

# The use of ICT in Spanish Financial Sector: the case of Facebook

## El uso de las TIC en el sector financiero español: el caso de Facebook

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### Content

[1. Introduction](#)

[2. Methodology](#)

[3. Results](#)

[4. Conclusions](#)

[Bibliographic references](#)

#### ABSTRACT:

We present a general overview of Historical development of the use of Information and Communication Technologies (ICT) in the Spanish Banking Sector, taking into consideration the potential importance of the social media to develop an orientation towards the client. Finally, we focused on analyzing the use that Spanish Banks of IBEX 35, make of their Facebook pages as a tool for positioning and business development, in order to show trends and best practices of each one of the financial entities analyzed.

**Keywords:** Information and Communication, ICT, Facebook, Financial Sector.

#### RESUMEN:

Presentamos una visión general del desarrollo histórico del uso de las Tecnologías de la Información y la Comunicación (TIC) en el sector bancario español, teniendo en cuenta la importancia potencial de las redes sociales para desarrollar una orientación hacia el cliente. Finalmente, nos centramos en analizar el uso que hacen los bancos españoles del IBEX 35 de sus páginas de Facebook como una herramienta de posicionamiento y desarrollo empresarial, para mostrar las tendencias y mejores prácticas de cada una de las entidades financieras analizadas.

**Palabras clave:** Información y comunicación, TIC, Facebook, sector financiero.

## 1. Introduction

Since the 1960s, innovation has been present in the financial area which has involved a new conceptualization of the traditional banking business. According to Price Waterhouse Coopers Auditors (PWC, 2013) innovation is not an option anymore; however, it is a basic need to compete in a market that is changing, such as the financial sector. This is confirmed by "World Survey of Innovation" PwC (2013), which reflects that innovation is one of the priorities of the banks, being the key to efficiency. Besides, financial innovation can be defined as the process of adaptation for the supply and demand of customers and markets, so that the customer stops being in the second place and becomes the center of attention of the banking activity (Alvarez, 1993). From this point of view, the financial innovation, can arise as a response to an unmet demand or as a necessity by the financial institutions to take advantage of leadership situations or defend themselves against the competition (Rodríguez, 1990).

On the other hand, in an environment characterized by the globalization of financial markets, growing financial culture of customers, as well as the reduction of brokerage margins, technological innovation in the banking area has been vital not only for the success of financial institutions, but also for their existence (Larrán and Muriel, 2007). It is in this last type of innovation where the role of social networks as a new channel of communication with the client takes a greater importance with the purpose of making a better use of the digital information that is available and deepen the knowledge of the client. Social networks, in particular Facebook, changed the way brands broadcast their messages and interact with their followers. In this new dynamic environment, it is crucial to understand how this interaction takes place (Gonzaga, Chini, Oliveira and Miralpalheta, 2016).

### 1.1. Historical development of the use of information and communication technologies (ICT) in the Banking Sector

Three historical stages can be distinguished in the relationship of ICT with the financial sector: the mechanization of applications, the interconnection of the finance, and the development of new channels focused on the client (Ontiveros, Martín, Navarro and Rodríguez, 2011).

#### The appearance of computer science

At the end of the 1960s begins the mechanization of specific applications within financial institutions, thanks to the entrance of the computer. Thanks to this technological advance it was possible the launch of the first electronic payments, cards, as well as the first ATMs and payment terminals (point-of-sale terminals), which allowed to withdraw money without going to the window bank and also make electronic payments in shops. The introduction of ATMs was important to save time to the users at the moment of withdrawing funds and this allowed to increase efficiency in financial institutions, which were released from the need to manually manage these kinds of operations.

#### The interconnection of finance

The second stage is set since the beginning of the 1980s until the beginning of the 1990s. In this period, the particular case of Spain, it delved into the systems of information exchange among financial institutions, which lead to the launch of the National Electronic Clearing System (NECS) (SNCE), the system of Spanish Interconnection Stock (SIBE), as well as the connection of the Spanish banking to the international network SWIFT and joining to the international standard EDIFACT to exchange electronic information (Ontiveros, Martín, Navarro and Rodríguez, 2011).

Via the National Electronic Clearing System (NECS), all payments are processed to the retail, such as checks, transfers and direct debits. Referring to Spanish Interconnection Stock (SIBE) it introduced the electronic trading of shares in 1989. Until then, negotiation was carried out exclusively in the trading pits, where securities companies and stock exchange operators physically met in the living room of procurement, so that face-to-face negotiations could be held.

The international network SWIFT is a cooperative through it the financial sector carries-out its transactions in a fast, secure and reliable way. SWIFT allows its customers to automate and standardize financial transactions, thus, reduce both costs and operational risk, eliminating inefficiencies in operations. Currently, more than nine thousand banks, financial institutions, securities companies, and corporate customers in more than 200 countries use this service to exchange millions of standardized financial messages.

On the other hand, EDIFACT standardization, allowed the spread of data in a standardized format between the computer systems of those who participate in business transactions with the reduction to a minimum of manual interference. This system intensively takes advantage of computer applications and telecommunications networks to replace the traditional paper document. Furthermore, this system provides benefits, such as cost savings (postage, copying, file...), faster transmission, as well as greater reliability and accuracy of the data comparing to the manual transmission.

#### The development of new channels focus on customers

The third stage in the relationship of TIC with the financial sector comes at the time that the automation of banking and financial process is high, and when the interconnection of systems is a reality, thanks to the development of telecommunications infrastructure and, particularly, to the Internet.

The first noteworthy effort was the launch of telephone banking in 1992. Telephone banking gives plenty advantages for the customer, such as greater flexibility of timetables in comparison with office schedules, and the ability to manage a large number of operations instantly.

In the midst of the new features that have been added to this service as a result of the development of TIC and the introduction of innovations, it is the possibility to access to phone banking through mobile phone service which allows video calls with advisers and access to services of selling tickets, telephone charges, payments and banking movements alerts, among others.

Some of the initiatives that have ensued in this period have had little success, as in the case of electronic wallets (aimed at micropayments, almost extinct today) or the banking services through television, wherein serious usability problems were found that discarded its massive use.

Without a doubt, the channel that has had a greater impact is online banking and, in an increasing way, its evolution towards mobile banking through smartphones. The online banking, it has revolutionized the concept of self-service banking, offering a safe channel, comfortable and open to new services that were not possible before, such as the simulation of financial products or the management of personal finances.

The greatest exponent of this revolution is retail financial institutions that do not have a wide network of offices that support their business and interconnect with customers through the at distance- banking.

### **The future of the financial sector: social media**

In just fifteen years, online banking has experienced a high degree of development in Spain. Nowadays, via Internet, it is possible to do any financial operation that does not require cash, in a convenient, simple and secure way.

If the operational capabilities of online banking are already widely developed, its future is associated to the improvement of attention and the incorporation of added value services that is not possible to offer through other channels, such as mobile telephony, or ATMs. (Ontiveros, Martín, Navarro y Rodríguez, 2011).

Web 2.0 improves the banking dialogue with its customers and differs from the traditional communication incorporating active attention to their likes, interests and contents that users are capable of generating. Financial institutions must be able to adapt to this new environment of greater power for customers, understanding the need to properly interact with their customers based on social networks (Murray et al, 2014; Dootson, Beatson & Drennan, 2016) and that social networks will become a more permanent part of their marketing strategies (Greenberg, 2010; Karaduman, 2013 & Dootson, Beatson & Drennan, 2016).

Some pioneering institutions have already understood the relevance in short and long term to develop an orientation towards the client based on the dialogue, and are developing marketing and communication strategies in social networks. The case of the Spanish banking sector is one of the most successful and the use of social networks have two different actions: its use as means of relationship with customer and its use to carry out operations and transactions (IEB, 2015). Among the different actions that banks may follow to get into this new field of social networks, are the following (Ontiveros, Martín, Navarro y Rodríguez, 2011):

- **Creation of own forums or communities.** Its objective is to contribute to the financial culture offering quality content and facilitating the exchange of knowledge.

- **Sponsorship of content in third-party communities.** Some independent thematic financial communities go for incorporating content sponsored by financial institutions, thus contributing to reinforce its brand.

- **Promotion of corporate blogs.** The objective is to improve the image of transparency towards customers and the whole society. Sometimes blogs represent the vision of the institutions direction, but in other cases, in public disclosures the lines of work in some areas. The areas of entities such as Sabadell Bank, Bankinter o BBVA have already chosen this model.

- **Contribution of content in general social networks and communities.** Banking has made its foray into the main 2.0 sites such as Facebook (social networking), Twitter (micro-blogging) or YouTube (videos).

The ranking report of the conventional banking in Spain in Social Media, by Alianzo (2015) shows Facebook as the most important social network in this type of industry, since it is positioned on the top with 293,531 users.

Being Facebook the most successful social network, worldwide banking has begun to incorporate this social network within its channels, as a main strategy to boost its relationship with customers in the era of digital banking.

## **1.2. Main Features of Spanish Banks**

To carry out this study, it was decided to choose Spanish banks that are quoted on the Spanish stock exchange (IBEX 35). As follows below, it is briefly explain the most important aspects of these institutions

### **Santander Bank**

The origin of the Santander Bank dates back to 1857. Under the leadership of Emilio Botín, it starts an important process of expansion throughout the country, to the big absorption of Mercantile Bank in 1946. Between 1977 and 1985 with the arrival of Emilio Botin Sanz de Sautuola and García de los Ríos to the delegation and later to the Presidential Office, several acquisitions of commercial banking in Latin America were made; and two important points were noticeable in the next decade, such as the creation of Santander Bank Business in 1985 and the acquisition of the German organization CC-Bank (Santander Bank, 2016).

It turns out to be the first enterprise of the Spanish market thanks to the purchase of Banesto in 1990. At the same time, it starts a second stage of expansion in Latin America, merging in 1999 with Banco Central Hispano, which positioned it as leader of the international market. Between 2000 and 2011 it is carried out with various establishments of U. K., Brazil, U.S.A. and Poland, so these are years of great expansion (Santander Bank, 2016).

According to the annual audit report by Deloitte (2016.b) the assets of this financial entity to 31 December 2015 were 496,322,000 million euros. In addition, the auditor Deloitte certifies that the financial entity has a payroll of 193,863 employees, 121 million customers, 13,030 offices and closed in 2015 with a capitalization of stock market of 65,792 million euros. According to InterBrand (leading international consultant in assessment and strategic advice of brands) in 2016, Santander Bank was the most valuable Spanish brand.

### **Banco Bilbao Vizcaya Argentaria (BBVA)**

BBVA was created in 1857, promoted by the Board of Trade as an issuance and discount bank, addressed as a pioneering initiative in the context of economic growth in the region. In 1901 Vizcaya Bank was founded, which carries out its first operations in Bilbao and gradually spreads throughout the country. In addition to its activities as a commercial and deposits bank, it participates in the creation and development of a large part of the Spanish industry.

In 1902, Banco de Bilbao made a merger with Banco de Comercio, although both entities keep their respective legal figures. Nonetheless, the merger agreement of Banco de Bilbao and Banco de Vizcaya, was signed in 1988, when BBV abbreviation is adopted. Eleven years later, on October 19, 1999 merges the BBV with Argentaria Bank and created the current name BBVA, which main objective is to continue generating value (BBVA, 2016.a).

According to the audit report by Deloitte (2016.a) the assets of this financial entity to 31 December 2015 were 397,303,000 million euros, also it has an extensive network of offices around the world, distributed exactly 9,145 in 35 countries (BBVA, 2016.b). As shown on the corporate website, the multinational group BBVA is based on a model focused on the customer, based on the global vision that seeks to generate maximum value for the shareholder.

### **Caixabank**

CaixaBank was created in 2011 by the Savings Bank and Pensions of Barcelona (La Caixa). The financial entity operates with a head office in Barcelona as an integrated financial business banking group, insurance business and investments in international banks and leading companies of the sector services (CaixaBank, 2016).

As shown on the corporate website this financial entity has the most extensive network in Spain, with more than 5,000 offices and about 9,500 ATMs, which is complemented by a leading online and mobile banking service. According to the audit report of financial statements conducted by Deloitte (2016.d), December 31, 2015, CaixaBank assets were 317,756,635 million euros and on the same date, it had 5,228 offices, 32,242 employees and 13.8 million customers.

### **Sabadell Bank**

On December 31, 1881, it is created a shared of 127 entrepreneurs and merchants of Sabadell (Barcelona), who founded the company with the aim of

financing local industry and provide it with raw materials. It begins its territorial expansion in 1965 to the nearest populations, but it soon went out of Catalonia, since it arrives in Madrid and just three years later becomes international in London, with its first office in a foreign country. This financial entity is known as pioneer in computerize Spanish banking in 1986 by introducing channels of communication and at distance banking service through the telephone (PhonoBanc) and computer (InfoBanc); also in 1998 it launches BancSabadellNet, first online banking service.

On its web site, history section, shows that, with the beginning of the 21st century, Sabadell Bank goes to the stock market and faces the new millennium with a multi-channel strategy, new lines of business and clearly focused on the client. In 2003 this financial entity presents a public offer (OPA) for 100 percent of the capital of Banco Atlántico S.A., so this was the end of the technological and operational integration of both brands. Since 2006 until 2013, it is a period of great acquisitions for this financial entity, since businesses were done with Banco Urquijo, TransAtlantic Bank in Miami, with the insurance group Zurich, Mellon United National Bank, Banco CAM and Banco Gallego.

According to the audit report carried out by Price Waterhouse Cooper (2016) to December 31, 2015, the assets of Sabadell Bank were 208,627,771 million euros. Besides, as it is shown on its web site, on the same date, there were 2,873 offices in almost each country all over the world, 26,090 employees and 11.4 million customers (PwC, 2016).

### **Banco Intercontinental Español, (Intercontinental Spanish Bank, Bankinter)**

Bankinter is constituted in June 1965 as an industrial bank participated to 50% between Bank of America and Santander Bank, located in Madrid. In 1972 the Company was listed for trading in Madrid Stock Exchange and it became independent of its founders, that is when this financial entity is changed into commercial bank (Bankinter, 2016).

In 1993 a process of growth began, through partnership strategies with banking Association and Agency network. This financial institution is known as the pioneer in the banking sector through the Internet, as well as, it is known for operating through telephone banking; in 2003 it launches the first banking and investment system via mobile phone. Later in 2009, it carries out a capital increase of 50% of the insurance company Direct Line a Bank of Scotland and purchase its property, considering that it owned the other half. In addition, in September 2015, it did businesses with the retail banking Barclays in Portugal (Fernández and Carabias, 2007)

According to the audit report by Deloitte, the assets of this financial entity to 31 December 2015 were 58,659,810 million euros, it also has a wide network of offices around the world, exactly 9,145 offices in 35 countries. The organization operates a net of 505 officers and manages resources of 1,572 thousand of euros and an average investment of 1,574 thousand euros (Deloitte, 2016.c).

### **Banco Popular Español (Spanish Popular Bank)**

Banco Popular Español (Spanish Popular Bank) was constituted on July 14, 1926 with headquarters in Madrid, under the name: "Banco Popular de los Previsores del Porvenir" (Popular Bank of Provident of the Future). In 1962 it introduced banking specialization with separation of functions between commercial and the industrial banks, encouraging the creation of an industrial bank, under the name of "Banco Europeo de Negocios" (European Business Bank), Eurobank. In 1988, along with the Insurance Group Allianz, it created to 50 percent: Europensiones, Eurovida and Euroconsulting (BPE, 2016.a).

Moreover, in 1992, Popular bank changes its subsidiary in France in a joint venture with "Banco Comercial Português" (Portuguese Commercial Bank) under the name "Banco Popular Comercial" (Popular Commercial Bank) and it establishes a network of branches in Portugal (BPE, 2016.e). Later, in 1997 it created an innovative telephone banking platform, subsequently, in 2000 it become a specialist in Internet banking with the opening of Bancopopular-e. Furthermore, between 2003 and 2013 this financial entity did different acquisitions like "Banco Nacional de Crédito" (National Credit Bank), Total Bank, besides taking up regional subsidiaries and purchasing "Banco Pastor". Subsequently, BancoPopular and "Banco popular-e ", become known as WiZink focusing on the business cards and deposits, other products would be managed by "Banco Popular" (BPE, 2016.f).

Nowadays, as it is shown on its web site the group consist of a headquarters bank "Banco Popular Español" (Spanish Popular Bank), six banks, from those ones, four operate in Spain ("Banco Pastor", "Popular Banca Privada" (Popular private bank), Targo bank and Bancopopular-e, one in Portugal (Banco Popular Portugal), another in United States (Totalbank) and the financial group in Mexico, Bx +.

This financial entity certifies on its annual report (2016.a) that, to December 31, 2015, Popular Bank's assets were 158,650,873 million euros, also it had 2,124 offices (1936 in Spain and out of the country 188) as well as, 15,079 employees (13,480 in Spain and overseas 1,599) (BPE, 2016.b).

### **Bankia**

The history of Bankia begins on July 30, 2010; signing an integration contract to create a contractual group composed of seven savings banks: "Caja de Ahorros y Monte de Piedad de Madrid " (Pawnbroking institution and Savings Account from Madrid), "Caja Insular de Ahorros de Canarias" ( Savings Account from Canary Islands), "Caja de Ahorros y Monte de Piedad de Ávila" (Pawnbroking institution and Savings Account from Ávila), Caixa d'Estalvis Laietana, "Caja de Ahorros y Monte de Piedad de Segovia" (Pawnbroking institution and Savings Account from Segovia), "Caja de Ahorros de la Rioja" (Savings Account from La Rioja); Then, it was create the "Sociedad Central del SIP15" (Central society of the SIP15) under the name of "Banco Financiero y de Ahorros, S.A." (Financial and Savings Bank, S.A. (BFA). Becoming a society of the mentioned SIP and the financial head office of the "Grupo Banco Financiero y de Ahorros"(Financial Bank and Savings Group), to this financial institution, saving accounts and the rest of its subsidiary entities were integrated. It is an entity formed in full restructuring of the Spanish banking sector with headquarters in Valencia and Madrid (Bankia, 2016). The company begins trading on the Spanish stock exchange since July 20, 2011 and from December 23, 2013 returns as part of the IBEX 35 selective index, after, nearly a year of exclusion due to liquidity problems and improvements in the balance sheets and management needs and tasks that led to the intervention of the International Monetary Fund. On May 9th, BFA is nationalized and becomes the biggest bank rescue in the history of the country. According to the audit report made by Ernst & Young (2016), to December 31, 2015, Bankia assets were 208,220,816 million euros, and it had 7.8 million customers, 1,944 offices and 13,571 employees.

## **2. Methodology**

From its beginnings, Internet has succeeded in creating a space for communication, which has made possible new Communication strategies (Serralvo, Moraes, Pereira, Zicman, 2017). As it has been shown, Facebook is the most successful social network with national and worldwide users. For that reason, this study is focused on analyzing the use that Spanish Banks that trade in IBEX 35, make of Facebook a tool for positioning and business development, in order to show trends and practices of each one of the financial entities.

In this case, several official Facebook FanPage have been observed, such as seven Spanish banks that traded on the IBEX 35, which are summarized in the following chart:

**Table 1**  
FanPages registration of banks analyzed

<b>Banks</b>	<b>Fan page</b>
Banco Santander	<a href="https://www.facebook.com/bancosantander">https://www.facebook.com/bancosantander</a>
BBVA	<a href="https://www.facebook.com/BBVAespana/">https://www.facebook.com/BBVAespana/</a>
CaixaBank	<a href="https://www.facebook.com/CaixaBank/">https://www.facebook.com/CaixaBank/</a>
Banco Sabadell	<a href="https://www.facebook.com/bancosabadell/">https://www.facebook.com/bancosabadell/</a>
Bankinter	<a href="https://www.facebook.com/bankinter/">https://www.facebook.com/bankinter/</a>
Banco Popular Español	<a href="https://www.facebook.com/grupobancopopular/">https://www.facebook.com/grupobancopopular/</a>
Bankia	<a href="https://www.facebook.com/bankia.es/">https://www.facebook.com/bankia.es/</a>

Source: Authors' own from LikeAlyzer.com, 2017



The LikeAlyzer tool (<http://likealyzer.com/>) was used, which is going to allow to know aspects related to the effectiveness and efficiency of the analyzed Fanpage, identifying weaknesses, in order to plan possible solutions in the use of Facebook. This study includes a monthly period from 19/04/2017 to 19/05/2017. In relation to the parameters and items considered, it must be said that they have been selected according to criteria by Huertas, Setó y Míguez (2015): interactivity and visibility. The following aspects have been chosen to be analyzed:

**Table 2**  
Aspects relating to each item

Interactivity	Visibility
Engagement or loyalty	Number of fans
Web user	Post day
Response or Reactions	Average number of Likes, Comments and Shares
	Timing
	Post length

Source: Authors' own from LikeAlyzer.com, 2017

## 3. Results

### 3.1. Interactivity

The issue of the interactivity is closely related to visibility. Within this parameter is studied fidelity or commitment of the user, i.e. the engagement. For authors like Brodie, Ilic, Juric and Hollebeek (2011) the engagement or commitment reflects the interaction of experiences between users and the brand of the virtual community. A high engagement rate indicates that a brand connects with Facebook fans; in the same way, knowing the fans response rate and response time, become useful components to design adequate communication strategies, as these tactics help to improve relationships with customers and followers, as well as improving the brand image and reputation of the financial entities.

To calculate the percentage of participation PTAT (People Talking About This) or the number of interactions (Likes, Comments & Shares) and according to the studies by Cvijikj and Michahelles (2013) the interactions made during a period of time with the audience that is being taken into account, divided by the total number of active fans during that same period (number of Likes). Leung and Bai (2013) determine that including the participation of fans in a Facebook page, makes them coming back to it with greater ease; thus, presenting a high engagement, shows that the social network is being developed properly, representing the percentage of people who make comments, express whether they like it or share any of the publications.

**Table 3**  
Fans, Post day, PTAT and Engagement

	Banco Santander	BBVA	CaixaBank	Banco Sabadell	Bankinter	Banco Popular Español	Bankia
Fans*	150,806	148,793	131,700	52,082	88,667	54,432	24,940
Post day*	1.45	2.10	0.37	4.30	1.69	0.91	1.16
PTAT**	1,791	2,193	831	300	1,207	346	731
Engagement	1.19%	1.47%	0.63%	0.58%	1.36%	0.64%	2.93%

\* At the time of analysis 19.05.2017 \*\*People Talking about This for the last month

As it is shown in the results, the financial institution that generates a greater degree of commitment is Bankia, followed by BBVA and Bankinter. These data show that there is not a direct relationship between the number of fans and their response to publications, considering that it would be logical that the brand with the largest number of fans would generate a greater degree of commitment, this is not so in all cases, therefore, it is better to encourage interaction and a follow-up through the publications of valuable content for users, instead of having a greater number of fans.

According to the LykeAlyzer tool, it would require a degree of commitment greater than 7% so interactivity would be adequate. In this case, the analyzed accounts would be very far from reaching that goal with the purpose of being successful on Facebook, since it is only gotten a ratio than the 2.93% by the entity that has fewer fans, Bankia and with a PTAT of 731 generated thanks to the only publication made per day. The rest of entities could encourage more their followers with publications about current events and interesting or fun topics, after all, Facebook is a social network for entertainment. (Molina Garcia, Gema. Marketing on Facebook. Step by step guide for SMEs).

From LikeAlyzer it is recommended to make a campaign on Facebook to increase the "likes". Tools like Promoted Posts help to generate activity, to promote, to launch or to advertise activities or events. It would allow the banks to post stories and contents to reach their users in a better way. (In Exchange for an amount of money, Facebook gives more impressions, views, clicks, and conversions to this post). One of the advantages of the sponsored post is to get a better engagement by followers, but it only comes to those who have given "like" to the page or are friends, consequently the range is limited.

The accounts evaluated in this study are the basis of important followers, therefore, these accounts will have a good scope and impact with its Promoted Posts. These ones, have a cost that varies from 5 to 100 dollars, so it would have to be assessed whether the cost of the investment outweighs the audience which will reach the publication, according to the appraisal made by Facebook.

### 3.2. Visibility

The analysis is carried out by the consideration of three perspectives; firstly, the perspective explained by Sobejano and Cavalganti (2011), that defines as influence the number of followers that a brand has in different social media. On the other hand, Huertas, Seto and Miguez (2014) expose that visibility can be measured through each post counting the average number of likes, comments and shares. Finally, it can also be considered that the number of posts made, its timing or its length are aspects that influence the visibility of a page. Hence, the more is posted during the hours when users are more active and adapting the post in word count, there are more chances that messages reach more spectators. The results of the items used to assess the visibility follow below:

**Table 4**  
Visibility analysis

	Banco Santander	BBVA	CaixaBank	Banco Sabadell	Bankinter	Banco Popular Español	Bankia
Fans*	150,806	148,793	131,700	52,082	88,667	54,432	24,940

Post day	1.45	2.10	0.37	4.30	1.69	0.91	1.16
Likes, Comments & Shares**	107	40	81	9	43	29	120
Timing	Way off	Off	Way off	Off	Perfect	Perfect	Off
Post length***	Between 100/500	Between 100/500	Between 100/500	Between 100/500	Between 100/500	Between 100/500	Between 100/500

\* At the time of analysis (19.05.2017) \*\* rate per post \*\*\*characters

As several authors have expressed, a key for the measurement of visibility is the number of fans. Regarding to this, you can see that the financial entity with the largest number of fans is Banco Santander with almost 151,000; followed by BBVA and CaixaBank with almost 149,000 and 132,000 followers respectively. Thus, these three entities are the ones that gather a greater audience on the net. It is important to mention that also it is noticed a slight increase in the number of 'likes' during the week of the measurement (from 12 to 19 May) with respect to the previous week, since the two most followed banks have increased their fans by 2%, this data confirms that it should be increased the largest number of post per day, not only to promote greater interaction or reactions from fans, but to be more visible.

The frequency of daily posts that are posted by the financial entities in their respective Facebook pages is another criterion that can be taken into account in our analysis, since, doing daily post, as it is recommended by LikeAlyzer, it allows better access to the fans, as well as to the contents, therefore, these posts generate greater visibility.

Analyzing the range number of daily posts in this study, only CaixaBank and the Banco Popular Español are below the recommended frequency, the rest of the banks have less presence in the network.

Another important aspect of visibility are the reactions toward the posts, which are reflected in the "like", comments and shares.

As regards to these reactions, Bankia with a single daily post is the financial entity that causes more interaction, this shows that remarkable publications are posted to its followers. Conversely, Banco Sabadell with something more than four daily posts, only gets nine reactions for each post, despite of being the sixth institution in number of followers, this shows that the contents posted do not interest to its followers. Considering the data, it can be estimated that there is not direct relationship between number of publications and the reactions occurred; However, it is worth highlighting the importance of the content shared by the financial entities at the moment of getting more reactions from users, since if the post is relevant to the user this will generate greater interaction with the Fanpage.

As for the Timing, the analysis points out a perfect coordination carried out by Bankinter and "Banco Popular Español", because they tend to make their posts between 09 h - 12 h (GMT) and 15 h - 18 h (GMT) respectively, matching with the hours when their followers are more active, so it allows a greater visibility and interaction. These financial entities use accurately the moments of greater receptivity to get the maximum impact in publications and communication in order to be successful. It is relevant to mention the importance that this item owns, since the posts are displayed as recent, so when the time passes by, the posts lose visibility. Likewise, there are studies showing that half of the interactions occur in the first hour after the publication (Shama, 2013). Therefore, to improve the coordination of the financial entities with their fans it would be better that the entities post during the hours when fans are more active, otherwise the chance of visibility and interaction decreases.

To finish with the parameters of the visibility analysis, also length of the posts are studied. The tool that was used to do this study, recommends posts up to 100 and 500 characters, because the posts that exceed that number do not have success, referring to likes, comments and shares. In the evaluated Fanpage all posts that are within those values, are more likely to be appreciated by fans because they like short publications, thence this encourages to generate more responses, as well as more visibility and interactivity.

## 4. Conclusions

The relationship between the financial sector and the ITCs goes back to the sixties of the last century. Since that time until the present-day, financial institutions have decided to implement technologies of information on banking business, allowing them to improve and change the traditional organization of the business where the relationship with the customer becomes vital.

On the other hand, digital and technological advancement has led to change the consumer habits, what has focused to look for different ways to learn and interact with the different brands, including financial institutions.

As it is known that banking from any country in the world is one of the most implicit powers that exist as a major link in the chain of economic growth; nevertheless, in recent times and, as a result of the fierce financial crisis that started in 2007, its strength and solvency have been threatened. This situation has demand to the World Banking, in particular to the Spanish banking sector, to start a process of metamorphosis that will take it to the survival, subsequently to the consolidation to focus on improving its business model and profitability. Facing these circumstances, improvement strategies have been necessary to start a process to use new channels of communication with the client that increase a greater visibility and approach with them.

After showing the historical evolution of the use of technologies of information and communication in the banking sector, the characteristics of Spanish banks that traded on the IBEX 35 were analyzed. Subsequently, to identify how the banks use the social network Facebook, through their FanPages, according to interactivity and visibility items.

Interactivity, shows the relationship between users and entities, besides interactivity studies the loyalty or commitment of the user, such as the engagement. Regarding to this parameter, the Bank that generated greater engagement is Bankia, this result is surprising taking into account that it is the financial institution with smaller number of fans and smaller number of daily posts; this shows that the content in the posts has high quality and gets loyalty from its fans. A completely opposite situation was found in the analysis of the Banco Santander which has a greater number of fans, its engagement barely reaches 1%, showing that the contents that give important information did not hold the user, so this is a topic that should be looked over to improve its activity. In relation to the second item studied, visibility, it was evaluated what are the most important elements to achieve a greater presence in the network, among them are the number of fans, the daily post, the likes, comments and shares, the timing and the length of the publications. If it is taken into account the number of fans, it is understood that Banco Santander is the entity that has greater visibility, it is true that there is a huge improvement not only in the total number of daily posts, but also in the likes, comments and shares in each post. Regarding to the timing, it identifies the hours when it is more effective to make posts, it is noticed that Bankinter and Banco Popular Español are using accurately the opportunities and possibilities offered by Facebook.

To improve the coordination of other entities with their fans, it would be necessary for them to post in the hours when the followers are more active, otherwise the chance of visibility and interaction decreases.

Among the recommendations that may be proposed to the financial entities to achieve a better positioning and reputation of their Fanpage, can be as important part the conjugation of the timing and an active conversation with the users, which would improve the response rate of the entity with them, this will help to give a better transmission of the contents; therefore, a greater visibility and interaction, as well as an improvement in the engagement.

Nowadays, for any financial institution, it is important to know the efficiency of its Fanpage, because this will allow the financial entities to detect in a better way all the deficiencies and face decision-making appropriately, in order to improve their positioning within the banking sector.

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