Revista de Economía Aplicada E A *Número 75 (vol. XXV), 2017, págs. 87 a 107*

FUNCTIONAL BARRIERS TO THE ADOPTION OF ELECTRONIC BANKING: THE MODERATING EFFECT OF GENDER*

JAVIER BORRAZ-MORA
VICTORIA BORDONABA-JUSTE
YOLANDA POLO-REDONDO
Universidad de Zaragoza

The adoption of electronic banking in Spain is lower compared to other countries. This study analyzes the barriers that prevent its adoption, with the conceptual framework of the theory of resistance to innovation. In addition, it analyzes the moderating effect of gender on these barriers. Using structural equations, through PLS and multi-group analysis, the results confirm consumer resistance to electronic banking adoption by functional barriers. It highlights the importance of the value barrier, being this aspect of particular relevance for men, while women are more affected by the complexity in the use of electronic banking. These results have implications for management in overcoming non-adopters' resistance to the innovation.

Key words: electronic banking, resistance to innovation, barriers.

JEL classification: L81, M31, O32, O33.

Electronic banking represents a revolution that has allowed banks to get more competitive advantages. However, use of these technologies is not as widespread as may be expected [Montazemi and Qahri-Saremi (2015)]. For example, in Spain its use has been lower than that of several other countries, both in its European environment, and when compared to developing countries. Thus, the latest Eurostat (2017) data indicates that these channels are used by 43% of the population in Spain, while in countries such as Sweden, the Netherlands, Finland, Denmark, and Norway, it exceeds 80%. A study conducted by KPMG (2015) showed that the penetration of mobile banking in Spain is lower than 40%, whereas in countries such as China it exceeds 60%. This is because there are a number of bar-

(*) The authors gratefully acknowledge the valuable comments from the editor and the reviewers. Yolanda Polo is the chief researcher of the research group Generés (http://generes.unizar.es/en/) and Victoria Bordonaba is a member of this research group. They appreciate the financial support received from the projects ECO2014-54760 (MICINN, FEDER), and S09-PM062 (Gobierno de Aragón and Fondo Social Europeo).

riers that hinder or prevent the use of electronic banking by consumers, either because people delay their adoption decision, or because they resist it directly.

As a result, these innovations are not reaching their full potential in terms of positive impact [Al-Ajam and Nor (2015)], and the entities that have opted for their development need more time to recover the investments made [Yousafzai and Yani-de-Soriano (2012)]. Knowing some of the reasons that lead potential users to hesitate in their technological adoption would allow banking entities to find solutions to encourage the process.

Several studies have analyzed the factors that encourage use of these technologies, pointing out the possibility that some of them may act as barriers. For example, in the Spanish case, Aldás-Mazano *et al.* (2009a, 2009b) made use of elements such as risk or ease of use of these banking channels. Nevertheless, several authors have stated that empirical evidence specifically focused on these barriers remains scarce [Agwu (2013); Laukkanen (2016)].

Investigation of these barriers has usually originated from what is known as consumer resistance to innovation [Ram and Sheth (1989)]. This resistance can arise from a series of factors, both functional and psychological, related to the analyzed innovation. Among these, functional factors are the most crucial in order to understand resistance to the use of electronic banking channels [e.g. Laukkanen *et al.* (2007)]. However, new empirical evidence has eliminated the importance of certain functional barriers [Laukkanen (2016)]. These studies have usually been carried out in countries such as Finland, wherein the electronic banking usage rate is double that of Spain, so it is interesting to analyze these barriers in a country such as Spain.

On the other hand, user behavior in the face of technological innovations may differ according to demographic factors. More specifically, the distinction between men and women allows a better segmentation in strategies to promote technological adoption [e.g. Venkatesh and Morris (2000)]. However, conclusions reached by the previous literature have raised some concerns about the importance of gender when it comes to the decision of not using electronic banking. Moreover, to our knowledge few studies have analyzed the influence of gender on factors that may be a barrier to the adoption of electronic banking [Elbadrawy and Aziz (2011)]. All of the above points makes further analysis on this demographic aspect necessary.

Finally, recent differences between internet banking and mobile banking have been pointed out, thus establishing the need to undertake comparative studies among these two types of innovation [Laukkanen (2016)]. Extant works have focused mainly on a single banking channel or have not conducted specific analyses on the differences between the two electronic channels. It is therefore necessary to analyze the possible differences between barriers according to each channel.

Therefore, the objectives of this research are as follows: first, we investigate the importance of some of the main barriers to the adoption of electronic banking (internet banking and mobile banking), and more specifically, analyze the role of the three functional barriers (usage, value and risk) through a series of related factors (complexity of use and inertia to conceptualize usage barrier, perceived usefulness for the value barrier, and perceived risk for the risk barrier). Second, we analyze the moderating effect of gender on these barriers. To this we add the analysis of possible differences according to each electronic channel.

The remainder of this paper is structured as follows: the second section will review the perspective of consumer resistance to innovations, having discussed the previous literature related to electronic banking. The third section will present the hypotheses. The fourth section will describe the research methodology used in terms of data collection and model analysis. In section five, the results will be presented, which will be discussed more extensively in the sixth section. Finally, the conclusions and final considerations will be presented.

1. Electronic banking and consumer resistance to innovation: literature review

Electronic banking is a series of electronic channels that allow consumers to interact with their banking entities and carry out their financial operations in different ways. Currently, the main channels that are supported are internet and mobile. According to Statista (2016), online banking penetration reached 28.7% of internet users globally in 2012. KPMG (2015) noted that in 2014 there were 800 million mobile banking users in the world, a figure that was expected to increase by 119% in 2019. There are multiple advantages that these innovations have for both banks and users [e.g. Hanafizadeh and Khedmatgozar (2012)]. For example, consumers note the fact that they can be "always-on" with their banks. For banking entities, this means a reduction of operating and administrative expenses, obtaining higher levels of quality and personalization.

Literature that has addressed technological adoption is relatively scarce in terms of the issue of resistance to innovation, and the case of electronic banking is no exception. This tendency to investigate only the determinants that influence adoption is based on what is known as pro-innovation bias [Laukkanen (2016)]. This bias refers to the fact that new technology tends to be perceived as superior to existing technology, which explains why it is considered normal that people tend to adopt changes. However, this assumption does not always hold true. In fact, the figures for electronic banking diffusion do not meet previous expectations –a fact that is particularly evident in the Spanish case–. Spanish banks were among the first in the world to develop online banking. Specifically, in 1995 Banco Santander (through Open-Bank, the first direct bank in Spain) and Banesto introduced the possibility of conducting certain banking operations (basically consultations) via internet. In addition, mobile banking has already come a long way in Spain since its inception from the year 2000. Nevertheless, for both banking channels the number of users has been slow to grow, and today these remain below those of other European countries. For example, Eurostat (2017) data for 2016 indicated that 43% of people in Spain use the internet and their mobile to conduct banking operations, with the EU average being 49%. In addition, in several European countries (especially in northern Europe), the penetration rates double those in Spain, and are often 80% or higher.

Ram and Sheth (1989) argued that consumers may be resistant to an innovation either because it represents a number of potential changes to a satisfactory status quo, or because it conflicts with their belief structure. The first reason is the cause of so-called functional barriers, while the second leads to psychological barriers. The former are related to use of the innovation, its value, or the risks associated with its use.

The latter are related to aspects linked to tradition (cultural changes) or to the perceived image of the innovation (stereotypes).

A review of literature that has analyzed the barriers associated with resistance to electronic banking has shown a greater preponderance of functional factors over psychological ones (see Table 1). Such results have arisen regardless of the channel used (e.g., internet banking or mobile banking). Therefore, we focus our research on these functional barriers.

Table 1: Summary of previous research on electronic banking resistance

References	Channel	Country	Methodology	Barriers*
Kuisma *et al.* (2007)	Internet	Finland	Qualitative	Results without distinction: Usage,Value, Risk, Tradition, Image
Laukkanen *et al.* (2007)	Mobile	Finland	Quantitative	Value, Usage, Risk, Image, Tradition
Laukkanen *et al.* (2008)	Internet	Finland	Quantitative	Risk, Tradition, Image, Usage, Value
Laukkanen and Cruz (2010)	Mobile	Finland, Portugal	Quantitative	Usage, Value, Image, Risk, Tradition
Elbadrawy and Aziz (2011)	Mobile	Egypt	Quantitative	Risk, Usage, Value, Image, Tradition
Luo *et al.* (2012)	Mobile	USA, Finland, China, Korea	Qualitative	Results centered only on functional barriers: Usage, Value, Risk
Agwu (2013)	Internet	UK	Quantitative	Risk, Value, Tradition, Image, Usage
Laukkanen (2016)	Internet, Mobile	Finland	Quantitative	Value, Image, Tradition

* Barriers are ordered in order of importance.

Source: Own elaboration.

Following Ram and Sheth's (1989) approach, we perceive a usage barrier to arise when an innovation is not compatible with the person's regular way of working, practices, or habits. It is commonly related to the concept of usability, which is linked to the ease of use of the Technology Acceptance Model (TAM) or to the complexity of the innovation diffusion model [e.g. Laukkanen (2016)]. From this perspective, Laukkanen and Cruz (2010) and Luo *et al.* (2012) concluded that this barrier has the strongest influence on people in the mobile banking context.

However, the definition used by Ram and Sheth (1989) associates the usage barrier with other concepts, such as inertia. This factor assumes that the person acts in a certain automatic way that makes him/her hold to already established behaviors. Therefore, it can be likened to a routine, a habit, or a pattern of use [Laukkanen *et al.* (2008); Kleijnen *et al.* (2009)]. Adopting an innovation implies a change in behavior, in daily routines– sometimes not without effort or difficulties –which some people see unnecessary when the already preset channels are still adequate for the desired function. As Woodside and Biemans (2005) explained, inertia implies that a person is content with the existing status quo and has no desire to change their behavior. This lack of motivation to change is one of the reasons found by Gerrard *et al*. (2006) to explain the nonuse of internet banking, whereas Laukkanen *et al*. (2008) and Laukkanen (2016) noted that resistance to change in routines is the reason behind the rejection of use of internet banking. However, it should be noted that in these latter two studies, inertia was related to tradition as a psychological barrier.

The value barrier appears when we consider the performance of innovation in relation to its price and to existing alternatives. If the performance is not high enough, people will have no incentive to adopt it. Previous studies have assimilated the notion of this barrier into the perceived usefulness factors of the TAM model, or to the relative advantage of the innovation diffusion model [e.g. Laukkanen (2016)]. In electronic banking, the value barrier has been found to be fundamental when it comes to failure to adopt both internet and mobile banking [Laukkanen *et al.* (2007); Laukkanen (2016)].

Finally, the risk barrier refers to the uncertainty and side effects associated with the adoption of any innovation. With regard to online activities, such risks are usually more related to financial aspects [Laukkanen (2016)]. If we consider the nature of services related to electronic banking (money and financial data), these issues are of particular importance for potential adopters. In addition, it is often common to identify people who do not adopt innovations as those with greater risk aversion. This is a factor has often been emphasized in extant studies. In works related to internet banking by Laukkanen *et al.* (2008) and Agwu (2013), and a mobile banking study conducted by Elbadrawy and Aziz (2011), risk was found to be the most important aspect to explain resistance. Beyond these studies, which were based on the perspective of resistance to innovation, other research has emphasized the influence of risk, security, and privacy on the adoption of and loyalty to electronic banking [e.g. Gerrard *et al.* (2006); Bamoriya and Singh (2012)]. To all this we add studies that have analyzed the confidence levels that people have in electronic banking, considering the direct relationship between trust and perceived risk [Muñoz-Leiva *et al.*, 2010]. For example, several authors have stated that the concepts of trust and risk interact with each other [Aldás-Manzano *et al.*, 2011], or that risk can mediate the relationship between trust and the intention to adopt new electronic banking channels [Koenig-Lewis *et al.*, 2010].

With regard to the impact of demographic factors, and more specifically gender, research has focused primarily on whether this has a direct influence on the person's final decision. Some studies have found that men are more likely to use both internet banking [Gerrard *et al.* (2006)] and mobile banking [Laukkanen and Cruz (2010); Laukkanen (2016)], while women tend to reject these technologies. By contrast, Bamoriya and Singh (2012) showed that the use of mobile banking is not associated with gender. To our knowledge, Elbadrawy and Aziz (2011) are the only au-

thors to have conducted a specific analysis relating gender with barriers to the adoption of electronic banking (mobile banking). Their results pointed to a significant influence of gender on the barriers of usage and risk, but not on the value barrier. In particular, men consider mobile banking to be easier to use and low risk, and are thus more predisposed to its adoption, compared to women.

The above review of the literature allows us to verify the scarcity of studies that have simultaneously analyzed the effect of the adoption barriers in internet and mobile banking. In fact, even Laukkanen's (2016) research, while studying the effect of barriers on each channel, did not specifically analyze differences between the two.

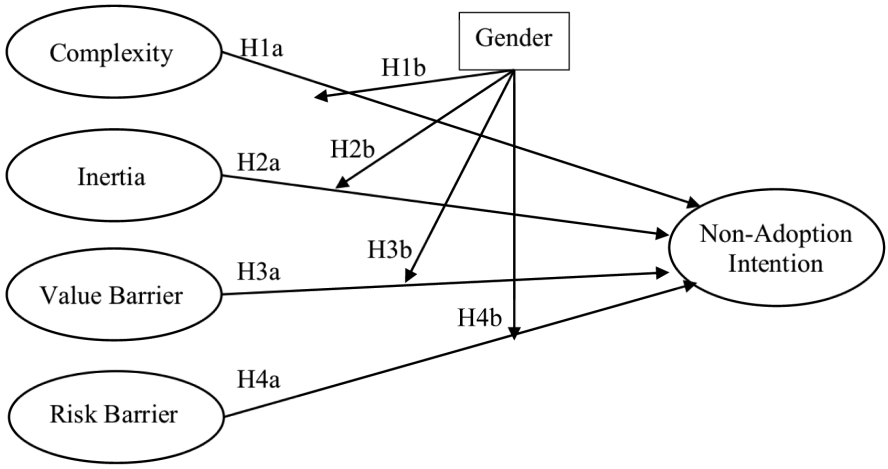
2. Analysis model and hypothesis

As pointed out in the previous section, functional barriers play a crucial role in understanding a person's resistance when it comes to adopting electronic banking. The model proposed for this research (see Figure 1) considers the influence of these barriers (usage, value, and risk) on the person's intention to not adopt electronic banking (i.e., internet banking or mobile banking).

We also consider, based on the idea presented by Ram and Sheth (1989), that the usage barrier can be conceived not only in terms of complexity of use, but also with regard to inertia in terms of changing their extant habits regarding banking channels. This results in a model with four factors (complexity, inertia, value barrier, and risk barrier) that affect the avoidance of using electronic banking.

Finally, we establish that gender can affect the degree of influence in each of the study factors. Thus, we propose the possible existence of a greater or lesser influence of each barrier on the intention to use electronic banking, depending on the person's gender.

Figure 1: Model



Source: Own elaboration.

Electronic banking can be perceived as an innovation that is difficult to use. This complexity impacts usability of the technology, thereby discouraging adoption. Thus, the greater the difficulty of use or learning to use electronic banking, the greater the possibility that the consumer will not use these channels. Past research has shown that nonadopters of electronic banking base their decision, among other causes, on aspects such as difficulty of use or slowness [Kuisma *et al.* (2007)]. The small size of phone screens in the mobile banking context [Lee *et al.* (2015)], or possible network connection failures of devices [Luo *et al.* (2012)], are other examples of the difficulties that the consumer faces.

Distinguishing by gender, Elbadrawy and Aziz (2011) found that among nonadopters, the effect of difficulties related to use of these technologies is greater in the case of women. Other works related to the adoption of electronic banking have shown the greatest effect of ease of use in females when it comes to forming final intentions to use [e.g. Teo *et al.* (2012)], or the usefulness of these technologies [Riquelme and Rios (2010)]. This is a result that can be extended to other technological innovations [e.g. Venkatesh and Morris (2000); Venkatesh *et al.* (2003); Liébana-Cabanillas *et al.*, 2014].

The above discussion leads us to state the following hypotheses:

H1a. Complexity has a positive effect on the intention to not adopt electronic banking.

H1b. The effect of complexity on the intention to not adopt electronic banking is greater in women compared to men.

Inertia is related to established patterns of use, and is a factor that determines, to a great extent, the rejection of innovations [e.g. Kleijnen *et al.* (2009)]. People that are used to a certain banking channel will experience inertia and thus continue their existing habits, without considering the convenience offered by switching to another channel. In a study by Gerrard *et al*. (2006), it was pointed out this equates to a lack of motivation to make changes to one's banking habits. Despite having the necessary skills to face such change, such users do not want to undergo the inconvenience that it entails. In addition, Kuisma *et al*. (2007) found the routine of using traditional banking channels as one of the main reasons for not using internet banking.

However, to our knowledge, hardly any studies have dealt with the existence of gender differences in relation to inertia. Faqih (2016) pointed out that the inertia that people have in relation to the adoption of new technologies has been attributed to the anxiety that these people feel when trying to interact with those technologies. In this regard, several studies have pointed out that women have a higher level of anxiety, compared to men, in the use of technologies such as computers [Venkatesh and Morris (2000)]. Thus, the effect of anxiety could lead to a greater incidence of inertia in women, who will try to maintain their status quo and not change their behavior [Woodside and Biemans (2005)].

Based on the above, the hypotheses are as follows:

H2a. Inertia has a positive effect on the intention to not adopt electronic banking.

H2b. The effect of inertia on the intention to not adopt electronic banking is greater in women compared to men.

The value barrier is one of the main reasons for resistance to the adoption of technological innovations, and perceived usefulness is a good reflection of that

[Laukkanen (2016)]. When a person sees that innovation has limited usefulness for him/her, it is more difficult for him/her to adopt it voluntarily. Research by Laukkanen *et al*. (2007) and Laukkanen (2016) showed that this is the main cause of resistance to using these new banking channels. Gerrard *et al*. (2006) linked this idea to issues related to lack of need, which was also emphasized by Luo *et al*. (2012). On the other hand, Kuisma *et al*. (2007) pointed out that costs associated with the use of electronic banking (e.g., internet connection costs) can discourage its use.

Regarding possible gender differences, Venkatesh and Morris (2000) and Venkatesh *et al*. (2003) showed that there is a greater influence of perceived usefulness in accepting a technology in men compared to women. The same conclusion was drawn by Liebana-Cabanillas *et al*. (2014) in the case of mobile payments. In addition, Hasan (2010) determined that women place less value than men on the use of online channels for certain activities (e.g. shopping). In mobile banking, Riquelme and Rios (2010) emphasized the greater effect of the "relative advantage" factor on the "useful" factor for men compared to women. However, Elbadrawy and Aziz (2011) found no significant differences between men and women in relation to the value barrier.

Based on the above, we propose:

H3a. The value barrier has a positive effect on the intention not to adopt electronic banking.

H3b. The effect of a value barrier on the intention not to adopt electronic banking is greater in men compared to women.

The perceived risk, and especially the aspects of security and financial risk, are important in electronic banking [Grabner-Kräuter and Faullant (2008)]. If a user detects that these channels do not provide the sufficient level of security and privacy needed to carry out their banking operations, he/she will not adopt the related technologies [Gerrard *et al.* (2006)]. Laukkanen *et al*. (2008) highlighted in this sense fear of incorrectly entering bank data, losing the network connection, or forgetting security passwords. According to Kuisma *et al*. (2007), users' fears focus more on the perceived insecurity of the channel itself. Elbadrawy and Aziz (2011) found that the lack of security in the transmission and maintenance of bank information was most prominent for nonadopters of mobile banking. In studies such as that by Durkin *et al*. (2008) and Agwu (2013), the importance of risk as an inhibitor of electronic banking adoption was highlighted.

In addition, in the case of risk some differences begin to appear depending on user gender. In this sense, Laukkanen and Cruz (2010) echoed the idea that women perceive greater risk compared to men related to online activities. Elbadrawy and Aziz (2011) corroborated this for the case of mobile banking, pointing out that 65% of women consider that this innovation carries a significant level of risk. However, Riquelme and Rios (2010) did not find any differences in the perception of risk of electronic banking between men compared to women.

Based on the above, we propose the following hypotheses:

H4a. The risk barrier has a positive effect on the intention not to adopt electronic banking.

H4b. The effect of a risk barrier on the intention not to adopt electronic banking is greater in women compared to men.

3. Empirical study

To analyze the proposed model, we conducted a survey. This was done both in person and online, and was distributed among people residing in Spain through the "snowball" sampling technique, which allowed us more direct access to the chosen segment for analysis [Li *et al.* (2015)]. Specifically, our focus was on those who do not use internet banking and/or mobile banking. To measure the model variables, we used scales that have already been satisfactorily used in previous literature. A pre-test was carried out using business administration students to verify the suitability of the questions and the survey format. Table 2 shows the research data, as well as sample descriptive data. Table 3 lists the scales used, with their originating authors.

Table 2: Technical details of the research

Sampling unit	Natural person resident in Spain and non-user of internet or mobile banking
Sample size	214 individuals
Dates of fieldwork	First quarter 2015
Method for collecting data	Self-administered questionnaires and on-line questionnaires. Snowball approach
Sample distribution	Gender: 42.99% (males); 57.01% (females) Age: 32.54% (≤ 35 years); 67.46% (> 35 years) Non-used channel: 21.03% (internet); 78.97% (mobile)

Source: Own elaboration.

The analysis was conducted using structural equations, specifically partial least squares (PLS), with SmartPLS 3.2.3 software [Ringle *et al.* (2015)]. Use of this technique has increased considerably in recent years in business research [e.g. Richter *et al.* (2016)].

We conducted tests that revealed an absence of important problems derived from bias associated with obtaining data through a single method (common method bias); these tests included the Harman test and the correlation matrix between model constructs [Podsakoff *et al.* (2003); Pavlou *et al.* (2007)].

Scale quality was also evaluated, including reliability and convergent validity [Hair *et al.* (2010)]. Table 4 presents the factor loadings, composite reliability (CR), average variance extracted (AVE), and R^2 of the scales used. In all cases the requirements of these analyses were met.

Finally, the discriminant validity was corroborated through two different criteria (see Table 5). On one hand, we verified that the square root of the AVE of the variable was superior to its correlations with the rest of the variables [Fornell and Larcker (1981)]. On the other, the heterotrait-monotrait (HTMT) correlations were found to be below the recommended limit values, at 0.85 or 0.90 [Kline, (2011); Henseler *et al.* (2015)].

Table 3: SCALES

Factor	Item	Scale	Source
Complexity	COM1	Overall, I believe that electronic banking would be easy to use[a]	Gounaris and Koritos (2008)
	COM2	Learning to operate electronic banking would be easy for me[a]	
	COM3	I believe that it would be easy to get electronic banking to do what I want it to do[a]	
Inertia	INE1	Changing the way you conduct your banking operations… … for me, would be a bother	Meuter *et al.* (2005)
	INE2	… for me, the cost in time and effort is high	
	INE3	… it's just not worth the hassle for me	
Value Barrier	VB1	Electronic banking would be useful for managing my banking activities[a]	Gu *et al.* (2009)
	VB2	Electronic banking would make it easier to do my banking activities[a]	
	VB3	Electronic banking would enables me to accomplish my banking activities more quickly[a]	
Risk Barrier	RB1	I fear using electronic banking reduces the security of my bank data	Meuter *et al.* (2005)
	RB2	I am unsure if electronic banking performs properly	
	RB3	Electronic banking may threaten my privacy	
	RB4	Overall, using electronic banking is risky	
Non-Adoption Intention	INT1	I intend to use electronic banking in the future[a]	Gu *et al.* (2009)
	INT2	I would recommend others to use electronic) banking[a]	
	INT3	I will frequently use electronic banking in the future[a]	

[a] Reverse scale.

Source: Own elaboration.

Table 4: Reliability and convergent validity

	Loading				
Factor / Item	Value	t-value	CR	AVE	R^2
COMPLEXITY			0.941	0.842	0.845
COM1	0.924***	83.594			
COM2	0.937***	79.983			
COM3	0.892***	35.065			
INERTIA			0.933	0.823	0.852
INE1	0.843***	3.662			
INE2	0.911***	4.616			
INE3	0.964***	4.029			
VALUE B.			0.965	0.901	0.903
VB1	0.953***	113.115			
VB2	0.971***	211.262			
VB3	0.923***	69.330			
RISK B.			0.878	0.646	0.685
RB1	0.677***	3.695			
RB2	0.866***	8.117			
RB3	0.797***	4.737			
RB4	0.859***	6.850			
INTENTION			0.967	0.908	0.913
INT1	0.946***	87.095			
INT2	0.944***	68.242			
INT3	0.968***	188.926			

*** Significant at 1%.

Source: Own elaboration.

Table 5: Fornell and Larcker test and HTMT correlations

	Complexity	Inertia	Value B	Risk B.	Intention
Complexity	**0.918**	0.159	0.782	0.111	0.641
Inertia	0.146	**0.907**	0.059	0.233	0.078
Value B.	0.723	0.058	**0.949**	0.106	0.685
Risk B.	-0.011	0.241	0.080	**0.804**	0.163
Intention	0.596	0.099	0.649	0.187	**0.953**

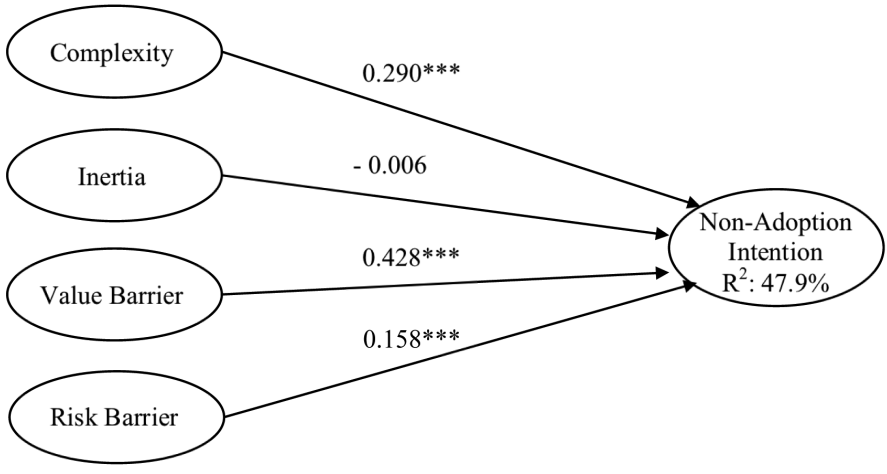
Note: The diagonals/bold represent the square root of the Average Variance Extracted (AVE). Off diagonal values represent latent variable correlations (bellow) and HTMT correlations (above).

Source: Own elaboration.

4. Results

We first analyzed the results for the total sample. Thus, the hypotheses regarding the importance of the various functional barriers on the intention to not adopt electronic banking could be contrasted (see Figure 2). The first hypotheses conceptualized the usage barrier through complexity and inertia. Complexity had a significant positive effect on the intention to not adopt electronic banking ($\beta = 0.290$; $t = 3.609$), thus supporting Hypothesis 1a. However, this was not the case for inertia ($\beta = -0.006$; $t = 0.078$); thus, Hypothesis 2a is rejected. Regarding the value barrier, the perceived usefulness was the main determinant of the intention to not adopt electronic channels ($\beta = 0.428$; $t = 5.366$), supporting Hypothesis 3a. Finally, the results lead us to accept Hypothesis 4a, as we found that perceived risk positively affected final intention ($\beta = 0.158$; $t = 2.930$). In sum, the suggested factors help to explain 47.9% of the variance in intention to not adopt electronic banking.

Figure 2: Results of the structural model



*** Significant at 1%.

Source: Own elaboration.

Before analyzing the hypotheses related to gender differences, for which a multigroup analysis was used, it was necessary to test the invariance of the measurement instrument. This eliminates the possibility that the differences found were derived from errors in the measurement model. We achieved this through the measurement invariance of composite models (MICOM) procedure, through which we analyzed the configural invariance, the compositional invariance, and the equality of means and variances [Henseler *et al.*, 2016]. Table 6 shows the results of this procedure, which show a full invariance of the measurement instrument. This confirms the pos-

sibility that the subsamples can be combined to present an overall, joint sample of results, as has been done previously. However, possible differences in the structural model should still be considered, for which it is necessary to carry out a multi-group analysis that may reveal the existence of moderating effects [Henseler *et al.*, 2016].

Table 6: Results of invariance measurement testing

Factor	Conf.	Compositional		Partial	Equal Mean		Equal Variance		Full
		C = 1	CI	Inv.	Diff.	CI	Diff.	CI	Inv.
COM	Yes	0.998	[0.998 :1.000]	Yes	-0.003	[-0.270 :0.272]	0.100	[-0.266 :0.285]	Yes
INE	Yes	0.827	[0.252 :1.000]	Yes	-0.050	[-0.268 :0.277]	0.207	[-0.311 :0.337]	Yes
VB	Yes	1.000	[1.000 :1.000]	Yes	0.005	[-0.264 :0.268]	-0.133	[-0.250 :0.264]	Yes
RB	Yes	0.961	[0.351 :1.000]	Yes	-0.058	[-0.280 :0.278]	-0.050	[-0.287 :0.301]	Yes
INT	Yes	1.000	[1.000 :1.000]	Yes	-0.210	[-0.264 :0.271]	0.123	[-0.235 :0.266]	Yes

Source: Own elaboration.

A multi-group analysis for gender was conducted using the nonparametric MGA procedure [Henseler *et al.*, 2009]. The results (see Table 7) showed significant differences in all barriers. More specifically, the greatest effect on women was confirmed for complexity (H1b), inertia (H2b), and perceived risk (H4b). In addition, the results confirmed the greater effect of the value barrier for men compared to women (H3b).

Table 7: MGA test (gender)

	β			
Factor	Females	Males	p - value	Hypothesis
Complexity	0.460***	0.062	0.008***	H1b: Supported
Inertia	-0.158	0.117	0.022**	H2b: Partially supported
Value B.	0.305***	0.615***	0.023**	H3b: Supported
Risk B.	0.242***	0.062	0.058*	H4b: Partially supported

*** Significant at 1%; ** significant at 5%; * significant at 10%.

Source: Own elaboration.

We then analyzed the model again, but in this case we focused on the type of banking channel that the person did not intend to adopt (internet banking or mobile banking). Table 8 summarizes these results, as well as the multi-group analysis on possible differences between the two channels. First, we found a disparity in terms of barrier significance. The results for the mobile channel replicated those of the general model, with three functional barriers (where the usage barrier was conceptualized through complexity) that were significant. On the other hand, the results for the internet channel only confirmed the importance of the value barrier and, to a certain extent, the complexity barrier. Regarding the differences between channels, the analysis showed that these were reduced, focusing on the value barrier (p-value = 0.065). In particular, the importance of this barrier was greater in the case of internet banking than mobile banking.

Table 8: MGA TEST (CHANNEL)

	β		
Factor	Internet	Mobile	p - value
Complexity	0.237*	0.291***	0.378
Inertia	0.097	0.004	0.290
Value B.	0.606***	0.373***	0.065*
Risk B.	0.126	0.165***	0.390***

Significant at 1%; * significant at 10%.

Source: Own elaboration.

Finally, the Stone-Geisser test (Q^2) was conducted to analyze the predictive relevance of the model. Using the blindfolding procedure, a value of $Q^2 = 0.406$ was obtained. Since this is greater than 0, so we can confirm its relevance [Hair *et al.*, 2012].

5. DISCUSSION

The results obtained corroborate the impact of the three functional barriers, as stated from the perspective of consumer resistance to innovation [Ram and Sheth (1989)]. More specifically, the value barrier was the most important when it came to the decision to not adopt electronic banking. Those who were reluctant to use these channels felt that they did not offer sufficient utility. This result is in line with observations by both Laukkanen *et al.* (2007) and Laukkanen (2016). Moreover, this factor was analogous to the perceived usefulness of the TAM model, which is one of the most important references in the analysis of electronic banking adoption [Montazemi and Qahri-Saremi (2015)]. Therefore, aspects related to the value and usefulness of innovation allow us to explain both intentions and resistance to adopting an innovation.

The multi-group analysis confirmed the existence of gender differences in the valuation of perceived usefulness. Following previous research approaches [e.g. Venkatesh and Morris (2000); Venkatesh *et al.* (2003)], men were found to assign

greater weight to utility when making decisions. Therefore, the influence of the perception of usefulness of electronic banking for men is essential for them in deciding not to adopt these channels. In fact, this is the only barrier that is significant for the male segment, emphasizing even more its importance in this group. However, in the case of women, this variable takes second place to order of importance in the model. The importance of the value barrier is highlighted as it is also the only one that is significant, regardless of the analyzed channel (internet or mobile). However, this barrier affects adoption with particular intensity when it comes to internet banking.

In the case of the usage barrier, we posed different specifications following the definition expressed by Ram and Sheth (1989) and previous research work [e.g. Laukkanen (2016)]. This barrier arises when innovation is not compatible with the person's workflow, practices, or habits. Hence, their conceptualization may occur through factors linked to usability (e.g., complexity) or when linked to behavior automation (e.g., inertia). In regards to the former, the results show that complexity is a key factor in the model. Difficulties in terms of use, learning costs, and an inability to conveniently utilize these technologies are examples of this barrier.

Ram and Sheth (1989) considered the usage barrier to be the most common reason for consumer resistance. In the context of resistance to mobile banking, Laukkanen and Cruz (2010) and Luo *et al*. (2012) confirmed this conclusion. Our work indicates that this is fundamentally true in the female demographic segment. For this group, complexity is the main reason discouraging adoption. The distinction between women and men is very marked. We found a greater effect of difficulties related to use of these banking channels in the case of women, thus corroborating the results found by Elbadrawy and Aziz (2011).

On the contrary, inertia was not a significant factor of the model. This indicates that people, despite their prior use routines, habits, or patterns, do not perceive there to be significant efforts associated with the behavioral change involved in the adoption of new banking channels. A decade ago, Gerrard *et al*. (2006) placed this factor as the fourth motive (out of a total of eight) to explain the lack of internet banking adoption. There is no doubt that electronic channels are part of people's daily lives; this results in greater knowledge of these technologies, making them a viable alternative to traditional channels. For example, mobile technology has become increasingly important in many activities that people have implemented in their lives [Kang *et al.* (2015)]. Laukkanen *et al*. (2008) advocated the need to overcome the resistance created by routine and habit, but the results obtained show that this is no longer a problem when it comes to technological adoption in the banking context.

Although inertia is not relevant for women or men, there is a significant difference between the two groups. In particular, the effect of inertia on nonadoption is positive for men and negative for women. In other words, inertia has a deterrent effect on adoption by men, and a stimulus effect in women. If women are more anxious about the use of certain technologies [Venkatesh and Morris (2000)], and this is a factor that can lead to inertial behavior [Faqih (2016)], our results differ from what could be expected. In any case, the nonsignificance of this factor in the analyzed models means these interpretations should be taken with caution.

With regard to the last of the analyzed barriers, risk, the results confirm its importance. Aspects related to the security, privacy, or malfunction of electronic bank-

ing cause a greater predisposition to nonadoption. These ideas are in line with previous research [e.g. Laukkanen *et al.* (2008); Elbadrawy and Aziz (2011); Agwu (2013)], though the importance of risk in our model is more moderate. In fact, it is the last of the barriers analyzed in terms of influence on intention. Nowadays, people have greater knowledge of electronic channels; this results in a lower sense of uncertainty and, therefore, in a decrease in the importance of risk factors [Ram and Sheth (1989)].

Finally, the multi-group analysis indicates a difference by gender for the case of the perceived risk, though its significance is low (10%). Women assign greater importance than men to the risk associated with electronic banking, which discourages their use of these channels. This result is in line with those found by Laukkanen and Cruz (2010) and Elbadrawy and Aziz (2011).

6. Conclusions and implications

Our study had several fundamental objectives: on the one hand, to analyze the effect of functional barriers (usage, value and risk) on the resistance to adopt electronic banking (internet banking and mobile banking); and on the other, to examine possible differences in these barriers depending on gender, as well as channel (internet and mobile).

The results obtained contribute to the literature in several ways. First, they underline the importance of the three analyzed barriers. Studies focusing on consumer resistance to innovation have been scarce due to the pro-innovation bias that often occurs [e.g. Laukkanen (2016)]. The context of electronic banking is no exception, and deeper research is needed to understand why people choose to not adopt this technology. This is especially relevant in countries such as Spain, where usage rates have not grown as quickly as in other neighboring countries, despite the early initiation of internet banking and mobile banking. One of the main conclusions of the research is that the value barrier has the greatest effect on resistance to change, followed by the usage barrier (conceptualized through complexity), and finally the risk barrier.

Another contribution arises from the multi-group analysis, which makes it possible to distinguish significant gender differences. Recent studies have emphasized the importance of such differences in explaining people's decisions [Laukkanen (2016)]. However, again, previous research in this regard has been scarce, especially with regard to the influence of gender on potential barriers [Elbadrawy and Aziz (2011)]. Our results show important differences between women and men. Thus, for the female segment, it is the usage barrier that affects the final intention to a greater extent, while in the male segment, only the value barrier proves to be significant. From this, gender differences, to a greater or lesser degree, are derived from all the proposed variables.

A final contribution comes from our analysis of differences according to the banking channel. More specifically, we used a multi-group analysis that compared internet to mobile banking, beyond simply examining the results of the models separately. Thus, while the models endorse the idea that there are differences in the importance (in terms of significance) of the functional barriers depending on the channel [Laukkanen (2016)], the multi-group analysis determined that these were not important for the most part. However, we emphasized the greater effect that the value barrier has on the internet channel compared to the mobile channel.

Banking institutions must encourage the adoption of these technologies among customers in order to obtain the advantages of these innovations and to recover the investments made [e.g. Yousafzai and Yani-de-Soriano (2012)]. The data show that the main way to overcome consumer resistance is to enhance the usefulness of these channels. The benefits of electronic banking for customers are well known [e.g. Hanafizadeh and Khedmatgozar (2012)], and include speed in financial transactions, which can be conducted at any time and place, and improved quality and customization of the service. However, either these benefits are not being adequately disseminated among potential users, or nonadopters consider that they are not sufficient in view of their own needs. Therefore, entities must evaluate the possibility of creating new communication campaigns that familiarize customers with the benefits of these channels. In addition, it should be noted that electronic devices not only have extrinsic (benefits obtained as a result of use), but also intrinsic (pleasure and satisfaction derived from use itself) advantages. Perceived usefulness specifically measures the former, but it is desirable for managers to also consider the latter to extend the range of benefits associated with electronic banking. For example, Rodrigues *et al*. (2016) showed how the gamification of the banking service can foster intention to use it.

The second variable that entities should note is complexity. Aspects related to usability are of special relevance in promoting use of these technologies. Managers should set up responsive Web pages that suitably and specifically adapt to internet and mobile channels. In turn, the customer's navigation experience must be fluid and intuitive. Considering the self-service nature of these channels, in which users carry out almost all operations themselves [Meuter *et al.* (2005)], a simpler and more straightforward process is necessary, so that the user can achieve desired results as quickly as possible. This would improve the perceptions of potential users, who would see these innovations as more friendly and convenient, and an alternative to traditional banking channels. In this respect, the development of new mobile applications to improve mobile banking services is a necessity for financial entities [Fenu and Pau (2015)].

Another barrier that consumers face is risk. Our data corroborate the impact of risk, indicating that managers must continue to work on improving the security and privacy of electronic banking. The new encryption methods in electronic means of payment allow improvements in this respect [e.g. Chaudhry *et al.* (2016)]. It should be noted that the influence of risk is the lowest of the three barriers analyzed. Internet and mobile banking have been operating for several years, which has impacted the knowledge that people have about them. Furthermore, it is very likely that nonadopters of these channels frequently use both internet and mobile devices to perform other activities [e.g. Kang *et al.* (2015)]. This suggests that the effect of perceived risk is lower now compared to several years ago [e.g. Gerrard *et al.* (2006)]. For the same reason, we can understand why inertia was found not to be significant for our analysis: People are used to using electronic media, so there is no great discomfort in changing pre-established routines –or at least these are not a barrier to adoption–.

Finally, the results highlight the importance of segmentation by gender, rather than by channel, for banks. In the case of men, strategies can be simplified to focus solely on eliminating the value barrier. In the female segment, a greater number of tools must be used, since complexity, usefulness, and risk influence their resistance to adoption. This allows for greater efficiency in the proposed strategies. It is also

true that a good part of the improvements implemented in electronic banking (e.g., greater usefulness, usability, and security) will be common to all segments. However, the communication of such improvements (whether through bank advisors or through mass media) would benefit from gender-sensitive planning.

Future studies should aim to expand the findings of this paper, as well as to improve on some of its limitations. For instance, use of the psychological barriers (tradition and image) proposed by Ram and Sheth (1989) would provide more explanation for the reasons discouraging use of electronic banking in Spain. While previous research has highlighted the greater importance of functional barriers, there is no doubt that psychological barriers can play an active role in certain contexts [e.g. Laukkanen (2016)]. In addition, the focus of our study on the main adoption barriers proposed in the previous literature implies a nonconsideration of other variables that may be of interest in understanding people's behavior, such as affective processes (including attitude).

REFERENCES

Agwu, E. (2013): "From Reluctance to Resistance: Study of Internet Banking Services Adoption in the United Kingdom". *International Journal of Customer Relationship Marketing and Management*, Vol. 4, n.º 4, pp. 41-56.

Al-Ajam, A. and Md Nor, K. (2015): "Challenges of adoption of internet banking service in Yemen". *International Journal of Bank Marketing*, Vol. 33, n.º 2, pp. 178-194.

Aldás-Manzano, J., Lassala-Navarré, C., Ruiz-Mafé, C., and Sanz-Blas, S. (2009a): "The role of consumer innovativeness and perceived risk in online banking usage". *International Journal of Bank Marketing*, Vol. 27, n.º 1, pp. 53-75.

Aldás-Manzano, J., Lassala-Navarré, C., Ruiz-Mafé, C. and Sanz-Blas, S. (2009b): "Key drivers of internet banking services use". *Online Information Review*, Vol. 33 n.º 4, pp. 672-695.

Aldás-Manzano, J., Ruiz-Mafe, C., Sanz-Blas, S. and Lassala-Navarre, C. (2011): "Internet banking loyalty: evaluating the role of trust, satisfaction, perceived risk and frequency of use". *The Service Industries Journal*, Vol. 31, n.º 7, pp. 1165-1190.

Bamoriya, D. and Singh, P. (2012): "Mobile banking in India: Barriers in adoption and service preferences". *Journal of Management*, Vol. 5, n.º 1, pp. 1-7.

Chaudhry, S.A., Farash, M.S., Naqvi, H. and Sher, M. (2016): "A secure and efficient authenticated encryption for electronic payment systems using elliptic curve cryptography". *Electronic Commerce Research*, Vol. 16, n.º 1, pp. 113-139.

Durkin, M., Jennings, D., Mulholland, G. and Worthington, S. (2008): "Key influencers and inhibitors on adoption of the internet for banking". *Journal of Retailing and Consumer Services*, Vol. 15, n.º 5, pp. 348-357.

Elbadrawy, R. and Aziz, R.A. (2011): "Resistance to mobile banking adoption in Egypt: A cultural perspective". *International Journal of Managing Information Technology*, Vol. 3, n.º 4, pp. 9.

Eurostat (2017): "E-banking and e-commerce". http://ec.europa.eu/eurostat/web/products-datasets/-/isoc_bde15cbc. Accessed on 09/05/2017.

Faqih, K.M. (2016): "An empirical analysis of factors predicting the behavioral intention to adopt Internet shopping technology among non-shoppers in a developing country context: Does gender matter?". *Journal of Retailing and Consumer Services*, Vol. 30, pp. 140-164.

Fenu, G. and Pau, P.L. (2015): "An Analysis of Features and Tendencies in Mobile Banking Apps". *Procedia Computer Science*, Vol. 56, pp. 26-33.

Fornell, C. and Larcker, D.F. (1981): "Evaluating structural equation models with unobservable variables and measurement error". *Journal of Marketing Research*, pp. 39-50.

Gerrard, P., Barton Cunningham, J. and Devlin, J.F. (2006): "Why consumers are not using internet banking: a qualitative study". *Journal of Services Marketing*, Vol. 20, n.º 3, pp. 160-168.

Gounaris, S. and Koritos, C. (2008): "Investigating the drivers of internet banking adoption decision: A comparison of three alternative frameworks". *International Journal of Bank Marketing*, Vol. 26, n.º 5, pp. 282-304.

Grabner-Kräuter, S. and Faullant, R. (2008): "Consumer acceptance of internet banking: the influence of internet trust". *International Journal of Bank Marketing*, Vol. 26, n.º 7, pp. 483-504.

Gu, J.C., Lee, S.C. and Suh, Y.H. (2009): "Determinants of behavioral intention to mobile banking". *Expert Systems with Applications*, Vol. 36, n.º 6, pp. 11605-11616.

Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010): *Multivariate Data Analysis.* Englewood, Cliffs, NJ: Prentice Hall.

Hair, J.F., Sarstedt, M., Ringle, C.M. and Mena, J.A. (2012): "An assessment of the use of partial least squares structural equation modeling in marketing research". *Journal of the Academy of Marketing Science*, Vol. 40, n.º 3, pp. 414-433.

Hanafizadeh, P. and Khedmatgozar, H.R. (2012): "The mediating role of the dimensions of the perceived risk in the effect of customers' awareness on the adoption of Internet banking in Iran". *Electronic Commerce Research*, Vol. 12, n.º 2, pp. 151-175.

Hasan, B. (2010): "Exploring gender differences in online shopping attitude". *Computers in Human Behavior*, Vol. 26, n.º 4, pp. 597-601.

Henseler, J., Ringle, C.M. and Sarstedt, M. (2015): "A new criterion for assessing discriminant validity in variance-based structural equation modeling". *Journal of the Academy of Marketing Science*, Vol. 43, n.º 1, pp. 115-135.

Henseler, J., Ringle, C.M., and Sarstedt, M. (2016): "Testing measurement invariance of composites using partial least squares". *International Marketing Review*, Vol. 33, nº 3, pp. 405-431.

Henseler, J., Ringle, C.M., and Sinkovics, R.R. (2009): "The use of partial least squares path modeling in international marketing". *Advances in International Marketing*, Vol. 20, pp. 277-319.

Kang, J.Y.M., Mun, J.M. and Johnson, K.K. (2015). "In-store mobile usage: Downloading and usage intention toward mobile location-based retail apps". *Computers in Human Behavior*, Vol. 46, pp. 210-217.

Kleijnen, M., Lee, N. and Wetzels, M. (2009): "An exploration of consumer resistance to innovation and its antecedents". *Journal of Economic Psychology*, Vol. 30, n.º 3, pp. 344-357.

KPMG (2015): "Mobile Banking 2015". https://assets.kpmg.com/content/dam/kpmg/pdf/2015/08/mobile-banking-report-2015.pdf. Accessed on 09/05/2017.

Kline, R. (2011): *Principles and practice of structural equation modeling*. New York: Guildford Press.

Koenig-Lewis, N., Palmer, A. and Moll, A. (2010): "Predicting young consumers' take up of mobile banking services". *International Journal of Bank Marketing*, Vol. 28, n.º 5, pp. 410-432.

Kuisma, T., Laukkanen, T. and Hiltunen, M. (2007): "Mapping the reasons for resistance to Internet banking: A means-end approach". *International Journal of Information Management*, Vol. 27, n.º 2, pp. 75-85.

Laukkanen, T. (2016): "Consumer adoption versus rejection decisions in seemingly similar service innovations: The case of the Internet and mobile banking". *Journal of Business Research*, Vol. 69, n.º 7, pp. 2432-2439.

Laukkanen, T. and Cruz, P. (2010). "What determines mobile banking non-adoption?". *Proceedings of ANZMAC*.

Laukkanen, P., Sinkkonen, S. and Laukkanen, T. (2008): "Consumer resistance to internet banking: postponers, opponents and rejectors". *International Journal of Bank Marketing*, Vol. 26, n.º 6, pp. 440-455.

Laukkanen, T., Sinkkonen, S., Kivijärvi, M. and Laukkanen, P. (2007): "Innovation resistance among mature consumers". *Journal of Consumer Marketing*, Vol. 24, n.º 7, pp. 419-427.

Lee, H., Harindranath, G., Oh, S. and Kim, D.J. (2015): "Provision of mobile banking services from an actor–network perspective: Implications for convergence and standardization". *Technological Forecasting and Social Change*, Vol. 90, pp. 551-561.

Li, H., Aham-Anyanwu, N., Tevrizci, C. and Luo, X. (2015): "The interplay between value and service quality experience: e-loyalty development process through the eTailQ scale and value perception". *Electronic Commerce Research*, Vol. 15, n.º 4, pp. 585-615.

Liébana-Cabanillas, F., Sánchez-Fernández, J. and Muñoz-Leiva, F. (2014): "Role of gender on acceptance of mobile payment". *Industrial Management & Data System*, Vol. 114, n.º 2, pp. 220-240.

Luo, X., Lee, C.P., Mattila, M. and Liu, L. (2012): "An exploratory study of mobile banking services resistance". *International Journal of Mobile Communications*, Vol. 10, n.º 4, pp. 366-385.

Meuter, M.L., Bitner, M.J., Ostrom, A.L. and Brown, S.W. (2005): "Choosing among alternative service delivery modes: An investigation of customer trial of self-service technologies". *Journal of Marketing*, Vol. 69, n.º 2, pp. 61-83.

Montazemi, A.R. and Qahri-Saremi, H. (2015): "Factors affecting adoption of online banking: A meta-analytic structural equation modeling study". *Information & Management*, Vol. 52, n.º 2, pp. 210-226.

Munoz-Leiva, F., Luque-Martínez, T. and Sánchez-Fernández, J. (2010): "How to improve trust toward electronic banking". *Online Information Review*, Vol. 34, n.º 6, pp. 907-934.

Pavlou, P.A., Liang, H. and Xue, Y. (2007): "Understanding and mitigating uncertainty in online exchange relationships: a principal-agent perspective". *MIS Quarterly*, Vol. 31, n.º 1, pp. 105-136.

Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y. and Podsakoff, N.P. (2003): "Common method biases in behavioral research: a critical review of the literature and recommended remedies". *Journal of Applied Psychology*, Vol. 88, n.º 5, pp. 879.

Ram, S. and Sheth, J.N. (1989): "Consumer resistance to innovations: the marketing problem and its solutions". *Journal of Consumer Marketing*, Vol. 6, n.º 2, pp. 5-14.

Richter, N.F., Cepeda, G., Roldán, J.L. and Ringle, C.M. (2016): "European management research using partial least squares structural equation modeling (PLS-SEM)". *European Management Journal*, Vol. 33, n.º 1, pp. 1-3.

Ringle, C.M., Wende, S. and Becker, J.-M. (2015): "SmartPLS 3." Boenningstedt: SmartPLS GmbH, http://www.smartpls.com.

Riquelme, H.E. and Rios, R.E. (2010): "The moderating effect of gender in the adoption of mobile banking". *International Journal of Bank Marketing*, Vol. 28, n.º 5, pp. 328-341.

Rodrigues, L.F., Oliveira, A. and Costa, C.J. (2016): "Does ease-of-use contributes to the perception of enjoyment? A case of gamification in e-banking". *Computers in Human Behavior*, Vol. 61, pp. 114-126.

Statista. (2016): "Global online banking penetration". https://www.statista.com/statistics/233284/development-of-global-online-banking-penetration/. Accessed on 09/05/2017.

Teo, A.C., Tan, G.W.H., Cheah, C.M., Ooi, K.B. and Yew, K.T. (2012): "Can the demographic and subjective norms influence the adoption of mobile banking?". *International Journal of Mobile Communications*, Vol. 10, n.º 6, pp. 578-597.

Venkatesh, V. and Morris, M.G. (2000): "Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior". *MIS quarterly*, pp. 115-139.

Venkatesh, V., Morris, M.G., Davis, G.B. and Davis, F.D. (2003): "User acceptance of information technology: Toward a unified view", *MIS quarterly*, pp. 425-478.

Woodside, A.G. and Biemans, W.G. (2005): "Modeling innovation, manufacturing, diffusion and adoption/rejection processes". *Journal of Business & Industrial Marketing*, Vol. 20, n.º 7, pp. 380-393.

Yousafzai, S. and Yani-de-Soriano, M. (2012): "Understanding customer-specific factors underpinning internet banking adoption". *International Journal of Bank Marketing*, Vol. 30, n.º 1, pp. 60-81.

Fecha de recepción del original: mayo, 2017
Versión final: septiembre, 2017

RESUMEN

La adopción de la banca electrónica en España es menor en comparación con otros países. Este estudio analiza las barreras que impiden su adopción, con el marco conceptual de la teoría de la resistencia a la innovación. Además, analiza el efecto moderador del género sobre estas barreras. Utilizando ecuaciones estructurales, a través de PLS y análisis multi-grupo, los resultados confirman la resistencia del consumidor a la adopción de la banca electrónica por barreras funcionales. Destaca la importancia de la barrera de valor, siendo este aspecto de especial relevancia para los hombres, mientras que a las mujeres les impacta más la complejidad en el uso de la banca electrónica. Estos resultados tienen implicaciones para la gestión para superar la resistencia de los no adoptantes a la innovación.

Palabras clave: banca electrónica, resistencia a la innovación, barreras.

Clasificación JEL: L81, M31, O32, O33.