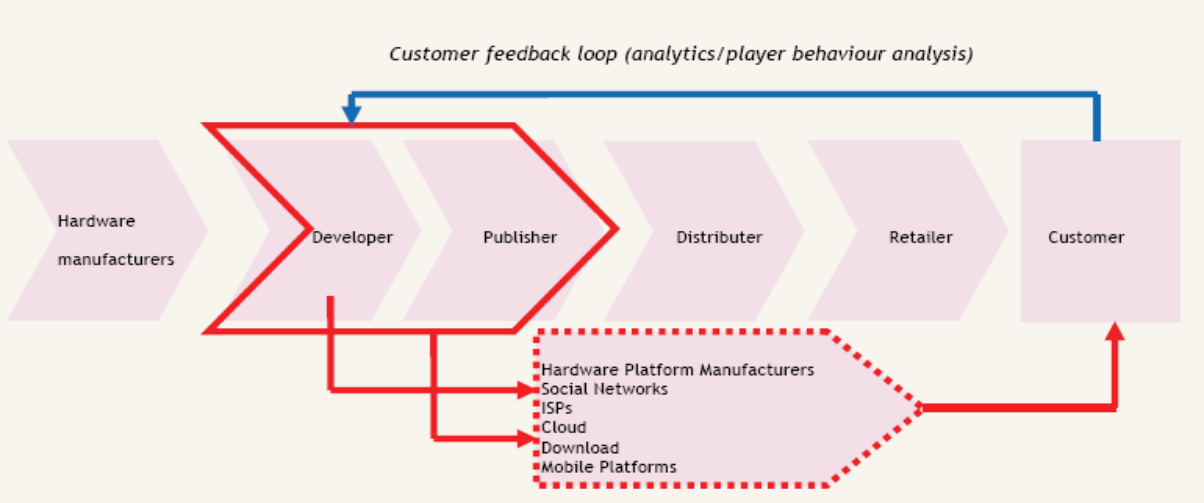
2.2) The value chain in the online gaming industry

In an industry where the low entry costs of production and design make it easy for rivals to compete (Forfás, 2011), a firm needs to develop a strategy for its activities to be able to deliver a competitive advantage (Porter, 1985). According to Porter, the value chain can be used to determine which of the company's activities deliver value by defining which capabilities and resources are most relevant to the business. The ultimate goal of this analysis is to see how value can be delivered to the customer in a given industry and for a certain firm (Porter, 1985).

Looking at the online gaming industry, one may conclude that customers' demand for game features has been changing throughout the years, as they have been demanding more "bite-

sized" games, as well as dimensions that enhance players' connectivity with each other. This change can be identified in the industry's value chain, which has also been altering. As figure 1 shows us, it used to be based on a basic retail distribution model whereby manufacturers, developers, publishers, distributers and retailers played separated roles to deliver a gaming experience to the customer. Today, both the developer and the publisher of the previous value chain are fragmented into a variety of platforms that allow the customer to have access to the games, such as social networks, games' download and mobile platforms (Forfás, 2011).

Figure 1: Emerging games value chain[1]



The new channels created within the industry's value chain have been enhancing the importance to be connected to the customer. In fact, developers and publishers have been aware of customers' needs in order to decide what kind of experience they should provide players while playing games. The new value chain suggests that developers and publishers found other ways to deliver their service to the customer, emphasizing players' strategic role for the development of online games. Consequently, they have been aware that it is in the customer segment that value is created in this industry, which enhances the importance of being connected to players (Forfás, 2011). In fact, the growth of social media has been leading to a new aspect of technology and science within the multimedia sector: social interaction and networking (European Commision, 2010). Many games have been designed to provide interaction, multi-player experiences, personalizing content and virtual goods for purchase, leading to new relationships (Forfás, 2011).

[1] Forfás, 2011

2.3) Key factors to players' experience

The relevance of being connected to the client leads us to the importance of understanding what kind of features and experiences are crucial for players to deliver a good value proposition in the gaming industry (XEODesign, 2004). XEODesign, the leading player experience design consulting company (http://www.xeodesign.com/about.html), performed a study that pointed out the adrenaline and adventure feeling as well as the need for challenge as key factors that players look for in a game. Besides, also the games' structure can be fundamental in players' retention, reflected either in a moment of solitude or in a moment enjoyed with friends. In the XEODesign study, knowing that the experience provided to the players is more important than the story of the game itself, researchers came up with four key ways to create more emotions rather than story cut-scenes. The keys are hard fun, easy fun, altered status and the people factor (XEODesign, 2004).

The hard fun factor is based on being able to create a challenging emotion whereby players see themselves creating strategies to overcome difficult situations and solving problems. Their experience is structured through the pursuit of a goal. Because feedback on success and progress is valued, certain mechanisms such as player progress bars and levels need to be present in the game so that players have an idea of how well their strategies are working and how good their skills are (XEODesign, 2004).

Easy fun is also a key factor to create emotions because players have been more interested in the game's incompleteness and ambiguity rather than having a winning condition whereby they either win or lose. As such, having the opportunity to explore the game's options and to pay more attention to all details seems to be interesting and to retain players (XEODesign, 2004).

Another dimension that aims to create emotions is players' altered status, which consists of changes that players feel inside such as excitement for the challenges they have to face or relief from their routines and common feelings. This key sees games as a therapy, as it makes players distract from their everyday lives and feel something different, which can be more calm or more exciting (XEODesign, 2004).

The forth key to create more emotions is the people factor, which is related to the importance of teamwork and social interaction during games. Some of the players actually say that one of the main reasons why they play is to keep them close to their friends, even if they do not appreciate the game itself. Having the possibility to either compete or cooperate with each other is something that contributes to player-to-player interaction, which ends up retaining players to the games by creating a sense of sharing goals (XEODesign, 2004).

According to the study made by XEODesign, the four previous keys have the ability to unlock emotion and in this way to satisfy players' needs when playing, which keeps them retained to the games. Researchers also found out in this study that people usually play in order to think about issues that are not related to their work or school, and in this way escaping social norms, in order to have a calm and relaxing moment, or to feel the excitement of solving a challenge and testing their skills in the game. Escaping the real world leads players to get the order and efficiency they usually desire for their lives, which can be possible to obtain, as they are able to control what happens in the games (XEODesign, 2004). In fact, some of the players playing online games such as Massively Multi-player Online Role Playing Games claim that games are more interesting than their lives, as they consider them to be places where users have the opportunity to be who they would like to be, possessing the power and skills that they would like to have in real life. Being someone else also includes living in a different environment as well as having a different sex (While, 2007).

The XEODesign study also explains why people quit playing at some point of their lives. It usually occurs that they become aware of their responsibilities, especially when they have to raise a family, and at some point start to think that they waste too much time playing in a fictional world instead of solving the problems of their real lives. Besides, the fear of getting too much addictive to the game and to develop a bad habit makes them quit as soon as they can. Another reason for quitting is related to their objection toward certain games that contain too much graphic violence (XEODesign, 2004).

The importance of being connected to the customer in the online gaming industry makes it crucial for companies to understand how games should be developed and what kind of features are more likely to retain players (Forfás, 2011). After analyzing the characteristics suggested by the XEODesign study that keep players motivated to play games in general, we will now look at the online approach, especially at one of the platforms that creates value to customers, according to the value chain: social networks.

2.4) The evolution of social networks

Social networks' popularity has been increasing throughout the last years, especially because millions of people who use the Internet have been adhering to social networks and consequently forming communities there. On the other hand, those who did not find any special interest in the use of Internet have just become frequent users because they have adhered to a social network (European Commission, 2010).

Beyond Facebook, one of the top social networks worldwide, also other social network platforms have been created within the last decade. Friendster, founded by Jonathan Abrams in 2002 in Malaysia, was primarily used to share online content such as messages, photos, videos and comments among the platform's members. The interaction between users that was continuously promoted enabled them to meet each other, know about each other's profile and activities and even to date other members. In June 2011, Friendster was redesigned as a social gaming platform, with 115 million members visiting it and nearly 90% of the platform's visits coming from Asia. It ended up being the most visited social network in countries such as Singapore, Indonesia and Thailand (http://en.wikipedia.org/wiki/Friendster).

Another social networking platform is MySpace, founded in 2003 and firstly led by the CEO Chris DeWolf, Josh Berman, the president Tom Anderson and a group of resources and programmers that worked for eUniverse, the company which owned the platform. Also Brad Greenspan, eUniverse's founder and CEO, was responsible for the whole project. After being acquired in 2005 by News Corporation, it became the world's most visited website for social networking, having more visits in the US than successful websites such as Google. Only Facebook was able to surpass MySpace's incredible number of visits in 2008. MySpace's number of members adhering to the social network has then started to fall, and in June 2011 Justin Timberlake and Specific Media acquired the website for nearly $35 million (http://en.wikipedia.org/wiki/Myspace).

Orkut is the most visited social networking website in Brazil, accounting for 59.1% users, and India, with 27.1% users, in 2011. Created by one of Google's employee, Orkut Büyükkökten, it has approximately 66 million users. Also in Estonia the social networking website has been gathering a lot of members, having ended up as the most popular social network there. In 2010, however, Orkut's popularity declined due to the adherence of a large number of Indians and Estonians to Facebook. Nowadays it is still owned by Google Inc and used for members to continue establishing relationships with their real and online friends (http://en.wikipedia.org/wiki/Orkut).

The Russian social network VKontakte, also known as a "Facebook clone", was founded by Pavel Durov in 2006 and is now one of the most visited platforms in Russia. Beyond the network's similar functionalities to Facebook, it also allows members to share files through the torrent technology (http://en.wikipedia.org/wiki/VK_(social_network)).

The number of social networks has been growing at such a high speed that most of the top websites in the world are either social networks or possess social networking features. Some

of these websites such as LinkedIn have been created with the purpose of connecting users for potential professional collaborations (European Commission, 2010).

While an article written by Hays in the Wall Street Journal states that internet has the potential to damage relationships by promoting social isolation, there are many other authors that see social networks as a way to enhance interaction between their members. For example, Hays' view that the absence of physical presence and face-to-face communication can lead to a certain degree of disconnection is contrary to Baym's perspective that if those relationships actually fail with absence of physical presence, they were already facing problems (Baym, 2010).

2.5) Sharing communities within social networks

The increasing emergence of social networks that occurred in the late 1990s led to the creation of online platforms that allowed groups to interact, developing new relationships and an increasing sense of belonging to a community. Although most books and articles on digital community have not come to a common definition regarding the concept, Wellman defines communities as relationships whereby members are able to expect any kind of help from each other (1988), suggesting that the term "community" is related to the support that a group can provide to and receive from its members (Baym, 2010). In fact, Tajfel and Turner argue that the existence of a shared identity within a group can be critical to the creation of a community (1986), which emphasizes the importance of the sense of group membership and common interests within it (Baym, 2010).

With the increasing empowerment of virtual communities enabled by the internet, companies operating in several industries have been aware of the relationship effects that communities have on their members and have consequently been using them to enhance the relationship with their customers (Hagel and Armstrong, 1997). Virtual communities have actually made it possible for businesses to improve their interaction with consumers, empowering them and in this way influencing the dynamics of business relationships (Lee et al, 2011). These groups are called "brand communities" as their members usually discuss issues related to a company's product, service or to the consumers' lifestyles and interests. In this way, it is the brand that leads to the development of the community (McAlexander et al, 2002; Algesheimer et al, 2005). In fact, the study performed by Lee et al in the Journal of Brand Management (2011) states that a brand community is essentially constituted by a given company's brand, the membership which is created through a relationship between customers and the brand, and also the communities, whereby members develop and retain relationships through the brand,

without facing any geographical barriers that could eventually exist between members. Brand communities end up creating a greater proximity between customers in the sense that people within the same group tend to share their experiences of the company's service (Lee et al, 2011). According to Fernback (1999), communicating with consumers online consists of a cost-effective marketing strategy and can contribute to improve customers' loyalty to the brand, as well as to seek information from them that might be useful to improve both customer service and the image of the brand.

SAP online community is an example of a brand community of SAP, the leading global ERP software provider. It was created in October 2000 with the goal of developing interaction and knowledge sharing between professionals and business executives worldwide (Info, 2001). In fact, it ended up being a platform where members had the opportunity to talk about their ideas and problems as well as to entertain each other, which contributed to a better peer-to-peer and customer-to-SAP relationships. Also the company's brand awareness of solutions, strategic market intelligence and purchase decisions were improved and opportunities were created to attract SAP's target worldwide (Nikolic, 2002).

2.6) The network theory

With the development of relationships with other members online, researchers have already started to explore and analyze relationships through network theory (Wellman and Frank, 2001). Coming from graph theory in the mathematical field, the network theory has been used in many other areas (Burt, 1992; Wasserman and Faust, 1994). The network that the theory approaches can include different kinds of relationships such as a business relationship between customers and executives, a behavioral interaction between friends or a family relationship, for example between a child and its parents (Lee et al, 2011). When examining networks in the internet, not only the level of the relationship among the people needs to be taken into account, but also the relationships' positional aspects and homophily (Wellman and Frank, 2001).

The level of the relationship can be assessed by measuring both the strength of tie and density (Burt, 1992; Rowley, 1997). According to Marsden and Campbell (1984), the strength of tie consists of an individual feature which frequency, quantity and quality of interaction between members can be either weak or strong. Burt (1997) argues that a strong tie can reflect a close friendship between the network users, whereas a weak strength of tie shows that there is less interaction between members. As strong ties can lead to kinship and regional or occupational communities, among other benefits, the relationship among members can be maintained

through emotional commitment when the ties become stronger (Granovetter, 1985). Granovetter's embeddedness perspective (1985) tells us that a strong tie can lead to a certain degree of emotional attachment. In fact, according to Aron and Westbay (1996), a person that feels a higher attachment to someone or to a group of people within a network is usually more connected to the relationship than others who feel a lower attachment.

Another factor that can help us to measure the level of the relationship is the connection density. From a dense network one may conclude that relationships are cohesive (Coleman, 1998) and that members are connected to each other (Marsden, 1993). The increase of the quantity of members within the network leads to an increase in density (Marsden, 1993), implying the existence of more relationships with other members. In this case, each member of the community plays a stronger role (Axelrod, 1984; Greve, 1995).

Regarding the relationships' positional aspects, one of the measures used to analyze them is centrality, which indicates the position of a certain member in relation to other users within the network. Through this feature one may observe whether members are able to control the information flow in any community (Freeman, 1979; Wasserman and Faust, 1994). In this sense, when centrality is high for a specific member, it is assumed that this member has a great ability to control interaction within the network, being also the closest user to the other members (Rowley, 1997). Also the degree of centralization is used to examine relationships' positional aspects. Centralization refers to the communication flow through a certain member. When centralization within a network is high, the members who lead it also have a high level of centrality and therefore each one's role is crucial (Scott, 1991). However, according to Lee et al (2011), a network that only focuses on a few people is likely to have a negative impact on users' behavior toward the community.

The other characteristic of communities being examined is homophily, which can be defined as the level of similarity within members of the same network (Hoyer and MacInnis, 2004). When members of the community have common attributes, they are likely to have a greater interaction, which shows that similarity can lead to a higher level of communication in a group (Davis and Meyer, 1998).

2.7) The importance of online communities in building and maintaining relationships with consumers

As the example in the gaming industry has already showed before in this dissertation, literature mentions that companies have been able to strengthen their relationships with customers through an online network (Prahalad and Ramaswamy, 2003) and therefore there has been a need to focus research on the attraction of customers to brand communities, as it is the example of Muniz and O'Guinn (2001) and other studies that focus on the key success factors of brand communities (Lee et al, 2011).

The study presented by Lee et al in the Journal of Brand Management (2011) demonstrates that the network theory can be applied in order to examine the success of a brand community. It is concluded that the degree of emotional attachment influences key factors to the success of a brand such as intention purchase a product again. Both the strength of tie and the density of network members, as well as the degree of centrality have a positive impact on the emotional attachment to the community. From a high level of density the study recommends brand community managers to do an effort to increase communication between network members, as well as community members and the site's administrators. Another suggestion for these managers is to determine who the people with bridging roles in the community are, as these are able to affect positively the success of the network, and afterwards to develop a relationship with them. These people usually possess a high centrality. Also homophily should be taken into account when analyzing the success of a community, as the sharing of common knowledge may contribute to form a group identity and unify the network (Lee et al, 2011).

The study clearly shows us that a brand community's structural characteristics can affect brand building and maintenance of a relationship with customers. Companies with well-managed brand communities are likely to emphasize brand awareness and increase brand equity especially by improving customers' loyalty, which leads companies to the retention of relationships with their consumers (Lee et al, 2011). This retention can be reflected in the level of intimacy that a company is able to maintain with its customers (Dindia, 2000), which can be useful, not only to keep interacting with loyal customers and understanding their perception of delivered value, but also in crisis situations where people have greater budget restrictions and are therefore forced to make choices between brands. In unfavorable economic situations, firms are interested in keeping connected with customers so that they choose the firm's products or services and also give companies some feedback regarding quality (Lee et al, 2011). Having the opportunity to seek information from clients and using knowledge about customers' habits and becomes therefore critical nowadays to be able to predict consumer

behavior and consequently deliver the kind of service that customers expect to get (Forfás, 2011).

2.8) The resource-based view

The resource-based view can be applied to analyze any source of sustained competitive advantages, especially by looking at a firm's resources and assessing whether they are strategic to the firm or not (Barney, 1991). According to Daft (1983), a firm's resources include all kinds of capabilities, assets, knowledge, among others, present in the company and that can be used to increase its strategies' efficiency. If the firm is the only one adopting a certain strategy without being followed by any other competitor in the market, it is considered to have a competitive advantage towards rivals. When the strategy actually creates value to the firm and cannot be duplicated by any other rival, it is defined as a sustained competitive advantage, at least during the period of time in which it cannot be copied. Having a sustained competitive advantage over time is crucial for firms to ensure their long-term performance. In this sense, the choice of what kind of resources firms in a given industry should use must be strategic so that the benefits that derive from their use can be maximized (Barney, 1991).

Barney's theoretical model starts with the idea that companies operating in a given industry may be heterogeneous regarding the strategic resources that they manage, implying that resources among firms in the same industry do not need to be similar to each other. Besides, the model assumes that such resources may be immobile across companies, which ensures that heterogeneous resources last longer, as they are not passed from a firm to another. Furthermore, according to Barney's resource-based view, resources should be valuable, rare, imperfectly imitable and non-substitutable in order to deliver a competitive advantage or a sustained competitive advantage (Barney, 1991).

A firm may have several attributes that help it to improve its performance, but these attributes only become resources when they are valuable. This only happens when these attributes have the capability to take advantage of opportunities as well as neutralizing threats within a competitive environment. If they do not possess this capability, the attributes can only be considered sources of competitive advantage, but not resources (Barney, 1991).

According to the resource-based view, being valuable is not enough for a resource to be considered as a source of competitive advantage or sustained competitive advantage – it is also important that the firm adopts a strategy with this resource which creates value to the business and that is not possessed by other rivals. The resource should therefore also be rare. In fact, if other firms possessed the same resource, they would probably exploit it in the same

way and adopt a similar strategy to it, which would end up not differentiating any of the companies (Barney, 1991). Adopting common strategies for a resource among firms would only be useful if their aim was to create competitive parity in the industry. In this case, it would be useful to use similar strategies in order to spend as much as rivals on advertising and ensure their economic survival (Barney, 1989).

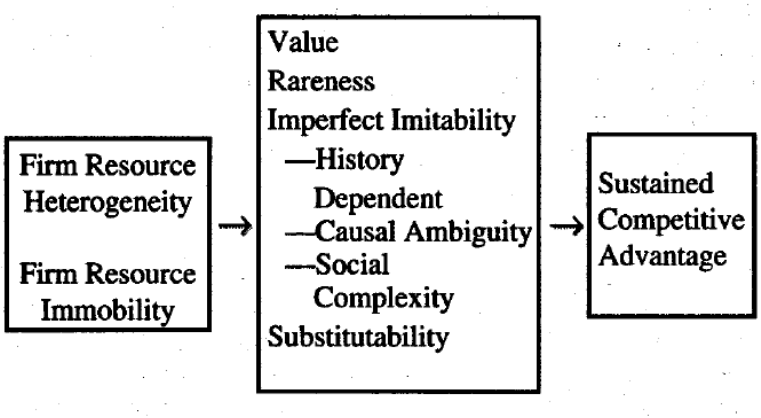
According to Barney (1991), resources that are both valuable and rare can already be qualified as a source of competitive advantage. Firms that possess valuable and rare resources are often seen as strategic innovators, as they are able to develop strategies that create value for their business and that use resources that competitors do not have access to. However, if rivals are able to obtain such resources, they cannot be considered as sources of sustained competitive advantage. Being imperfectly imitable allows a firm to be the only one able to obtain a given resource. In order to be imperfectly imitable, it is important that the resource depends upon unique historical conditions, meaning that the ability of exploiting a resource depends upon its place in time and space, and a firm that does not possess this feature is not able to obtain the resource. Such historical conditions may include events as a new management team taking over the business (Barney, 1991) or the strategy that it adopted in order to reach its current performance, suggesting that the industry structure itself is not enough to explain the firm's performance (Arthur et al, 1984). Also the relationship between a firm's resources and its sustained competitive advantage should be difficult to understand by the firm's rivals so that it becomes hard for them to adopt the same strategy for its resources. This is allowed through causal ambiguity, which is a reason why some firms are imperfectly imitable. The last factor through which a company may become imperfectly imitable consists of its social complex phenomena, which constrain others' ability to imitate its strategies. Phenomena such as a company's reputation among both clients (Klein et al, 1978) and suppliers (Porter, 1980), culture (Barney, 1986), as well as interpersonal relationships between managers (Hambrick, 1987), can be included in the firm's social complexity. In fact, even if there is no causal ambiguity and in this way rivals can understand which resources directly lead to a sustained competitive advantage, such understanding does not imply that competitors are able to create an effort to obtain these resources (Barney, 1989). Firms should already possess the capability of obtaining valuable resources beforehand (Barney, 1986), which can occur if they base their competitive advantages in socially complex phenomena, thus constraining rivals' ability to imitate (Barney, 1991).

Another implication of Barney's resource-based view is that resources should also have the quality of being non-substitutable, in the sense of using a resource that cannot be easily substituted by another one that competitors may use. If our rival is able to implement the

same strategy as us, but using different resources, then our resources are substitutable, strategically equivalent and consequently are not able to create a sustained competitive advantage. Rivals can opt by creating either similar or extremely different resources in order to implements the same strategies as our firm. For example, if our company forms a specific top management team with the aim of reaching high financial results, and our competitor imitates us by creating a similar top management team, it is able to adopt the same strategy as us. In another situation whereby our firm has a charismatic leader with a clear vision of the future (Zucker, 1977) and our competitor also has such vision, however using strategic planning processes instead of a visionary leader (Pearce et al, 1987), both companies can also adopt the strategy for the future. Although the charismatic leader and the strategic planning processes can be strategically equivalent, the ways through which goals are being achieved are different. Still, they are clearly substitutable for one another in order to achieve the same goal, meaning that our strategy of having a charismatic leader will not lead us to a sustained competitive advantage (Barney, 1991).

Figure 2 summarizes all the assumptions for resources that are implied in Barney's model, mainly regarding the empirical questions that should be thought of before conclusions about a firm's sustained competitive advantage are drawn (Barney, 1991).

Figure 2: The relationship between resource heterogeneity and immobility, value, rareness, imperfect imitability and substitutability, and sustained competitive advantage[2]



[2] Barney, 1991

If all theoretical conditions demonstrated in the tables of figure 2 are met, then a firm's resources have a strong potential of being considered a source of sustained competitive advantage, leading to its long-term performance (Barney, 1991).

Chapter II gives us an overview of the online gaming industry's main trends and of how customers' demands for games have been evolving, which now allows us to extract information regarding the features that are most valued in such games. This chapter is extremely useful for us to develop a list of the most important aspects that keep players retained to online games. Literature shows us that not only the game itself is interesting for online players, but also the social connection that it provides. Chapter III explains how we develop our research model including that list, which is useful to understand what kind of features keep online members playing games.

III. Development of the research model

As stated in the introduction, the main goal of this dissertation is to assess whether there is any strategic impact of social network characteristics on players' retention to online games or not. In order to understand that we formulate a model by developing a list of social features that may influence players' motivation to continue playing games. These features are based on the literature review of Chapter II of this dissertation. In fact, some of the social features included in our model have been pointed out as being relevant to players, according to studies such as the XEODesign study (2004) mentioned in the literature review. The purpose of this model is to provide an insight regarding the key characteristics that keep players retained to the games. These characteristics are not only related to social interaction, but also the game's strategy itself, as well as other factors. As the features have many differences between them, we group them into three hypotheses in the second part of this chapter. Then we explain what aspects are common to the features belonging to each hypothesis, as well as the meaning of the confirmation and rejection of each hypothesis.

3.1) List of features in online games

In the second chapter of this dissertation, literature shows us that the emergence of social networks has been leading to an increasing adherence of members, and consequently to the creation of communities whereby people interact with each other. Communities are therefore the main factor that keeps social network users connected to each other (Baym, 2010), giving the opportunity for members' emotions to develop. However, also the game's strategy and members' progression throughout the game play an important role for people to keep retained to the games (XEODesign, 2004). Beyond these reasons there are also other factors such as the opportunity to relax from everyday pressure that are valued by players (While, 2007). Given the variety of reasons that exist for members to play games according to different reports and studies, the literature review allows us to extract the ones that are most valued by online players. After having analyzed the information provided by different authors, a list is proposed which summarizes the main factors that motivate people to keep playing online:

- Strategy, challenge and problem solving

Many players enjoy the feeling of having goals to accomplish within the games, for which they have to develop strategies, some of them complicated. The "hard fun" dimension pointed out

by the XEODesign study (2004) is related to the challenges, strategies and problems that players like to solve in order to overcome the game's obstacles. They strongly value the fact that strategy and creativity are needed in order to succeed rather than luck. Players can see how much they have won and how good they are through game features such as levels, player progress and player controls (XEODesign, 2004).

- Ambiguity, incompleteness and detail

The factor "easy fun" mentioned in the XEODesign study (2004) as being relevant to some of the players includes a sense of curiosity and a willingness to solve problems while playing games. These players find it crucial to be involved in mysterious situations whereby they need to explore new places and look at all options available to solve gaps. They prefer to be forced to look at unusual and unlikely gaps rather than winning the game without effort (XEODesign, 2004).

- Attractive graphics

The MMOG survey performed by Gareth While showed that the production of graphic upgrades strongly keeps players motivated to play the games (While, 2007). There are application programming interfaces such as Microsoft DirectX that are responsible for game programming on Microsoft platforms. For example, one may create 3D scenarios and implement video mapping features by using Direct3D (http://en.wikipedia.org/wiki/DirectX). DirectX allows users to play within more realistic scenarios, where features like the lighting can be emphasized in order to keep players involved in the game. In the MMOG survey, some of the respondents stated that attractive graphics were important factors that made them play the games (While, 2007).

- Playing alone

The MMOG survey found out that some of the games' members prefer to play on their own rather than with other people in order to increase their leveling time within the game. They also value the importance of independence, as they do not need to rely on anyone when playing on their own. Players stated in the survey that playing in a group would only be crucial for them in order to complete a hard quest or to get players free from dungeons. We can easily conclude that the members interviewed in the survey are more interested in the game itself than in playing within a community, as their main goal is to improve their performance and they see little advantage in playing in a group (While, 2007).

- Showing progression throughout the game

Some of the respondents in the study made by Nicholas Yee such as a 48-old man claimed that it is important to know how they are evolving throughout the games, mainly because feeling advancement and progression keeps them motivated to play. In this way, it becomes clear for them how they should continue building their strategies, as well as what kind of mistakes they should not repeat (Yee, 2006).

- Teamwork, shared goals, camaraderie

The conclusion of the fourth key "the people factor" mentioned in the XEODesign is that many members play in order to interact with each other. In this sense, working in a team and sharing goals is more important for these people than the game's features themselves. Players claim that it is not the game that keeps them addictive, but the game's social side, that is, the people. Feelings of camaraderie, teamwork and the enjoyment of having common goals make them continue playing (XEODesign, 2004).

- Spending time with friends

According to the MMORPG survey made by Nicholas Yee (2006), some of the respondents such as a 31-old woman say they play online games in order to have some fun with their friends, as this way of entertainment is cheaper than other options. The 31-old woman answered that she is used to play with her husband. The advantages that came with this experience were that it made them talk about game strategies, which improved the couple's interaction with each other (Yee, 2006). In fact, according to the fourth key "the people factor" mentioned in the XEODesign study (2004), some players say that they do not enjoy playing games, but they see them as a reason for inviting friends to their houses in order to play, or simply to spend time with other people.

- Cooperative emotions

Examples of MMORPGs such as EVE Online and World Of Warcraft show us that communities can work pretty much like groups in real life, as the problems that arise within games tend to be similar to those in reality. As such, there are the so called "good people", consisting of members who usually help others such as noobs (new users) during the game (While, 2007). Looking at the example of Star Wars Galaxies one may see that members' entrepreneurial attitude leads them to distribute several roles throughout different people. In a game whereby the processes of doing research about their resources, building factories and selling goods to

others are extremely complex, it requires time and skills to finish all the steps. Therefore, the distribution of the roles of brokers, manufacturers or retailers helps members to finish the steps in a quicker way, and communication between them is crucial so that product strategies can be developed. In this way, cooperation between users guarantees an efficient flow of production chains. Due to the complexity of the job and the time spent working on each step and with each other at the same time, some of the players even feel like they are working as if it was a second job (Yee, 2006).

- Competitive emotions

In MMORPGs there are not only "good people" but also "bad people" which consist of members who develop a sense of competition in order to win the game. They do this especially by killing the noobs, as these players are usually less skilled than more experienced ones and therefore easier to get rid of (While, 2007). According to the XEODesign study (2004), not only cooperative modes but also the competitive ones contribute to a bigger emotional experience for players.

- Feeling more emotions when playing in a team than playing alone

While some of the players asked in the MMOG survey stated that they prefer to play on their own rather than with other people (While, 2007), other members that were interviewed for the XEODesign study said they feel more emotions when playing within a community. For the XEODesign study's respondents, new emotions and behaviors emerge when playing within a group, contributing to a feeling of excitement that comes more often and more intense. The excitement felt is bigger when playing with their online friends than when playing alone. This dissertation tells us whether our respondents agree with the MMOG survey's conclusion that playing alone is more rewarding (While, 2007), or the XEODesign survey's conclusion that playing in a group entertains them more (XEODesign, 2004).

- Better communication than in real life

The existence of a communication channel within MMORPGs enables players to develop hyperpersonal interactions, which consist of more intense, salient and intimate interactions. Communication channels allow members' self-presentations to be well prepared as players do not interact in real-time. Members have therefore the opportunity to work on the message's content in a more careful way as if they were interacting in real-time. Besides, they tend to answer to each others' messages, contributing to a bigger intimacy between them. In fact, game situations whereby trust building is necessary actually contribute to the enhancement of

players' relationships with their friends or partners, as they get used to rely and count on others. Some of the interactions that take place during games even end up in real-life relationships, starting with a date between the two players. In the MMORPG survey performed by Nicholas Yee, 15.7% of male players and 5.1% of female players stated that they had dated another member of the game (Yee, 2006).

- Influence of other players

Some people start playing online games because others stimulate them to do so. In Yee's MMORPG survey a girl that had already played 248 hours of games said in the interview that she started doing so because everyone else was playing. Besides, some of her friends started playing the games later because she wanted them to join. Although they enjoy playing, she never thought that they could join only by themselves, which shows that other people's influence can lead others to start playing games (Yee, 2006).

- Expanding list of friends on social networks

One of the reasons why people play online games is that players can make new friends while interacting with them and talking to them about game strategies (Yee, 2006). This consequently leads to an expansion in their list of friends on social networks such as Facebook.

- Change in internal state while and after playing the game

The third dimension "altered states" of the XEODesign study is related to the players' feelings of clearing their minds while they are overcoming a level during the game. Games are therefore seen as a "therapy", as they entertain members during a while, which then changes their internal state and allows them to avoid boredom. Emotions related to excitement, relief and the sense of being good at something that is important to some people, that is, the specific game they are playing, naturally emerge to some of the players asked in the XEODesign study (XEODesign, 2004).

- Playing different roles from real life

Some of the online games such as most MMORPGs allow users to act as if they were somebody else while playing the game, as the game's scenario requires them to have certain skills and to assume the role of a given character. Many players enjoy the opportunity of being someone else for a while, as they consider it as a way to relax from their daily grind (While, 2007). Gender swapping, for example, occurs frequently during MMORPGs and gives members

the opportunity to put themselves in the opposite sex member's shoes in the game's situations, as well as learning how to behave while assuming the character's role (Turkle, 1995). According to Yee's study on the psychology of MMORPGs, people such as a 28-old woman said they enjoy being someone else during a certain period of time. For example, a 42-old Army Officer defined himself as an aggressive and assertive person in reality. During games he has the opportunity to be more quiet and sensitive of others' feelings, which helps him understand others' attitudes and actions better and in this way become a better human being towards others (Yee, 2006).

3.2) Formulation of hypotheses

The key features within our list are important for players to keep playing games, as well as very different when compared to each other. Some of them are solely related to the game's strategy itself, the game's graphics and its ambiguity and incompleteness. Players that value these aspects usually keep focused on solving the game's gaps while having fun, or they are only interested in winning the game. If they choose the latter, most of them prefer to improve in the game by themselves (While, 2007).

On the other hand, other players are more interested on the social side of the game, as social interaction and the opportunity of communicating with friends or even strangers give them an extra motivation to play with each other. Some of them like to help each other, while others enjoy competing with other players and destroying others' characters in the games, in order to win (XEODesign, 2004).

Still, there is a third group of reasons that keep players motivated to the games, which are related to games' features that have nothing to do neither with teamwork and time spent with friends, nor with the individual work and games' design. The third group of factors is related with emotions felt by players during the game such as relax and the opportunity to play a character's role (Yee, 2006).

Given the information provided in the literature review, this dissertation is based on the fact that players keep motivated to play the games due to the three groups of reasons, which can be formulated into the following hypotheses:

Hypothesis 1: Players keep playing online games due to the game's strategy itself

Hypothesis 2: Players keep playing online games due to social connection to other people

Hypothesis 3: Players like games due to reasons unrelated to both individual and collective work

The features of the list of this dissertation's model can be distributed throughout the three hypotheses, as some of them relate to the social side of the games, while others have to do with the game itself. In order to analyze which of the features mentioned in section 3.1 of this chapter are valued by online players, a survey is made to them.

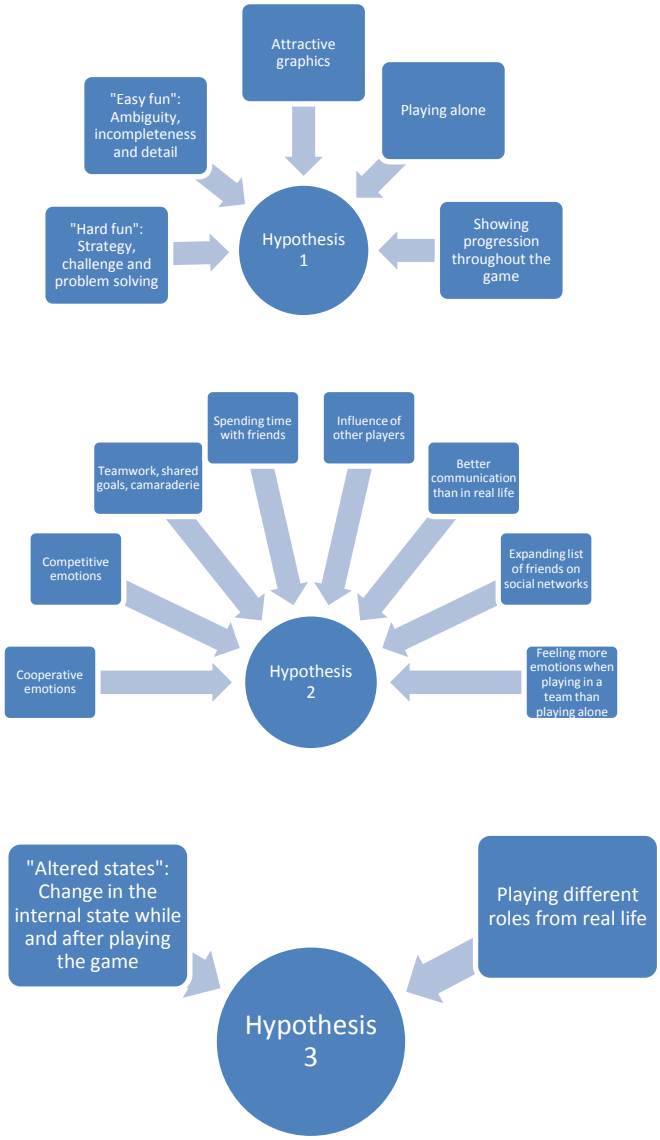
It is asked in the questionnaire if players would still value the game features "Strategy, challenge and problem solving", "Ambiguity, incompleteness and detail", "Attractive graphics", "Playing alone" and "Showing progression throughout the game" if there were no social interaction with other members. Respondents also have to say whether "Attractive graphics" keep them more involved in online games, thus motivating them to play. As Figure 3 illustrates, these game features contribute to confirm or reject Hypothesis 1. If players say that they value these game features more than social interaction, their presence in an online game is enough to keep members motivated and therefore Hypothesis 1is confirmed.

We also ask if members play in order to fulfill social features like "Spending time with friends", "Feeling more emotions when playing in a team than playing alone" and "Teamwork, shared goals, camaraderie", as well as whether such features are more important than just completing the game's tasks. "Cooperative emotions" are tested in a situation of a war game described in the survey in which respondents have to say if they would cooperate with others in order to get better results in the game. We also aim to know whether players enjoy "Competitive emotions", and if they do, whether the enjoyment feeling is related to competition with other people. Besides, it is asked if online players usually influence members and if it is important for them to be influenced by other people in order to adhere to a game ("Influence of others"). Finally, our respondents have to say if they prefer to communicate online rather than personally ("Better communication than in real life"), and if expanding their list of friends on social networks by making friends in online games is crucial for them to keep playing ("Expanding list of friends on social networks"). If respondents say that these social features are crucial to retain them to online games and more important than game features, that they enjoy both cooperation and competition with others and that being influenced by other players, communicating online and making friends in online games are important aspects, then Hypothesis 2 is confirmed, as social features can be viewed as key aspects to retain customers in the online gaming industry (Figure 3).

Hypothesis 3 is only confirmed if both "Change in the internal state while and after playing the game" and "Playing different roles from real life" are proved to be relevant to players in online games. In order to figure that out, we ask them if they enjoy the feeling of playing characters' roles online, and if they do, what kind of personality they assume. It is also asked in the survey whether forgetting about real-life problems is important to members when playing online, in

order to test the feature “Change in the internal state while and after playing the game”. If respondents say they enjoy playing different roles in online games and they play in order to forget about their problems, Hypothesis 3 is confirmed, as these features contribute for players to keep playing online (Figure 3).

Figure 3: Game features distributed among the three hypotheses



Our main goal is to understand which of the three aspects retain most players to the games: the game's characteristics included in the features of Hypotheses 1 and 3 or the fact of being connected to other players. It may happen that features belonging to different hypotheses are considered as crucial for respondents to keep playing online. In that case, one should compare between percentages of features within each hypothesis, and then decide what the strongest hypothesis is. The one with the highest percentage of features considered as crucial for members to keep playing is then confirmed. One should also take into account that the answer to our research question is only positive if Hypothesis 2 is confirmed. On the other hand, if either Hypothesis 1 or Hypothesis 3 is confirmed, there are other aspects more important to players' retention that are not related to social characteristics, and therefore there is no strategic influence of social network features in the online gaming industry.

The development of the research model is crucial for us to understand what kind of aspects may retain customers in the online gaming industry. These aspects may be either related to the game's characteristics themselves or the social interaction that they provide. We grouped all features into three hypotheses so that we can conclude later in this dissertation in which of the three groups online gaming companies should invest more when designing games.

IV. Data collection and model discussion

After having formulated three hypotheses in section 3.2 of chapter III, our aim is to see which of the three can be confirmed and which ones are rejected according to online players' preferences, which they demonstrate in a survey. In this chapter, the results of the survey are presented. After doing an analysis of the survey's results, we then summarize the main interpretations regarding all features of the list of this dissertation's model. In the end of the chapter, the resource-based view mentioned in our literature review is applied so that we are able to answer our research question and thus conclude whether social network-related features play a strategic role in the online gaming industry or not.

4.1) Data collection

In order to test the three hypotheses mentioned in chapter III, quantitative research is performed so that results can be analyzed under the most objective way possible. A questionnaire is made to a sample of online players, enabling us to derive relationships from the information given by respondents. In fact, the collection of quantitative data allows us to test propositions, which results tell us whether our hypothesis is accepted or rejected. It is a deductive method of doing research, as we can analyze whether the data collected from the questionnaires accepts or rejects the theory that social network characteristics have a strategic impact on the online gaming industry (White, 2000).

4.1.1) Survey execution

In order to get respondents' opinions regarding their experience while playing online games, we performed a survey asking whether all features included in the list mentioned in section 3.1 of chapter III are important for them to keep playing or not. The survey made to the players also includes open-ended questions such as a question about their nationality, which indicates whether the results can apply to other parts of the world rather than just Portugal, and also about the type of role they assume in the game, if it is a different role from the options that are given. Besides, the questionnaire is short and questions are simple and easy to understand, as each question talks about one issue at a time, which is another requirement mentioned by White (2000).

The questionnaire was available on Facebook during five days."Yes" and "no" answers are present, which makes it easy to organize the information throughout graphs and tables (White, 2000). Features such as "Spending time with friends", "Attractive graphics", "Playing different roles from real life", "Teamwork, shared goals, camaraderie" and "Change in internal state while and after playing the game" are supposed to be answered using "yes" and "no" answers, so that players say whether they value these features or not. In this part of the questionnaire respondents are also asked if they prefer "Ambiguity, incompleteness and detail" without social interaction, or if they only play if there is some interaction with other members.

To some of the questions a 4-point Likert scale is used so that respondents tell us to what extent they agree or disagree with the sentences. An even-point scale is available so that respondents do not have the opportunity of staying neutral to any issue and in this way tell feel forced to make a decision about their preferences (Likert, 1932). "Feeling more emotions when playing in a team than playing alone", "Spending time with friends", "Strategy, challenge and problem-solving", "Better communication with online friends", "Expanding list of friends on social networks", "Attractive graphics", "Strategy, challenge and problem-solving" and "Influence of other players" are asked using a 4-point Likert scale to see whether our respondents mostly agree or disagree with the value that these aspects create to them.

Other techniques are used in our survey to get responses so that respondents do not get too bored when telling us their experience while playing online. A war game scenario is created in our questionnaire in order to evaluate the social feature "Cooperative emotions" and multiple choice questions are made to analyze both "Playing different roles from real life" and "Competitive emotions".

4.1.2) Survey sample

According to White (2000), surveys should be representative of the whole population we aim to explain with our results, which in the case of this dissertation consists of online players. With Facebook being a social network present at an international level, we were able to get responses from users of different countries, ages, gender and experience playing online games. Such diversity in people's characteristics allows us to apply the results to many people playing online all around the world.

A sample of players, namely 130 people of 19 different nationalities, answered the questionnaire, as it is extremely time-consuming and expensive to get information from the global market of online players. Having people of 19 nationalities answering our survey allows

us to extract the conclusions to players playing also in other countries and not only in Portugal. 87 out of the 130 respondents are Portuguese, while others claim they come from other countries.

Regarding the gender of our sample, 57.69% of our online players are male, while the rest female. Besides, we were able to get answers from people of all ages, with the majority of respondents (nearly 68%) being between 18 and 25 years old and only one person (0.77%) being more than 65 years old. Such diversity in both gender and ages enables us to draw conclusions to players of all ages, both male and female.

Also people with different experience playing online answered our questionnaire, with the majority playing less than one weekly hour and 10% more than 9 hours per week. Some players claimed they play between 1 and 9 hours as well, which allows us to make conclusions regarding online players with different kinds of involvement during online games. The diversity in gender, age, nationalities and experience playing online that we can find in our sample makes it representative to the players' market all over the world, as it enables us to make conclusions regarding players with different demographic characteristics.

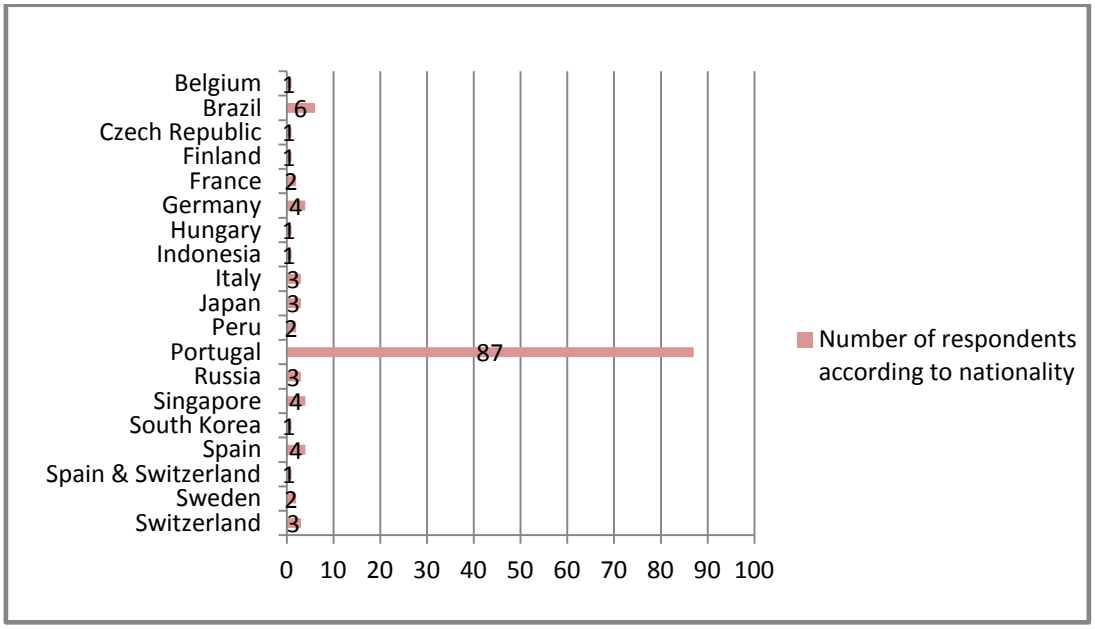
4.2) Data analysis

Figures, graphs and tables are used in this section in order to compare the data provided by the survey's respondents. The importance of each of the features of the list made in this chapter is analyzed so that we conclude which ones are able to keep our respondents retained to online games.

4.2.1) Demographic information and players' experience with online games

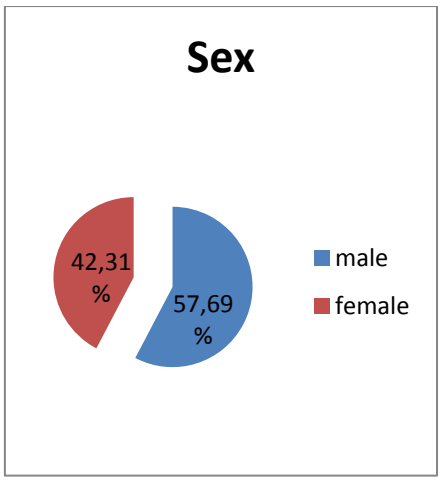
Most of our respondents are Portuguese, as the survey has been made in Portugal and therefore it is more likely that Portuguese players have access to it. Still, we were able to seek answers to foreign players coming from a variety of countries all over the world. Graph 1 shows us that players coming from other 17 different countries including Brazil, Singapore, South Korea, Germany, among others, are also contributing with their experience in online games to our sample. One of our respondents even claims to have double nationality (Spanish and Swiss), which proves a high degree of variety of cultures among players.

Graph 1: Number of respondents according to nationality

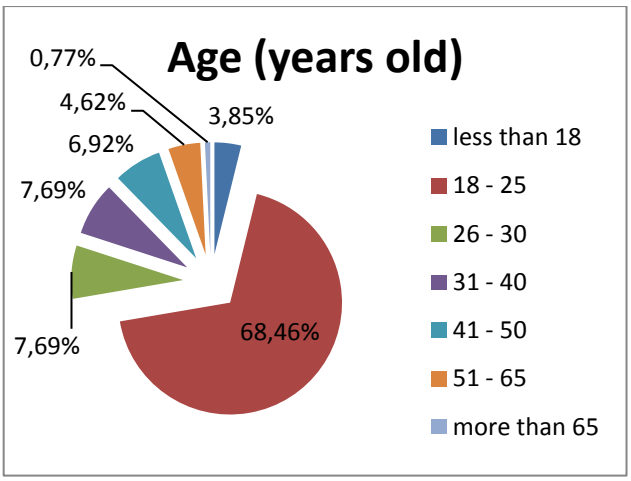


Most of our respondents are male, although the difference between the number of male and female players is not significant. As Graph 2 shows us, nearly 58% of players answering to the survey are male and approximately 42% female. 68.46% of them are between 18 and 25 years old and only one player, representing 0.77% of the sample, claims to be older, being more than 65 years old (Graph 3).

Graph 2: Respondents' sex in %



Graph 3: Respondents' age in %



Regarding our respondents' habit of playing online games, most of them claim to play less than 1 hour per week, while nearly 15% play between 1 and 3 weekly hours and between 4 and 6 hours. 10% play more than 9 hours per week and only 6% between 7 and 9 hours (Graph 4).

Such low percentages suggest that most of the players that answered the survey are not considered experienced players.

Graph 4: % of players according to the number of hours per week they spend playing online games

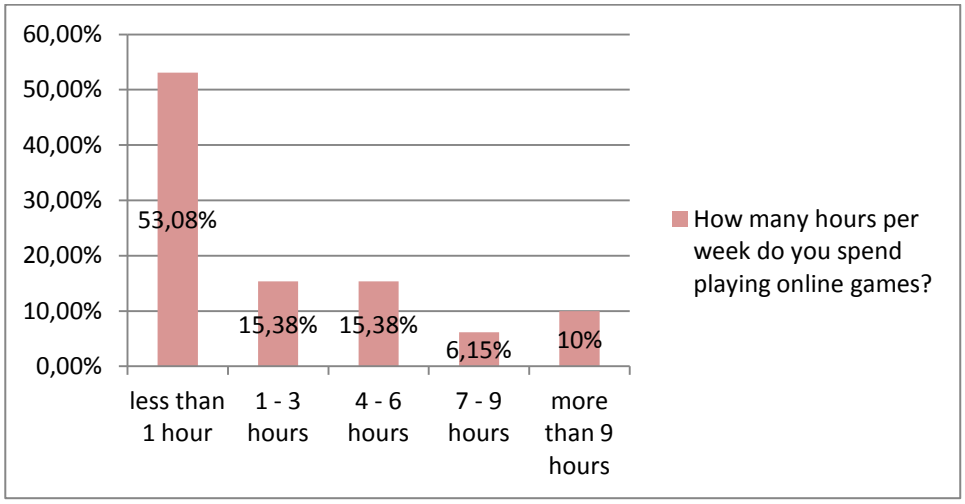


Table 1 shows that our male respondents are the ones who play both less than 1 hour (56% compared to 49.09% female players) and more than 9 hours (14.67% compared to 3.64% female players), suggesting a variety of experience among male players. Still, 20% of female respondents say they play between 4 and 6 hours, compared to 12% of male respondents.

Table 1: Cross tabulation with variable 1 "Sex" and variable 2 "How many hours per week do you spend playing online games?"

Cross Tabulation Frequency/Percent	4. [Q4] How many hours per week do you spend playing online games?						
		less than 1 hour	1 - 3 hours	4 - 6 hours	7 - 9 hours	more than 9 hours	Row Totals
1. [Q1] Sex:	Male	42	10	9	3	11	75
		56%	13.33%	12%	4%	14.67%	57.69%
	Female	27	10	11	5	2	55
		49.09%	18.18%	20%	9.09%	3.64%	42.31%
	Column Total	69	20	20	8	13	130
	Column Percent	53.08%	15.38%	15.38%	6.15%	10%	100%

Pearson's Chi-Square Statistics	
Chi-Square	7.287
p Value	0.121
Degrees of Freedom	4
Critcal Value for (p = .01 [1%])	13.277
Critcal Value for (p = .05 [5%])	9.488
Critcal Value for (p = .10 [10%])	7.779

Although only 3.85% of our respondents are less than 18 years old and only 0.77% more than 65 years old (Graph 1), both groups of players claim to play online games more than 9 hours per week (Table 2). We can consider the information provided by both groups as important to

our analysis, as playing more than 9 weekly hours indicates they are experienced players already. The ones between 41 and 50 years old can also be considered as having a larger experience than the other ones, as nearly 56% of them play between 4 and 6 hours, and 33% of them between 7 and 9 hours per week (Table 2).

Table 2: Cross tabulation with variable 1 "Age" and variable 2 "How many hours per week do you spend playing online games?"

Cross Tabulation Frequency/Percent	4. [Q4] How many hours per week do you spend playing online games?						
2. [Q10] Age:		less than 1 hour	1 - 3 hours	4 - 6 hours	7 - 9 hours	more than 9 hours	Row Totals
	less than 18	0	0	0	0	5	5
		0%	0%	0%	0%	100%	3.85%
	18 - 25	61	16	7	1	4	89
		68.54%	17.98%	7.87%	1.12%	4.49%	68.46%
	26 - 30	4	3	2	0	1	10
		40%	30%	20%	0%	10%	7.69%
	31 - 40	2	0	3	3	2	10
		20%	0%	30%	30%	20%	7.69%
	41 - 50	0	1	5	3	0	9
		0%	11.11%	55.56%	33.33%	0%	6.92%
	51 - 65	2	0	3	1	0	6
		33.33%	0%	50%	16.67%	0%	4.62%
	more than 65	0	0	0	0	1	1
		0%	0%	0%	0%	100%	0.77%
	Column Total	69	20	20	8	13	130
	Column Percent	53.08%	15.38%	15.38%	6.15%	10%	100%

Pearson's Chi-Square Statistics	
Chi-Square	119.461
p Value	0.000
Degrees of Freedom	24
Significant Corelation Between Variables Exists : @ 95%	
Critcal Value for (p = .01 [1%])	42.98
Critcal Value for (p = .05 [5%])	36.415
Critcal Value for (p = .10 [10%])	33.196

Freq. Analysis : 2. [Q10] Age:

Age:

Analytics & Computed Values

Mean	2.623	Confidence Interval @ 95% [2.406 - 2.841] n = 130
Standard Deviation	1.265	
Standard Error	0.111	

4.2.2) Importance of social features to online players: survey's results

- Strategy, challenge and problem solving

When asked whether online players value to work on strategies with other team members, the majority say they do. Only 8,46% (results from "disagree" and "completely disagree" in Figure 4) claim that they do not enjoy working on strategies with other players, which means that game features such as having challenges to solve do not motivate the majority of players only by themselves. Figure 5 also shows us that getting better in the game by solving its problems is not enough to motivate players, as nearly 75% of respondents (results from "disagree" and "completely disagree" in Figure 5) need the interaction part to keep playing. The results from

Figure 5 allow us to eliminate the feature "Showing progression throughout the game" as a crucial reason to keep players retained to online games, as our respondents clearly say that only improving their performance in the game is not enough for them.

Interacting with others also seems to be more important than winning the game, which reduces the relevance of only having to solve the game's problems (Figure 6).

Figure 4: Results from question 8.3 regarding the importance of teamwork when working on strategies

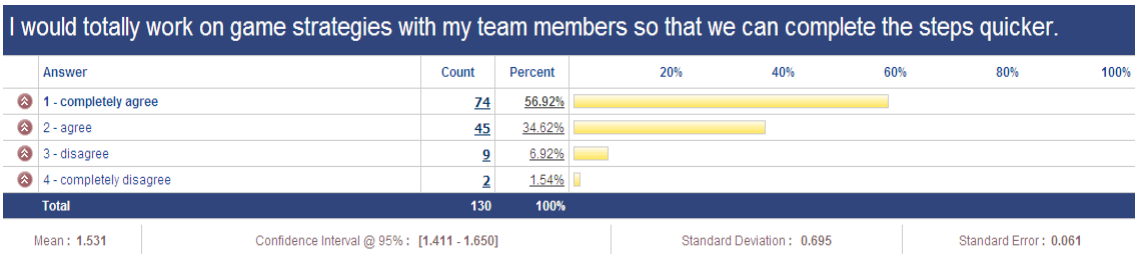


Figure 5: Results from question 8.8 regarding the importance of interaction when working on strategies to get better

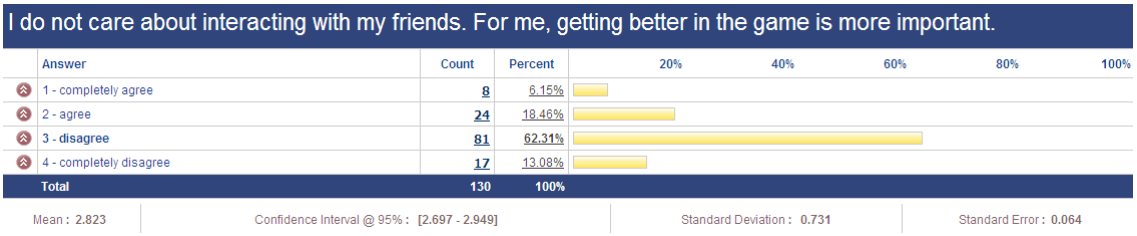
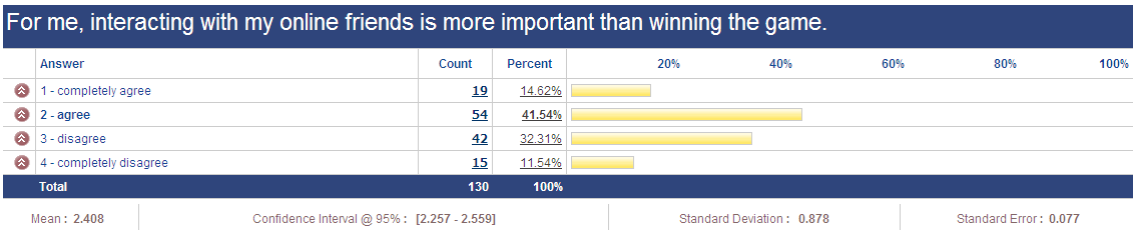


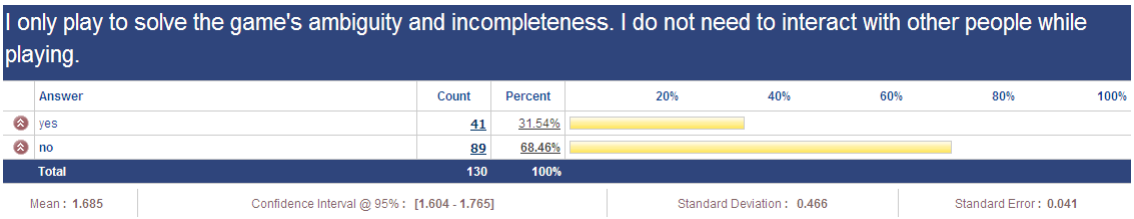
Figure 6: Results from question 8.5 regarding the importance of interaction towards solely solving problems to win the game



- Ambiguity, incompleteness and detail

In the ambiguity, incompleteness and detail issues we are able to find similar results as the ones obtained with solving a strategy in a game. In fact, according to Figure 7, respondents seem to value such features when complemented with the interaction with other players, once again.

Figure 7: Results from question 5.5 regarding the importance of ambiguity and incompleteness in an online game



- Attractive graphics

Approximately 62% of our respondents say they do not feel more involved in online games because of their attractive graphics such as images in 3D (Figure 8). Although our respondents say that a good design in a game is important, they do not see this aspect as the most relevant one, and interaction with others must exist (results from Figure 9). In fact, the results of question 8.7 demonstrate that having a good design with attractive graphics is not the most important factor to retain players to an online game. More than half of our respondents actually care about interacting with other people beyond having fun with the game's design (Figure 10).

Figure 8: Results from question 5.2 regarding the importance of graphics in online games

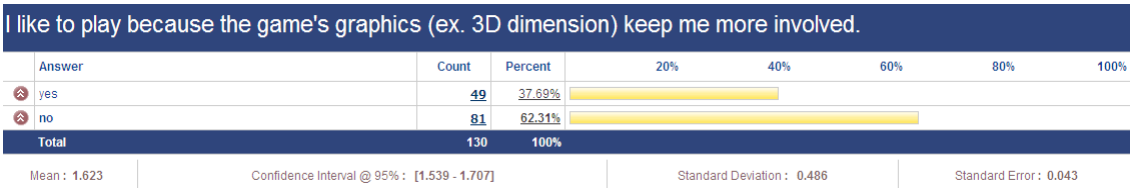


Figure 9: Results from question 10.4 regarding the importance of a game's design and interaction between players

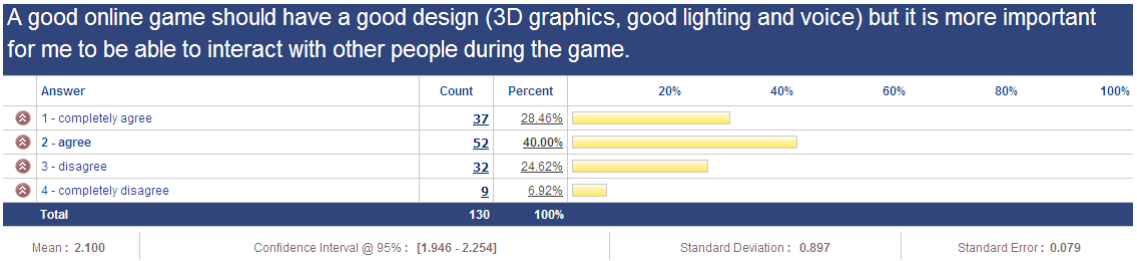
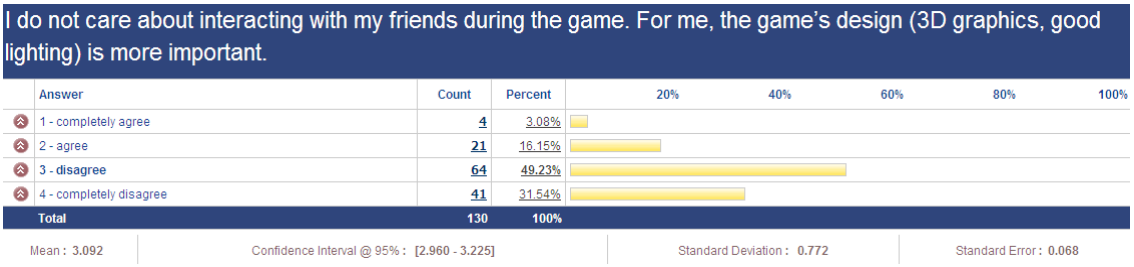


Figure 10: Results from question 8.7 regarding interaction with friends and game's design



- Teamwork, shared goals, camaraderie

Although the majority of our respondents say they enjoy working in a team with different people sharing the same goal, according to Figure 11, there is not a significant difference between the ones who enjoy it (50.77%) and the ones who do not (49.23%). Therefore we decided to cross the data of people who enjoy teamwork and sharing goals with the data provided by those who feel more motivated to play a game in a team (Table 3). We may see that many of our respondents claim that they do not value working with different people towards the same goal (variable 1), however, they do feel more motivated when working in a team whereby there is a common goal (variable 2). This shows that teamwork and shared goals are actually valued by some of the players who claim not enjoying working with different people towards the same goal (variable 1), which consequently increases the importance of the social feature "teamwork, shared goals, camaraderie".

Figure 11: Results from question 5.4 regarding the importance of teamwork and shared goals

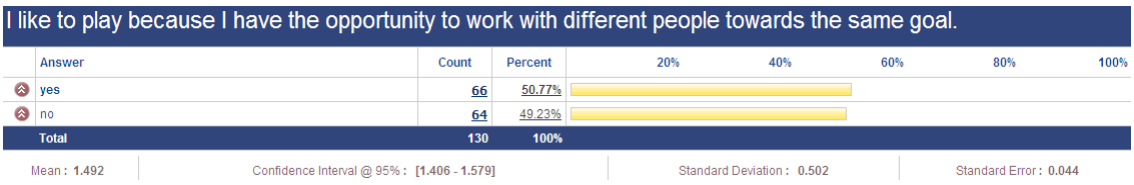


Table 3: Cross tabulation with variable 1 “I like to play because I have the opportunity to work with different people towards the same goal.” and variable 2 “I feel more motivated solving the mystery in a team than alone, as all members have the same goal.”

Cross Tabulation Frequency/Percent		8. [Q8] I feel more motivated solving the mystery in a team than alone, as all members have the same goal.				
		1 - completely agree	2 - agree	3 - disagree	4 - completely disagree	Row Totals
5. [Q6] I like to play because I have the opportunity to work with different people towards the same goal.	yes	40	19	7	0	66
		60.61%	28.79%	10.61%	0%	50.77%
	no	12	38	11	3	64
		18.75%	59.38%	17.19%	4.69%	49.23%
	Column Total	52	57	18	3	130
	Column Percent	40%	43.85%	13.85%	2.31%	100%

Pearson's Chi-Square Statistics	
Chi-Square	25.274
p Value	0.000
Degrees of Freedom	3
Significant Corelation Between Variables Exists : @ 95%	
Critcal Value for (p = .01 [1%])	11.341
Critcal Value for (p = .05 [5%])	7.815
Critcal Value for (p = .10 [10%])	6.251

- Spending time with friends

Spending time with friends is certainly one of the most valued social features according to the survey’s results. When asked directly, our respondents say they do play in order to spend time with their friends (Figure 12). They can do so by inviting friends over to their houses in order to play for a while, for example. When asked if they would do this, most players say they would (Figure 13).

Figure 12: Results of question 5.1 regarding the importance of spending time with friends in an online game

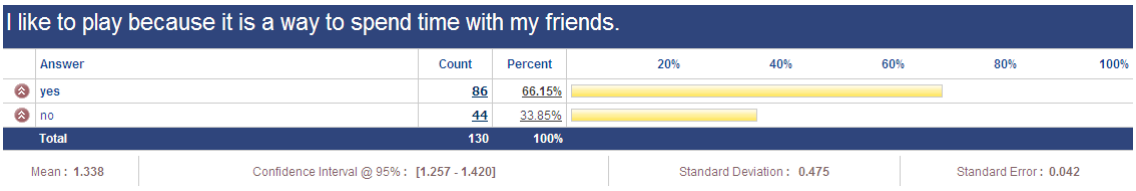
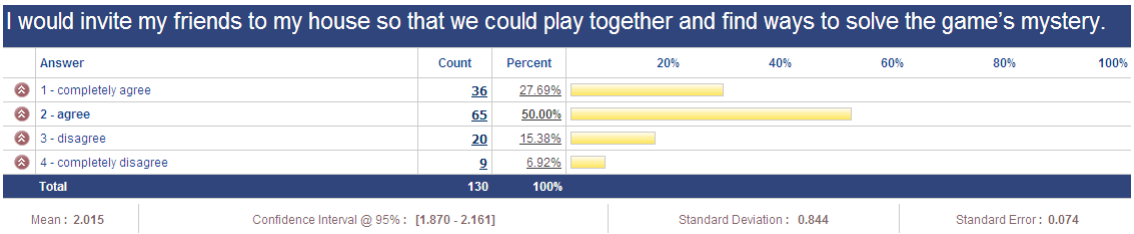


Figure 13: Results of question 8.2 regarding inviting friends over to play online games



- Cooperative emotions

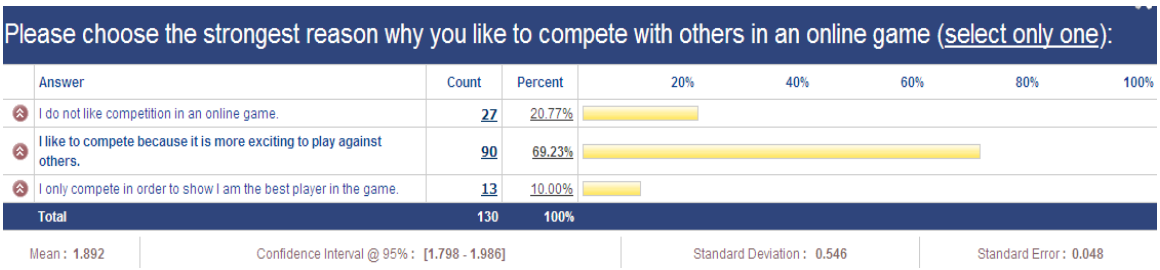
When asked about players' ability to cooperate in a situation whereby an alliance between players would help them to achieve better results in the game, 95.38% of total respondents claim to be willing to form the alliance, which proves that cooperative emotions in a competitive game are valued by most of them. In order to ask this question, a war game scenario is created and presented in the survey, as it is representative of a game where competition and cooperation are present (Figure 14).

Figure 14: Results of question 6 regarding cooperative emotions

- Competitive emotions

Competition is also asked in order to figure out whether it is an important factor in online games or not. In the question asked in the survey, respondents have the possibility to answer that they do not like competitive emotions. For those who enjoy competing in an online game, the majority (approximately 69% of total players) say that playing against others makes them enjoy competition, while only 10% say that showing that they are the best ones playing the game is more important (Figure 15).

Figure 15: Results of question 6 regarding competitive emotions

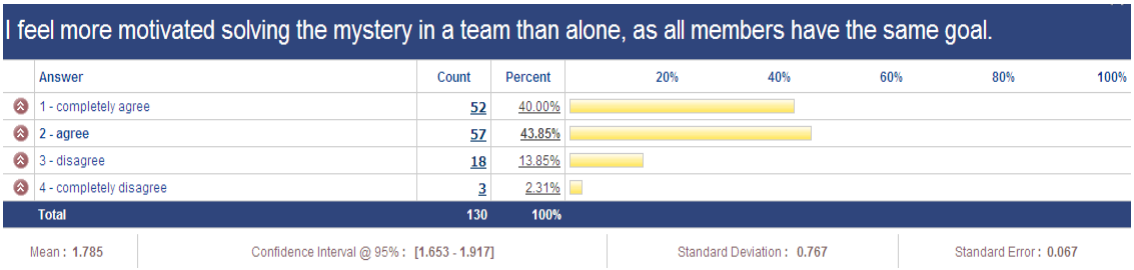


- Feeling more emotions when playing in a team than playing alone

Nearly 84% of our respondents say their motivation is higher when they play in a team than when playing by themselves (options "agree" and "completely agree" present in Figure 16).

This is strongly linked with the fact of sharing the same goal as other people within a team. These results allow us to eliminate the item of "playing alone" of our list of possible reasons for players to keep retained to online games.

Figure 16: Results of question 7.1 regarding players' motivation to play in a team



- Better communication than in real life

The results of questions 8.4, 10.5 and 10.6 (Figures 17, 18 and 19) show us that our respondents do not see online communication as a way of facilitating interaction between them, as most of them feel more comfortable communicating in real life. However, they still claim that communicating online with their real-life friends has contributed to enhance the relationship between them (Figure 20), which reinforces the importance of communicating online.

Figure 17: Results from question 8.4 regarding communication with online and real-life friends

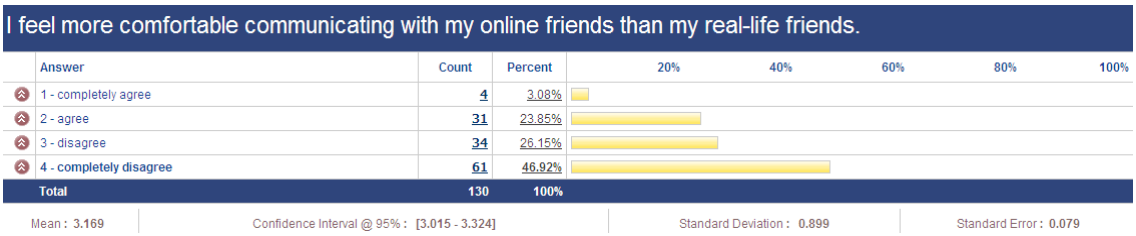


Figure 18: Results from question 10.5 regarding online communication

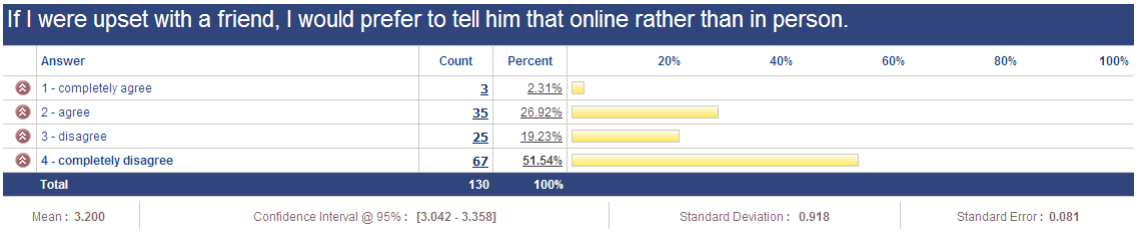
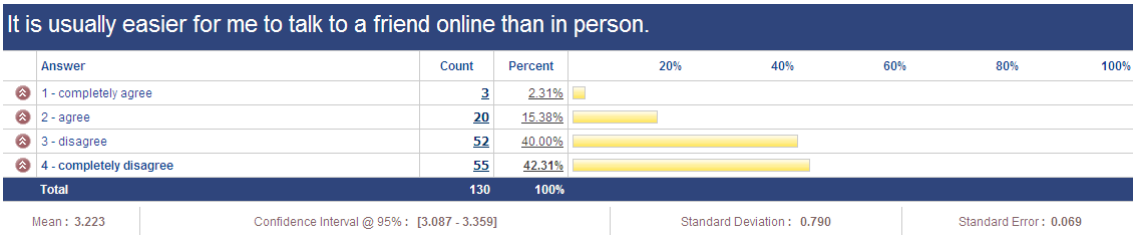


Figure 19: Results from question 10.6 regarding online versus personal communication

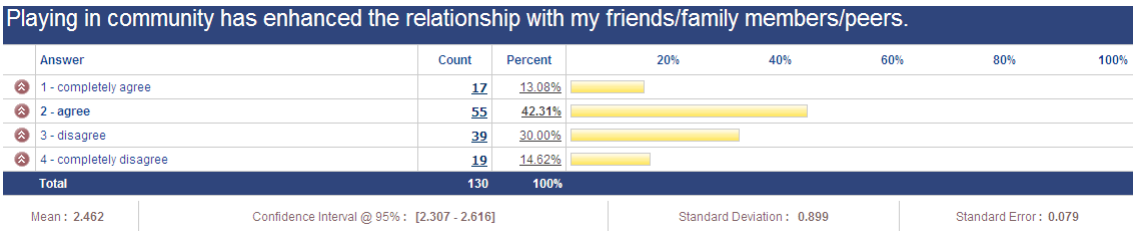


It is usually easier for me to talk to a friend online than in person.

Answer	Count	Percent	20%	40%	60%	80%	100%
1 - completely agree	3	2.31%					
2 - agree	20	15.38%					
3 - disagree	52	40.00%					
4 - completely disagree	55	42.31%					
Total	130	100%					

Mean : 3.223 | Confidence Interval @ 95% : [3.087 - 3.359] | Standard Deviation : 0.790 | Standard Error : 0.069

Figure 20: Results from question 10.3 regarding enhancement of relationships through communities



Playing in community has enhanced the relationship with my friends/family members/peers.

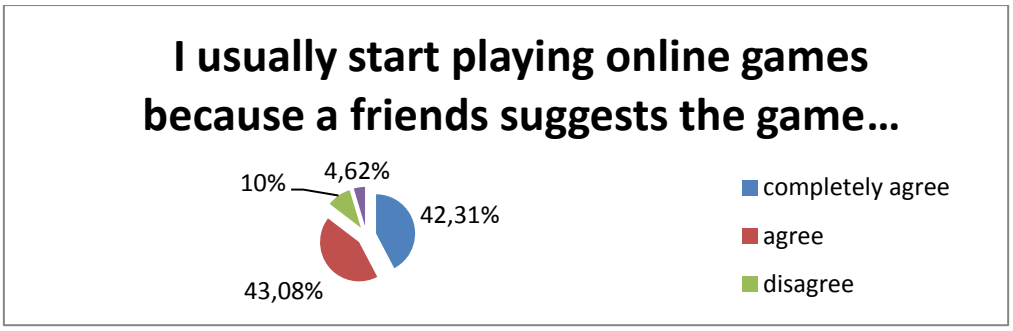
Answer	Count	Percent	20%	40%	60%	80%	100%
1 - completely agree	17	13.08%					
2 - agree	55	42.31%					
3 - disagree	39	30.00%					
4 - completely disagree	19	14.62%					
Total	130	100%					

Mean : 2.462 | Confidence Interval @ 95% : [2.307 - 2.616] | Standard Deviation : 0.899 | Standard Error : 0.079

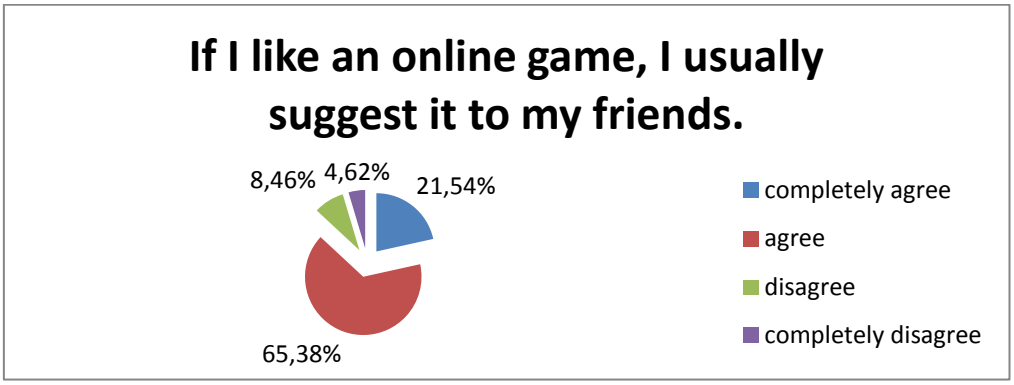
- Influence of others

The results of our survey prove that influence of others is crucial for a player to engage in an online game. Most respondents say they usually play because of other players' suggestions of an online game (Graph 5), and most of them suggest the game as well (Graph 6). This is a clear indicator that interaction between players regarding online games is key for online gaming companies to gain customers.

Graph 5: % of players that start playing online games due to a friend's suggestion



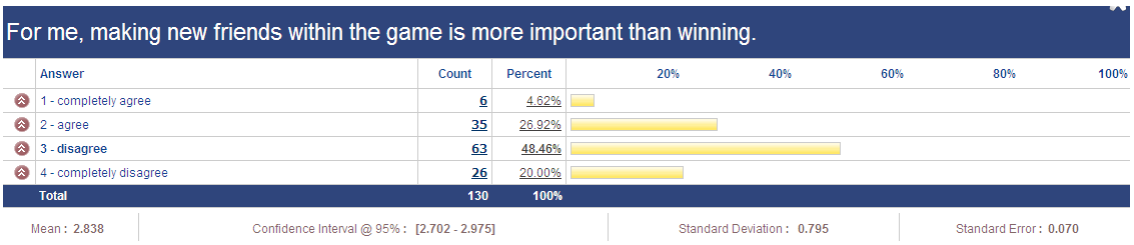
Graph 6: % of players that suggest an online game to their friends, if they like it



- Expanding list of friends on social networks

Most players claim not to give value to the expansion of their list of friends on social networks, which could be possible by making new friends in online games. As Figure 21 shows us, 48.46% of our respondents disagree and 20% completely disagree with the importance of making new friends towards winning the game.

Figure 21: Results of question 7.6 regarding the issue of making new friends in an online game



When crossing respondents' answers to the issue regarding the expansion of their list of friends with their motivation to solve the game's mystery in a team, one may see that the ones who disagree with the importance of making new friends in an online game actually value the fact of being part of a team (44.44%). This suggests that teamwork within an online game is still valued by players who do not appreciate to make new friends there, which may occur due to the lack of trust on people they do not know in person. Also 57.69% of the respondents who are completely opposed to making new friends in the game agree with working within a team, with people who have the same goal as them (Table 4).

Table 4: Cross tabulation with variable 1 “For me, making new friends within the game is more important than winning.” and variable 2 “I feel more motivated solving the mystery in a team than alone, as all members have the same goal.”

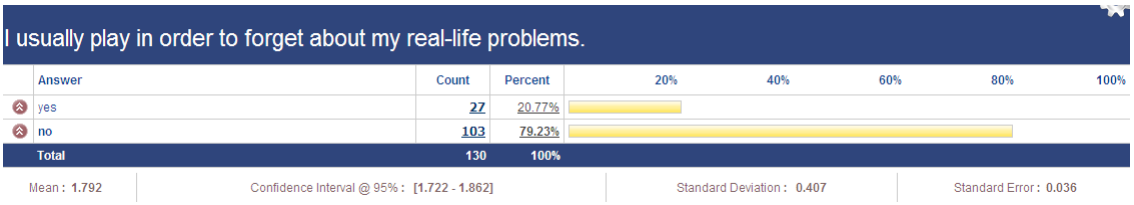
Cross Tabulation Frequency/Percent		8. [Q8] I feel more motivated solving the mystery in a team than alone, as all members have the same goal.				
		1 - completely agree	2 - agree	3 - disagree	4 - completely disagree	Row Totals
8. [Q8] For me, making new friends within the game is more important than winning.	1 - completely agree	2	2	1	1	6
		33.33%	33.33%	16.67%	16.67%	4.62%
	2 - agree	17	13	5	0	35
		48.57%	37.14%	14.29%	0%	26.92%
	3 - disagree	28	27	8	0	63
		44.44%	42.86%	12.7%	0%	48.46%
	4 - completely disagree	5	15	4	2	26
		19.23%	57.69%	15.38%	7.69%	20%
	Column Total	52	57	18	3	130
	Column Percent	40%	43.85%	13.85%	2.31%	100%

Pearson's Chi-Square Statistics	
Chi-Square	16.518
p Value	0.057
Degrees of Freedom	9
Critcal Value for (p = .01 [1%])	21.666
Critcal Value for (p = .05 [5%])	16.919
Critcal Value for (p = .10 [10%])	14.684

- Change in internal state while and after playing the game

The change in players’ internal state seems not to be valued by our respondents, as nearly 79% of them say they do not play in order to forget about their real-life problems, and thus in order to feel anything different as they feel in their routines (Figure 22).

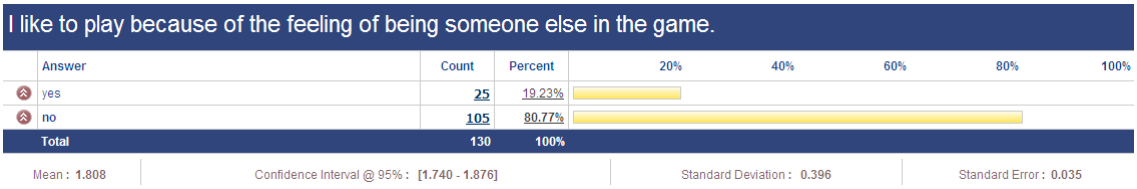
Figure 22: Results of question 4.6 regarding change in players’ internal state while and after playing an online game



- Playing different roles from real life

80.77% of our respondents say they do not play in order to feel they are someone else in the game (Figure 23), 44.19% of which have never even assumed the role of a character in an online game (Table 5). This probably occurs because they do not feel the need of doing so. The remaining 55.81% of the ones who do not like to play a character’s role assumes having already experienced that, meaning that they still do not value that experience (Table 5).

Figure 23: Results from question 5.3 regarding the feeling of being someone else in the game



I like to play because of the feeling of being someone else in the game.

Answer	Count	Percent	20%	40%	60%	80%	100%
yes	25	19.23%					
no	105	80.77%					
Total	130	100%					

Mean : 1.808 | Confidence Interval @ 95% : [1.740 - 1.876] | Standard Deviation : 0.396 | Standard Error : 0.035

Table 5: Cross tabulation with variable 1 "I like to play because of the feeling of being someone else in the game." and variable 2 "Choose the features of a character whose role you have already assumed during an online game, if you think these features are different from your real-life personality."

Cross Tabulation Frequency/Percent	7. [Q7] Choose the features of a character whose role you have already assumed during an online game, only if you think these features a ...									
		I have never assumed the role of a character in an online game.	My character is just like me in reality.	My character is aggressive.	My character is assertive.	My character is responsible.	My character is calm and quiet.	My character is very organized.	Other	Row Totals
5. [Q6] I like to play because of the feeling of being someone else in the game.	yes	6	8	12	1	2	1	3	2	35
		17.14%	22.86%	34.29%	2.86%	5.71%	2.86%	8.57%	5.71%	21.34%
	no	57	17	25	9	3	5	9	4	129
		44.19%	13.18%	19.38%	6.98%	2.33%	3.88%	6.98%	3.1%	78.66%
	Column Total	63	25	37	10	5	6	12	6	164
	Column Percent	38.41%	15.24%	22.56%	6.1%	3.05%	3.66%	7.32%	3.66%	100%

Pearson's Chi-Square Statistics	
Chi-Square	12.135
p Value	0.096
Degrees of Freedom	7
Critcal Value for (p = .01 [1%])	18.475
Critcal Value for (p = .05 [5%])	14.067
Critcal Value for (p = .10 [10%])	12.017

Other character features different from the ones included in our survey are mentioned by respondents who usually play either less than a weekly hour or more than 9 hours per week (Figure 24). These options account for only 3.66% of total responses, which confirms that most of our players do not value this feature as much as they value other features from our list.

Figure 24: Characters' features that players answered in the option "other"

Choose the features of a character whose role you have already assumed during an online game, only if you think these features are different from your real-life personality (select all that apply):

05/04/2012	18894204	I have various characters, some good and some bad.
05/06/2012	18911170	unorganized, uncapable
05/07/2012	18932568	haven't play online games
05/07/2012	18935655	A personagem é um role-play.
05/07/2012	18937636	Mais bonita ou festeira
05/07/2012	18940052	Não jogo

4.3) Discussion: Main findings of the survey's results

The results from the survey performed in this dissertation allow us to seek answers from respondents of both genders (male and female), of different ages and 19 different nationalities (including a participant with double nationality). The majority of them cannot be considered as experienced players, as they claim to play less than 9 weekly hours. Compared to Yee's survey (2006) made to people who play 22.72 weekly hours on average, our respondents do not have such large experience as other customers of the online gaming industry, as only a small percentage of them plays more than 9 weekly hours, which is significantly less compared to the experience of Yee's respondents. Still, the results we are able to extract can be used by online gaming companies, as they may always be faced with customers who do not know their online games as well as other players.

The importance of all the features present in the list of our dissertation's model in section 3.1 of chapter III has been tested in the survey. As such, **all of the features that are part of Hypothesis 1 ("Players keep playing online games due to the game's strategy itself") are considered as not enough reasons for our respondents to keep playing online games**. In section 4.2.2 of chapter IV of this dissertation the majority of our respondents say that social interaction is absolutely necessary for them to play a game, and not even the strategy itself, the game's incompleteness or the attractive graphics are able to motivate players, if social interaction does not exist. Their answers to the survey also eliminate the option of "Showing progression throughout the game" as a crucial reason to keep playing online, as it is not sufficient for respondents to know that they are improving their performance in a game in order to enjoy playing (section 4.4.2 of chapter IV).

When analyzing the social features included in Hypothesis 2 ("Players keep playing online games due to social connection to other people"), we come to a different conclusion. First of all, spending time with friends and being able to feel both cooperative and competitive emotions are some of the strongly valued features by our respondents. When asked directly whether they play online in order to spend time with their friends, most of them say they do, according to the results presented in section 4.2.2 of chapter IV. Inviting friends over to their houses is also a possibility that they think of, so that they can continue playing games with their friends, and thus spending time with them. Regarding the importance of cooperation in such games, 95% of the players claim they give value to it, which is a good indication that teamwork is actually important to them. Also competition seems to be valued, although approximately 21% of our respondents do not enjoy it. Still, nearly 69% of them say they

consider it to be more exciting when they compete against other members. The influence of other people plays an important role in respondents' motivation as well, as most of them influence and are influenced by others. Players also enjoy feeling more emotions when playing in a team than playing alone, which automatically excludes the feature "Playing alone" of Hypothesis 1 as a key factor to retain them to an online game. Sharing goals and the feeling of camaraderie are also valued by them, although not much as the other features already mentioned (section 4.2.2 of chapter IV).

Two of the social features included in Hypothesis 2 are not valued by our respondents, thus reducing its likelihood of being confirmed. According to Yee (2006), the existence of communication channels in online games allows players to interact more and in a more careful way, as they do not have to communicate in real-time and therefore have more time to write their messages. Such interaction actually tends to increase the intimacy between members (Yee, 2006). Notwithstanding, Yee's finding that players are usually willing to interact more online than personally, most of our respondents do not find it easier and more comfortable to communicate with online friends than in person. However, the majority says that communication in online games has contributed to enhance the relationship with their friends, family members or peers. The second social feature that is not considered by players as a key factor to retain them to online games is the expansion of their list of friends in social networks. Although Yee argues that some players make friends in online games while talking about game strategies (2006), our respondents do not see this aspect as more important than winning the game, which shows us that this social feature would not retain them to online games only by itself. The results of the social features that are excluded in Hypothesis 2 suggest that players usually end up communicating more with people they already know, which enhances the relationship between them. However, even though they end up making some friends online, this is not a crucial reason for them to keep playing.

Another surprising result is that **the features included in Hypothesis 3 ("Players like games due to reasons unrelated to both individual and collective work") are excluded as main factors to keep players motivated in online games**. According to the XEODesign study (2004), players see online games as a "therapy" that keeps their minds away from their daily grind and allow them to feel different emotions from their real-life ones such as relief or excitement. In our survey, most of the respondents claim they do not play in order to forget about their real-life problems, which is opposite to what literature tells us. Thus, the "Change in internal state while and after playing the game" is not valued by most of them. Besides, also the "Playing different roles from real life" feature seems to be excluded as a motivating factor, as respondents answer that they do not play in order to feel like as if they were someone else. In

fact, the results show us that the majority of the respondents saying they do not like such feeling have already experienced assuming a role of a character in a game, suggesting that they do not value the feature because they did not enjoy the experience of assuming a character's role.

According to our survey results, online game members play mostly due to the interaction provided by the game, and not because of the other features alone that are mentioned in this dissertation. None of the features included in both Hypothesis 1 and Hypothesis 3 can be confirmed as motivating factors for players to keep playing online. Although we are not able to confirm two of the features of Hypothesis 2, we can confirm all the other ones. Therefore, **Hypothesis 2 is confirmed in this dissertation, meaning that our respondents keep playing online games due to the social interaction that is provided by the games**.

4.4) The resource-based view: social networks as strategic resources

After having confirmed Hypothesis 2 in section 4.3 of this chapter and thus concluded that social connection is crucial to retain players to online games, this section focuses on answering our research question. It is explained therefore whether social networks have a strategic impact on the online gaming industry or not by applying a strategic framework, which was previously described in section 2.8 of chapter II: the resource-based view.

All social features included in Hypothesis 2 suggest the idea of social connection between online players, as they include aspects such as teamwork, cooperation and competition, as well as influence of others, among other factors. Such social interaction in an online game can only be possible if there is a platform included in the game, as it enables players to interact through communication channels: a social network. The features included in Hypothesis 2 consist of actions that are enabled by social networks, and are therefore called as social network-related features. However, in this section we do not focus on the social features, but on the social network included in online games itself, as it is our resource.

As it has already been stated in section 2.8 of chapter II, the resource-based view allows us to conclude whether a certain resource is able to deliver a sustained competitive advantage to a firm or not. In order to do that, we discuss in this section if social networks are valuable, rare, imperfectly imitable and non-susbstitutable.

Being valuable is crucial for a company's attribute to be considered as a resource. Social networks are capable of taking advantages of opportunities, for example by enabling the creation of virtual communities (Hagel and Armstrong, 1997). Some of these groups such as

"brand communities" make it possible for companies to enhance the relationship with their customers, as clients feel encouraged to share their experience regarding a company's products and services with people working for a certain brand (Lee et al, 2011). Companies are then able to take advantage of the opportunity of getting to know their customers by using social networks, as well as neutralizing threats of competitors. Social networks can therefore be considered as valuable resources.

As we have already mentioned in section 2.8 of chapter II, according to the resource-based view it is crucial for a company's attributes to be valuable as well as rare in order to be qualified as a source of competitive advantage (Barney, 1991). When a person starts playing in a social network, it ends up being part of a community whereby all members play with each other. Changing to a different social platform after playing during a while and consequently developing relationships as well as setting goals with different players has a cost associated, as people then lose all the social benefits that the initial social network already gave them. Belonging to different social networks when playing a variety of games also becomes difficult for players, as it makes them become not totally involved in a specific game, leading to a poor contribution of players to each online game. Such difficulties in managing different social platforms make it more likely for players to stay retained to a unique social platform. Social networks can therefore be considered as rare resources. In fact, if a platform is able to keep their members retained to it, the online gaming company offering its games there is indeed able to adopt a strategy that creates value to the platform's users.

Social networks may be imperfectly imitable, depending mainly on three factors: unique historical conditions, causal ambiguity and socially complex phenomena, according to Barney (1991). If an online gaming company is able to exploit social platforms by adopting a certain strategy, if the relationship between its success and the use of social networks is difficult to understand by rivals and if the company is able to create a good relationship with game developers, customers and other stakeholders, it is very likely that social networks become imperfectly imitable. In fact, according to Barney (1991), if these phenomena occur, it becomes hard for a competitor in the online gaming industry to copy the company's strategy, as it depends on internal factors that are either difficult to imitate (such as business relationships) or to understand (if the relationship between the adoption of the resource and the firm's success is causally ambiguous).

Social networks provide social features that this dissertation proved to be valued by online players in sub-section 4.2.2 of chapter IV. There is no other way of providing interaction between members than through a social platform where they can communicate, which implies

that rivals cannot use different resources in order to promote social interaction and be able to deliver the social features of our list created in section 3.1 of chapter III. Social networks can therefore be considered as non-substitutable.

The conclusion that the resource-based view allows us to reach is that social networks are valuable, rare and non-substitutable, and they may also be imperfectly imitable. We can therefore consider them as a source of sustained competitive advantage for the online gaming industry, as they allow companies using them to extract the benefit of retaining customers to their online games.

Section 4.2 of Chapter IV provides our dissertation with several conclusions. It starts by presenting the results of the survey made to online players, explaining the demographic characteristics of our sample, as well as what are the most and also the least valued features for them in an online game. It is shown that social features are crucial for online members to keep playing games, which leads us to the confirmation of Hypothesis 2 ("Players keep playing online games due to social connection to other people") in section 4.3. After confirming that social interaction is the main motivating factor in the online gaming industry, we apply the resource-based view in order to analyze social networks as strategic resources and thus as being able to deliver a sustained competitive advantage for companies operating in the industry. It is concluded that there is strategic impact of social networks on the online gaming industry: they are valuable, rare and non-substitutable, and may be imperfectly imitable, depending on the company's ability to manage its relationships.

Based on the conclusions we were able to reach by applying the resource-based view, our research question is answered in the next chapter. Chapter V also presents a series of improvements that could be made to the questionnaire in order to reinforce the validity of our model.

V. Conclusion

The aim of this dissertation is to see whether social networks have a strategic impact on the online gaming industry or not. Looking at the trends that have been taking place in the Internet access market, one of the categories going through a great growth is online social gaming (Datamonitor, 2011). With games such as Farmville gathering an increasing number of players, predictions of revenues' increase by 15% to 20% have been made concerning both mobile and online games (Datamonitor, 2011).

Several studies presented in this dissertation such as Yee's survey on online players (2006) and the Forfás report (2011) show that online games have been including more and more social features, which have been keeping Internet users playing these games. Players have indeed been demanding a greater connectivity with other members (Forfás, 2011). According to the value chain of the online gaming industry presented in the Forfás report, there has been a greater need of being connected to online players so as to understand their new demands for an increase of opportunities of interacting socially within the games (2011). Understanding such demands makes it possible for developers and publishers to decide what kind of experience they should provide online players and consequently increase the value created to them. Such experience has been delivered to online users through the use of several platforms, including social networks (Forfás, 2011). Beyond the rise of Facebook members, also other networks such as Friendster, LinkedIn, MySpace, Orkut and VKontakte have been able to provide several functionalities to their users, thus ensuring connectivity between them as well as content sharing.

The rise of social platforms has been leading to the creation of online communities whereby members have the opportunity of sharing ideas regarding all kinds of issues (Baym, 2010). The effect that communities have on the enhancement of relationships between people has actually been taking several companies to create their own virtual community such as brand communities (Hagel and Armstrong, 1997). Interaction with customers has been in fact increasing, thus improving companies' ability to understand their clients' needs and therefore be able to deliver a better service, which makes it more likely for these firms to gain loyal customers. The increase of both brand awareness and brand equity that such loyalty has been making possible through the enhancement of relationships has been leading to a greater concern regarding the value of communities (Lee et al, 2011).

Taking both the increasing concerns about the contribution of virtual communities towards the enhancement of relationships between people and the importance of connectivity into

account, the aim of this dissertation is to apply it to the online gaming industry. The information included in the literature review allowed us to elaborate a model in section 3.1 of Chapter III. It consists of a list of social features that players have been pointed out as motivating factors that keep them playing online games, according to several research studies. Features such as "Strategy, challenge and problem solving", "Ambiguity, incompleteness and detail", "Teamwork, shared goals, camaraderie", "Competitive emotions", "Feeling more emotions when playing in a team than playing alone" and "Change in internal state while and after playing the game" are identified in the XEODesign study (2004) by online players, and therefore contribute to our list. The MMOG survey performed by Gareth While (2007) also refers to "Attractive graphics" and the feeling of "Playing alone" as important aspects in online games. Other features such as "Showing progression throughout the game", "Spending time with friends", "Cooperative emotions", "Better communication than in real life", "Influence of other players", "Expanding list of friends on social networks" and "Playing different roles from real life" mentioned in the survey made by Nicholas Yee (2006) are considered as crucial motivating factors while playing online.

We then grouped all features of our list into three hypotheses: **Hypothesis 1 considers that "Players keep playing online games due to the game's strategy itself"**, thus including "Strategy, challenge and problem solving", "Ambiguity, incompleteness and detail", "Attractive graphics", the feeling of "Playing alone" and "Showing progression throughout the game" as motivating factors to keep playing online; **Hypothesis 2 mentions that "Players keep playing online games due to social connection to other people"**, considering that "Teamwork, shared goals, camaraderie", "Spending time with friends", "Cooperative emotions", "Competitive emotions", "Feeling more emotions when playing in a team than playing alone", "Better communication than in real life", "Influence of other players" and "Expanding list of friends on social networks" are the aspects that retain players to online games; and **Hypothesis 3 considers that "Players like games due to reasons unrelated to both individual and collective work"**, thus including "Change in internal state while and after playing the game" and "Playing different roles from real life" as the main motivating factors while playing online games.

After having formulated the three hypotheses in section 3.2 of Chapter III, we performed a survey to online players in order to get some information about the aspects that are most valued by them when playing online. As mentioned in section 4.1.1 of Chapter IV, the survey was available on Facebook during five days for people to answer. In section 4.3 we present the its main findings, thus concluding that the features included in both Hypothesis 1 and 3 are considered as less important than most of the features of Hypothesis 2. Although players do not consider "Better communication than in real life" and "Expanding list of friends on social

networks" as motivating factors, they value all other aspects of Hypothesis 2, which allowed us to confirm the fact that **players keep playing due to the social connection provided by online games**.

As social connection in online games can mostly be enabled by social platforms, the last step in our dissertation was applying the resource-based view in order to figure out whether social networks are sustained sources of competitive advantage or not. The aim of this step was to finally answer our research question and to see if social networks are capable of playing a strategic role in the online gaming industry. By analyzing our resource in section 4.4 of Chapter IV we were able to conclude that **social platforms are valuable, rare, non-substitutable and may also be imperfectly imitable**. **We can therefore consider social networks as a source of sustained competitive advantage for the online gaming industry, as they allow companies using them to extract the benefit of retaining customers to their online games**.

The resource-based view analysis allows us to finally answer our research question and conclude that **social networks have a strategic impact on the online gaming industry**.

5.1) Recommendations for future research

Although we are able to extract a lot of information regarding players' experience in online games through the survey made, which allow us to answer our research question, we could still include other aspects in our questionnaire that have potential of being developed. Further studies can be performed, including the following modifications:

First of all, there could be a greater variety among respondents' demographic characteristics such as age and nationality so that we have a sample as representative as possible in order to evaluate the characteristics of different groups of online games' clients. Our survey was available on Facebook during a couple of days for people to answer, in order to gather the maximum number of responses possible to get. As Facebook is a platform present at an international level, we were able to gather answers from people of 19 different nationalities. Still, Graph 1 in sub-section 4.2.1 of chapter IV shows us that the majority (nearly 67% of total respondents) is Portuguese. For the purpose of being able to make conclusions regarding the global online gaming industry, we suggest that further surveys are asked to more people coming from different countries. Ideal would be to have the same percentage of people from each country answering the questionnaire. We should also ask the questions to players of different ages so that our sample becomes as representative as possible and results can be

applied to different online players all around the world. According to Graph 3 in sub-section 4.2.1 of chapter IV, approximately 68% of our respondents are between 18 and 25 years old. In order to apply our study's conclusions to all kinds of people playing online games, questions should be asked to older players.

Secondly, our study does not include many players with significant experience playing online games. Compared to Yee's study in which participants play 22.72 hours per week on average (2006), Graph 4 in sub-section 4.2.1 of chapter IV demonstrates that only 10% of total respondents claim to play more than 9 weekly hours, which is significantly less compared to the experience mentioned by Yee's sample (2006). Besides, according to the same graph, more than half of our respondents (53%) only play less than 1 hour per week, meaning that most of the results of our model are based on opinions of players whose involvement in online games is not frequent.

Another limitation present in this dissertation, which is still related to the questionnaire itself, has to do with the conclusions we are able to extract from people's answers to the survey. It is generally hard to ask people for opinions regarding their experience, as emotions are difficult to measure. People tend to share what they think about themselves, which may not exactly correspond to the way they react in reality. Non-verbal instruments that do not interfere with players' experience can be used, especially because we do not need to be dependent on players' own assessment of their experience in order to understand what they are feeling. If we apply a method that is capable of analyzing facial, postural and vocal expressions, we are able to associate a certain emotion with each reaction (Ekman, 1994). A raised voice, for example, together with other expressions, is likely to suggest feelings of anger (Ekman & Friesen, 1975). Regarding the measurement of facial expressions, one can easily place two electrodes on a player's skin in order to measure its voltage and thus assess facial electromyographic activity, enabling us to recognize expressions that are usually difficult to identify (Cacioppo & Petty, 1989). Also the changes in the autonomic nervous system can be measured by instruments that are capable of capturing all kinds of body responses such as blood pressure and brain waves, so that emotions can be identified. Two examples of these instruments that can be used are the so called IBM's emotion mouse (Ark et al, 1999) and also wearable sensors which were created at MIT by the Affective Computing Group (Picard, 2000).

Finally, we have to take into account that this dissertation only focuses on the strategy that online gaming companies should perform regarding their games' features in order to create

value to their customers. According to Porter, there are other activities in a company contributing to the value created to the customer such as inbound logistics, operations, outbound logistics, marketing and sales, and service (1985). In our case, one should consider the advertisement that has to be made so that players become aware of the existence of online games. We are also not taking into account the costs that online gaming companies have to spend with game developers and publishers mentioned in the value chain of the Forfás' report, in order to create the online games and incorporate both social features and communication channels (2011). So as to analyze whether it actually creates value for a company to deliver a better services to its customers, all these costs have to be considered.

VI. References

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