SOCIAL MEDIA IN BANKING.
A MANAGERIAL PERCEPTION FROM MEXICO

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Nowadays social media has a radical impact on the business world, becoming a great customer service tool across many industries. And banking is no exception. Thus, banks managers need to identify ways to make profitable use of the social media. By accepting the benefits and developing their presence in social media, banks will be closer to customers. The objective of our research is to study social media usage in the banking industry and to obtain a managerial view concerning barriers and challenges in the social media implementation process. From the research of the literature in the field, we observed that Social media was studied a lot from the customers' point of view, but there are not many studies on social media from a managerial point of view. This article presents a part of our research results regarding social media usage in banking in different regions of the world, specifically, the Mexican banking sector. We conducted a qualitative research based on interviews carried on among 20 banks from Mexico. The goal was to see how the decision factors in banks perceive the social media usage for their institution and for the banking industry, in general. The study focuses on the barriers and challenges raised by the existence and usage of social media platforms. The findings revealed an important presence of the Mexican bank industry in social media areas, but with a lot of room for extending the banks' presence in new Social Media platforms, and different degrees regarding the perception of barriers and challenges in adopting Social Media tools.

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1. Introduction

Social Media (SM) has become a research topic for many areas, the banking area being no exception. There may be different attitudes towards its usage, but there is undoubtedly one thing: the banking strategy should not ignore social media or to try to escape from conversation, but to be active and effective on all social media platforms.

The Global Retail Banking Digital Marketing Survey conducted by Efma & Wipro (2013) in 100 banks from 38 different countries, shows that there has been an implacable growth in electronic banking around the world, with access rates reaching over 80% of adults in some countries using online banking regularly. The involvement in social media starts to become a standard practice for banks. The great challenge is to achieve effective "customer engagement", which means developing more significant digital interaction with customers, as an alternative to the traditional face-to-face interactions of banking.

The majority of analysts and bloggers are convinced that banks simply missed the opportunity for jumping on the social media bandwagon. Nadkarni (2013), in his article *"Avoiding Social Media Will Cost Banks Customers"*, pointed out that *"thanks to social media channels"* the sale process changed drastically, banks losing the *"control of the sales process"* – „*Rather than meeting with a sales representative to discuss a bank's offerings and services, customers are relying on Facebook, Twitter, Google+ and other channels to decide what brand they want to bank with*".

Banks need to start taking the social media industry seriously and develop a clear strategy. But the area is full of gaps and needs many more efforts and attitude from the banks. The challenge is the "how to" in such a highly regulated industry. In less than a few years the daily business will be conducted from anywhere at any time on mobile devices. Any business needs to adjust to these demands and be available respectively. Due to reasons of security, compliance, and risks, the majority of banks have made a pass through on this communication channel so far, but social media allows banks to connect with their customers in a completely new manner.

Some banks have already started to use social media for providing information about products and generating leads, even for providing transactional services. The fact is that nowadays in the banking area it is difficult to create new markets, so banks focus on their products and existing customers. Customers are the most important stakeholders for banks. By taking into consideration that Social Media has a huge impact on today's business world, E-banking management needs to identify ways to make profitable use of the social media: applications such as Facebook, Twitter, Google+, YouTube, etc.

In our study, we tried to expose the situation regarding the SM usage in Mexican banks, analyzing the banks' presence in SM platforms and the managerial perception regarding barriers and challenges in adopting SM in the banking system.

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The next parts of this paper include: first – a synthesis of the main academics' and practitioners' works in the researched field (SM in banking), second – the particularities of SM usage in Mexico (the country chosen to conduct our research), the third part is the main one and was dedicated to the research methodology and findings, and ended with conclusions and future developments. In the *Appendix* we presented the results from the statistical analyses performed for testing our hypotheses.

2. The Added Value of Social Media for the Banking Industry

In this part we developed a literature review concerning the added value of Social Media for the banking industry, pointing out the aspects we considered essential on this issue (see *Table 1*).

Table 1. Added Value of Social Media for Banking

Added value	Source
▪ Customer engagement	Efma & Wipro (2013)
▪ An important foundation of commerce	Weinberg & Pehlivan (2011)
▪ An increasingly popular source of banking information	Ernst & Young (2012)
▪ Conversations to reach a wider audience	Edosomwan, Prakasan, Kouame, Watson, & Seymour (2011)
▪ A cost-effective method for marketing activities	Paridon & Carraher (2009)
▪ Deeper, interpersonal relation and communication with customers	Merrill, Latham, Santalesa & Navetta (2011), Lemon and Rust (2001), Vaynerchuk (2009), King (2013)
▪ Reach the largest number of potential customers	Kirakosyan (2014)
▪ Crowdsourcing	Merchant (2013), Alampi (2012)
▪ Human Resources	Kaplan & Haenlein (2010)
▪ Innovative and creative marketing	Smith, Wollan & Zhou (2011), Kietzmann (2011)
▪ Monitor public awareness	Kirakosyan (2014)
▪ Lead to a sales conversion	Leonard & Youra (2013)
▪ Boost traffic to the website of the organization	Elliott (2013)
▪ Customer co-creation	He & Yan (2014)
▪ CRM	Thomas (2010), Brown (2012)
▪ Cross-selling	Hensel & Deis (2010)
▪ Business process management	Pearson (2013)
▪ Prediction of stock market performance	Jiang, Liang, Chen & Ding (2012)
▪ Trust restore in the financial markets	Shetty (2013)
▪ Influences investors searching for deals.	Taten & Farmer (2012)

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The authors of this paper are involved in researching the added value of Social Media in the banking industry. In this article we focus on the usage of Social Media in the Mexican banks and on the barriers and challenges perceived by the managers of the banks.

Considering the reduced number of academic papers focusing on SM usage in the banking system, we would like to underline the importance of having access to valuable data from some important worldwide reports in our research field during the most recent period of time (2012-2014), data which is presented in *Table 2*.

Table 2. Worldwide Reports in Banking and Social Media

Source	Report title	Geographic coverage (countries)	Sample
Ernst & Young (2012)	Global Consumer Banking Survey 2012	35	28,500 banking customers
Efma & Wipro (2013)	Global Retail Banking Digital Marketing Report 2013	38	100 banks
Capgemini & Efma (2013)	2013 World Retail Banking Report	35	18,000 customers
Ernst & Young (2014)	Global Consumer Banking Survey 2014	43	32,000 retail banking customers
We Are Social Ltd (2014)	Global Digital Statistics 2014	24	the world's largest economies
Capgemini & Efma (2014)	2014 World Retail Banking Report	32	17,000 retail banking customers

The important findings selected from these global reports were used in the practical research to elaborate a set of hypotheses regarding the SM recognition and awareness in the banking industry, those hypotheses being tested on a sample that included a total number of 20 retail banks in Mexico. We mention that after this pilot testing in one country, we extended our practical research to two other countries. We wanted to see if the hypotheses are globally tested and to pursue a comparative analysis between SM usage in different countries, with different economic levels of development, and different level of SM dissemination/diffusion.

3. Social Media Usage in Mexico. Country Profile

Mexico was the country chosen for conducting our first empirical research, so we would consider it important to analyze the specificity of this Latin American country regarding social media usage in general, and of course in the banking sector, the field of our interest.

In Latin America internet usage is growing very rapidly. World Bank indicators showed that Argentina, Brazil, Mexico, and Colombia register the highest rates of internet usage in the

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region. Based on a report from September 2011 — *"The Rise of Social Networking in Latin America"*, Domingues (2013) found that, according to the time spent on social networking, half of the top ten worldwide markets are in Latin America.

Mexico has its unique place in this growth. In October 2012, when Facebook registered over 1 million users, 19 percent of those users lived in Latin America. We consider as encouraging signs in using social media the fact that "Mexico is the first country in Latin America where the president and the cabinet became engaged in social media" (Dominguez, 2013).

The governments of virtually all large Latin American cities now use social media to interact with the citizens, and smaller cities are quickly following their example. The Inter-American Development Bank recently found that social media is used by governments of Latin American in 70 percent of the region's 140 "emerging cities" - having 100,000 to 2 million residents and above-average economic growth rates. (Moreno, 2012)

According to the Global Digital Statistics (We Are Social Ltd., 2014), in Mexico only Facebook users, who by the way are active ones,—register a number of 50,000,000. This means, *in Mexico approximately 43 percent of the population is using Facebook*. And this, without taking into consideration that 27.4% of the population belongs to the age group of 0-14 years (www.indexmundi.com). This means that, if we consider the large number of Facebook users in Mexico, based on this social media banks can target around 43% of the population.

According to the statistics, 33% of the Mexican population spend on average 5h 22m on the internet every day, of which around 3h 46 minutes they use social media, an additional argument in order that banks should not overlook the role of their presence in Social Media. *Table 3* presents the overall social media usage in Mexico, and we can see that Facebook is at the top of the list.

Table 3. Social media usage in Mexico

	Own an account (%)	Used in the past month (%)
Any social network	98%	72%
FACEBOOK	**94%**	**61%**
GOOGLE+	74%	29%
TWITTER	62%	27%
LINKEDIN	36%	12%
INSTAGRAM	28%	8%

Source: *Global Digital Statistics 2014 (We Are Social Ltd., 2014)*

The survey "Digital Marketing and Social Networks in Mexico, 2013" performed by AMIPCI (Mexican Association of Internet) by administering questionnaires to 615 companies, having

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national representative coverage, with a confidence level of 95%, shows that 85% use social networks, this meaning that 8 out of 10 companies have some social profile (i.e. 387 companies that have activities in digital marketing).

Based on the surveys including 328 companies that maintain any kind of profile in social networks, AMIPCI presented the main social media platforms where Mexican companies are present (see *Figure 1*).
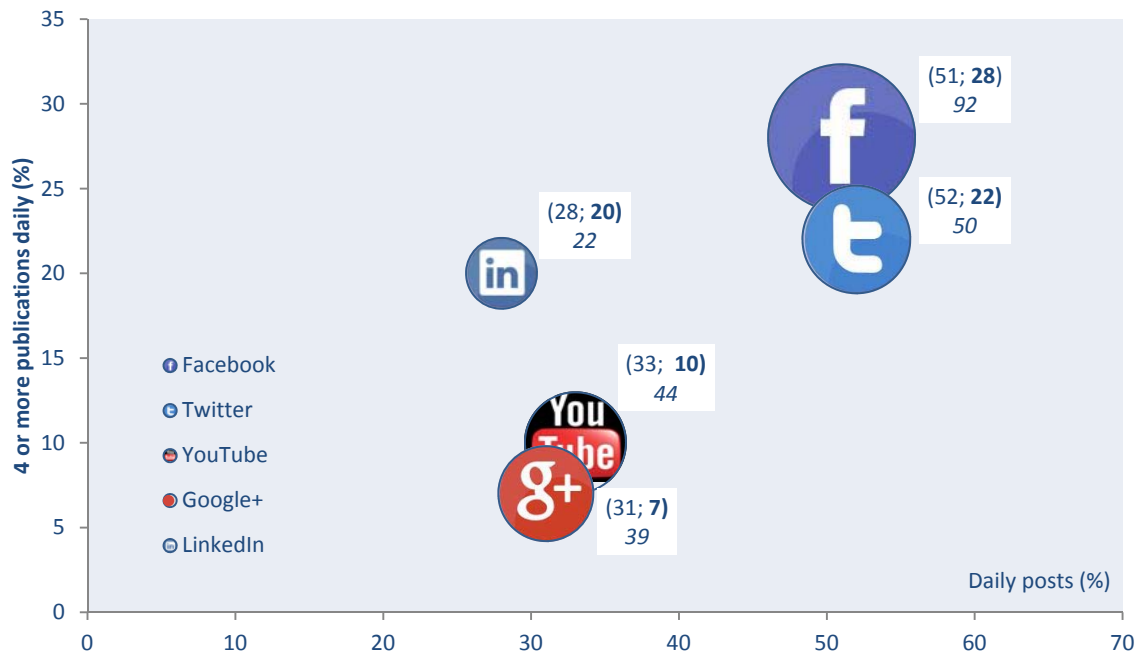

Figure 1. Main Social Media platforms

Source: adapted from AMIPCI, 2013

Note: size of bubbles represents *Registered companies (%)* and is the last value label (*italic* font style) near each bubble

Only 13% of companies allot more than 20 hours in their social networking profiles per week, though 68% of companies have designated staff to manage their profiles (almost 7 from 10).

The survey "Digital Marketing and Social Networks in Mexico, 2013" performed among 5199 internet users found out that 93% of them use social media. The most popular social media platforms for internet users are Facebook, Twitter, YouTube, LinkedIn and Google+. Another important factor is the age in social media platforms. On average for the most popular platforms generally the age is 18-24, followed closely by the age group 25-34.

In Mexico, 50% of the Social Media customers are not passive users. They don't only look for information about products, but also pursue certain specific brands, being actually quite

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active on those companies' web sites. 40% also become avid fans up to becoming *prosumers*, actively involved in the decisions taken in case of some products.

Placing our research in this favorable national context regarding the Social Media use at both business and consumer level, we aimed to test the added value of Social Media use in banking industry (see *Table 1,* containing the specific issues identified in literature review).

4. Research Methodology

Our study is based on a survey conducted on a representative sample of Mexican banks, where interviews were conducted involving general managers, and managers responsible for Social Media. First, we researched the Mexican banks' presence in social media platforms. For this, we have chosen 20 Mexican and foreign-owned banks, most of them being representative for the Mexican banking system.. In order to analyze the social networking websites used for communication, we have chosen Facebook, as it is the most popular among internet users. We focus our attention on the communication and the interaction with customers done by banks via their Facebook pages. The research has been done during 4 months, from March to June 2014.

The first thing that we checked was the banks' website and connection to their social media platforms. Thus, not all banks have connection to their social media platforms. We think that this is a weak point of social media management implementation. Banks should make it as easy as possible for customers to find them. And after presenting the statistics for social media usage, it is obvious that nowadays customers mainly activate on social media platforms. Some banks' web sites indicate a link to the social media platforms taking the audience to those platforms; on the other hand, some banks' web sites do not have this connection, thus confusing the audience in finding the real social media platform of that bank. We believe that the banks' management should take into consideration that not all internet users have enough internet usage skills to get to the website which they would want to reach, therefore an inappropriately managed communication could bring damage to both sides.

Some social media platforms, especially Facebook, are places where the audience wants to be entertained. The people are looking for promotions, special offers, free games and other applications, thus on their Facebook pages the banks need to communicate and entertain the audience. Some banks provide only news about banking products and exchange rates. The content of banks' Social Media involvement should be fresh, the banks needing to engage in dialogues with their customers. The participants are important. Social Media is not a place where you sell, it's a place where you create participation especially for your customers. Toffler (1980) first introduced the concept of "prosumers", to define the type of consumer engaged in social media applications, consumer which have the desire to actively engage and become both producers and consumers of information. Indeed, banks should not avoid being more active in Social media communication with customers. The Social Media

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now is a great customer service tool across many industries and the banking sector is no exception.

To benefit from all the added values of SM usage presented in the theoretical part, first of all, the banks should recognize a need for social media taken together with its challenges, barriers and benefits. By recognizing a "need" of SM for banking activities the "wants" will be crated to fulfill that needs.

SM awareness and recognition should be the first stage that offers the basis for SM implementation and use.

4.1. Social Media factors in awareness and recognition stage

In this paper, we pay special attention to the barriers and challenges of SM adoption. There can be other issues that can be taken into consideration in the awareness phase, but we consider that if banks are aware of those two important criteria at this stage, they will have a solid base for the Social Media implementation strategy. Before presenting a set of the above-mentioned two important elements, we would like to emphasize that those are not fact-related, but cognitive-related ones. Different managers have different attitudes toward them and based on their attitude they make decisions on the SM implementation. Even if baking managers are not involved in the decision-making process (depending on the government model), they still influence that process. Thus, we consider it very important for banks to recognize and get acquainted with social media barriers and challenges.

Based on our theoretical research put forward in this article, we established the set of barriers (i.e., Lack of senior management understanding, Lack of a dedicated Social Media manager, Lack of skills and competencies within banks and Lack of strategy around the "usage" of Social Media) and challenges (i.e., Potential customer attainability in an easy and fast way, Innovative method for marketing activities, Advanced way for crowdsourcing, Fast way for the new competitors' and market's tracking, Customer care improvement, Customers' demand and behavior recognition). In the questionnaire, for all of them, there were multiple-choice options where from respondents selected all the categories applicable to them, as well as there were an additional option to add comments and other potential answers. However, in general, managers did not add many other answers. By this, we can assert that a set of these important elements are corrected and really represent the real picture of SM barriers and challenges that nowadays banks face.

Based on the conducted theoretical research, on the statistics and findings about SM usage, we put forward three main hypotheses. In order to test them we targeted to survey persons holding managerial positions or being SM representatives in banks.

4.2. Hypotheses

We would like to mention that as SM was not very much researched, especially for its usage in the banking sector, so besides testing our hypotheses we conducted as well an

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exploratory research. By this, we aimed to find out how different SM factors (variables) are influencing or, in their turn, are influenced by other variables. Therefore, we formulated three main hypotheses and four sub-hypotheses and findings, as presented in *Table 4*.

Table 4. Hypotheses with validations

Hypothesis	Explanation
H1	*Banks from the researched country are present in the main social media platforms, but there is a lot of room for extending the banks presence in SM.*
H2	*Banks' managers do consider that social media adoption is affected by a set of barriers.*
H2a	The Managers' age is a factor that influences how they perceive barriers.
H2b	The Managers' experience is a factor that influences how they perceive barriers.
H 3	*The banks' managers consider that social media adoption brings about a set of challenges for their banks.*
H3a	The Managers' age is a factor that influences how they perceive challenges
H3b	The Managers' experience is a factor that influences how they perceive challenges.

4.3. Sample

We have interviewed a total of 40 managers in 20 Mexican banks (we gathered two answers from different managers in the surveyed banks). We studied and tested our samples by using statistical tools for frequencies, crosstabs, correlations, factor analysis, reliability analyses, as well as for finding out the influence for factors case in which we used general linear models (GLM). For each hypothesis and finding, we presented in the *Appendix* all the statistical tools used for the analyses, together with the tables representing the results.

As our research is dedicated not only to SM management and usage but also to its managerial view, for our survey we choose as respondent category **managers** (different managerial positions) as well as **SM representatives**.

The **managerial characteristics** of respondents are the **age** (*Figure 2a*), the **experience in managerial position** (*Figure 2b*), the **level of education** (*Figure 2c*) and the **domain of study** (*Figure 2d*).

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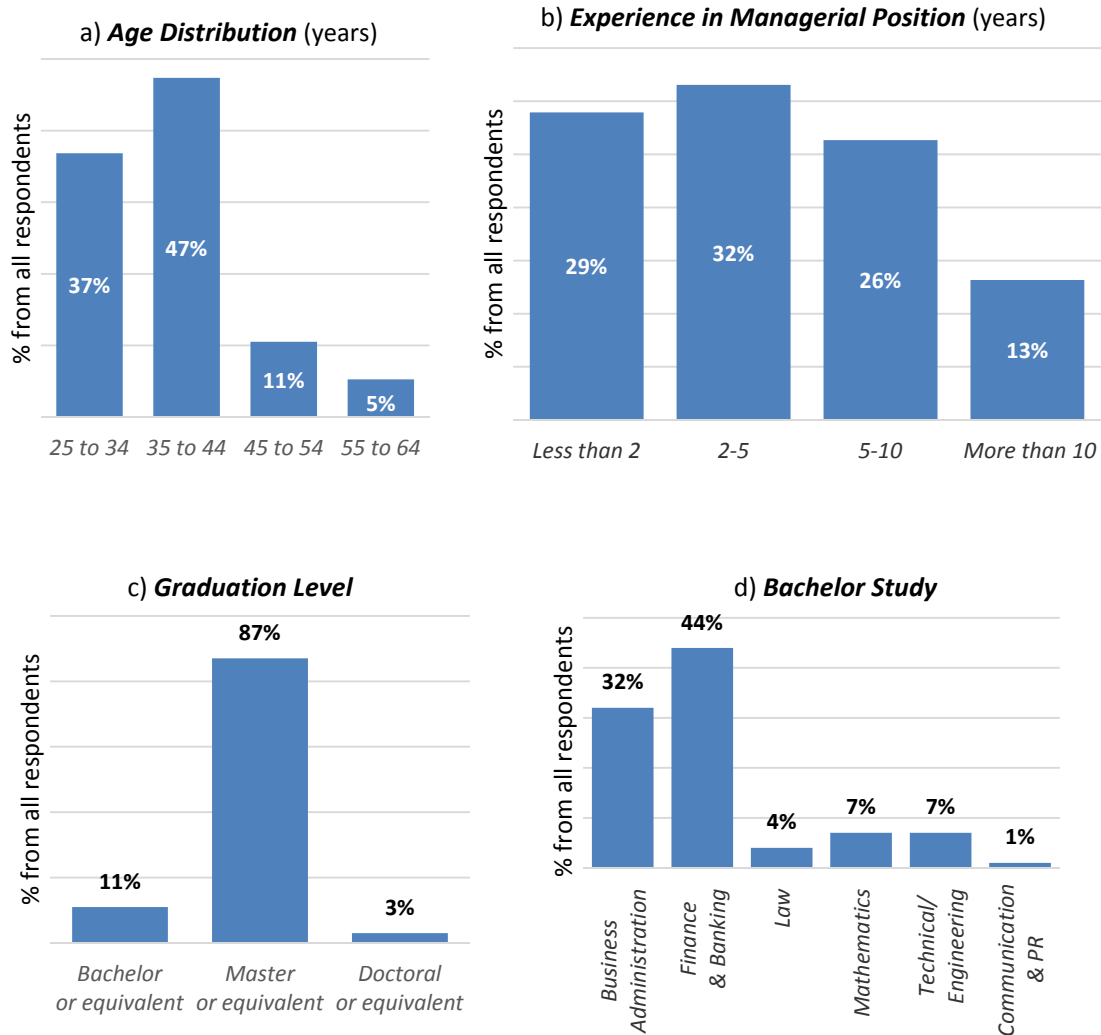*of* **Economics** *and* **Business** TJE&B

Figure 2. Managerial characteristics of respondents

As shown in *Figure 2c*, the *level of education* of respondents is mainly Master or equivalent (over 80%). The main domain for their bachelor studies is *Banking & Finance* with more than 40%, followed by *Business Administration* with around 30% (*Figure 2d*). For the reason that some managers may have two or more bachelor degrees, as well as because of the diversity of the graduate study domains, we will not study managerial view differences concerning the graduation domain of our managers. In conclusion, of the four characteristics of our respondents, depicted in *Figure 2*, only the **age** and the **experience in managerial position** we have considered in the statistical analysis.

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All responses were gathered via Survey Monkey during a period of 4 months: from March 2014 to June 2014. The majority of our respondents prefer to have their data kept confidential, therefore we will not mention the names of the surveyed banks.

As already stated, the aim of this study is to research SM practice in the banking industry and to analyze the managerial view and approach toward SM issues. We found lots of studies on the topic of SM from the customers' point of view (see all sources mentioned in *Table 2*). Our research studies SM usage in banks and shows the view inside them, especially the managerial view with its recognition toward SM barriers, challenges, benefits.

We have paid attention to SM issues in the level of usage and its recognition in the case of bank management. We have researched the differences on managerial views and opinions connected to their characteristics, particularly the age and experience of respondents.

The sample covered important and active banks, which are leading banks in their countries and we estimate that the collected data is adequate for a qualitative research. The survey was done in 2014, which means that the data is up-to-date and presents real current use of SM and its managerial approach in Mexico. Hence, we consider the results of our research to be trustful and credible.

5. Research Findings on Managerial Perception of Social Media use in Mexican Banks

5.1. Social Media presence in Mexican Banks

Social media platforms differ from their specific features, meaning, usage and tools, and new platforms appear daily in e-horizon. Based on overall statistics we selected and developed a list of the most popular social media platforms (including the leading ones) and found out the overall social media platform usage in Mexico.

The leading platform for the Mexican surveyed banks is Twitter with a percentage of 71.1%, followed by Facebook with 68.4% of usage (see *Figure 3*). We can observe that in the Mexican banking system Facebook is not in a leading position.

We created in the questionnaire a list containing the most used 19 platforms, but only 10 of them are used in Mexican banks enclosed in our survey. By studying the presence of Mexican banks in Social Media platforms, we can assert the following **finding:** *There is a lot of room for extending the banks presence in Social Media in Mexico.*

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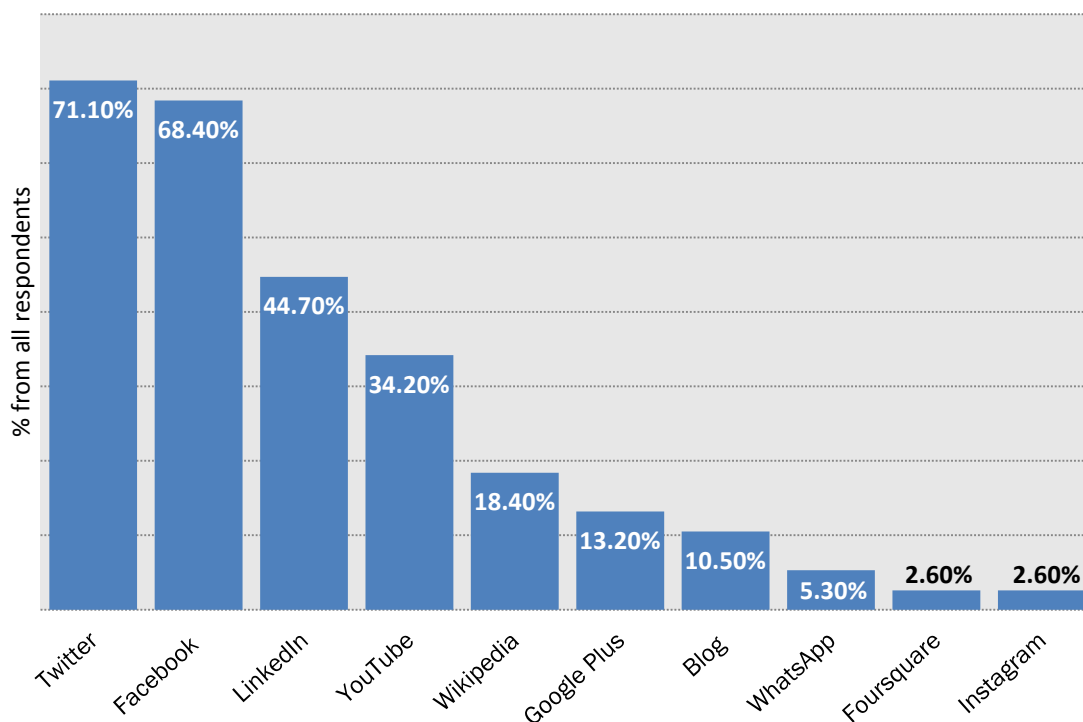Year 2014 | Volume 7 | Issue 2 | Pages: 147–174

Figure 3. Hierarchy of Social Media platforms used by Mexican banks

Source: authors' representation, based on our survey data

5.2. Barriers in Social Media adoption

Social media adoption brings lots of barriers and difficulties for banks which are discussed in the theoretical part. For our survey, we paid attention to barriers which we considered that are more connected with internal factors, especially management related barriers. Thus, we provided the following list of barriers (including the possibility to add comments and other potential barriers – option that was not used by our interviewed):

1. Lack of senior management understanding,
2. Lack of a dedicated Social Media manager,
3. Lack of skills and competencies within banks,
4. Lack of strategy around the "usage" of Social Media.

We researched the four barriers *one by one* and *as a single group*. *Separately*, we surveyed how they are considered and perceived by managers having different characteristics. To test it, we used the factor analysis test, the matrix revealing that all barriers are closer in components. After that, a reliability analysis producing *0.742* for *Cronbach's Alpha*, conducted

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us to the consideration of grouping all those barriers into a single one. *As a group*, we investigated how they affect other variables and on which ones they depend.

Hypothesis 2 (H2): The banks' managers do consider that social media adoption is affected by a set of barriers.

As *Figure 4* illustrates, the majority of the managers agreed and strongly agreed with the proposed set of barriers (there was the possibility to add other barriers, but they did not). The most recognized barrier was *Lack of a dedicated SM manager.* Indeed, this is an aspect that affects the process of implementation and of using with best results the Social Media platforms in the banking system. Among the forty interviewed managers, only two were Social Media dedicated managers, all the others took this responsibility together with others from their main area of decision (IT, Marketing or other departments).
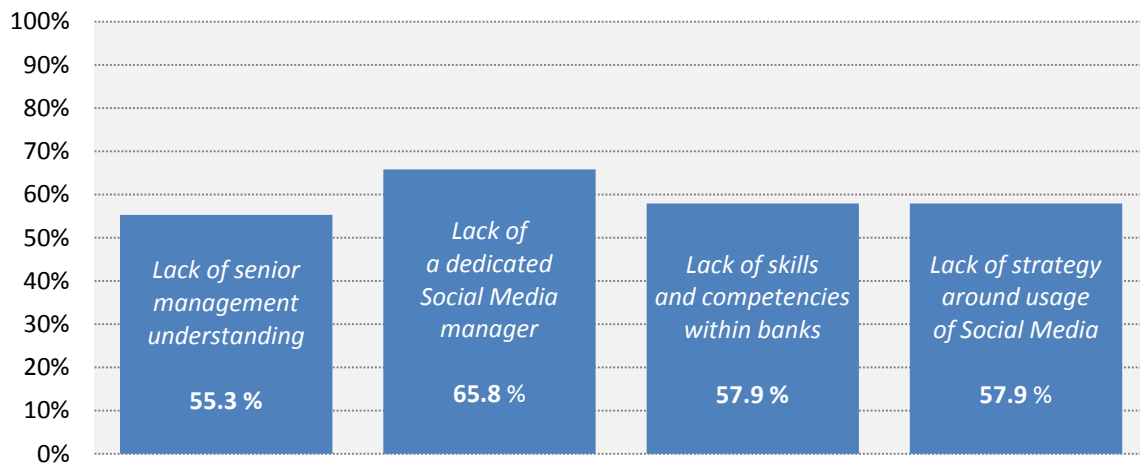
Figure 4. Managerial perception regarding the barriers on SM adoption by Mexican banks

Source: authors' representation, based on our survey data

Hypothesis 2a) (H2a): The managers' age is a factor that influences how they perceive barriers.

Figure 5 illustrates the differences in perceiving barriers between the two age groups (managers below and over age 35): managers of an age over 35 perceive barriers in a higher degree than younger managers in the first age group.

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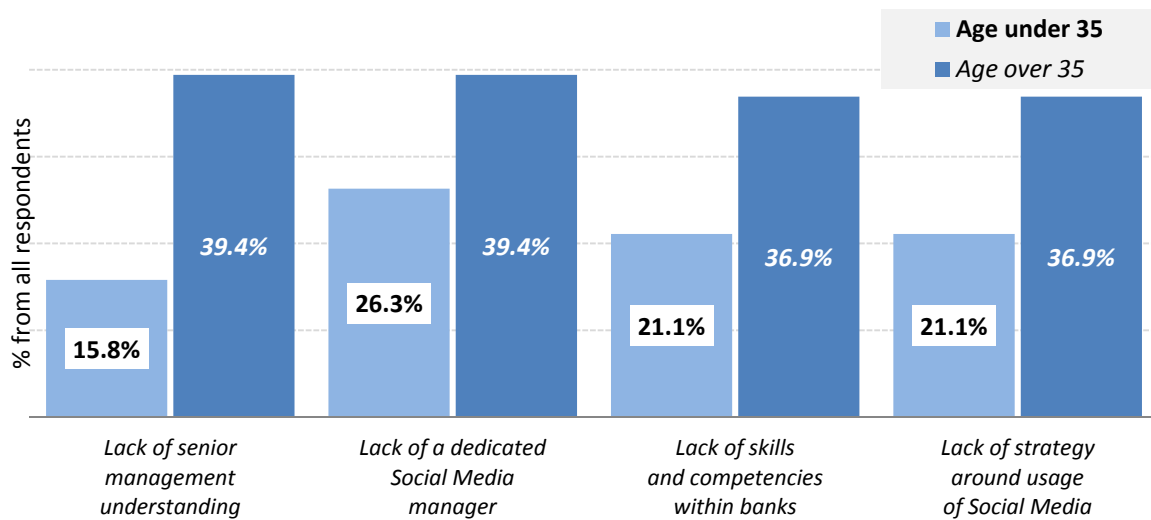
Figure 5. Age influence in how barriers are perceived

Source: authors' representation, based on our survey data

Hypothesis 2b) (H2b): The managers' experience is a factor that influences how they percieve barriers.

The differences in perceiving barriers between the two groups of experience (less than 5 and over 5 years) revealed that managers having less experience perceive barriers in a higher degree compared to managers in the second group who have more experience in a managerial position (*Figure 6*).

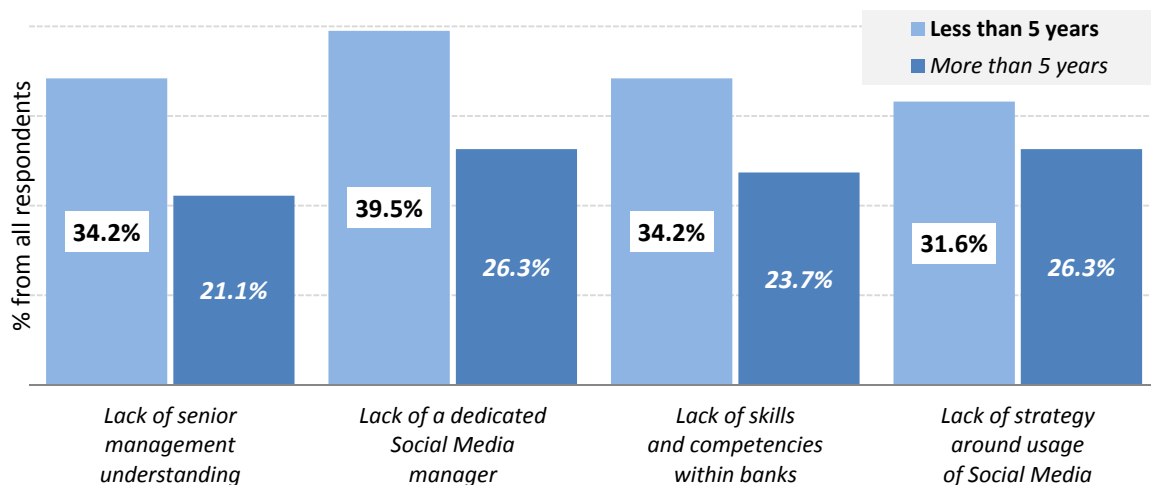**Figure 6.** Experience influence in how barriers are perceived

Source: authors' representation, based on our survey data

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By studying responses regarding barriers, in correlation with age and experience, we can assert the following:

Finding: *Age and experience are factors that influence how barriers are perceived by managers.*

5.3. Challenges in Social Media adoption

No doubt, social media brings many more challenges than the ones which we set in our questionnaire, but based on our research we have chosen the following:
1. Potential customer attainability in an easy and fast way,
2. Innovative method for marketing activities,
3. Advanced way for crowdsourcing,
4. Fast way for the new competitors' and market's tracking,
5. Customer care improvement,
6. Customers' demand and behavior recognition.

We studied all challenges separately and in one group. First, we investigated how each challenge is considered and perceived by managers having different characteristics. As well, we gathered all variables into a single variable and studied its influence and dependence on other factors. For that, we grouped all challenges into a single one and tested it in factor and reliability analyses. That analysis gave as the idea that in matrix all components are closer, thus can be grouped into one. In the reliability statistics, Cronbach's Alpha is 0.836 (*Appendix 2*). After statistically testing the correctness of our variables as a single one, we transformed them and computed variables.

Hypothesis 3 (H3): The banks' managers consider that social media adoption brings a set of challenges for their banks.

As it can be seen in *Figure 7,* the entire set of challenges tested in our survey (managers had the possibility to add others, but they did not) was accepted in a high degree.

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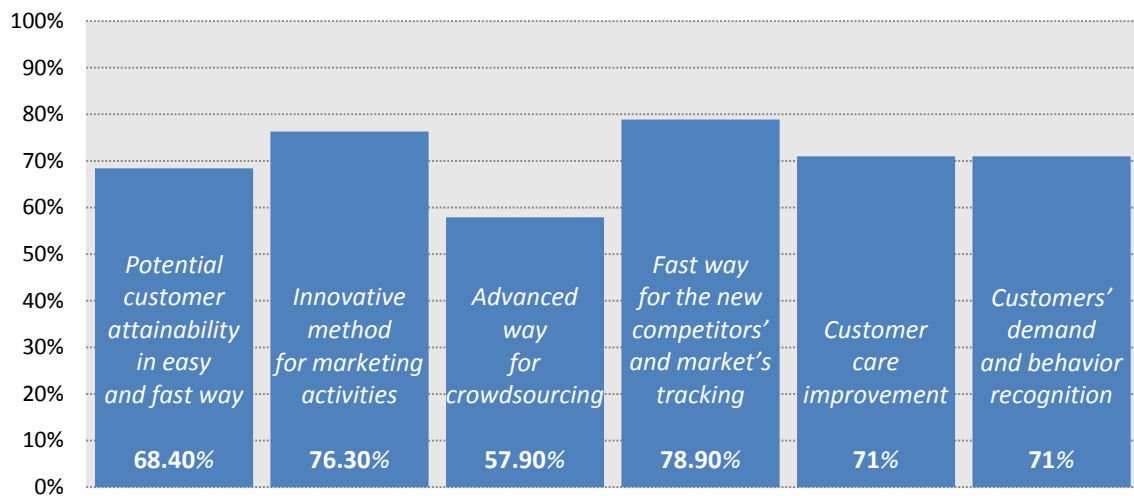*Year 2014 | Volume 7 | Issue 2 | Pages: 147–174*

Figure 7. Managerial perception regarding the challenges in SM adoption in Mexican banks

Source: authors' representation, based on our survey data

In analyzing the way the challenges are perceived by the banks' managers, we wanted to see if the managers' age and experience influence their perception of challenges. Therefore, we tested the hypotheses **H3a** and **H3b.**

Hypothesis 3a) (H3a): The managers' age is a factor that influences how they perceive challenges.

Hypothesis 3b) (H3b): The managers' experience is a factor that influences how they perceive challenges.

The results regarding how bank managers perceive the proposed set of challenges taking in consideration the two age groups and the two groups of experience are presented in the same way for challenges as we did for barriers in *Figure 8* and *Figure 9*.

Our study revealed important differences between the two age groups, regarding the level of challenges perception. Since managers with an age over 35 perceive challenges in a higher degree (almost doubled for each type of challenge) than younger managers in the first age group (*Figure 8*).

It can be seen that the analysis of the way the level of experience influences the degree of challenge perception, managers with less experience (belonging to the group of less than 5 years' experience) pay careful attention to the set of challenges related to the ones holding a lot more experience (belonging to the group of over 5 years' experience). By comparison with the age criterion, we notice that in the case of the experience criterion the differences are not so large between the two groups.

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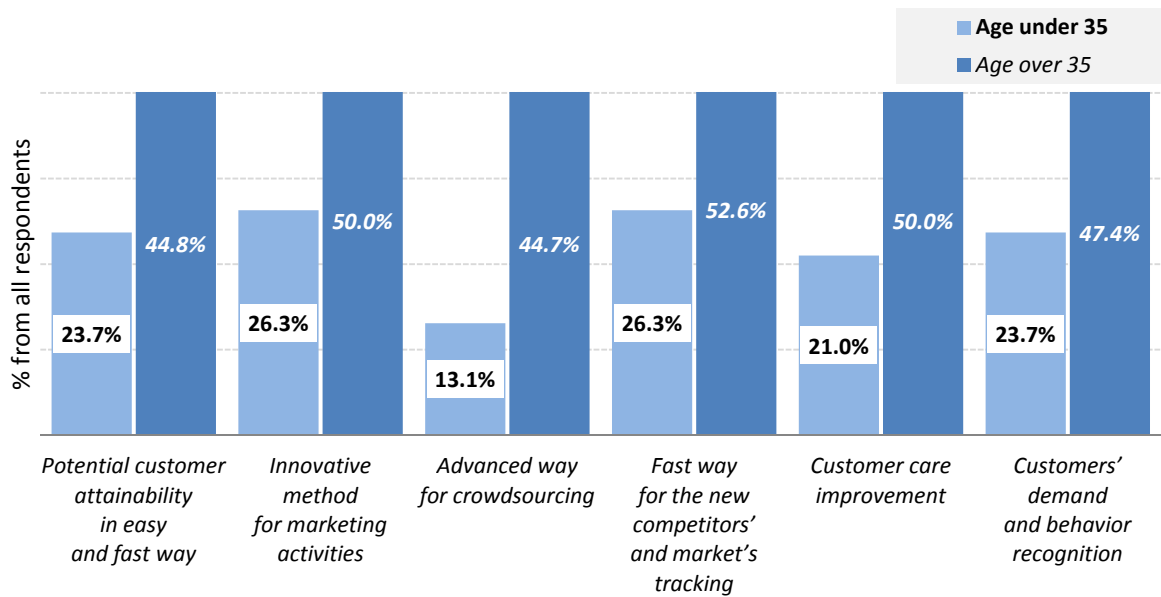**Figure 8.** Age influence in how challenges are perceived

Source: authors' representation, based on our survey data

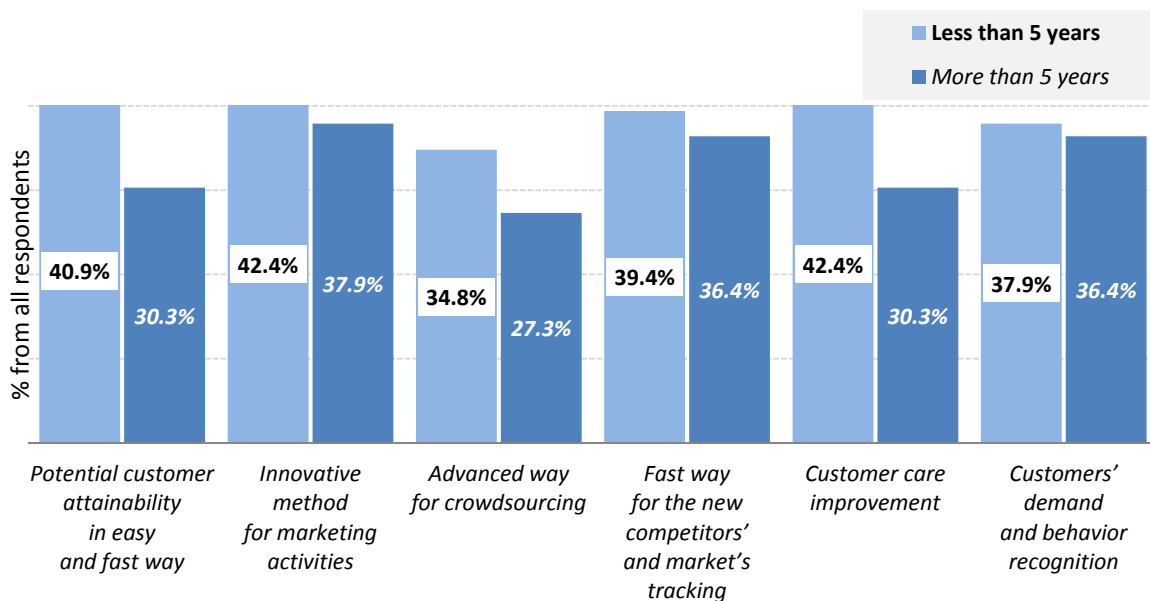**Figure 9.** Experience influence in how challenges are perceived

Source: authors' representation, based on our survey data

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In conclusion, by studying challenges in correlation with managers' age and experience, we can assert the following finding.

 Finding: *Age and experience are factors that influence how challenges are perceived.*

5.4. Influences between Social Media Barriers and Social Media Challenges

In order to test our hypothesis we had to compute *two new variables* from 10 existing variables. The four variables used for barriers were: *lack of senior management understanding, lack of a dedicated Social Media manager, lack of skills and competencies within banks and lack of strategy around the "usage" of Social Media*. The six variables used for challenges were: *potential customer attainability in an easy and fast way, innovative method for marketing activities, advanced way for crowdsourcing, fast way for the new competitors' and market's tracking, customer care improvement, customers' demand and behavior recognition*. Before computing a new variable from existing variables we conducted two statistical analyses: factor reduction and reliability analysis.

For *SM barriers*, in factor reduction we had a table including total variance explained where we looked at Initial Eigen values. We had four factors (the ones mentioned above) and only one of them had a value higher than one. That means that only one factor ties the variables together. Only the variable that registers a high score will be combined in the future computed variable. In the component matrix, all values were over 0.7. So, all of the selected variables will be included in the second test: the reliability analysis.

We conducted a reliability analysis to see what would happen if we deleted one factor from our future computed variable. The value of Cronbach Alpha is 0.742 (see *Appendix 1*). We compared this value with the one found for each variable in the column Cronbach Alpha if item deleted. If there was any value above our Alpha then we would exclude the factor from our future computed variable. Because all four values are below 0.742, to form a single scale we can compute a new variable called SM barriers, as shown in the above formula.

SM barriers = (Lack of senior management understanding
+ Lack of a dedicated Social Media manager
+ Lack of skills and competencies within banks
+ Lack of strategy around "usage" of Social Media)/4

For *SM challenges* we performed the same two analysis using the variables for challenges. In the first test for factor reduction, the results we obtained conducted us to the elimination of the variable: innovative method for marketing activities. The second analysis for factor reduction was successful and only one factor was higher than one. All the results in the component matrix indicated that we can perform the reliability analysis.

The reliability analysis conducted to see what would happen if we deleted one item confirmed that we can create a new scale variable SM challenges from our multiple

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response set. The value of Cronbach Alpha was of 0.836 (see *Appendix 2*). Only one of the remaining variables scored a slightly higher Cronbach Alpha. We considered that this had no significant influence on the new variable so we can compute it using the following formula:

SM challenges = (Potential customer attainability in an easy and fast way
+ Advanced way for crowdsourcing
+ Fast way for the new competitors' and market's tracking
+ Customer care improvement
+ Customers' demand and behavior recognition)/5

Using the two new computed variables we conducted a bivariate analysis to see if SM barriers had any influence on SM challenges. As can be seen in *Table 4*, the value of Pearson's coefficient is below 0.5. So there is an influence between the two factors, but it isn't a strong one.

Table 4. Correlation between barriers and challenges in Social Media adoption

		Computed variable for barriers in SM adoption	Computed variable for challenges in using SM
Computed variable for barriers in SM adoption	Pearson Correlation	1	.418*
	Sig. (2-tailed)		.017
	N	36	32
Computed variable for challenges in using SM	Pearson Correlation	.418*	1
	Sig. (2-tailed)	.017	
	N	32	32

*Correlation is significant at the 0.05 level (2-tailed)

Because the Sig value from our t test is low (.017), we can't say with certainty that the barriers don't influence how our respondents perceive the future challenges.

By conducting the GLM test we found that SM barriers perception is connected to how SM challenges are considered and recognized among managers. The result is that barriers depend on challenges with high signification 0.029 (Phi Cramer's). (*Appendix 3*)

We conducted also the GLM tests and found that the perception of SM challenges depends on how SM barriers are considered and recognized among managers. The signification of this dependence is pretty high; the challenge dependence on barriers is 0.034 (Phi Cramer's). (*Appendix 4*)

Finding: *Social media challenges and barriers depend on and influence one another.*

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6. Conclusions, Limits of the Study and Further Research

By conducting research in 20 Mexican banks among 40 bank managers, we concluded that the Mexican banking system has a good presence in social media platforms by using it for different purposes, but there is a lot of room for extending the banks' presence in Social Media.

From a managerial point of view, in general the managers do recognize the power of social media in their banks. Based on our study, the managers' age and experience in managerial position in SM area are two factors that influence the degree of perception of barriers and challenges in adopting Social Media in the Mexican banking system.

Table 5 presents all tested hypotheses with explanation and level of validation. From three main and four sub-hypotheses, almost all were validated – only one was partially validated (H1).

Table 5. Hypotheses with validations

Hypothesis	Explanation	Validation
H1	*The banks in Mexico are present in Facebook, LinkedIn, Twitter, YouTube, Blog, Wikipedia, and Google Plus.* *We put in our list most used 19 platforms, but only 10 of them are used by Mexican banks.* *The leading platform in Mexican banks is Twitter (71.1%).*	*Partially validated*
H2	*55.3% of our respondents agree with the set of barriers*	*Validated*
H2a	*In Mexican banks, SM barriers are much stronger perceived by managers over 35.*	*Validated*
H2b	*In Mexican banks, managers having less than 5 year experience allot more signification to SM barriers.*	*Validated*
H 3	*Managers from Mexican banks confer a big importance to all challenges in the range of 63-84%.*	*Validated*
H3a	*In Mexican banks, older manager allot more signification to social media challenges than younger ones do.*	*Validated*
H3b	*In Mexican banks, the perception among the 2 groups of experience (less than 5 years and over 5 years) is very closely related.*	*Validated*

As social media does not have borders and limits, its usage is worldwide. We have investigated its impact only in one country, which can be a limitation of the current research. A comparative research, involving other countries, could bring the confirmation of the conclusions' validity and also could emphasize possible differentiations among managers' perception in different countries.

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This is why we continued our research in other two countries (Armenia and Romania) and presented further comparative results regarding SM usage in different banking systems (Kirakosyan, 2014 a; Kirakosyan, 2014 b).

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Appendix 1
Factor and reliability analyses for Barriers group

Factor Analysis

Communalities

	Initial	Extraction
Lack of senior management understanding.	1.000	.471
Lack of a dedicated Social Media manager.	1.000	.658
Lack of skills and competencies within banks.	1.000	.631
Lack of strategy around "usage" of Social Media.	1.000	.529

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.289	57.236	57.236	2.289	57.236	57.236
2	.752	18.806	76.042			
3	.537	13.418	89.460			
4	.422	10.540	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix [a]

	Component
	1
Lack of senior management understanding.	.686
Lack of a dedicated Social Media manager.	.811
Lack of skills and competencies within banks.	.794
Lack of strategy around ''usage" of Social Media.	.727

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Reliability analysis

Case Processing Summary

		N	%
Cases	Valid	36	90.0
	Excluded [a]	4	10.0
	Total	40	100.0

a. List wise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.742	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Lack of senior management understanding.	10.67	5.943	.465	.734
Lack of a dedicated Social Media manager.	10.44	6.025	.601	.644
Lack of skills and competencies within banks.	10.58	6.364	.596	.652
Lack of strategy around "usage" of Social Media.	10.47	6.656	.501	.701

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Appendix 2
Factor and reliability analyses for Challenges group

Factor Analysis

Communalities

	Initial	Extraction
Potential customer attainability in an easy and fast way.	1.000	.636
Innovative method for marketing activities.	1.000	.766
Advanced way for crowdsourcing.	1.000	.817
Fast way for the new competitors' and market's tracking.	1.000	.604
Customer care improvement.	1.000	.798
Customers' demand and behavior recognition.	1.000	.851

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.307	55.113	55.113	3.307	55.113	55.113
2	1.166	19.434	74.547	1.166	19.434	74.547
3	.592	9.863	84.410			
4	.381	6.356	90.766			
5	.359	5.977	96.743			
6	.195	3.257	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component	
	1	2
Potential customer attainability in an easy and fast way	.797	.040
Innovative method for marketing activities	.702	.523
Advanced way for crowdsourcing	.603	.673
Fast way for the new competitors' and market's tracking	.767	-.125
Customer care improvement	.736	-.506
Customers' demand and behavior recognition	.828	-.408

Extraction Method: Principal Component Analysis.
a. 2 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.912	58.248	58.248	2.912	58.248	58.248
2	.940	18.793	77.042			
3	.591	11.820	88.862			
4	.360	7.202	96.063			
5	.197	3.937	100.000			

Extraction Method: Principal Component Analysis.

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Component Matrix[a]

	Component
	1
Potential customer attainability in easy and fast way	.790
Advanced way for crowdsourcing	.516
Fast way for the new competitors' and market's tracking	.783
Customer care improvement	.796
Customers' demand and behavior recognition	.881

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

Reliability analysis

Scale: ALL VARIABLES

Case Processing Summary

		N	%
	Valid	36	90.0
Cases	Excluded [a]	4	10.0
	Total	40	100.0

a. List wise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.836	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Potential customer attainability in an easy and fast way.	19.13	14.694	.678	.795
Innovative method for marketing activities.	18.81	16.093	.570	.818
Advanced way for crowdsourcing.	19.25	17.548	.469	.835
Fast way for the new competitors' and market's tracking.	18.97	15.064	.635	.805
Customer care improvement.	19.00	15.484	.594	.813
Customers' demand and behavior recognition.	18.91	14.797	.719	.787

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Appendix 3
Barriers dependence on Challenges variable (GLM test)

Factor Analysis

Univariate Analysis of Variance

Between-Subjects Factors

		N
	.60	1
	3.00	3
	3.20	4
	3.40	3
	3.60	1
Challenges	3.80	6
	4.00	2
	4.20	5
	4.40	1
	4.60	5
	5.00	1

Descriptive Statistics

Dependent Variable: Barriers

Computed variable for challenges in using SM	Mean	Std. Deviation	N
.60	2.5000	.	1
3.00	2.6667	.57735	3
3.20	3.8750	1.05079	4
3.40	3.1667	.38188	3
3.60	3.5000	.	1
3.80	3.1667	.68313	6
4.00	2.3750	.53033	2
4.20	3.8500	.45415	5
4.40	4.5000	.	1
4.60	4.2500	.61237	5
5.00	3.5000	.	1
Total	3.4766	.81903	32

Tests of Between-Subjects Effects

Dependent Variable: Barriers

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	11.585[a]	10	1.158	2.641	.029
Intercept	233.151	1	233.151	531.592	.000
Challenges	11.585	10	1.158	2.641	**.029**
Error	9.210	21	.439		
Total	407.563	32			
Corrected Total	20.795	31			

a. R Squared = .557 (Adjusted R Squared = .346)

Parameter Estimates

Dependent Variable: Barriers

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	3.500	.662	5.285	.000	2.123	4.877
[Challenges=.60]	-1.000	.937	-1.068	.298	-2.948	.948
[Challenges=3.00]	-.833	.765	-1.090	.288	-2.424	.757
[Challenges=3.20]	.375	.740	.506	.618	-1.165	1.915
[Challenges=3.40]	-.333	.765	-.436	.667	-1.924	1.257
[Challenges=3.60]	-9.021E-016	.937	.000	1.000	-1.948	1.948
[Challenges=3.80]	-.333	.715	-.466	.646	-1.821	1.154
[Challenges=4.00]	-1.125	.811	-1.387	.180	-2.812	.562
[Challenges=4.20]	.350	.725	.482	.634	-1.159	1.859
[Challenges=4.40]	1.000	.937	1.068	.298	-.948	2.948
[Challenges=4.60]	.750	.725	1.034	.313	-.759	2.259
[Challenges=5.00]	0[a]	.	.	.	.	.

a. This parameter is set to zero because it is redundant.

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Appendix 4
Challenges dependence on Barriers variable (GLM test)

Univariate Analysis of Variance

Between-Subjects Factors

		N
Barriers	2.00	3
	2.50	2
	2.75	3
	3.00	2
	3.25	3
	3.50	6
	3.75	3
	4.00	3
	4.25	3
	4.50	1
	4.75	1
	5.00	2

Descriptive Statistics

Dependent Variable: Challenges

Barriers	Mean	Std. Deviation	N
2.00	3.6000	.52915	3
2.50	1.9000	1.83848	2
2.75	3.7333	.30551	3
3.00	3.0000	.00000	2
3.25	3.8000	.40000	3
3.50	4.1000	.61644	6
3.75	3.6000	.34641	3
4.00	4.4667	.23094	3
4.25	3.8667	.57735	3
4.50	4.4000	.	1
4.75	4.6000	.	1
5.00	3.9000	.98995	2
Total	3.7625	.80232	32

Tests of Between-Subjects Effects

Dependent Variable: Challenges

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	11.615[a]	11	1.056	2.532	.034
Intercept	356.824	1	356.824	855.692	.000
Barriers	11.615	11	1.056	2.532	**.034**
Error	8.340	20	.417		
Total	472.960	32			
Corrected Total	19.955	31			

a. R Squared = .582 (Adjusted R Squared = .352)

Parameter Estimates

Dependent Variable: Challengess

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	3.900	.457	8.541	.000	2.948	4.852
[Barriers=2.00]	-.300	.589	-.509	.616	-1.530	.930
[Barriers=2.50]	-2.000	.646	-3.097	.006	-3.347	-.653
[Barriers=2.75]	-.167	.589	-.283	.780	-1.396	1.063
[Barriers=3.00]	-.900	.646	-1.394	.179	-2.247	.447
[Barriers=3.25]	-.100	.589	-.170	.867	-1.330	1.130
[Barriers=3.50]	.200	.527	.379	.708	-.900	1.300
[Barriers=3.75]	-.300	.589	-.509	.616	-1.530	.930
[Barriers=4.00]	.567	.589	.961	.348	-.663	1.796
[Barriers=4.25]	-.033	.589	-.057	.955	-1.263	1.196
[Barriers=4.50]	.500	.791	.632	.534	-1.150	2.150
[Barriers=4.75]	.700	.791	.885	.387	-.950	2.350
[Barriers=5.00]	0[a]	.	.	.	.	.

a. This parameter is set to zero because it is redundant.

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