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MOROCCAN BANKING CUSTOMERS' PERCEPTION TOWARDS USING WEB 2.0 TECHNOLOGIES IN BANKING COMMUNICATION

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Abstract

Web 2.0 technologies provide various benefits to banks and customers alike in terms of communication accuracy, convenience, and cost-effectiveness. Web 2.0 applications have changed the Moroccan bank sector as a whole and the type of relationship between clients and bank institutions. Thanks to these technologies, Moroccan customers can conduct banking transactions with just a click of a button anywhere and anytime. This study aims to critically advance our understanding of the concept of Web 2.0 technologies in the banking industry as well as investigate the perception of Moroccan banking customers on the integration and use of Web 2.0 as a communicative medium with their banking institutions. To this end, a quantitative approach was adopted. A randomly distributed questionnaire was delivered through Google form and emailed to Moroccan bank customers and 280 valid responses were obtained. The instrument is divided into two sections. The first section includes nominal scales. It is meant to collect basic information about the respondents' demographic characteristics including gender, age, profession, and educational level while the second section deals with the respondents' perception of Web 2.0 technologies. The statistical package for social sciences (SPSS) V. 20 was employed to analyze the data. The findings of the study indicate that Moroccan banking customers have a positive attitude towards using Web 2.0 technologies in communicating with their banks. The results also show that gender factor has no significant influence on users' perception and the adoption of Web 2.0 technologies in banking communication. The results will allow banks to better serve their customers, meet their expectations, and respond to their requirements.

Key words: Web 2.0 Technologies; Perception; Gender Variable; Moroccan Banking Customers' Perception.

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Introduction

Communication has tremendously evolved during the last decade and technology is, by far, the biggest factor. It has moved from the traditional methods of communication to digital communication. There have been many changes in information technology that something new seems to develop every single day. As a consequence, communication is no more what it used to be; it is faster, easier, transparent, and more effective. All fields are now subject to the accelerated pace of change imposed by information and communication technology. These fundamental changes were the result of the integration of Web 2.0 technologies within public and private organizations and institutions from different sectors. With the advent of Web 2.0, the pallet of service has expanded enormously. It is no longer one-to-one communication but rather many-to-many. There is an increasing number of studies emerging on the use of Web 2.0 on various domains ranging from finance to education (Ajjan H. H., 2012; Wattal, Schuff, Mandviwalla, & Williams, 2010; Greenhow, Robelia, & Hughes, 2009; Anfinnsen, Ghinea, & De Cesar, 2011; Ajjan & Hartshorne, 2008),

The concept of Web 2.0 began with a conference brainstorming session between O'Reilly and Media live International in 2003 and defined by Tim O'Reilly (2007) on his website as:

Web 2.0 is the business revolution in the computer industry caused by the move to the internet as platform, and an attempt to understand the rules for success on that new platform. Chief among those rules is this: Build applications that harness network effects to get better the more people use them (O'Reilly, 2007) .

Web 2.0 refers to technologies that enable users to collaborate, interact, design, create and modify content. In other words, Web 2.0 technologies gather collective intelligence (Choudhury, 2014).

The advent of Web 2.0 technologies (Social network sites, blogs, wikis, RSS, etc) has significantly affected the process implemented by banks. It has changed from mortar-and-brick branches to e-banking, online banking, and mobile banking (Lee & Chung, 2009). Nowadays, customers can connect to banking services easily and quickly (Gu, Lee, & Suh, 2009) and can have access to their accounts and general information on bank products and services through the use of the bank website, Facebook, Twitter, LinkedIn, blogs, etc. They can pay bills, transfer money, make online purchases, pay taxes, apply for a loan, and make investments without visiting the mortar-and-brick branches in-person (Thulani, Tofara, & Langton, 2009). In addition to this, it has been found that Web 2.0 channels are already integrated into the customer social and business daily life and a great number of people are transmitting information to each other, as a result, these social channels have become part of vast disseminating and marketing platforms for any company that wants to improve its brand image, reach new potential clients and more importantly, promote products and services with no restrictions (Proença, Silva, & Fernandes, 2010; Bakshy, Rosenn, Marlow, & Adamic, 2012/01/19; Bakshy, Rosenn, Marlow, & Adamic, 2012/01/19).

The Moroccan banking institutions are no exception to these changes. The Moroccan market structure has evolved noticeably to meet the changing environment that it has undergone some important IT changes. "Morocco's banking sector is already the most highly developed in North Africa in terms of penetration indicators and among the most advanced in the wider MENA region" ((Group, 2018). Consequently, they need to implement Web 2.0 tools in their marketing strategies so that they could gain competitive advantage, create awareness, expand their market share, improve customer satisfaction, and most importantly, enhance engagement with existing and potential customers. Moreover, Web 2.0 social channels can offer unprecedented access to people. They are employed as a novel and

effective medium that facilitates direct engagement with their intended audience. In other words, they are great channels to diffuse financial information, to connect with their stakeholders and build strong customer relationships. Nonetheless, the usage of these technologies in developing countries is somehow low compared to developed countries. This is due to perceived usefulness, perceived ease of use, perceived risk, and attitude of consumers' towards the adoption of Online Banking (Echchabi, 2012; Ghalmat, 2021).

This study seeks to investigate the Moroccan banking customers' perception of Web 2.0 technologies and how gender variable influences the adoption of these channels in banking communication.

1. METHODOLOGY

Web 2.0 technologies provide various benefits to banks and customers alike in terms of communication accuracy and cost effectiveness. This study aims to investigate the perception of Moroccan banking customers on the integration and use of Web 2.0 as a communication medium with their banking institutions and how demographics variables influence users to adopt these technologies. To this end, a randomly distributed questionnaire was handed out to Moroccan bank customers and 280 responses were obtained. The instrument is divided in two sections. The first section of the questionnaire includes nominal scales. It is used to collect basic information about the respondents' demographic characteristics including gender, age, educational level, profession, and Internet access. It is well established that demographic characteristics have a significant impact on customer's attitude and behavior regarding the use of a technology (Sathye, 1999; Jayawardhena & Foley, 2000; Karjaluoto, Mattila, & Pento, 2002; Mattila, Karjaluoto, & Pento, 2003; Akinci, Aksoy, & Atilgan, 2004) . The second section consists of five Likert-type close ended items, dealing with the respondents' perception of Web 2.0 technologies. Data collected is analyzed by Statistical Package for the IBM Social Sciences Program SPSS (version 20.) to provide a descriptive and inferential analysis of the data.

Cross-tabulation, a quantitative research method, was used to examine relationships within data that may not be readily apparent. The Chi-square Test was also used along with Cross-tabulation for testing the relationship between gender variable and the perception towards Web 2.0 technologies usage. If the P-value is less than or equal to the significance level (P-value ≤ α), the null hypothesis (H0) is rejected and can be concluded that there is a statistically significant association between variables. However, if the P-value is larger than the significance level, the null hypothesis (H0) is retained as there is not enough evidence to conclude that the variables are associated.

The hypotheses set for this study are as follow:

H1: Moroccan banking customers have a positive attitude towards Web 2.0 technologies as a financial communication medium

H2: There is a predictive link between gender variable and Web 2.0 technologies adoption.

2. RESULTS

2.1. Demographic profile of the respondents

As far as the findings are concerned, the first section deals with the respondents' demographics information (gender, age, educational level, profession, and Internet access). The descriptive statistics of the respondents' demographic characteristics were analyzed and displayed in the form of frequencies and percentages in Table 1.

Table 1 - Descriptive statistics of the respondents' demographic characteristics

Measure	*Value*	*Frequency*	*Percentage (%)*
GENDER	Male	142	50.7
	Female	138	49.3
AGE	18-25	51	18.2
	26-35	90	32.1
	36-45	72	25.7
	46- 55	47	16.8
	+55	20	7.1
EDUCATION LEVEL	Primary education	12	4.3
	Baccalaureate	16	5.7
	Technician, Bac level	21	7.5
	Bac +2	41	14.6
	Bachelor's degree	68	24.3
	Master's degree	67	23.9
	PhD	45	16.1
	No diploma	10	3.6
PROFESSION	Student	40	14.3
	Civil servant	128	45.7
	Liberal profession	15	5.4
	Private sector employee	52	18.6
	Very small enterprises	16	5.7
	Artisan	14	5.0
	Retired	9	3.2
	Unemployed	6	2.1
Internet Access	Yes	270	96.4
	No	10	3.6
Access to Internet is mostly done	Home	217	77.5
	Work	21	7.5
	Public Places	33	11.8
	No answer	9	3.2

From **Table 1** above, the respondents' gender ratio is almost even between males and females. 142 respondents are men, which comprises 50.71% of the study participants and the number of female participants' accounts for 138 participants which comprise 49.20% of the total number of participants in this study. This means that both females and males are equally presented in the sample for this study. Therefore, none of two gender categories has been under-represented. Concerning the respondents' age, the responses indicate that the majority of the population is from a relatively younger generation; people from age group (26-35) were 32.1%, respondents aged between 36- 45 are 25.7%, respondents from age group (18-25) are 18.2%, while those aged between 46-55 are 16.8% and only 7.1% are over 55 years old. On the basis of the educational qualification (**Table 1)**, the majority of the respondents are well educated; 24.3% holds a BA degree, followed by Master degree holders at 23% and PhD holders at 16.1%, and the lowest category is primary education at 4.3% and respondents with no diploma constitute 3.6%. As far as the occupation of the respondents is concerned, the largest 45.7% of the total sample are civil servants followed by the next largest 18.6% represented by the private-sector employees, 14.3% represented by students, 5% are artisans, 3.2% are retired and 2.1% are unemployed. The questionnaire also indicates that almost all the respondents (96.4%) have access to Internet and it is mostly done at home (77.5%) more than at work (7.5%) or in public places (11.8%).

2.2. Respondents' Perception towards Web 2.0 Technologies

With respect to the first research question, the results obtained revealed that the majority of Moroccan banking customers (91.4%) use Web 2.0 technologies in their social life. 77.5% has the knowledge and skills to use Web 2.0 technologies and 78.2% points out that social network sites increase their work efficiency. Furthermore, the results reveal that 81.07% use social network sites and 78.2% agree that social media increases their work efficiency and can a faster access to information.

2.3. Gender factor

As far as the second research question is concerned, previous research has studied gender differences in people's perceptions and attitudes towards Information and Communication technologies (ICT). It has been suggested that technology adoption differs between males and females. (Parasuraman & Igbaria, 1990) Parasuramam & Igbaria (1990) claimed that there is no noticeable difference accounted for gender while Hung (2006) found that men are more influenced by the advantages that IB offer so they are expected to use these technologies more than females. Therefore, gender differences is crucial to determine their decision to use and adopt Web 2.0 technologies in the Moroccan banking communication.

2.3.1. Gender and the use Web 2.0 technologies

Table 2 Gender * do you use Web 2.0 technologies?

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.459[a]	1	.227
N of Valid Cases	280		

It can be revealed from the above **Table 2** that the chi-square value is (.227) with an indication level of (1.45) which is a value that is not statistically significant since the p-value is higher than the theoretical significance level ($p<0.05$). This indicates that there is a negative and non-statistically significant connection between gender variable and "the use of Web 2.0 technologies". This suggests that the null hypothesis is retained.

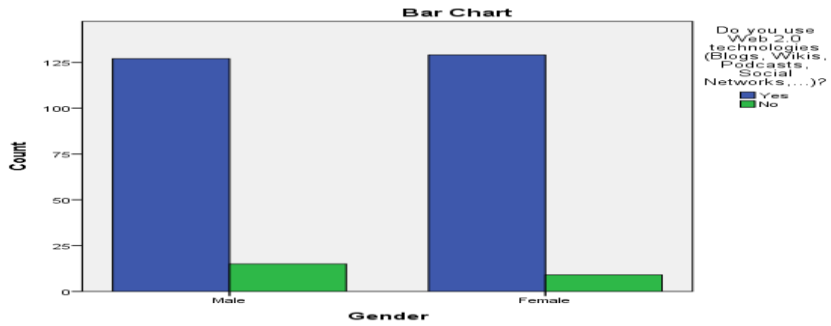

Figure 1. Gender*the use of Web 2.0 technologies

The results displayed in **Fig. 1** show that there is a roughly equal number between male and female who use Web 2.0 technologies which reveals that both females and males are aware of and familiar with Web 2.0 technologies and use them for their social interaction.

2.3.2. Gender and the familiarity with Web 2.0 technologies

Table 3. Gender * I have the knowledge and skills required to use Web 2.0 technologies.

Chi-square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.527[a]	4	.474
N of Valid Cases	280		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.42.

It can be revealed from the above **Table 3** that the chi-square value is (.474) with an indication level of (3.52) which is a value that is not statistically significant since the p-value is higher than the theoretical significance level ($p<0.05$). This indicates that there is a negative and non-statistically significant connection between gender variable and "having knowledge and skills to use Web 2.0 technologies". This suggests that the null hypothesis is retained.

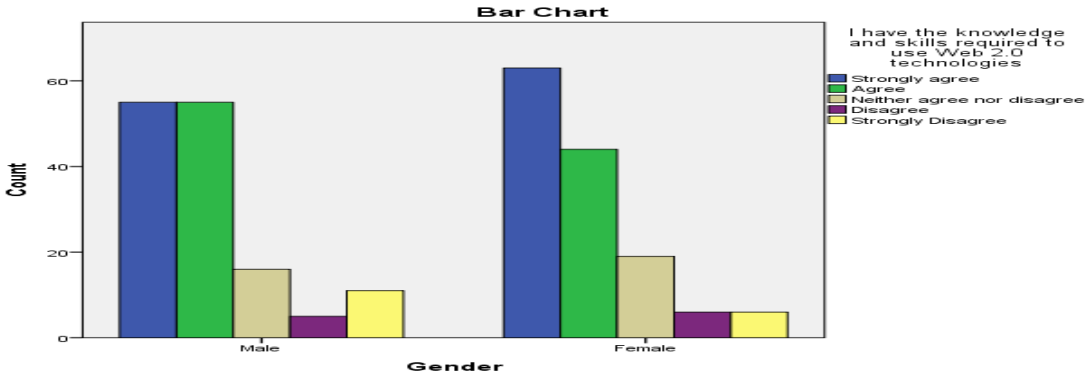

Figure 2. Gender* I have the knowledge and skills required to use web 2.0 technologies

The results displayed in **Fig. 2** show that there is a slight difference in gender's opinion. Females are more technology literate than their males' counterparts. Females confirm having the knowledge and adequate skills to use Web 2.0 technologies.

Table 4. Gender * Web 2.0 technologies improve communication efficiently since they save time and money

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.442[a]	4	.168
N of Valid Cases	280		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.42.

It can be revealed from the above **Table 4** that the chi-square value is (0.16) with an indication level of (6.442) which is a value that is not statistically significant as the p-value is higher than the theoretical significance level ($p<0.05$). This indicates that there is no statistically significant relationship between gender variable and the fact that Web 2.0 technologies influence communication effectively which suggest that the null hypothesis is retained.

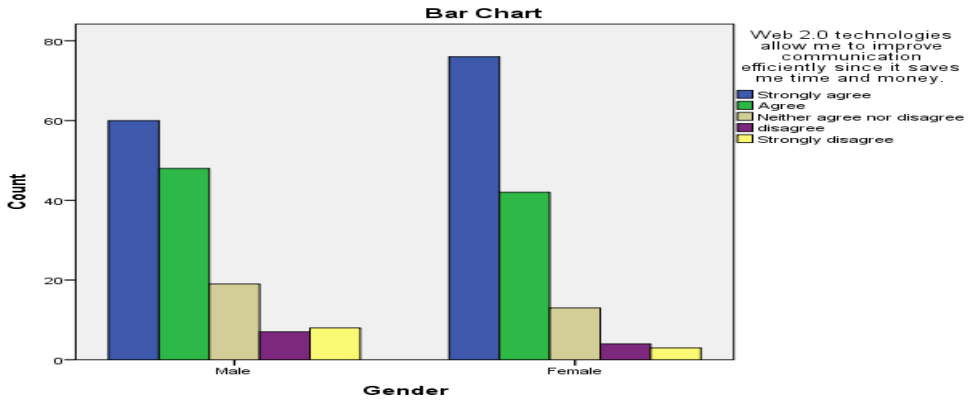

Figure 3. Gender* Web 2.0 technologies improve communication efficiently since they save time and money.

The **Figure 3** above reveals that both males and Females similarly agree that web 2.0 technologies permit them to improve their communication efficiently and save their time and money.

2.3.3. Gender and work efficiency:

Table 5. Gender* Social media increases my work efficiency because it gives me faster access to information I am looking for.

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.420[a]	4	.077
N of Valid Cases	280		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.39.

As **Table 5** indicates, the chi-square value is (0.77) with an indication level of (8.420) which is a value that is not statistically significant as the p-value is higher than the theoretical cut-edge alpha required ($p<0.05$). This indicates that there is no statistically significant relationship between gender variable and the benefits of 2.0 technologies which suggest that the null hypothesis is retained.

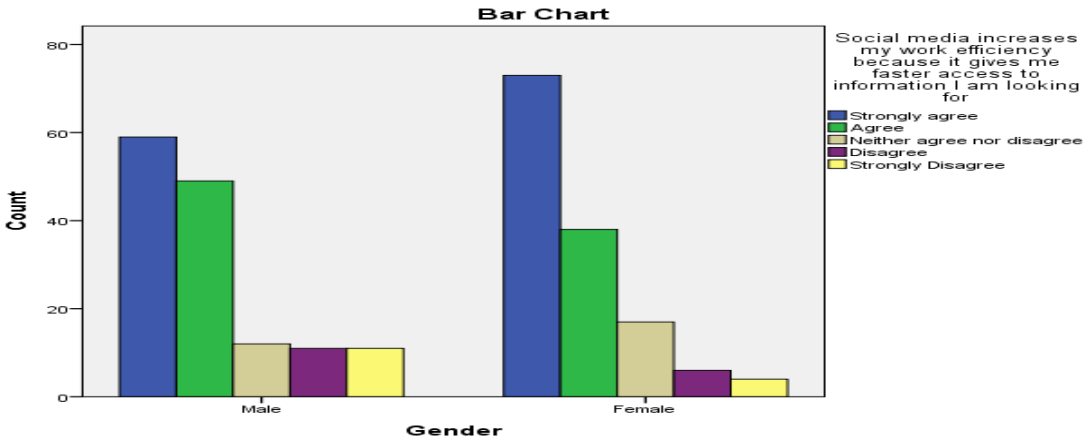

Figure 4. Gender* social media increases my work efficiency because it gives me faster access to information I am looking for.

Both male representing 76% and female representing 80.4% in **Figure 4** believe that social media increases their work efficiency as it gives them faster access to information they are searching.

Gender and Internet banking

Table 6. Gender * the bank social profile is meant to develop effective one-to-one communication with the customers

Chi Square Test

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.109[a]	4	.540
N of Valid Cases	280		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 3.94.

As **Table 6** indicates, the chi-square value is (0.54) with an indication level of (3.109) which is a value that is not statistically significant as the p-value is higher than the theoretical cut-edge alpha required (p<0.05). This indicates that there is no statistically significant relationship between gender variable and the statement that the bank social profile is meant to develop effective one-to-one communication with the customers; therefore, the null hypothesis is retained.

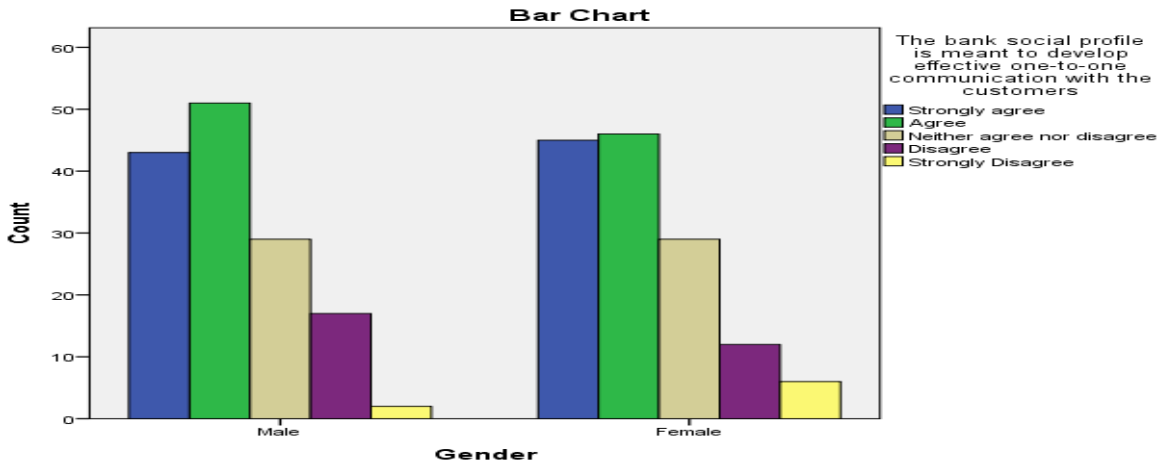

Figure 5. Gender * The bank social profile is meant to develop effective one-to-one communication with the customers

From the above **Fig 5**, both males and females agree upon the idea that the bank social profile is efficient in building a transparent and visible relationship between the bank and its clients.

Table 7. Gender * the use of Web 2.0 channels to communicate with the bank

Chi-Square Test

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.743[a]	1	.098
N of Valid Cases	280		

As **Table 7** indicates, the chi-square value is (.098) with an indication level of (2.743) which is a value that is not statistically significant as the p-value is higher than the theoretical cut-edge alpha required (p<0.05). This indicates that there is no statistically significant relationship between gender variable and the use of Web 2.0 applications to communicate with the bank; therefore, the null hypothesis is retained.

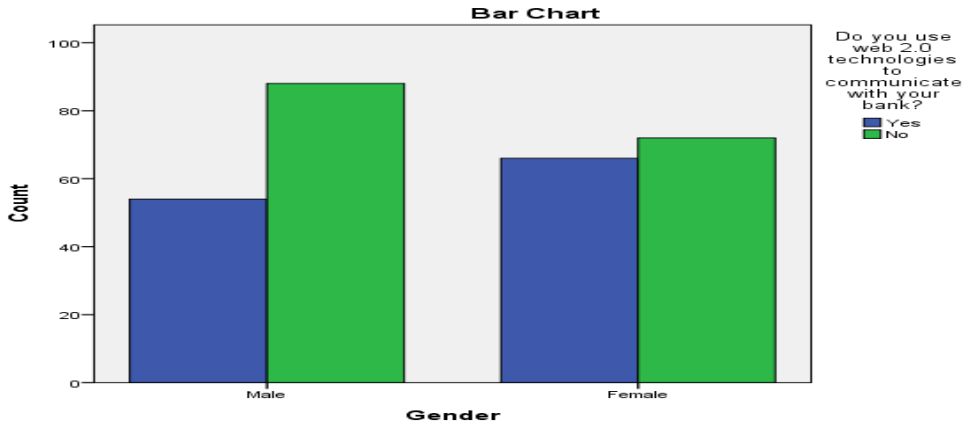

Figure 6. Gender* The use of Web 2.0 technologies to communicate with the bank

The majority of males' respondents representing 88 out of 142 don't use Web 2.O technologies in their communication with their banks and only 54 out of 142 do. Concerning Females attitude towards the use of Web 2.0 tools, 66 out of 138 respond positively while 72 out of 138 denied using these technologies to communicate with their banks.

Table 8 Gender * the use of Online Banking services

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.344[a]	1	.246
N of Valid Cases	280		

Table 8 shows that the chi-square value is (.246) with an indication level of (1.344) which is a value that is not statistically significant as the p-value is higher than the theoretical cut-edge alpha required ($p<0.05$). This indicates that there is no statistically significant relationship between gender variable and the use of online banking services. Thus, the null hypothesis is retained.

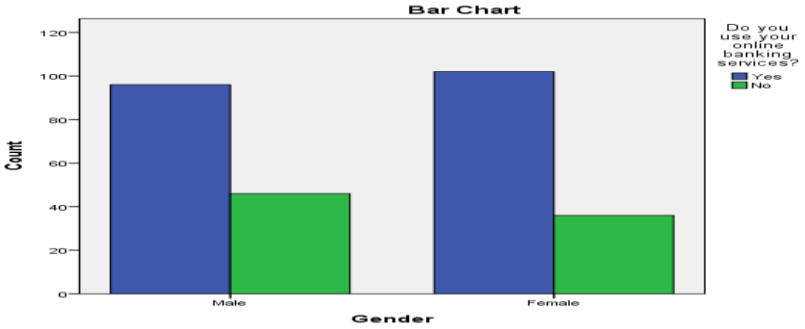

Figure 7. Gender * The use of online banking services.

The relationship between gender and online banking adoption is demonstrated in **Figure 7**. Females use online banking services more than males. These results are not consistent with the prior research which demonstrated that males are more likely to adopt technological innovations than females.

Table 9. Gender * The use of Web 2.0 technologies by Moroccan banks is beneficial

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.496[a]	4	.240
N of Valid Cases	280		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 2.46.

As **Table 9** indicates, the chi-square value is (0.24) with an indication level of (5.496) which is a value that is not statistically significant as the p-value is higher than the theoretical cut-edge alpha required ($p<0.05$). This indicates that there is no statistically significant relationship between gender variable and the benefits of 2.0 technologies which suggests that the null hypothesis is retained.

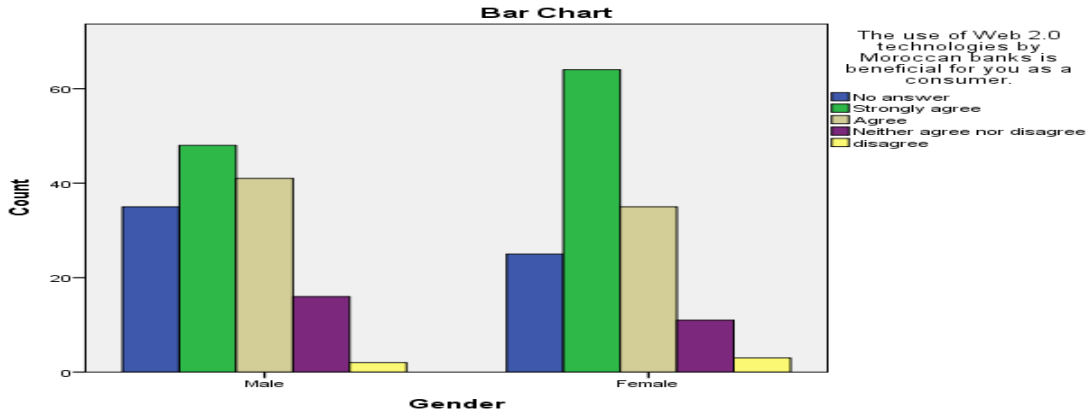

Figure 8. Gender* The use of Web 2.0 technologies by Moroccan banks is beneficial.

As seen in the **Figure 8** above, females representing 109 out of (n= 280) believe that the implementation of Web 2.0 technologies by the Moroccan banking institutions is beneficial and presents a lot of advantages more than males representing 89 out of (n=280) do.

Table 10. Gender * Web 2.0 technologies are best used as social interaction network but not as a financial transaction channel.

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.078[a]	5	.215
N of Valid Cases	280		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.84.

Table 10 above reveals that the chi-square value is (0.21) with an indication level of (7.078) which is a value that is not statistically significant as the p-value is higher than the theoretical significance level ($p<0.05$). As a result, there is no statistically significant relationship between gender variable and the fact that Web 2.0 technologies are better used as a social interaction network but not as a financial transaction. This suggests that the null hypothesis is not rejected and the result of the data analysis show that there are not any statistically significant differences.

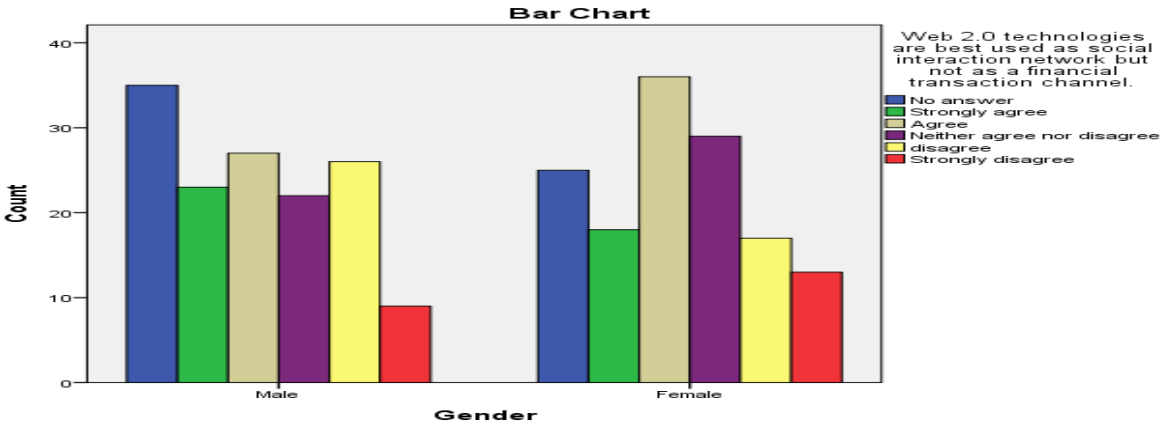

Figure 9. Gender* Web 2.0 technologies are best used as social interaction network but not as a financial transaction channel.

Gender factor has no statistic significant difference. Both male 51.2% and female 49.8% equally prefer to use Web 2.0 technologies only for their social and personal interaction rather than financial transaction channels.

3. DISCUSSION

As far as the first research question is concerned, the results reveal that the majority of the respondents are aware of and familiar with Web 2.0 technologies. Almost all the respondents are conscious of the existence of most Web 2.0 applications and the great potential they offer. They rely on these tools (blogs, social networks, wikis, RSS, virtual worlds, etc.) to fulfill their communication, entertainment, social needs as well as financial transactions. These tools are already integrated into their everyday life. Moreover, the majority of the respondents use Web 2.0 technologies in their social and professional life. They agreed on the ease of use these tools which means that Web 2.0 channels are simple to operate and manage. They have also acknowledged that they have the adequate skills and knowledge to use Web 2.0 technologies. In addition to this, most of our participants agreed that Web 2.0 technologies are useful in the sense that they can improve communication efficiently and increase work efficiency. Therefore, Web 2.0 technologies are perceived as useful, easy to use and convenient.

Concerning the results related to the second research question, our survey findings show that there is no significant difference between females and males in the usage and adoption of Web 2.0 technologies in the Moroccan banking communication. This finding is not in line with previous research which reveals that users of new technology tend to be mostly males while females express more negative attitude, greater level of anxiety towards computers and less competence with regards to information technology. These technologies are perceived useless and difficult to operate (Broos, 2005). Men tend to be more task-orientated (Minton & Schneider, 1980), systems orientated (Jun & Lee, 2010) and more willing to take risks than women (Powell & Ansic, 1997). Moreover, fewer women use Web 2.0 tools as they are not aware of the potential benefits that they may bring (Intel & Dalberg, 2012). Studies have also demonstrated differences in Internet usage between males and

females in the sense that males generally use Web 2.0 technologies in a more competitive communication such as obtaining financial information or reading the news. Females, on the other hand, are concerned with emotion, feelings, and interrelationships; they tend to engage more in collaborative communications and social relationship (Tekobbe, 2013). In the same line of thought, the digital difference between gender is also due to digital illiteracy among women which hampers the adoption of Web 2.0 technologies and reveal a lack of comfort in using them (UNESCO, 2017). They have a greater risk aversion and less trust in the use of the Internet (Sanchez-Franco, Villarejo-Ramos, & Martin-Velicia, 2009). Roy and Chi (2003) state "when using the web for an identical search task, boys performed significantly better than girls on both target-specific information (i.e. information they were specifically prompted to find" (Roy & Chi, 2003).

> As Roy and Chi (2003) note, 'when using the web for an identical search task, boys performed significantly better than girls on both target-specific information (i.e. information they were specifically prompted to find) and target-related information (i.e. information that was related to the target topic, but was not the specifically prompted to find)'

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The possible explanation for the present study findings is that females have become more autonomous and, thus have acquired financial independence. They are now more receptive to IT than their male counterparts and perceive it to be more useful and accessible. During the last century women have been offered equal opportunities in education, decision-making and employment. As their males' counterparts, females have a great deal of responsibility. They have a very heavy schedule in addition to their work restricted timing. Therefore, they need to rely on Web 2.0 channels that offer them more flexibility and convenience to access online services and conduct their financial transactions. It can be said that the Internet was dominated by men users in its early days, but now both men and women value the internet for its famous speed and efficiency in making transactions and communication easier and convenient (Fallows, December 28, 2005).

4. CONCLUSION

Web 2.0 technologies provide various benefits to banks and customers alike in terms of communication, accuracy, convenience, and cost-effectiveness. These tools have reshaped the Moroccan banking sector as well as the relationship with all stakeholders. The present study, therefore, attempts to investigate the Moroccan banking customers' perception to towards Web 2.0 technologies as well as the relationship between gender and the adoption of these technologies in banking communication.

This study showed that web 2.0 technologies are positively perceived by almost all the respondents. The users' adoption and acceptance of these technologies were influenced by the ease of use and the usefulness whether as a social communication channel or as a financial transactions medium.

This study also revealed that there is no significant difference in Web 2.0 adoption between males and females. Both gender adopt these technologies whether in collaborative conversations or in competitive communications. It is true that that the Internet was first dominated by men, but today females have become more familiar and more comfortable I using information technology and accessing the Internet.

The current study has some limitations. The most important one is concerned with the factors that may hamper the adoption of Web 2.0 technologies in banking communication. Only gender variable was investigated in the present study. Further research should investigate other demographic variables that may promote or hinder the adoption of these technologies in banking communication such as age, education level, and profession.

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