# The presence of large Spanish companies in online social networks

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**Abstract** 

Online social networks have revolutionized the way we communicate, and many

companies are already taking full advantage of these tools to improve productivity. The

objectives of our study are to measure the presence of large Spanish companies in these

online social networks and the importance companies give to the use of such systems

and to determine the link between the attitudes of companies towards technology and

the adoption of online social networking in their businesses. To do this, we surveyed 99

Spanish companies whose turnover was among the highest in their respective economic

sectors, and we carried out a descriptive analysis of the association of variables using

the Chi-squared independence test. The results show that the presence of large Spanish

companies in online social networks is scant, however, the results emphasize the

importance that such enterprises give to information technology, information systems

and a future presence on online social networks.

**Keywords:** Online social networks, Spanish companies, information technology.

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#### 1. Introduction

The Web is undergoing an important evolution that deserves close attention especially because of the huge explosion in content and really useful and amazing applications. Today, without requiring large-scale technology, technical skills or significant effort, we can sit in front of our computers and write about any topic we like. Everything has become so easy for the end-user; if you know what you want to do, there are simple tools out there to enable you to do it. We have moved on from Web 1.0, where information was merely informative without allowing direct interaction between users, to Web 2.0 in which users can now interact with other users or change website content.

This new stage in the evolution of Internet - "Web 2.0", has seen the development of a wide range of technologies such as web communities, web services, web applications, online social services, video hosting, wikis, blogs, mashups and folksonomies feeds (Kaplan & Haenlein, 2010).

Online social networks arose in the middle of the last decade and in just a few years have become a mass phenomenon; they are now major players in the digital society. Nobody questions their unstoppable rise to power and the importance they will have in the future (Boyd & Ellison, 2008). They have revolutionized the way we communicate and interact, do business and advertise, etc., at dizzying speed. Despite being recent arrivals, social networks such as Facebook, Myspace, Twitter etc., now have millions of users, many of whom have integrated these virtual interaction spaces into their daily lives (Boyd & Ellison, 2008; Ofcom, 2008; Romero et al., 2011).

Spain is a world away from Japan or the United States in terms of technical infrastructure, but online social networks in this country continue to grow with regard to the number of users who regularly access social platforms.

The Spanish Institute of Financial Analysts (2011), in their study "Internet 3.0: Impact of Digital Social Media Environment and the Value Chain in Private Banking", notes that these social networks give the client new power to share information and opinions anywhere and at any time. The move to Internet 3.0 is occurring much faster than the transition from Web 1.0 to Web 2.0. The main impact will be not only on the computer and mobile phone industries but on the whole communications sector, as well as affecting the way we will relate to these everyday devices. It is estimated that by 2020 there will be a minimum of six billion units operating within the 3.0 environment.

The use of social media in business is becoming a popular research topic since it is still in the embryonic stage. According to various surveys of industry executives conducted by Business2Comunity (2013), social networks will acquire a renewed prominence in companies' online marketing strategies in 2014.

The study by Cone (2008) states that 93% of users of social networks believe that companies should have a presence in social media, while 85% think that companies ought to interact with their customers through social networks.

Companies are now a part of the online social network scene, and firms provide direct links to their corporate websites through Facebook and Twitter; they now use these tools for promoting brands and supporting the creation of brand communities (Kaplan & Haenlein, 2010).

Despite the recent incorporation of social media into business operations and the lack of research, it has been shown that social media offer businesses many opportunities for

improving communication, interaction, learning and collaboration (García-Peñalvo, Colomo-Palacios & Lytras 2012; Jussila, Kärkkäinen & Aram-Immonen, 2014), which in turn bring significant benefits to organizations.

Market research suggests that companies use social media, including social networking sites, to establish direct relationships with customers, direct traffic towards their websites, identify new business opportunities, build communities, distribute content, collect customer feedback and support their brand (Breslauer & Smith, 2009; e-Marketer, 2010). In fact, due to its non-transactional nature, online social networks are particularly suitable for gathering information/feedback from customers, initiating two-way conversations with clients and developing customer relationships through communication and interaction (Enders et al., 2008; Kaplan & Haenlein, 2010).

Spanish companies are aware of this social reality that can no longer be ignored. Therefore, the objectives of our study are to measure the presence of large Spanish companies in social networks, the importance these companies give to these networks, and determine the link between attitudes towards technology and the adoption of social networking online. To achieve our aims we surveyed those Spanish companies with among the highest turnovers in their respective sectors.

Our study is structured as follows; section two contains an exhaustive literature review of the major studies on online social networks in business. In section three we explain the research design and hypothesis, and section four proposes the development of the instruments and the study of the collected data. In section five we explain the methodology and analyze the results. And finally, sections six and seven present the conclusions, study limitations and proposals for future research.

## 2. Literature Review

#### 2.1. Online social networks in business

Online social networks have been studied in depth in recent years, yet there is still no uniform and closed concept (Enders et al., 2008). In the field of Internet, online social networks are described as pages that allow people to connect with friends and even make new friends to share content, interact and create communities of similar interests: work, readings, games, friends, hobbies, etc (Murray & Waller, 2007).

Bartlett-Bragg (2006) defines online social networks as a series of applications that enhance group interaction and collaboration spaces, social relations and the exchange of information aggregated into a Web-based environment.

A more recent definition by Kwon and Wen (2010) considers online social networks such as websites as spaces that allow people to build online relationships, through the collection of useful information and sharing it with others. They can also create groups that enable interaction among users with similar interests.

The reasons why these types of websites are successful are simple: they enable networking between geographically separated people who may have the same hobbies or similar ways of thinking (Lampe et al., 2007; Ellison et al., 2006)

In recent years we have witnessed how online social networks have acted as catalysts for communication initiatives by startups that have not been slow to discover and exploit the potential of these networks to reach potential customers and as tools for branding (Llera, 2012).

Llera (2012) points out that the Internet is a very fluid environment, and extending a company's ability to communicate in a digital environment requires clear objectives and strategies.

For example, according to a study by consultants McKinsey (Bughin, Manyika & Miller, 2009) "69% of respondents report that their companies have gained measurable business benefits, including more innovative products and services as well as more effective marketing, better access to knowledge, lower business costs and higher revenues". According to a recent study by McKinsey (2013) the benefits of the use of social media by customers include, for example, an average 20% improvement in the increased number of successful innovations, a 20% reduction in time to market, and a 15% increase in revenue. In addition, social media can be used to identify new business opportunities and new product ideas to deepen relationships with customers and to improve collaboration, not only within but also between firms and other parties (Lehtimäki et al., 2009; Hoffman & Fodor, 2010; Gillin & Schwartzman, 2011).

Social media are becoming increasingly important as a marketing tool on the Internet, given their widespread adoption by the general public. Evidence suggests that in consumer markets online social networks have become "de facto modus operandi" (Mangold & Faulds, 2009: 359) for users to disseminate information about brands (Michaelidou, Siamagka & Christodoulides, 2011).

Although individual Web 2.0 tools have been used to some extent in the business context for nearly a decade, general acceptance and understanding of social media among firms is still very low. In a Finland-based survey (Helfenstein & Penttilä, 2008) targeted mainly at chief executive officers (CEOs), chief information officers (CIOs) and strategic management, 25.4% said they were actively using Web 2.0 applications in

their organizations, and 16.4% said they would adopt them in the near future, while the rest had no plans or resources to do so, or they thought it was best to wait before deciding to adopt. By contrast, in the White Paper written by Stelzner (2009), the author notes that up to 88% of marketers surveyed were already using social media, but 72% had been doing so for only a few months or less. These changes emphasize the need for monitoring and studying the possibilities of social media and adoption rates in the context of business.

We have found very few recent studies that explore the adoption of online social networks in organizations in general, or as different business functions. Recent studies argue, for example, for the adoption of social media in managing customer relationships (Garcia-Crespo et al., 2010) and knowledge management (Pirkkalainen & Pawlowski, 2012).

Other previous research has examined how online social networks create the effect of online word-of-mouth versus traditional marketing mediums (Trusov, Bucklin & Koen, 2009), how these social media generate revenue (Enders et al., 2008) and how they can serve as shopping channels (Cha, 2009).

Therefore, the adoption of an innovation such as online social networks is based on an organization's perception of this particular technology, which in turn will ultimately determine whether it is taken up or not (Dillon & Morris, 1996; Iacovou, Benbasat & Dexter, 1995). The adoption of such technologies also depends, among other things, on the innovativeness of the specific organization and the capacity of the executive directors of the company to embrace such innovation (Lu, Yao & Yu, 2005; Premkumar & Roberts, 1999; Thong & Yap, 1995).

## 2.2. Spanish companies in online social networks

In Spain, the study entitled "The Presence of Ibex 35 Companies in the Web 2.0" developed exclusively by The Study of Communication (2014) for the newspaper El País, and which compared developments in these companies in terms of social media since 2010, found that 60% of Ibex 35 companies are present in more than half of the online social networks analyzed. And according to the "Social Networks in Spanish Companies 2014-2017" study by CB Consulting (2014), 66.3% of Spanish companies already use social media as part of their business policies, and 59.9% of small and medium enterprises (SMEs) are already present in this environment (92.3% for large companies).

The "Information Society in Spain 2013" report by the Telefonica Foundation (2014) notes that the use of online social networks by enterprises has only really taken off in the last two years but they are now generally used in all types of businesses. Almost all large companies use online social networks with a 55% take-up for medium and small companies. Internet is becoming a more social platform, and online social networks are an important part of Internet use.

Moreover, Online Business School, the first institution of its kind, published the "Social Media 2014" study in that year, which analyzes trends in use and participation in online social networks in Spain and in the major world economies. The results of this study indicate that investment by Spanish companies in social media grew 24% in 2013. Virtually all companies who invested in social media did so on Facebook (99.1%), followed by Twitter (90.8%), YouTube (68.5%), LinkedIn (30.3%) and Pinterest (29.6%). The average number of followers in business and community organizations in

online social networks is 350,000, but only 0.22% share published content. In addition, 19.2% of companies have sold products via online social networks in 2013. The CB Consulting study (2014) points out that Facebook is the most widely used network, currently adopted by 40.8% of companies, followed by Twitter with 36.8%. The use of a corporate blog is more frequent among Spanish companies (34.3%), well ahead of the 17.3% that use YouTube or LinkedIn (11.8%).

The Study of Communication (2014) survey notes that the only platform used by all companies in the selective index is Wikipedia (as was the case in 2010). The second most popular tool is LinkedIn, where 94.3% of corporations are present, compared with 80% three years ago. The largest increase in the period analyzed is on YouTube: in 2010 this medium was used by only 26.6% of companies, but jumped to 65.7% three years later. Facebook has also seen a marked increase in corporate presence, from 25.7% to 54.3%, while 42.9% of members have a corporate blog, up from 22.9% in 2010. The percentage of companies with an open account on Twitter has risen from 51.4% to 71.4%.

This study also reveals that the majority of companies in the Ibex 35 are present on LinkedIn, Twitter and Facebook. In LinkedIn, Banco Santander is the listed company with the largest number of followers (over 130,000), Bankinter has the most followers on Twitter (over 20,000), while the FTSE listing of companies with most friends on Facebook ("like") had Banco Santander with 86,746, followed by the BBVA bank (60,420) and the Jazztel phone company (58,780).

According to CB Consulting (2014), the most prominent reasons given by Spanish companies for being on social networks were that their presence "will enhance the brand image" and it is the "best way to meet the customers". About half the companies

polled cited these advantages, ahead of a third of companies that mentioned that they help to recruit staff. The disadvantages, as mentioned by over half the companies, include "difficulty in measuring the effect achieved" by this presence on social networks, followed by more than 40% that said that "the scope is limited," or "the obligation to constantly update". Another third of companies also acknowledged that they did "not know how to be properly represented on social networks".

In other countries, the "Priming the Economic Engine" study by LinkedIn (2013) of 998 small and medium enterprises in the USA indicates that 94% use social media in their marketing strategy, especially to increase brand awareness and develop their online presence. Other objectives of maintaining a presence in social media were to encourage word-of-mouth interest in the brand, content and disseminate news about the company as well as to increase the number of potential customers. In addition, two out of three companies surveyed (64%) said their presence was meant to attract new customers; 61% said that online social networks had contributed to that goal. Furthermore, 91% of the organizations participating in the study acknowledged that they had been able to increase brand awareness, while 82% had managed to generate leads.

Besides the purely commercial approach, these small organizations admit that online social networks allow them to learn and stay abreast of trends in their industry, and expand the number of contacts. So, online social networks have enabled them to connect other professionals and even experts who they can consult and ask for quality information and suggestions on topics of interest.

## 3. Research design and hypothesis

To achieve our aims, and especially to determine the link between attitudes towards innovative technologies and the adoption of online social networks, we propose a number of hypotheses.

It is widely recognized that Internet systems, information systems, electronic commerce technologies and new knowledge are important tools for national and international business (see Mathews & Healy, 2007; Mostafa, Wheeler & Jones, 2006). For example, the Internet has allowed international companies to improve the efficiency of international trade transactions (Gabrielsson & Manek Kirpalania, 2004; Mathews & Healy, 2008).

This includes the strengthening of international trade relations, while significantly improving the collection and exchange of information related to international markets (Petersen et al., 2002). In particular, the Internet has played an important role in small and medium enterprises' ability to conduct more extensive national and international business through faster access to competitive information (Mathews & Healy, 2008) and markets.

Thus, in our study we considered that the presence of large firms in online social networks may reflect a positive relationship given the importance they attach to the use of tools such as the Internet, information systems, electronic commerce technologies and new knowledge.

H1: The presence of companies on online social networks has a positive relationship in terms of the importance given to information systems.

H2: The presence of companies on online social networks has a positive relationship in terms of the importance of Internet usage for the company.

H3a: The presence of companies on online social networks has a positive relationship in terms of the use of e-commerce for selling.

H3b: The presence of companies on online social networks has a positive relationship in terms of the use of electronic commerce for purchasing.

H4: The presence of companies on online social networks has a positive relationship in terms of the implementation of standards regarding the use of Internet, social networking, etc., by the company.

H5: The presence of companies on online social networks has a positive relationship in terms of the use of information technology as a means of gaining competitive advantage.

H6: The presence of companies on online social networks has a positive relationship in terms of the extent of knowledge in computers and communication among their employees.

#### 4. Method

# 4.1.Questionnaire Design

First, we developed a questionnaire (Appendix A) to survey the largest companies in the country, not just based on turnover but also combined with the top five firms in each of the 66 company sectors listed in the "Production Development" database. This allowed us to collect data from the leading companies in their sector.

The questionnaire was sent out and followed up by contact via email, phone, fax or personal visit.

In total we gathered data on 99 companies that were among the highest earners in their respective economic sectors in Spain. This survey was carried out between September and December 2011.

# 4.2.Sampling

We used simple random sampling without replacement which allows us to obtain more reliable data, and this was done by computer-generated random numbers. The margins of error should be as small as possible, bearing in mind that the framework of the chosen population is very large.

For our survey we used an opinion-based method for drawing up the list on the basis of the first companies among each of the 64 firms in the framework of the first phase, that is, the "Production Development" list of companies with more than 1,000 workers, supplemented by the largest companies in some sectors that also have more than 1,000 workers. Once these data were obtained we used unrestricted random sampling.

To obtain the appropriate sample size we decided to work with relatively small margins of error and different levels of confidence depending on the area investigated.

In our case, we worked with a confidence level of 95.5% and assumed that the parameters "p" and "q" would be equal to 0.5 with a margin of error of 0.1 (10%), because it is small populations The formula used was that taken from Arkin and Colton (1989), which is widely applied in social sciences.

$$n = \frac{Z^2 \times N \times p \times q}{E^2(N-1) + Z^2 \times p \times q}$$

Where: n = Sample Size

N = Size

E = Margin of error

p & q = Population variances

Finally, for our sample the formula is as follows:

$$n = \frac{4 \times 2351 \times 0.5 \times 0.5}{0.1^{2}(1000-1) + 4 \times 0.5 \times 0.5} = 95.9591837$$

So, 96 is the recommended sample size in our study from a total sample of 99 companies.

Tables 1 and 2 show the sample data sheet and company characteristics.

# **Insert Table 1**

# **Insert Table 2**

One of our assumptions was that we would be able to work with the widest available amount of direct information, therefore, we contacted companies from different industries and geographical areas, as well as organizations of all sizes, the only restriction being to limit the selection to companies with a turnover of over  $\in$  2 million per year (Table 2).

In our study it is clear that most companies have their headquarters in Madrid (54.9%) or Barcelona (19.8%), the two locations representing 74.7% of firms surveyed (Table 3).

#### **Insert Table 3**

# 5. Methodology and results

To determine the significance of the hypotheses posed we first conducted a descriptive analysis of the association of variables and verified this with the Chi-square test for independence in order to discover the correlation between the two variables. This process was carried out using the SPSS statistical tool.

As previously mentioned, our first objective was to determine the presence of the major Spanish companies in online social networks and measure the importance ascribed by large Spanish companies to online social network presence. In addition, our aim was to reveal the link between attitudes towards technology and the adoption of online social networking.

Our study shows (Figure 1) that the 39.40% of large Spanish companies have a presence in online social networks whereas 25.27% do not, for now, although the latter state that it seems to be important to have such a presence. A further 35.36% declare that they do not appear in online social networks and do not intend to do change that strategy in the future.

## **Insert Figure 1**

This shows that there are still some companies that are reluctant to use these tools, perhaps because they do not see any real benefit or because they do not know how to be properly represented in the social networks. It is, therefore, essential to have a clear strategy in order to support and develop an online presence in social media.

We performed the Chi-squared test to discover the relationship between the variables selected in our hypotheses, and we observed that most of the differences were not significant (Table 4)

#### **Insert Table 4**

In the first hypothesis, we propose that there existed a relationship between the variables "the presence on social networks" and "the importance of information systems for the company". The Chi-squared ( $\chi 2 = 6.083$ , p> 0.05) test confirms that the variables are independent, that is, that there is no relationship between them and, therefore, no other influences. What is evident (Figure 2 and Table 5) is that large Spanish companies assign a great deal of importance to information technology and information systems in their business operations. But there is no significant difference in the value of this variable as to whether these firms use online social networks or not.

## **Insert Table 5**

# **Insert Figure 2**

Hypothesis 2 proposes that there is a relationship between the variables "the presence on social networks" and "the importance of Internet usage for the company". The Chisquared ( $\chi 2 = 9.187$ , p> 0.05) test confirms that the variables are independent, with no connection between them.

# **Insert Table 6**

## **Insert Figure 3**

Figure 3 and Table 6 show that 79.40% of companies which use online social networks give considerable importance to Internet use in their business dealings. The same trend is also true for companies that do not currently use social media but which believe it would be important to do so in the future. However, companies that have no presence on online social networks and which do not think it is important to change that strategy in the future are fewer than the 28.30% of companies that consider it normal to use the Internet in business, while 26.30% give its usage a lot of importance and 25.70% say it is essential.

In hypothesis 3, we propose that there exists a relationship between the variables "the presence on social networks" and "the use of electronic commerce to buy and sell". The Chi-squared tests for buying ( $\chi 2 = 8.278$ , p <0.05) and selling ( $\chi 2 = 8.547$ , p> 0.05) confirm that these variables relate positively, and that 69.2% of companies present on social networking sites and 80% of companies that are not currently represented on social networks but will be so in the future, use e-commerce to make purchases, while

only 45.7% of companies that have no presence on social networks use e-commerce to buy. As for the relationship between "the presence on social networks" and "the use of e-commerce to sell", the Chi-squared test confirms that the variables are independent with no interconnection. Despite the lack of a relationship observed, the percentage of companies (51.3%) with a presence on social networks that use e-commerce to sell versus those companies that have no presence on social networks but which use e-commerce to sell is higher, at 51.3% and 22.9% respectively.

Hypotheses 4 and 5 deal with the relationship between three variables: "the presence on social networks", "the implementation of standards for Internet use" and "the use of information technology to gain competitive advantage for the business". The Chisquared tests, ( $\chi 2 = 0.816 \text{ p} > 0.05$ ) and ( $\chi 2 = 3.390, \text{ p} > 0.05$ ), indicate that the variables are independent with no connection between them. What is noteworthy is that 85.9% of companies have implemented in-house rules regarding Internet use, social networking etc. Of these 35.4% have an online social networking presence.

Similarly 85.9% of companies said they used information technology to gain competitive advantage in their business. Of these, 35.4% are companies that have a presence in online social networks.

Finally, hypothesis 6 proposes that there exists a relationship between the variables "the presence on social networks" and "the general level of computer and communication knowledge among employees". The Chi-squared ( $\chi 2 = 6.824$ , p <0.05) test again indicates that the variables are independent, with no connection between them. Table 7 and Figure 4 show that companies with no social network presence (54.3%), and those to whom it seems important but do not participate in them (54.2%), follow the same

trend in that their employees possess an average level of knowledge in IT and communications.

These values vary in companies that have an online social network presence; 46.2% of companies stated that their employees have considerable knowledge of computing and communications.

#### **Insert Table 7**

# **Insert Figure 4**

#### 6. Conclusions

The rise of social media challenges the way companies manage information. This study aims to determine the extent of the presence of large Spanish companies in online social networks, as well as the relationship between the extent of computerization in companies and online social network presence.

This study contributes to the understanding of the state of Spanish companies that are among the highest earners in their respective economic sectors in relation to online social networking. Previous research has examined online social networks in enterprises

in other contexts and with other sample companies. This study marks a new contribution to the study of online social networks in Spanish companies. The first conclusion of this research is that the presence of the large-scale Spanish firms sampled in online social networks is quite low (39.40%) compared with other studies, such as The Study of Communication (2014) which states that 60% of Ibex 35 companies are present in more than half the social networks analyzed by that survey. According to CB Consulting (2014), 66.3% of Spanish companies already use social media as part of their business policies. This percentage difference may be attributable to the fact that our sample was taken in 2011, and since then online social network presence has increased, possibly among those 25.27% of companies surveyed in our sample that had no online presence at the time but who deemed it important to consider doing so in the future.

Spanish companies' online presence is set to keep on growing as it is seen as a great opportunity to enhance communication and interaction with the general public, increase brand awareness, disseminating content and company developments, and to boost the number of potential customers.

But there is still some way to go, since many companies face obstacles when attempting to establish an online social network presence. The CB Consulting (2014) study argues that many companies do not know how to represent themselves properly on social networks and they also find it hard to measure the effect of that presence. It is clear that before embarking on the launch of an online social network presence, a company should be prepared to support that presence with a clear strategy. In this new ecosystem the new approach should be conversational not a monologue, and, as noted by The Study of Communication (2014), the communication departments of big companies need to undergo a process of reeducation.

These barriers can be overcome by investing in and promoting the company's presence in an online social network website. Implementation of such a plan should be done according to previously established objectives. SEO (Search Engine Optimization) to optimize web actions, SEM (Search Engine Marketing) or email marketing should be a fundamental part of the business strategy. In addition, direct contact with the final customer can be boosted by a solid plan that provides for social media content and targeted viralization for the promotion for company products, with the goal of increasing the level of engagement with its followers.

After contrasting the hypotheses, "the presence on social networks" variable is considered to be independent of the following variables: (1) "the importance of information systems for the company," (2) "the importance of Internet usage in for the company," (3) "the use of electronic commerce to sell," (4) "implementation of standards for Internet use"(5) "use of information technology to gain competitive advantage for the business" and (6) "the general level of computer and communication knowledge among employees". The only variable that was positively related to "the presence on social networks" variable was "the use of electronic commerce to buy". This indicates that most companies with an online social network presence make use of e-commerce to buy, demonstrating a high level of usage of new information and communication technologies. Companies understand the benefits of these tools for their businesses and use them as part of their strategy, for example in the use of electronic commerce for purchasing at lower costs; such usage also empowers consumer choice in a global market according to their needs, provides pre-sale information and an opportunity to test products before they make a purchase, immediacy in order placement, and supply chain reduction; they also allow customers to purchase a product at a better price, enable greater interactivity and personalization of demand, providing

immediate information on any product, its availability and access to information when required.

Among the other variables studied we highlight the importance large Spanish companies give to information technology and information systems. The Internet is considered essential among those companies that use social networks as well as among those that do not currently have an online social network presence but who believe it is important to have one in the future. By contrast, for those companies that neither have a presence on the social networks nor believe that it is important to have one in the future, the Internet is only deemed to be of average importance. These results show that there are companies that have not fully implemented information technologies or which are unable to see the advantages of doing so.

We note that 85% of the companies surveyed have implemented rules on the use of the Internet and social networks in the workplace, which indicates that companies are very aware of information security. Such rules are useful for employees and the development of the business as guidance in the professional and responsible use of these tools; these norms also help to train and warn staff of the consequences of negligent behavior on the Net. They also promote the idea of employee as ambassador for the company while carrying out company business on the Internet and in the social media.

Finally, the survey shows that employee knowledge of computing and communication technologies is higher among firms that have an online social network presence, while workers belonging to companies that do not have an online presence only have an average knowledge, so we conclude that those companies with a technologically trained staff use social media because they realize the advantages of its use for the company.

Social networks have become one of the most common forms of communication worldwide; today everything that moves is in the social media, and companies that want to increase their competitive edge over rivals must have a visible presence on these networks; that way they can monitor conversation about their brand and respond quickly and appropriately. In addition, potential customers are influenced by and trust in, the opinions of friends and colleagues, which merely confirm that word of mouth is one of the best means of persuasion. Furthermore, presence in social networks helps companies to strengthen their brand (Michaelidou et al., 2011; Van Den Bulte & Wuyts, 2007) and promote the culture of transparency, trust and reliability. It also has an effect on income growth as it helps a company to better understand its customer, and costs are minimal compared with those associated with other means.

#### 7. Limitations and future research

Our research has studied the current presence in online social networks of leading Spanish companies in their sectors. We have also tried to find the link between attitudes towards technology and the adoption of online social networking.

However, our study does not delve into the reasons why these companies have a presence in online social networks.

Therefore, future research could focus on improving understanding of why companies choose, or not, to have a presence on these networks. It would also be interesting to study and understand how companies could measure the incremental benefit obtained by the use of these networks. Another possible research path could be to study other variables that relate the attitudes of companies that have information and communication technologies to the adoption of social networks. And finally, studies

like ours in other countries could shed light on possible cultural differences in attitudes					
towards technology and the adoption of online social networking.					
ANNEX A. Questionnaire					
<ul> <li>How important are information technology and information systems in your company?</li> </ul>					
☐ Very Low ☐ Low ☐ Medium ☐ High ☐ Very high					
• How important is the Internet in your business?					
☐ Very Low ☐ Low ☐ Medium ☐ High ☐ Very high					
<ul> <li>Does your company have a presence on social networks (Facebook or LinkedIn, for example)? (CV not personally)</li> </ul>					
Yes					
Not yet, but it is important to have a presence on social networks.					
No and we have no plans to have a presence on social networks.					
<ul> <li>Does your company use e-commerce for buying?  Yes  No</li> <li>Does your company use e-commerce for selling? Yes  No</li> </ul>					
<ul> <li>Has your company implemented any rules on the use of Internet, social networks, etc., on behalf of employees?)</li></ul>					
<ul> <li>Do you use the computer to gain a competitive edge for your business? ☐ Yes</li> <li>No</li> </ul>					
<ul> <li>What is your opinion of the general level of computer and communications skills among workers in your company?</li> </ul>					
□Very Low □Low □Medium □High □Very High					

## 8. References

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# **TABLES**

**Table 1. Technical Details of the Survey** 

Large Companies						
Hypothetical Universe Consisting of large Spanish com						
Target Population	Leading Spanish companies in their respective sectors employing more than 1,000 workers.					
Population Framework	Random sampling without replacement, random numbers					
Sampling Error	+/- 0.1					
Confidence Level	95.5%					
Parameter Hypothesis	Z=2 & P=Q=0.5					
Sample Size	99 companies					
Sampling Procedure	Random sampling without replacement, random numbers					
Survey Method	Questionnaire by sent by post, followed up by contact by email, phone, fax or personal visit.					

Table 2. Response by Spanish Regional Autonomous Community

Autonomous	Frequency	%
Community		
Andalucía	11	11.1
Aragón	1	1.0
Asturias	2	2.0
Baleares	2	2.0
Canarias	2	2.0
Cantabria	1	1.0
Castilla-León	1	1.0
Cataluña	17	17.2
Galicia	3	3.0
Madrid	51	51.5
Murcia	1	1.0
Navarra	2	2.0
País Vasco	3	3.0
Valencia	2	2.0
Total	99	100

**Table 3. Spanish Companies Characteristics** 

	N°	%
Sector		
Industry	2	2%
Building Materials	7	7%
Power Supplies	6	6%
Food - Beverages	5	5%
Mechanical Construction	3	3%
Textiles	2	2%
Temporary Work	4	4%
Computing	8	8%
Utilities	3	3%
Energy	7	7%
Engineering	14	14%
Transportation	4	4%
Construction / Real Estate	15	15%
Hospitality - Restaurants	5	5%
Supermarkets	2	2%
Advertising and Marketing	3	3%
Security	2	2%
Recycling	2	2%
Hospital	4	4%
Chemical	1	1%
Total	99	100%
Number of employees		
1000 <= N < 1500		36
1500 <= N< 2500		33
2500 <= N < 3500		5
3500 <= N < 4500		11
>=4500		14
Total	99	100%
Turnover (in millions of €)		
13<=N<100	24 €	24%
100<=N<1000	53 €	54%
1000<=N<10000	20 €	20%
10000<=N<26000	2€	2%
Total	99	100%

**Table 4. Summary of the results of the hypotheses** 

		Chi-		
	Variable pairs	squared	Significance	Support
	presence on social networks * the importance of			
H1	information systems for the company	6.083	0.881	No
	presence on social networks * the importance of			
H2	Internet usage for the company	9.187	0.163	No
	presence on social networks * Using e-commerce			
H3a	for selling	8.547	0.073	No
	presence on social networks * Using e-commerce			
H3b	for buying	8.278	0.016	Yes
	presence on social networks * implementation of			
H4	standards for Internet use	0.816	0.665	No
	presence on social networks * use of information			
	technology to gain competitive advantage for the			
H5	business	3.39	0.495	No
	presence on social networks * computer and			
	communication knowledge of company			
Н6	employees	6.824	0.556	No

Table 5. The Importance of Computer and Information Systems for Large Spanish Companies

	Importance of Computer and Information Systems					
Presence in online social	Very					
networks	Low	Low	Medium	High	Very High	
They have an online social network						
presence.						
	0.00%	2.60%	10.30%	12.80%	74.40%	
They do not have an online social						
network presence but they think it						
is important to have one.	0.00%	4.00%	4.00%	12.00%	76.00%	
They do not have an online social						
network presence and have no plans						
to implement one.	2.90%	0.00%	11.40%	17.10%	65.70%	

**Table 6: The Importance of the Internet for Large Spanish Companies** 

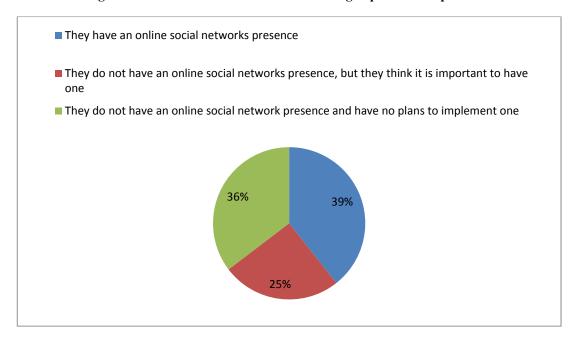
	Importance of the Internet					
Presence in online social	Very					
networks	Low	Low	Medium	High	Very High	
They have an online social						
network presence.						
-	0.00%	0.00%	20.50%	25.60%	53.80%	
They do not have an online social						
network presence but they think it						
is important to have one.	0.00%	8.00%	24.00%	24.00%	44.00%	
They do not have an online social						
network presence and have no						
plans to implement one.	0.00%	4.00%	28.30%	26.30%	25.70%	

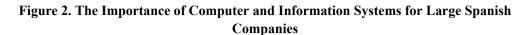
**Table 7. General Level of Computer Skills among Company Employees** 

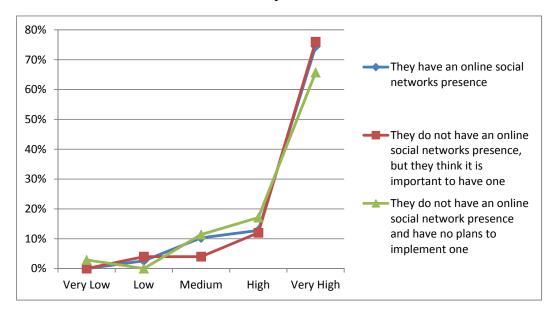
	Skills				
	Very				Very
Presence in online social networks	Low	Low	Medium	High	High
They have an online social network					
presence.					
	0.00%	7.70%	41.00%	46.20%	5.10%
They do not have an online social					
network presence but they think it is					
important to have one.	4.20%	12.50%	54.20%	29.20%	0.00%
They do not have an online social					
network presence and have no plans to					
implement one.	2.90%	14.30%	54.30%	25.70%	2.90%

# **FIGURES**

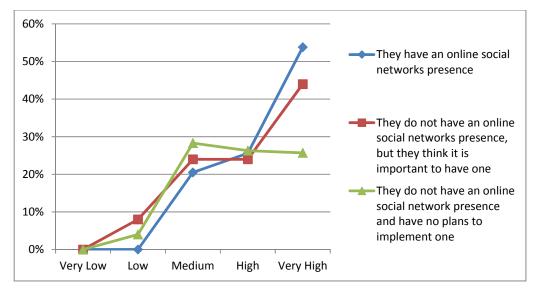
Figure 1. Online social networks use for Large Spanish Companies

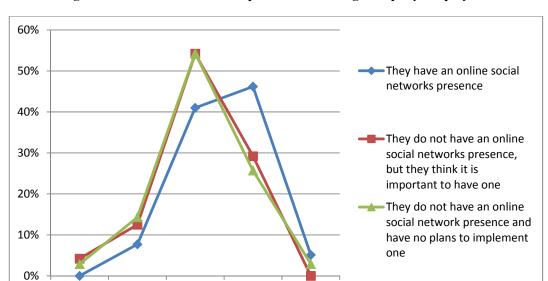












High

Very High

Medium

Low

Very Low

Figura 4. General Level of Computer Skills among Company Employees