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Article

Gender as a moderating element of customer satisfaction with electronic banking? An empirical study

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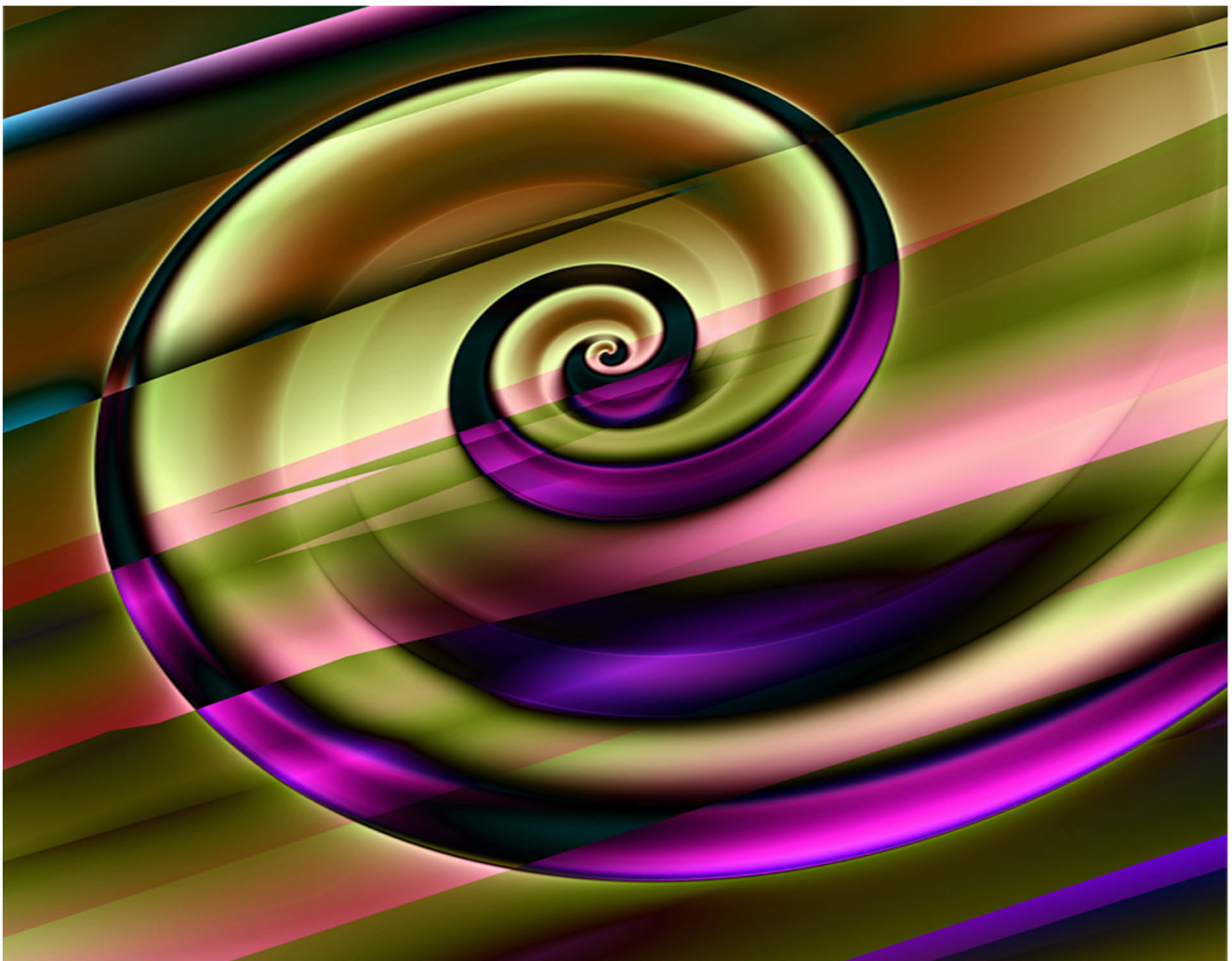
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**Gender as a moderating element of customer satisfaction with electronic banking? An
empirical study**

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Abstract

The importance of Electronic Banking as an alternative channel for marketing products and services, along with the associated cost savings, has brought about significant changes in the financial sector in recent years.

Electronic Banking has become a differentiator among financial institutions, which has led to an attempt to increase customer satisfaction level by fulfilling their expectations. Accordingly, the goal of this paper is to identify the factors that influence the satisfaction level of Electronic Banking users in Spain, following a proposed behavioural model, in addition to determining the influence of the gender variable on our analysis, as a moderator in such relationships. The usefulness of this type of research for financial institutions lies in the support they provide in defining customer profiles. When compared to other similar online satisfaction survey studies, this paper is a pioneer in using empirical analysis to study the effects of gender on customer satisfaction in online banking.

Keywords: Satisfaction, electronic banking, expectations, gender.

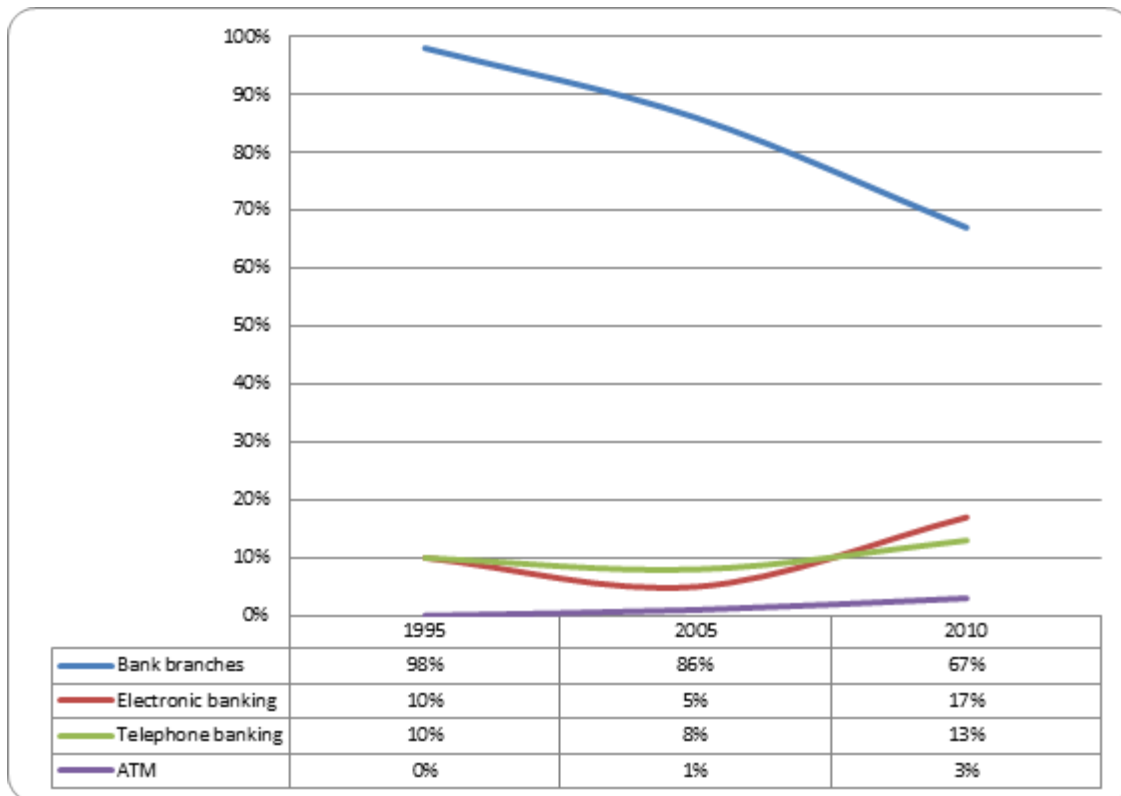
1. Introduction

The financial sector has undergone significant changes in recent years due to an increase in competition, technological innovation developments, greater customer access to services, an increase in social interaction between customers, a demand for lower transaction costs and greater financial knowledge among customers (Embid et al., 1998; Pereira, 2003; Calero et al., 2005; Momparler, 2008). One of the main solutions the sector has begun to implement, in addition to the nature of financial services modified by present-day globalisation, is the promotion of Electronic Banking.

Traditionally, financial products and services have been distributed through bank branches due to their proximity to customers, the wide range of services they provide, the added value that

customers receive at the branches’ significant role in customer decision-making processes. Nevertheless, this conventional channel is being replaced by one that is faster and more dynamic, as shown in the World Retail Banking Report (2010) (see Figure 1), regarding the percentage of use of the main channels. This report illustrates the diminishing importance of the traditional channel, which benefits other alternative channels, with Electronic Banking as the main option in banking practices.

Figure 1: Evolution of financial distribution channels (in % of use) [*Source: Authors based on World Retail Bank Report, 2010*]



In recent years, the Electronic Banking has become the complementary channel to the traditional bank branches thanks to the advantages it provides for both users and institutions. Significant cost savings, quality improvement, global scale, transparency and easy comparison are highly valued aspects of this channel and have extended its reach among customers (Delgado & Nieto, 2002; Lassala et al., 2010). Since the '90s, Electronic Banking has become one of the main channels in the distribution mix of financial institutions (Karjaluo et al., 2002; Torrent-Sellens, et al., 2010). Nonetheless, the investment required, eventual errors and the importance of security have sometimes counteracted its use.

All these reasons have led the majority of financial institutions to offer their customers the possibility of accessing most of their services through different channels, including Electronic Banking, which stands out above the rest.

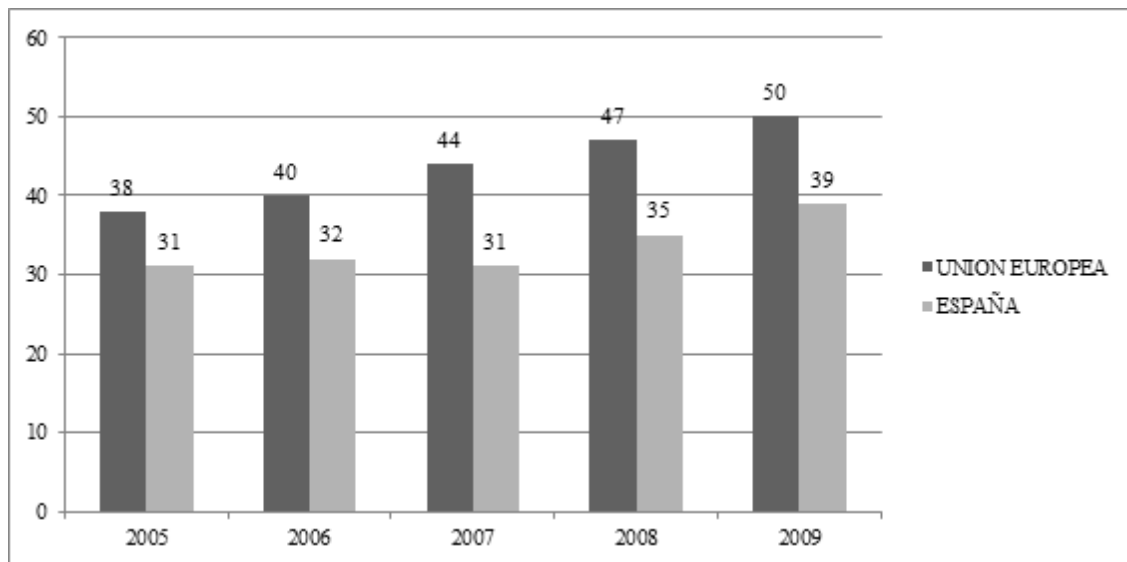
As a matter of fact, many institutions are using their Electronic Banking applications as a tool to distinguish them from the rest of their competitors and many customers choose their reference institution precisely for this type of services. Nevertheless, at the same time financial institutions have had to return to more classical positions in the branch distribution network (for example ING).

In any case, most financial institutions have business structures based on a wide variety of products and services traded simultaneously in different markets, with a bank branch network as the traditional distribution channel. This is complemented with the Internet as an alternative channel aimed at earning the loyalty of regular customers, reducing operation costs and increasing productivity, hence the need for Electronic Banking development (Ibarrondo & Sánchez, 2007).

In addition to the aforementioned, it is noteworthy that different studies, such as a study published by the Orange Foundation (2010), highlight the importance of technological innovations developed within the financial sector and how Internet Banking continues to be one of the most widespread online operations in Spain. According to the Orange Foundation (2010; pp.108), the percentage of people who use Electronic Banking out of the total population in

Spain is growing faster than the EU average, as shown in Figure 2, thus illustrating its growth potential.

Figure 2: Percentage of people who use Electronic Banking out of the total amount of customers
[Source: Orange Foundation, 2010]



Within this context, customer satisfaction with electronic services is a very important variable in the social and economic spheres in which financial institutions operate (Liébana-Cabanillas et al., 2011). Since this service is significant for both customers and financial institutions, this study presents empirical research conducted with the customers of a Spanish financial institution in the 2009 fiscal year. More specifically, Section 1 of this paper analyses the concept of satisfaction and reviews the different theoretical approaches; Section 2 studies the factors that determine satisfaction in Electronic Banking according to scientific literature, in order to define the research hypotheses of the research that will be considered in Section 3 through a structural equations analysis. Section 4 describes the methodological aspects applied in this empirical research study. Finally, Section 5 presents the obtained results, derived from the proposed methodological analysis, as well as a series of conclusions and implications for banking sector management.

2. Analysis of customer satisfaction in electronic banking: the unconfirmation of expectations.

The customer satisfaction study has its origins in the research carried out by Cardozo (1965) and Howard and Sheth (1969), analyzing the influence of expectations on customer satisfaction. These studies are considered the starting point for the scientific interest in customer satisfaction, its origins and consequences.

Since the proposals made by Giese and Cote (2000) and the adaptations carried out by Moliner (2004), the approach to customer satisfaction is based on two criteria: firstly, a merely “conceptual” criterion covering the definitions that identify what customer satisfaction is, through different types of processes and/or types of responses from the customer; and secondly, the “reference field” criterion covering the contributions that illustrate the reference situation to which those processes and/or responses refer to. Therefore, given that these criteria are not exclusive, the main definitions provided by the literature might have different complementary approaches that facilitate the understanding of customer satisfaction.

Regarding the first group of definitions, which belongs to the “conceptual” criterion, we can identify three approaches: (i) the assessment process, conceived as an evaluation process of certain variables (product performance, needs and expectations); (ii) the cognitive response, as result of a consumption experience expressed as a consequence of a cognitive assessment or comparison of variables (expectations and performance, efforts and rewards, etc.), versus the emotional response as result of the consumption experience expressed as an emotional comparison of variables (happiness, surprise or dissatisfaction); and (iii) the assessment and emotional response processes, as the satisfaction related to both cognitive opinions and emotional reactions derived from purchase, consumption or use.

Concerning the second group of definitions related to the “reference field” criterion, the conceptualization of consumer satisfaction can be interpreted from the point of view of a specific transaction, as a post-choice evaluative opinion and/or an emotional response from the consumer

to a particular purchase, consumption or use; on the other hand, the cumulative vision assesses the user's overall experience, in our case related to the Electronic Banking.

Once the literature has been reviewed, focusing on specific transactions, we will define customer satisfaction in our research as "the general attitude adopted by consumers, based on accumulated behavioural experiences".

3. Determinants of customer satisfaction with electronic banking.

To successfully achieve satisfaction, it is necessary to analyse its determinants. More exactly, the determinants used in this research and which will be discussed below in relation to electronic banking are: accessibility (e.g. Ganguly & Roy, 2011), trust (e.g. Chiou, 2004), ease of use and usefulness (e.g. Bhattacharjee & Premkumar, 2004, Liao et al., 2007; Al-Somali et al., 2009).

3.1 Effects of accessibility.

The perception of accessibility to technology is one of the most relevant factors in the acceptance of technology. For Culnan (1984) and for Rice and Shook (1988), accessibility consists of four dimensions: accessibility of computer equipment, access to information, system reliability and ease of learning the language of usage. Nevertheless, for authors like Karahanna and Straub (1999), accessibility consists of the physical dimension of terminal access and the capacity to use the system.

Within the context of Electronic Banking we will consider accessibility only in regards to information, since we understand how users of these services access technology; therefore, accessibility is understood as the ease of access to Electronic Banking applications, as well accessibility to the operations it offers, in such a way that accessibility defines its precise use (Kerem, 2003; Sohail & Shanmugham, 2003). However, Tan and Teo (2000) confirm that accessibility of Internet Banking facilitates acceptance, thanks to its tendency to cause users to perceive technology more favourably. Furthermore, Chau and Lai (2003) confirm the direct positive connection between accessibility and ease to use.

Other authors, like Wixom and Todd (2005) and Poon (2008) state that accessibility to Electronic Banking facilitates the acceptance of any technological innovation and therefore, the ease of use.

Others speak of usability in a broader concept of accessibility, defining the perceptions of reliability (Roy et al. 2001; Flavián, 2004) and creating a connection between these constructs.

Today, most customers demand greater convenience and accessibility (computer, tablet, mobile phone, etc.), so these qualities, as stated by Alam et al. (2008), are differentiating institutions. Therefore, the ability to access Internet banking at any time, from anywhere, can determine customer satisfaction with provided Electronic Banking applications (Poon, 2008; Rahim & Li, 2009) and functionalities (Hackett et al., 2004; Ahmad & Al-Zu'bi, 2011).

Based on the abovementioned arguments, we propose the following hypotheses:

H1: Accessibility to a financial institution's electronic banking services positively determines ease of use of the service.

H2: Accessibility to a financial institution's electronic banking services positively determines trust towards said service.

H3: Accessibility to a financial institution's electronic banking services positively determines satisfaction towards said service.

3.2 Effects of trust.

In recent years, research conducted in the marketing and business relations field has highlighted the significance of trust for parties, as an instrument for furthering continuity in a relationship. This is a highly important aspect in the business field (Sanzo et al., 2003; Bigné & Blesa, 2003; García et al., 2008), since it obviously generates repurchase intention in the future (Bhattacharjee, 2001).

Trust has been studied and defined in many scientific disciplines from various angles. In spite of this, it can be defined from different perspectives (Muñoz-Leiva, 2008; Hernández, 2010). From a cognitive point of view, Dwyer et al (1987) defined trust as "the belief that a partner's word or promise is reliable and a party will fulfil their obligations within an exchange relationship". On the other hand, from a behavioural perspective trust is defined as "the willingness of a party to be vulnerable to actions of another party, based on the expectations that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (Mayer et al. 1995).

Traditionally, trust in online markets has entailed the belief that companies will fulfill their commitments without retaining profits (Ranaweera et al., 2005; Lin et al., 2005). However, there is an increasing perception of a lack of trust on the Internet, especially for transactions related to economical issues (Pitta et al., 2006), which forces institutions to pay more attention to this in order to reduce user's uncertainty (Vrechopoulos et al., 2004; Lee et al., 2005) and create positive beliefs regarding company behaviour (Ganesan, 1994).

As a matter of fact, financial institutions are trying to strengthen trust by increasing the perceived security using symbols (trust seals), tools (digital signature systems) and information, with the goal of improving customer satisfaction. Recent studies have validated the positive effects of trust in the electronic commerce environment on customer satisfaction.

H4: Trust towards a financial institution's electronic banking services positively determines customer satisfaction.

3.3 Effects of ease of use.

Ease of use refers to an individual's perception that using a particular system does not require any effort or is simply straightforward (Davis, 1989, Taylor & Todd, 1995). This is one of the key variables included in Davis et al. Technology Acceptance Model (TAM) (1989), which has been used in many fields to predict acceptance and usage of New Technologies such as adoption of the Internet (Kim & Eom, 2002), acceptance of electronic commerce (Sánchez- Franco & Roldán, 2005), Internet on mobile phones (Cheong & Park, 2005), using online services (Liao et al. 2007), tourist information search engines on the Internet (Ryan & Rao, 2008), mobile services (Zhou, 2011), electronic banking (Amini et al., 2011), etc.. Lai and Li (2005) confirmed that ease of use as perceived by users has a positive impact on usefulness and on the user's attitude towards Electronic Banking, leading to greater service use. Therefore, an easy-to-use website is considered to be more useful. Based on the aforementioned, we establish the following hypothesis:

H5: Ease of use of a financial institution's electronic banking services positively determines the usefulness of said service.

3.4 Effects of usefulness.

The perceived usefulness is defined as the "prospective user's subjective probability that using a specific application system would increase their job performance within an organizational context" (Davis et al., 1989:985). Given that authors such as Bhattacharjee and Premkumar (2004) have stated that the implementation of systems facilitating faster and more convenient customer access increases satisfaction, we propose our last research hypothesis:

H6: The usefulness of financial institutions' Electronic Banking services positively determines customer satisfaction with said services.

4. The effects of gender on customer satisfaction.

Interest in gender differences has a long history in scientific research. Customer characteristics such as gender have a significant impact on degree of customer satisfaction (Bryant & Jaesung, 1996; Mittal & Kamakura 2001). The influence of gender on purchase behaviour and acceptance of e-commerce has been analysed on numerous occasions in marketing literature (Wynn, 2009; Hwang, 2010); these investigations suggest the behavioural differences between users who perform transactions, based on their gender.

In Spain, males have an e-commerce penetration rate of 22.54% of the total population and 43.55% of internet users, while the figures for females are 17.45% and 37.44% respectively, indicating certain differences in the usage of this new sales channel (Spanish National Statistics Institute, 2012).

If we compare this casuistry to Electronic Banking usage, we find that only 44.7% of men and 39.1% of women have used this service in the last three months (Spanish National Statistics Institute, 2012), from which we can deduce that there are significant differences in the use of this tool, although some investigations have proven that there are no significant differences between men and women in Internet usage (Shin, 2009).

Along the same lines, Slyke et al. (2002) stated that “among the many characteristics that impact the use of e-commerce, one that has received relatively little attention is gender. Extant evidence suggests that men and women differ in their beliefs regarding the use of information technology-related innovations, including ecommerce. However, less is known about how gender moderates the impact of various beliefs on behavioral intentions”, which makes us suppose that it is indeed possible to also exhibit different behaviours in regards to customer satisfaction.

Hernández et al. (2011) establish the differences identified by Sun & Zhang (2006) as the three differentiators between genders: men’s greater pragmatism, women’s greater anxiety when facing innovation in certain activities and a greater influence of the environment on women’s decision-making.

Although there is evidence in the scientific literature proving that there are no behavioural differences between men and women regarding the acceptance of certain mobile services (Ristola, 2010), mobile commerce (Islam et al., 2010) and Internet usage (Shin, 2009), for example, all of which is most likely caused by the social equality trend in men’s and women’s behaviours, there are also other studies that have detected significant gender-based differences regarding the acceptance of mobile commerce (Yang, 2005), e-commerce (Bourlakis et al., 2008) and simply in the assessment of banking services (Karatepe, 2011). For all these reasons, our research will shed some more light on customer behaviour and its impacts on men and women.

On the other hand, some authors have found that the satisfaction level in e-commerce is lower for women than for men (Rodgers & Harris, 2003); according to Bourlakis et al. (2008), men have a higher degree of trust in e-commerce and would recommend it, contrary to our results. Likewise, He (2009) argues that women perceive greater ease of use than men in e-commerce, which we have confirmed in our research. Since it seems that men and women do not behave similarly in the use of e-commerce and there are few investigations analysing the influence of gender on customer satisfaction with electronic banking, we consider it interesting to discover how gender will affect the determination of customer satisfaction online. In view of the aforementioned literature, we believe that the previously identified relationships depend on the gender of the study’s subject users. In other words, satisfaction with a given service will depend

on different factors for men and for women. Therefore, we have established the following hypothesis:

H7: There are significant differences when it comes to determining customer satisfaction with Electronic Banking depending on their gender.

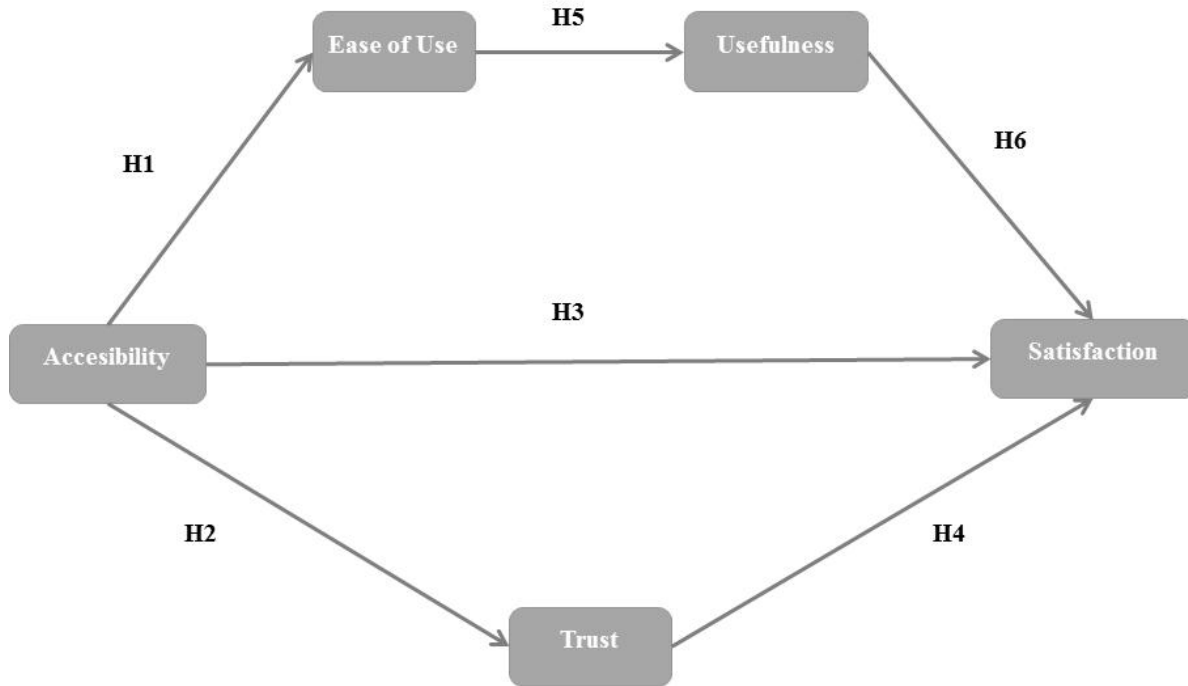
Table 1 summarizes the relationships described in the above research hypotheses (see Figure 3).

Table 1: Hypotheses to analyse.

H1: Accessibility → Ease of use
H2: Accessibility → Trust
H3: Accessibility → Satisfaction
H4: Trust → Satisfaction
H5: Ease of use → Usefulness
H6: Usefulness → Satisfaction
H7: Gender → Satisfaction

Following the review, we propose the model below for its analysis and study.

Figure 3: Research model proposed.



5. Methodological aspects.

5.1 Scope of the study and data collection.

The data provided originates from secondary data resulting from a satisfaction survey carried out biannually by a national financial institution in the south of Spain on its own electronic banking portal, within the framework of the collaboration agreement between said institution and the Marketing and Market Research Department of the University of Granada.

The survey was carried out between September and October 2009. Participation to the survey was voluntary and was introduced to users when they accessed the authenticated part of the website. The web form consisted of 10 Likert-type questions with a 7-point scale (Annex 1).

Table 2 shows the profile of respondents and Table 3 the technical data and sample characteristics.

Variables	Item	Frequency	Percent	Cumulative	(%) Cumulative
Gender	Male	300	49,42%	300	49,42%
	Female	307	50,58%	307	100,00%
Age	16-25	52	8,56%	52	8,56%
	26-35	194	31,96%	246	40,52%
	36-45	201	33,11%	447	73,64%
	46-65	139	22,89%	586	96,54%
	> 65	21	3,45%	607	100%
Incomes	< 9.000 Euros	159	26,19%	159	26,19%
	9.001-18.000 Euros	214	35,25% ^o	373	61,44%
	18.001-30.000 Euros	107	17,62%	534	79,07%
	> 30.000 Euros	127	24,60%	607	100%

Table 2: Respondent profiles.

Population: Electronic banking users
Sampling frame: Bank users
Sampling type: Simple random sampling
Sample size: 607 valid questionnaires
Sample error*: 3.98%
Date of fieldwork: September and October 2009

* For the estimate of a proportion where $P=Q=0.5$ and a confidence level of 95% according to the principles of simple random sampling.

Table 3: Technical data and sample characteristics

5.2 Quality evaluation of the measurement scales used

Since the institution established the survey beforehand, it was not possible to include scales validated in the literature; however, in order to check the suitability of the applied measurement scales, we analysed their reliability and validity through a series of exploratory analyses (using SPSS 15.0 programme) and confirmatory analyses (using AMOS 18 software).

Exploratory analyses

In a first step, we used the Cronbach alpha indicator taking 0.7 as a reference value to measure the reliability of the scales (Nunnally, 1978). In this case, all the variables obtained good or very good values ($\alpha > 0.8$).

We then proceeded to perform an exploratory factor analysis of principal components to assess the degree of unidimensionality of the scales. We found the analysis to be suitable for the variables under study given that: 1) the proportion of variance of all the variables (based on the Kaiser Meyer Olkin coefficient, KMO) always exceeded the value of 0.5, thus indicating sampling adequacy; 2) Bartlett's test of sphericity showed a significance or p-value of 0.000, thus rejecting the null hypothesis on the no difference between the correlation matrix and the identity matrix; and 3) the correlation coefficients of the anti-image correlation matrix off the main diagonal presented lower values.

Finally, we confirmed: 1) the existence of high communalities ($\alpha > 0.5$) among the variables analysed, indicating that they are well represented in the factor space; 2) that a single factor could be extracted by exceeding the minimum recommended for the factor loadings in the indicators ($R^2 > 0.5$); and 3) a single factor was drawn from the proposed scale (the dependent variable being above 70%). Therefore, it can be concluded that the measurement scales have a unidimensional structure.

Confirmatory analyses

Confirmatory factor analysis (CFA) was performed to test the convergent and divergent validity of the scales.

Convergent validity was assessed through factor loadings of the indicators. The coefficients were found to be significantly different from zero, while the loads between the latent and observed variables were high in all cases (>0.7) for both groups (men and women. Hence, the latent variables adequately explain the observed variables (Del Barrio & Luque, 2012).

The reliability of the scales can again be evaluated from a series of indicators drawn from the confirmatory analysis. Specifically, the composite reliability of the construct (CRC) and the analysis of variance extracted (AVE) exceeded the reference threshold at 0.7 and 0.5, respectively, as well as other indicators of overall fit for the measurement model (Luque & Del Barrio, 2012).

CONSTRUCT	ITEM	MEN'S GROUP		WOMEN'S GROUP	
		COMPOSITE RELIABILITY	EXTRACTED VARIANCE	COMPOSITE RELIABILITY	EXTRACTED VARIANCE
ACCESSIBILITY	2	0,79	0,66	0,78	0,64
EASE OF USE	3	0,95	0,85	0,91	0,76
TRUST	2	0,96	0,93	0,98	0,96
USEFULNESS	2	0,92	0,85	0,85	0,73

Table 4: Composite reliability and variance extracted for each group.

Once reliability and validity of the original measurement scales had been analysed, we proceeded to compare the research hypotheses based on a literature review, this time using a Multigroup Structural Equations Model, depending on the gender of the sampled participants.

6. Structural equations model.

After having verified the model validity for the selected sample, we proceeded to a multigroup analysis with the aim of contrasting the moderation hypothesis. For this analysis, we divided the provided sample into two groups: the first group integrated by men (300) and the second one integrated by women (307).

The multivariate normality was well above the recommended limits, so in the end we decided to apply the maximum likelihood method with bootstrapping (with 500 samples) as an estimation method of the model. The election of this method was based on the recommendations made by Finney and DiStefano (1996). Since we were working with continuous data, skewness and kurtosis deviation coefficients were above 2 and 7 respectively, over a large sample size. For the bootstrapping technique, we used the Bollen-Stine corrected p-value and the standard error correction of the constructs at a 95% confidence level.

Concerning the global fit of the multigroup model, we can assert it stands within the limits established in the literature, except from the Bollen-Stine p-value and the AGFI value, which is slightly lower due to the sample size. All these data appear in the table below:

Coefficient	RMSA	GFI	AGFI	CFI	NFI	IFI
Model value	0,06	0,927	0,866	0,97	0,962	0,971
Recommended value*	≤0,08	≥0,90	≥0,90	≥0,90	≥0,90	≥0,90

**Hair et al. (1999), Muñoz (2008) and Luque and Del Barrio (2012).*

Table 5: Model fit indicators.

7. MODERATING EFFECT OF GENDER ON CUSTOMER SATISFACTION.

After having verified the global validity of the proposed model, we assessed the measurement adjustment for each model (men and women). The results are illustrated in the two following figures (Figure 4 and Figure 5 and Table 6).

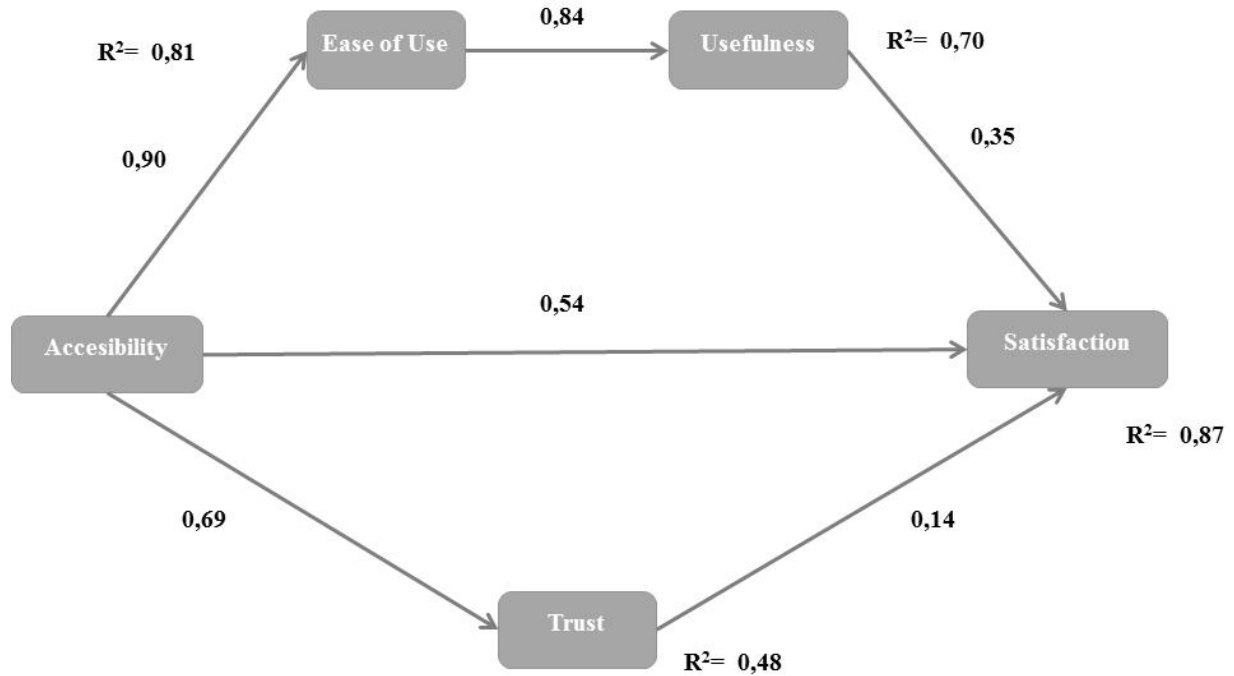


Figure 4: Results of the Multigroup Model proposed for the men's group.

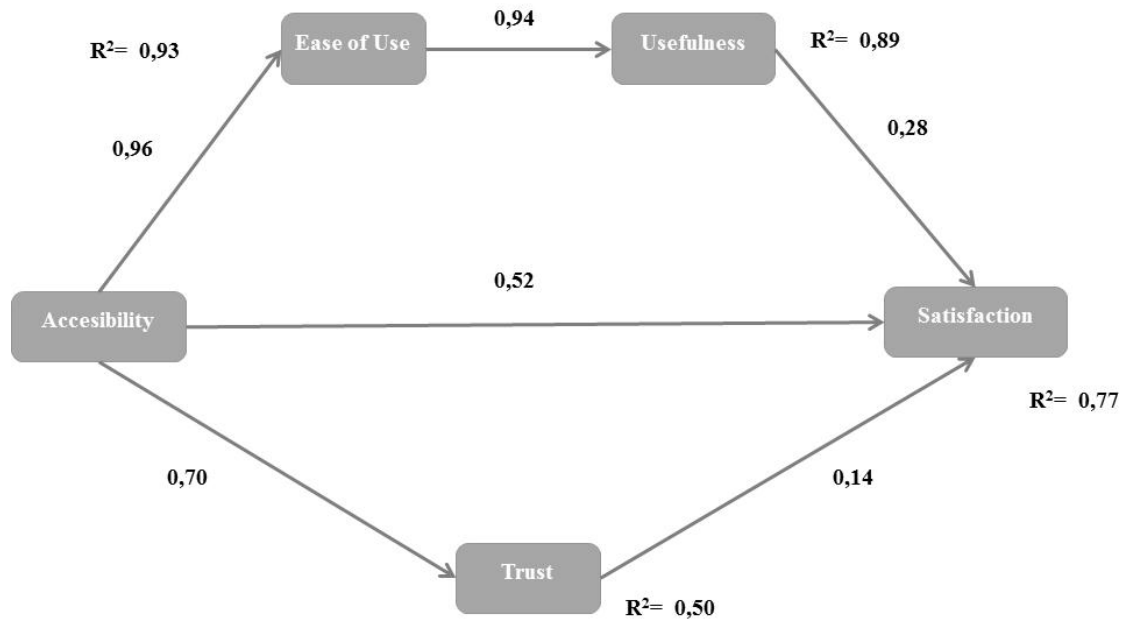


Figura 5: Results of the Multigroup Model proposed for the women's group.

MEN'S MODEL: Hypothesis				Standardized Regression Weights	S.E.	P-value	Observation
H1	Accessibility	→	Ease of use	0.898	0.044	0,000	ACCEPTED
H2	Accessibility	→	Trust	0.69	0.044	0,000	ACCEPTED
H3	Ease of use	→	Usefulness	0.835	0.035	0,000	ACCEPTED
H4	Accessibility	→	Satisfaction	0.538	0.058	0,000	ACCEPTED
H5	Trust	→	Satisfaction	0.144	0.029	0,000	ACCEPTED
H6	Usefulness	→	Satisfaction	0.345	0.04	0,000	ACCEPTED
WOMEN'S MODEL: Hypothesis				Standardized Regression Weights	S.E.	P-value	Observation
H1	Accessibility	→	Ease of use	0.963	0.044	0,000	ACCEPTED
H2	Accessibility	→	Trust	0.705	0.044	0,000	ACCEPTED
H3	Ease of use	→	Usefulness	0.943	0.035	0,000	ACCEPTED
H4	Accessibility	→	Satisfaction	0.52	0.058	0,000	ACCEPTED
H5	Trust	→	Satisfaction	0.136	0.029	0,000	ACCEPTED
H6	Usefulness	→	Satisfaction	0.276	0.04	0,000	ACCEPTED

Table 6: Results of the Multigroup Model.

MEN'S MODEL									
Standardized Direct Effects	Accessibility	Ease of use	Usefulness	Trust	Standardized Indirect Effects	Accessibility	Ease of use	Usefulness	Trust
Ease of use	0.898	-	-	-	Ease of use	-	-	-	-
Usefulness	-	0.835	-	-	Usefulness	0.75	-	-	-
Trust	0.69	-	-	-	Trust	-	-	-	-
Satisfaction	0.538	-	0.345	0.144	Satisfaction	0.358	0.288	-	-
WOMEN'S MODEL									
Standardized Direct Effects	Accessibility	Ease of use	Usefulness	Trust	Standardized Indirect Effects	Accessibility	Ease of use	Usefulness	Trust
Ease of use	0.963	-	-	-	Ease of use	-	-	-	-
Usefulness	-	0.943	-	-	Usefulness	0.909	-	-	-
Trust	0.705	-	-	-	Trust	-	-	-	-
Satisfaction	0.52	-	0.276	0.135	Satisfaction	0.347	0.26	-	-

Table 7: Results of the Multigroup Model. Direct and indirect effects.

For men's model, all the hypotheses set out were backed by empirical data, except from the relation between trust and satisfaction, since this relation didn't turn out to be significantly different from 0 (Regression Weights=0.123; p=0,171).

However, the results turned out to be very different for women's model, where satisfaction is only outstandingly explained by trust, while the rest of connections with this variable are insignificant. (Relation between Accessibility and Satisfaction: Regression Weights= 0.439; p=0,206 and between Usefulness and Satisfaction: Regression Weights=0.341; p=0,110).

Lastly, with the goal of comparing the last of our hypotheses related to the significant differences between men and women when determining customer satisfaction (H7), we applied a test comparing the regression coefficients or weights between structural models, using a modification of Student's t-test for independent samples (e.g. Goodman & Blum, 1996).

Specifically, the regression coefficients comparison test based on Student's t-test were the following:

$$H_0: B_1 = B_2 \quad t = \frac{B_1 - B_2}{\sqrt{SE_1^2 + SE_2^2}}$$

Where B_i are the estimated coefficients without standardization and SE_i are the standard errors for each coefficient.

The t statistic follows a t distribution with $m + n - 2$ degrees of freedom (Sánchez-Franco & Roldán, 2005).

The results have shown that there are significant differences between the two experimental groups (CMIN with 6 degrees of freedom=14,830, p -value=0.022) when comparing the two models. Therefore, we cannot say men's satisfaction is generated the same way as women's satisfaction, so there are significant differences in its formation depending on the gender of the electronic banking user.

Some authors state that the potential gender differences in electronic banking usage and its consequences (satisfaction, in this case) are significant in regards to original expectations, but not in regards to the real usage and its immediate effects (Venkatesh et al., 2000), for example in mobile banking (Riquelme & Ríos, 2010) or mobile Internet usage (Wang & Wang, 2010). The outcomes of our research confirm the results of other authors like Van Slyke et al. (2002) in the e-commerce field, Albert et al. (2011) in banking services and Olalekan (2011), who verifies the significant gender differences in customer satisfaction with Electronic Banking.

8. Conclusions, implications and future lines of research

The financial sector's difficult situation in recent years, driven by the increased competition, a decrease in margins, greater financial knowledge and increased accessibility to services based on the technological development, has forced financial institutions to pay closer attention to their customers' satisfaction. In light of this new situation, Electronic Banking has become the tool of the future for the relationships between financial institutions and their customers.

The importance of Electronic Banking is driven by the numerous advantages it offers, in addition to the reduced number of disadvantages. Significant cost savings, quality improvement, global

scale, transparency and ease of comparison are highly valued aspects for both institutions and customers.

As this study was conducted in 2009, we assume that the results would be different if the research were updated to reflect to current economic climate. However, in the current circumstances, the collaborating financial institution declined to design a new survey

This research work identifies the factors that affect customer satisfaction with Electronic Banking (accessibility, ease of use, trust and usefulness) according to gender, bringing up significant differences between the two groups in regards to the variables related to customer satisfaction with Electronic Banking usage. Almost all the proposed relationships have been demonstrated for males, while only the trust-satisfaction relationship has been demonstrated for females.

The usefulness of this type of research for financial institutions lies in the support they provide in defining customer profiles, facilitating marketing tasks of traditional bank branch staff and allowing the definition of specific CRM strategies to combine satisfaction and cross-selling of products and services, in order to obtain higher customer profitability.

Satisfaction is currently one of the most interesting variables for financial institutions, since it precedes customer loyalty, which is of utmost importance in highly competitive, difficult situations such as the one financial institutions face today.

After comparatively analysing men's and women's behaviours, we have concluded that gender has a very significant impact on customer satisfaction. Therefore, we can state that gender is indeed a moderator for customer satisfaction in Electronic Banking services.

Furthermore, it has also been demonstrated that accessibility, followed by usefulness, precedes satisfaction for men, while the main antecedent for women was trust. For these reasons, if institutions want to promote customer satisfaction through online channels, they have to increase trust-related factors by implementing security tools, seals, promoting accessibility and the usefulness of electronic banking services (mobile banking, for example).

In spite of the relevant scientific and managerial results found in our research, there are some restrictions that should be taken into account in the future. Firstly, other factors take precedence over the significance of online satisfaction, which haven't been considered in our study, such as loyalty and quality. Secondly, the scope of this study is limited to Spain, where penetration of electronic banking services is still in its early stages, making it interesting to check and compare satisfaction levels by means of a cross-cultural study, in order to give greater credibility to our conclusions. Thirdly, since it was impossible to use literature-validated scales, it would be interesting to repeat the study once we have achieved them (in fact, the next surveys conducted by the institution will be implemented after submitting the report derived from this research). Fourthly, other relevant potential satisfaction moderators could be included, such as age, experience, income level, level of education, level of connection by products and volume or by customer profitability level for the financial institution. Lastly, the study should be repeated adopting a horizontal perspective and considering different exercises in order to see the evolution of satisfaction and its connection with the main determinants.

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ANNEX 1:

Rate your level of agreement with the following statements (where 1 means strongly disagree and 7 strongly agree):

- 1) Ruralvía is easily accessible.
- 2) It is easy to conduct operations on Ruralvía.
- 3) Ruralvía provides clear and easy to understand information.
- 4) The operations and consultation processes are easy to use.
- 5) It is easy to navigate and manage accounts on Ruralvía.
- 6) Information provided on Ruralvía is useful.
- 7) I have confidence and trust in the confidentiality of data and operations performed on Ruralvía.
- 8) Ruralvía gives me an overall sense of security.
- 9) Rate your overall satisfaction with Ruralvía.