ECONSTOR

Make Your Publications Visible.

A Service of



Leibniz-Informationszentrum Wirtschaft Leibniz Information Centre for Economics

Villarejo-Ramos, Angel Fco.; Peral-Peral, Begoña; Arenas-Gaitán, Jorge; Ramón-Jerónimo, Maria Angeles

Article

Gender differences among elderly in the use of Internet banking services

The International Journal of Management Science and Information Technology (IJMSIT)

Provided in Cooperation with: North American Institute of Science and Information Technology (NAISIT), Toronto

Suggested Citation: Villarejo-Ramos, Angel Fco.; Peral-Peral, Begoña; Arenas-Gaitán, Jorge; Ramón-Jerónimo, Maria Angeles (2015) : Gender differences among elderly in the use of Internet banking services, The International Journal of Management Science and Information Technology (IJMSIT), ISSN 1923-0273, NAISIT Publishers, Toronto, Iss. 15, pp. 45-52

This Version is available at: https://hdl.handle.net/10419/178789

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



WWW.ECONSTOR.EU

INTERNATIONAL JOURNAL OF

Management Science and Information Technology





The International Journal of Management Science and Information Technology (IJMSIT)

NAISIT Publishers

Editor in Chief J. J. Ferreira, University of Beira Interior, Portugal, Email: jjmf@ubi.pt

Associate Editors

Editor-in-Chief: João J. M. Ferreira, University of Beira interior, Portugal Main Editors: Fernando A. F. Ferreira, University Institute of Lisbon, Portugal and University of Memphis, USA José M. Merigó Lindahl, University of Barcelona, Spain Assistant Editors: Cristina Fernandes, Polythecnic Institute of Castelo Branco, Portugal Jess Co, University of Southern Queensland, Australia Marjan S. Jalali, University Institute of Lisbon, Portugal Editorial Advisory Board: Adebimpe Lincoln, Cardiff School of Management, UK Aharon Tziner, Netanya Academic College, Israel Alan D. Smith, Robert Morris University, Pennsylvania, USA Ana Maria G. Lafuente, University of Barcelona, Spain Anastasia Mariussen, Oslo School of Management, Norway Christian Serarols i Tarrés, Universitat Autònoma de Barcelona, Spain Cindy Millman, Business School -Birmingham City university, UK Cristina R. Popescu Gh, University of Bucharest, Romania Dessy Irawati, Newcastle University Business School, UK Domingo Ribeiro, University of Valencia, Spain Elias G. Carayannis, Schools of Business, USA Emanuel Oliveira, Michigan Technological University, USA Francisco Liñán, University of Seville, Spain Harry Matlay, Birmingham City University, UK Helen Lawton Smith, Birkbeck, University of London, UK Irina Purcarea, Adjunct Faculty, ESC Rennes School of Business, France Jason Choi, The Hong Kong Polytechnic University, HK João Ricardo Faria, University of Texas at El Paso, USA Jose Vila, University of Valencia, Spain Kiril Todorov, University of National and World Economy, Bulgaria Louis Jacques Filion, HEC Montréal, Canada Luca Landoli, University of Naples Federico II, Italy Luiz Ojima Sakuda, Researcher at Universidade de São Paulo, Brazil Mário L. Raposo, University of Beira Interior, Portugal Marta Peris-Ortiz, Universitat Politècnica de València, Spain Michele Akoorie, The University of Waikato, New Zealand Pierre-André Julien, Université du Québec à Trois-Rivières, Canada Radwan Karabsheh, The Hashemite University, Jordan Ricardo Chiva, Universitat Jaume I, Spain Richard Mhlanga, National University of Science and Technology, Zimbabwe Rodrigo Bandeira-de-Mello, Fundação Getulio Vargas - Brazil

Roel Rutten, Tilberg University - The Netherlands Rosa Cruz, Instituto Superior de Ciências Económicas e Empresariais, Cabo Verde Roy Thurik, Erasmus University Rotterdam, The Netherlands Sudhir K. Jain, Indian Institute of Technology Delhi, India Susana G. Azevedo, University of Beira Interior, Portugal Svend Hollensen, Copenhagen Business University, Denmark Vanessa Ratten, La Trobe University, Melbourne, Australia Walter Frisch, University of Vienna, Austria Zinta S. Byrne, Colorado State University, USA

Editorial Review Board

Adem Ögüt, Selçuk University Turkey, Turkey Alexander B. Sideridis, Agricultural University of Athens, Greece Alexei Sharpanskykh, VU University Amsterdam, The Netherlands Ali Kara, Pennsylvania State University -York, York, USA Angilberto Freitas, University of Grande Rio, Brazil Arminda do Paco, University of Beira Interior, Portugal Arto Ojala, University of Jyväskylä, Finland Carla Margues, University of Tras-os-Montes e Alto Douro, Portugal Carla Pereira, University of Beira Interior, Portugal Cem Tanova, Cukurova University, Turkey Cristiano Tolfo, Universidade Federal de Santa Catarina, Brazil Cristina S. Estevão, Polytechnic Institute of Castelo Branco, Portugal Dario Miocevic, University of Split, Croatia Davood Askarany, The University of Auckland Business School, New Zealand Debra Revere, University of Washington, USA Denise Kolesar Gormley, University of Cincinnati, Ohio, USA Dickson K.W. Chiu, Hong Kong University of Science and Technology, Hong Kong Domènec Melé, University of Navarra, Spain Dina Miragaia, University of Beira Interior, Portugal Emerson Mainardes, FUCAPE Business School, Brazil Eric E. Otenyo, Northern Arizona University, USA George W. Watson, Southern Illinois University, USA Gilnei Luiz de Moura, Universidade Federal de Santa Maria, Brazil Jian An Zhong, Department of Psychology, Zhejiang University, China Joana Carneiro Pinto, Faculty of Human Sciences, Portuguese Catholic University, Lisbon, Portugal Joaquín Alegre, University of Valencia, Spain Joel Thierry Rakotobe, Anisfield School of Business, New Jersey, USA Jonathan Matusitz, University of Central Florida, Sanford, FL, USA Kailash B. L. Srivastava, Indian Institute of Technology Kharagpur, India Karin Sanders, University of Twente, The Netherlands Klaus G. Troitzsch, University of Koblenz-Landau, Germany Kuiran Shi, Nanjing University of Technology, Nanjing, China Liliana da Costa Faria, ISLA, Portugal Luiz Fernando Capretz, University of Western Ontario, Canada Lynn Godkin, College of Business, USA

Maggie Chunhui Liu, University of Winnipeg, Canada Marcel Ausloos, University of Liège, Belgium Marge Benham-Hutchins, Texas Woman's University, Denton, Texas, USA María Nieves Pérez-Aróstegui, University of Granada, Spain Maria Rosita Cagnina, University of Udine, Italy Mayumi Tabata, National Dong Hwa University, Taiwan Micaela Pinho, Portucalense University and Lusíada University, Portugal Paolo Renna, University of Basilicata, Italy Paula Odete Fernandes, Polytechnic Institute of Bragança, Portugal Paulo Rupino Cunha, University of Coimbra, Portugal Peter Loos, Saarland University, Germany Pilar Piñero García, F. de Economia e Administración de Empresas de Vigo, Spain Popescu N. Gheorghe, Bucharest University of Economic Studies, Bucharest, Romania Popescu Veronica Adriana, The Commercial Academy of Satu-Mare and The Bucharest University of Economic Studies, Bucharest, Romania Ramanjeet Singh, Institute of Management and Technology, India Ricardo Morais, Catholic University of Portugal Ruben Fernández Ortiz, University of Rioja, Spain Ruppa K. Thulasiram, University of Manitoba, Canada Soo Kim, Montclair State University, Montclair, NJ, USA Wen-Bin Chiou, National Sun Yat-Sem University, Taiwan Willaim Lawless, Paine College, Augusta, GA, USA Winston T.H. Koh, Singapore Management University, Singapore

The International Journal of Management Science and Information Technology (IJMSIT)

NAISIT Publishers

Special Issue: 2014 Spanish-Portuguese Scientific Management Conference

Table of Contents

1 EDITORIAL

MARTA PERIS-ORTIZ, Universitat Politècnica de València, Spain CARLOS RUEDA-ARMENGOT, Universitat Politècnica de València, Spain

5 **EVALUATION OF QUALITY IN DIFFERENT ELECTRONIC SERVICES:** RAMÓN BARRERA-BARRERA, University of Seville, Spain ANTONIO NAVARRO-GARCÍA, University of Seville, Spain MARTA PERIS-ORTIZ, Universitat Politécnica de València, Spain

28 **NOVICE AND EXPERT INTERNET USERS: INFLUENCE OF PRICE DISCOUNTS ON ATTITUDE TOWARD THE BANNER AND WEBSITE** ESMERALDA CRESPO-ALMENDROS, Universidad de Granada, Spain SALVADOR DEL BARRIO-GARCÍA, Universidad de Granada, Spain

45 GENDER DIFFERENCES AMONG ELDERLY IN THE USE OF INTERNET BANKING SERVICES ANGEL FCO. VILLAREJO-RAMOS, University of Seville, Spain BEGOñA PERAL-PERAL, University of Seville, Spain JORGE ARENAS-GAITáN, University of Seville, Spain MARIA ANGELES RAMÓN-JERÓNIMO, Pablo de Olavide University, Spain

 53 INTEGRATED SYSTEMS IN A BRAZILIAN UNIVERSITY: COOPERATIVE INFORMATION AS STRATEGIC RESOURCE MáRCIA JOSIENNE MONTEIRO CHACON, Federal University of Rio Grande of the Norte, Brasil
DANIEL CARRASCO DIAZ, University of Malaga, Spain
DANIEL DAVID SANCHEZ TOLEDANO, University of Malaga, Spain

66 **THE ROLE OF COMPETITIVE ADVANTAGE IN STRATEGIC DETERMINANTS OF EXPORT PERFORMANCE: THEORETICAL FRAMEWORK** ORLANDO LIMA RUA, Polytechnic of Porto, Portugal ALEXANDRA SILVA FRANÇA, Polytechnic Institutes of Northern Portugal, Portugal

- 94 CREATIVE ECONOMY: MENTAL MODELS OF CULTURAL ENTREPRENEURS IN BELO HORIZONTE, BRAZIL ANNA GABRIELA MIRANDA DE OLIVEIRA, Faculdade Novos Horizontes, Brasil MARLENE CATARINA DE OLIVEIRA LOPES MELO, Faculdade Novos Horizontes, Brasil
- 114DETERMINANTS OF CAPITAL STRUCTURE OF THE INFORMATION
TECHNOLOGY INDUSTRY
NUNO MIGUEL DELICADO TEIXEIRA, Polytechnic Institute of Setubal, Portugal
JOãO FILIPE MELO PARREIRA, Polytechnic Institute of Setubal, Portugal

133 ANALYSIS OF STUDIES ON TIME-DRIVEN ACTIVITY BASED COSTING (TDABC) ALEY SANTANA University of Minho Portugal

ALEX SANTANA, University of Minho, Portugal PAULO AFONSO, Scholarship from CAPES, Portugal

This is one paper of The International Journal of Management Science and Information Technology (IJMSIT) Special Issue: 2014 Spanish-Portuguese Scientific Management Conference

GENDER DIFFERENCES AMONG ELDERLY IN THE USE OF INTERNET BANKING SERVICES

Angel Fco. Villarejo-Ramos (<u>curro@us.es</u>) Begoña Peral-Peral (<u>bperal@us.es</u>) Jorge Arenas-Gaitán (jarenas@us.es) Department Business Management and Marketing. University of Seville Maria Angeles Ramón-Jerónimo (<u>maramjer@upo.es</u>). Department Business Administration and Marketing. Pablo de Olavide University

ABSTRACT

The Internet banking has changed the type of relationship between clients and banks. Today it is possible to manage accounts and all of the services online having the opportunity to compare different providers quickly and easily. The future of the Internet bank is in the type of services offered and in the way they interact with clients satisfying their needs. In this work, through a sample of 415 individuals older than 55 years, we analyse the gender gap in the use of Internet Baking and preferences for personal contact as key variables in the explanation of the frequency of use of ten services regularly offered by the Internet banking. Results show the existence of a gender gap in the frequency of use, although the level of autonomy in the preferences for personal contact dilutes gender differences for some services.

KEYWORDS: Elderly, Internet banking, gender gap, personal contact.

1. INTRODUCTION

Internet banking is one of the most successful business-to-consumer applications in electronic commerce (Al-Jabri & Sohail, 2012). Internet banking (IB) is a channel that allows consumers to perform a wide range of financial and non-financial services through a bank's website (Hoehle, Scornavacca & Huff, 2012). IB has emerged as one of the most profitable e-commerce applications along the last decade (Lee, 2009; Yuen et al. 2010). Moreover, IB customers are the most interesting for banks (Pikarainen et al., 2004), showing an increased satisfaction, more positive word-of-mouth communications and the lowest intention to change to other financial institutions (Mols, 1999). However, although the growth from 2008 to 2012 is noticeable (31% for Europe and 60% for Spain) no everyone uses IB: a 38% of the population aged from 16 to 74 years in Europe and only a 32% in Spain. But age is not the single socio demographic variable explaining differences in UE countries; it is also possible to capture these differences in the use of IB across genders (Eurostat, 2013) (Figure 1).

Figure 1. Percentages of IB users in UE (27) and in Spain by gender (2005-2012).



Several studies have documented the attractiveness in the financial status of the grey market. Managing the grey market is one of the hot topics in electronic banking today. Retirement can decrease household income, however, the income per member of the household does not decrease that much since the children has usually already moved away. Thus, mature consumers have significant purchasing power but also a need for carefully managing their assets along their lifespan, making the 55-plus segment extremely lucrative for the financial service providers. Mature consumers are becoming familiar with technology such as computers, Internet and mobile phones.

Marketers too often stereotype older consumers and ignore them in their marketing actions (Laukkanen et al. 2007). Elders present a high heterogeneity (Mattila, Karjaluoto & Pento, 2003; Mumel & Prodnik, 2005) in their purchase behaviour making necessary to design strategies capturing this heterogeneity to correctly drive marketing actions to the grey market. For these reasons, this work tries to analyse if gender and preferences for personal contact with banks' staff influences IB use. Finding out these differences would allow banks to identify prone clients to use IB and adapt their strategies through the personalization of the service.

2. INTERNET BANKING USE

Some authors (Durkin, 2004; Lassar, Manolis & Lassar, 2005; Martínez-Guerrero, Ortega-Egea & Román-González, 2005) show demographic variables affecting IB use, although most of the findings point to variables such as gender, age, income, level of education, occupation or family size affecting IB use (Ding, Verma & Iqbal, 2007; Howcroft, Hamilton & Hewer, 2002; Mattila et al., 2003). Other factors could be helpful detecting existing segments regarding IB use: geographical and psychological criteria (Gounaris & Koritos, 2008; Kaynak & Harcar, 2005), attitudes, expected benefits (Machauer & Morgner, 2001) or the perception of the security and privacy risks (Chen, Gillenson & Sherrell, 2002; Howcroft et al., 2002). In addition, the property of financial products and perceptions and attitudes towards received services and Internet as a financial distribution channel (Martínez-Guerrero et al., 2005), banking transactions conducted by clients (Zuccaro & Savard, 2010) or the number of banks used by customer, acquired bank products and the frequency of use (Dimitriadis, Kouremenos & Kyrezis, 2011) are criteria that have been also analysed to explain IB use.

Regarding elderly and technology and although they are not a homogeneous segment to banking market, a stereotyped profile of older persons has been used Mattila et al., 2003). For this reason, our work aims to analyse the use of IB services in the elderly segment, analysing gender and the preference for personal contact in banking.

Firstly, concerning gender and Internet use, it has been suggested that technology adoption differs between males and females. Men tend to be more task-orientated (Minton & Schneider, 1980), systems-orientated (Baron-Cohen, 2004) and more willing to take risks than women (Powell & Ansic, 1997). Men's decisions to use a computer system could be considered more influenced by the perceived usefulness while women's decisions would be influenced by the ease of use of the system (Venkatesh & Morris,



2000) and there may be gender differences in the motivation, duration and enjoyment as e-consumers (McCloskey, 2006). Given that females have traditionally expressed more negative attitudes and greater levels of anxiety toward computers than males (Nayak et al., 2006), less self-perceived competence and a lower ease of use with respect to the Internet (Wood et al., 2010), it seems reasonable to consider that Internet banking use may be depend on gender. Therefore, we expect that older women use Internet banking less than men.

Secondly, some people prefer technology-enabled services be provided precisely because it eliminates the need for personal contact and interaction with service personnel and other customers and even they find it enjoyable (Curran, Meuter & Surprenant, 2003; Walker & Johnson, 2006). Others, however, prefer to deal or interact with people rather than machines, which are often thought to be impersonal and incapable of providing a personalized service (Dabholkar & Bagozzi, 2002; Walker et al., 2002). For this, it is reasonable to expect that customers who desire personal interaction with the bank may be reluctant to adopt and use technologically facilitated means of service provision, simply for their preference toward the personal element and the opportunity of social interaction (Curran & Meuter, 2005; Patsiotis, Hughes & Webber, 2012). Desire for personal contact does have negative impact on usage of internet banking (Walker & Johnson, 2006), while "self-sufficient" financial customers, preferring to make their financial decisions on their own, without need of advice from their financial entities, are more likely to use the Internet for banking transactions (Martínez-Guerrero et al., 2005). Therefore, we expect that elderly with high preferences for personal contact use IB less than self-sufficient ones.

3. METHODOLOGY

Data were collected through a survey during the months of November and December 2012 using students over 55 years hold enrolled in the "*Experienced Classroom*" initiative in a University in the South of Europe. The number of valid surveys was 415 with a proportion of women of 62.5%. The average age was 63.6. Most of them had secondary studies 54.2%, and university studies 36.1% and socioeconomic class was mostly middle class 80.2%.

We employed scales tested in previous research to measure preferences for personal contact (Walker & Jonhson, 2006) and IB use (Kwon & Wen, 2010). These items were anchored on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree). The Internet banking services' concept was measured using an existing scale (Patsiotis et al., 2012): S1- Check the balance of my accounts; S2- Transfer funds between accounts; S3- Make payments (credit card, telephony and electricity bills, other payments); S4- Transfer funds from my account to other person's account; S5- Get information on my investment portfolio (shares, mutual funds); S6- Trade shares and check the status of my order; S7- Get information on different types of loans; S8- Get an update on my existing financing loan(s); S9- Apply for a financial service; S10- Contact my bank to answer a question. Use frequency for each service described was anchored by: no use, under 5 times a year, between 6 and 11 times a year, once a month, several times a month, several times a week, once or more times a day. To eliminate possible ambiguities in the questionnaire, it was piloted using seven older adult volunteers.

To assess the constructs, we conducted a confirmatory factor analysis (CFA) using PLS with SmartPLS 2.0.M3 (Ringle, Wende & Will, 2005). Based on the CFA results, we analyzed convergent validity, discriminant validity, and the reliability of all the multiple-item scales (Fornell & Larcker, 1981) (Table 1). Composite factor scores were calculated to perform further analysis.

Table 1. Reliability	y and Validity
----------------------	----------------

Construct	Items	Loadings
Personal contact	AVE: 0.761	
	Composite reliability: 0.927	
	Cronbach's Alpha:0.896	
	I prefer to deal face-to-face with customer service people	0.869
	I am more reassured by dealing face-to-face with customer service people	0.904

	I like to communicate with people when services are being provided	0.817
	I feel like I'm more in control when dealing with customer	0.897
	service people than with automated systems	
Use	AVE: 0.848	
	Composite reliability: 0.943	
	Cronbach's Alpha: 0.911	
	I use the Internet banking frequently	0.915
	I expend a lot of time using Internet banking	0.918
	I am very involved with the Internet banking	0.931

4. RESULTS

The use of contingency tables is the basic technique for examining the dependence between two categorical variables. We analyse if IB use, in general, and if the frequency of use of online bank services are independent from gender. In addition, we examine if there are differences in the preferences for dealing with bank staff considering gender.

As it is shown in table 2, the two-sided asymptotic significance of the chi-square statistic was lower than 0.01 for all the bank services analysed. It shows evidence for the existence of dependence between gender and IB use and gender and the frequency of each bank services. Men have, on average, higher frequency of use than women. Regarding the preferences for contact with bank staff, women have higher average values than men (5.395 vs. 4.752) (see Table 2).

Table 2. C	Chi-square	statistics,	differences	across genders
------------	------------	-------------	-------------	----------------

	Chi-Square	Mean of
	(Asymp Sig.)	frequencies
		Men - Women
S1- Check the balance of my accounts	38.081 (.000)	4.56 - 3.38
S2- Transfer funds between accounts	34.356 (.000)	3.12 - 2.22
S3- Make payments (credit card, telephony and electricity bills,	23.381 (.001)	2.78 - 2.01
other payments)		
S4- Transfer funds from my account to other person's account	29.460 (.000)	2.77 - 2.12
S5- Get information on my investment portfolio (shares, mutual	24.866 (.000)	2.89 - 2.21
funds)		
S6- Trade shares and check the status of my order	32.298 (.000)	2.27 - 1.65
S7- Get information on different types of loans	27.043 (.000)	2.3 - 1.66
S8- Get an update on my existing financing loan(s)	23.186 (.000)	1.74 - 1.37
S9- Apply for a financial service	26.289 (.000)	1.83 - 1.45
S10- Contact my bank to answer a question	18.841(.004)	2.37 - 2.28
USE_MED	51.372 (.000)	3.376 - 2.488
PC_MED (Personal Contact)	69.524 (.000)	4.752 - 5.395

With respect to the symmetric measures (phi, Cramer's V and contingency coefficient), the statistics indicated a statistically significant relationship and the values of all three measures reached values from 0.243 to 0.417, showing strong relationships among the constructs under analysis.

We analyse the dependence among preference for personal contact and the frequency of use of online banking services, both ordinal variables. As result of the Gamma analysis, the dependence between preference for personal contact and the frequency of use of online banking services is shown being the parameters statistically significant but negative indicating that the greater is the preference to deal with bank staff, the lower frequency of online banking and IB use are (Table 3).

Table 3. Symmetric measures

	Gamma	Kendall´s Tau
	(Asymp Sig.)	C
		(Asymp Sig.)
S1- Check the balance of my accounts	261 (.000)	222 (.000)
S2- Transfer funds between accounts	368 (.000)	269 (.000)
S3- Make payments (credit card, telephony and electricity bills,	287 (.000)	179 (.000)
other payments)		
S4- Transfer funds from my account to other person's account	358 (.000)	245 (.000)
S5- Get information on my investment portfolio (shares, mutual	234 (.000)	149 (.000)
funds)		
S6- Trade shares and check the status of my order	285 (.000)	146 (.000)
S7- Get information on different types of loans	227 (.000)	125 (.000)
S8- Get an update on my existing financing loan(s)	292 (.000)	117 (.000)
S9- Apply for a financial service	285 (.000)	127 (.000)
S10- Contact my bank to answer a question	166 (.001)	113 (.001)
USE_MED	410 (.000)	321 (.000)

Other question analysed is the possible existence of dependence between the preferences for personalized attention and gender of the respondent and the variables of IB use and frequency of use of services online. For this reason, we use the variable personal contact to divide the sample into two parts: those who prefer to be self-sufficient or autonomous (personal contact values 1 to 4) and those who prefer to deal directly with the staff of the bank (values 5 to 7). The chi-square test was performed separately for both groups.

Results indicate that for six of the online bank services gender and frequency of use are related, independently from if the person prefers or not to deal with staff bank. However, for four of the services: SERV5- Get information on my investment portfolio; SERV8- Get an update on my existing financing loan(s); SERV9- Apply for a financial service and SERV10- Contact my bank to answer a question), elders who enfolding the group of self-sufficient in their financial decisions, presented no differences among men and women. In addition, differences in the frequency of use of online banking services depending on gender for elders preferring to deal with bank employees were statistical significant.

5. DISCUSSION, LIMITATIONS AND FURTHER RESEARCH

The Internet banking offers advantages for elders, 24 hours access, versatility, independence and the possibility to overcome the physical barriers of the age in the access to services. However, the grey market presents a lack of adaptation and still remains in the call for a personal attention. The Internet banking has changed the type of relationship between clients and banks. Traditionally, this relationship was based on the physical presence of both, client and staff. Today, in contrast, it is possible to manage accounts and all of the services online having the opportunity to compare different providers quickly and easily. In this market, banks need to better understand the new type of relationship that the use of Internet generates and how to operate. The future of the Internet bank is in the type of services offered and in the way they interact with clients satisfying their needs. In this line, it seems reasonable to consider that the success could be in the personalization of services to attractive segments.

The elderly constitute a growing segment today and presents different characteristics from the rest of the population (more free time, greater freedom in their economic and financial decisions, and less use of Internet and other ICTs). However, they do not constitute a homogeneous segment. In fact, the present work shows the existing gender gap described in the real dependence among the Internet Banking use and gender. Specifically all the Internet Banking services analysed presented significant differences among genders, being used in a higher extent by men than women. An explanation of these differences

could arise from the preference of women for personal contact. In the sample analysed woman presented higher mean values for this preference and, as it is shown in our results, preference for personal contact seems to be negatively related to the use of Internet Banking services. Women prefer a personal contact in the IB showing a preference for personal sources of information and lower risks.

A deeper analysis, differentiating between autonomous and dependent clients -who present low and high levels of personal contact preferences respectively- show how autonomous get information, interact and apply for a service independently from gender. Maintaining the gender differences observed in the complete sample for the rest of the services.

How to personalize services for elders? Regarding the results presented in this paper, a first idea comes from the gender gap, it seems appropriate differentiate the offer among genders. Females prefer higher levels of security and personal contact, and then companies interested in this segment must prepare their Web to the interaction to them. Webs constitute the only communication channel in this case and designs must fit the presence of autonomous and dependent elder people. Autonomous must feel a similar experience to the personal contact and the security and assistance provided by the absence of staff must be compensated by design, functionality, available information and ease of use. Women show this need for attention in a higher extent. Banks must analyse all the current data they have about relationships with elders from different genders to personalize the offer to them changing the service from the concept of segmentation to personalization. Through the personalization based in data analysis, banks can reinforce the interaction with clients in manners not achieved by the personal contact because services can be offered in a cheaper, faster and better manner. Banks trying to attract the attention of elders toward the Internet banking must consider to drive their offer specifically to them, trait them as people more than a segment and personalize the service through the Internet.

This work must be considered as a first step in the understanding of the grey Internet banking. Further research could persecute more ambitious objectives to compensate the limitations of this research. First, the difficulty to collect data from elders drove us to those members of the population that were at our disposal, being our sample collected without consider a probabilistic approach. Although the sample is diverse and the proportion of socio demographics present in the population is consistent with the distribution of the sample used, convenience sample must be understood as a first approach calling for a deeper analysis of this group. Secondly, the concepts analysed in this paper are only a narrow vision of the complex phenomena of Internet banking for elders. Many other variables could be helpful in the understanding of the grey market behaviours, for instance psychological variables as those appearing in TAM2 (Venkatesh & Davis, 2000) or TAM3 (Venkatesh & Bala, 2008) or concepts such as self-confidence, tolerance to risk and so on. Further research could deeply analyse the psychological profit of elders using Internet

6. REFERENCES

Al-Jabri, I.M., & Sohail, M.S. (2012). Mobile Banking Adoption: Application of Diffusion of Innovation Theory. *Journal of Electronic Commerce Research*, 13(4), 379-391.

Baron-Cohen, S. (2004). *The Essential Difference: Men, Women and the Extreme Male Brain*. London: Penguin. <u>http://dx.doi.org/10.1136/bmj.327.7405.57</u>

Chen, L.D., Gillenson, M.L., & Sherrell, D.L. (2002). Enticing online consumers: an extended technology acceptance perspective. *Information Management*, 39 (8), 705–719. http://dx.doi.org/10.1016/s0378-7206(01)00127-6

Curran, J.M., & Meuter, M.L. (2005). Self-service technology adoption: comparing three technologies. *Journal of Services Marketing*, 19(2), 103-13. http://dx.doi.org/10.1108/08876040510591411

Curran, J.M., Meuter, M.L., & Surprenant, C.F. (2003). Intentions to use self-service technologies: a confluence of multiple attitudes. *Journal of Service Research*, 5(3), 209-224. http://dx.doi.org/10.1177/1094670502238916 Dabholkar, P.A., & Bagozzi, R.P. (2002). An attitudinal model of technology-based self-service: moderating effects of consumer traits and situational factors. *Journal of the Academy of Marketing Science*, 30(3), 184-201. <u>http://dx.doi.org/10.1177/00970302030003001</u>

Dimitriadis, S., Kouremenos, A. & Kyrezis, N. (2011). Trust-based segmentation. Preliminary evidence from technology-enabled bank channels. *International Journal of Bank Marketing*, 29(1), 5-31. http://dx.doi.org/10.1108/0265232111101356

Ding, X., Verma, R. & Iqbal, Z. (2007). Self-service technology and online financial service choice. International Journal of Service Industry Management, 18(3), 246-68. http://dx.doi.org/10.1108/09564230710751479

Durkin, M. (2004). In search of the internet-banking customer: Exploring the use of decision style. *International Journal of Bank Marketing*, 22(6/7), 484–503. <u>http://dx.doi.org/10.1108/02652320410567917</u>

Eurostat (2013). Individuals using the Internet for Internet banking. Retrieved May 21, 2014, from http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&plugin=1&language=en&pcode=tin00099

Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50. http://dx.doi.org/10.2307/3151312

Gounaris, S., & Koritos, C. (2008). Investigating the drivers of internet banking adoption decision A comparison of three alternative frameworks. *International Journal of Bank Marketing*, 26(5), 282-304. http://dx.doi.org/10.1108/02652320810894370

Hoehle, H., Scornavacca, E. & Huff, S. (2012). Three decades of research on consumer adoption and utilization of electronic banking channels: A literature analysis. *Decision Support Systems*, 54, 122–132. <u>http://dx.doi.org/10.1016/j.dss.2012.04.010</u>

Howcroft, B., Hamilton, R. & Hewer, P. (2002). Consumer attitude and the usage and adoption of home-based banking in the United Kingdom. *International Journal of Bank Marketing*, 20(3), 111–121. http://dx.doi.org/10.1108/02652320210424205

Kaynak, E., & Harcar, T.D. (2005). American consumer's attitudes towards commercial banks. A comparison of local and national bank customers by use of geodemographic segmentation. *International Journal of Bank Marketing*, 23(1), 73–89.

Kwon, O. & Wen, Y. (2010). An empirical study of the factors affecting social network service use. *Computers in Human Behavior*, 26, 254-263. <u>http://dx.doi.org/10.1016/j.chb.2009.04.011</u>

Lassar W.M., Manolis C. & Lassar S.S. (2005). The relationship between consumer innovativeness, personal characteristics, and online banking adoption. *International Journal of Bank Marketing*, 23(2), 179–199. <u>http://dx.doi.org/10.1108/02652320510584403</u>

Laukkanen T., Sinkkonen S., Kivijarvi M. & Laukkanen P. (2007). Innovation resistance among mature consumers. *Journal of Consumer Marketing*, 24(7), 419–427. http://dx.doi.org/10.1108/07363760710834834

Lee, M.Ch. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications*, 8, 130–141. <u>http://dx.doi.org/10.1016/j.elerap.2008.11.006</u>

Machauer, A. & Morgner, S. (2001). Segmentation of bank customers by expected benefits and attitudes. *International Journal of Bank Marketing*, 19(1), 6–18. <u>http://dx.doi.org/10.1108/02652320110366472</u>

Martínez-Guerrero, M., Ortega-Egea, J.M. & Román-González, M.V. (2005). Profiling the adoption of online banking systems in the European Union. *Journal of Internet Business*, 2, 1-29.

Mattila M., Karjaluoto H. & Pento T. (2003). Internet banking adoption among mature customers: Early majority or laggards? *The Journal of Services Marketing*,17(4/5), 514-526. http://dx.doi.org/10.1108/08876040310486294

McCloskey, D. (2006). The importance of ease of use, usefulness, and trust to online consumers: an examination of the technology acceptance model with older consumers. *Journal of Organizational and End User Computing*, 18(3), 47-65. <u>http://dx.doi.org/10.4018/joeuc.2006070103</u>

Minton, H. L., & Schneider, F. W. (1980). *Differential psychology*. Prospect Heights, IL: Waveland Press.

Mols, N.P. (1999). The Internet and the banks' strategic distribution channel decisions. *International Journal of Bank Marketing*, 17(6), 295-300. <u>http://dx.doi.org/10.1108/10662249810231087</u>



Mumel D., & Prodnik J. (2005). Grey consumers are all the same, they even dress the same - myth or reality? *Journal of Fashion Marketing and Management*, 9(4), 434-449. http://dx.doi.org/10.1108/13612020510620803

Nayak, L., Priest, L., Stuart-Hamilton, I., & White, A. (2006). Website design attributes for retrieving health information by older adults: An application of architectural criteria. *Universal Access in the Information Society*, *5*, 170-179. <u>http://dx.doi.org/10.1007/s10209-006-0029-9</u>

Patsiotis, A.G., Hughes, T., & Webber, D. J. (2012). Adopters and non-adopters of internet banking: a segmentation study. *International Journal of Bank Marketing*, 30(1), 20-42. http://dx.doi.org/10.1108/02652321211195686

Pikkarainen T, Pikkarainen K, Karjaluoto H, & Pahnila S. (2004). Consumer acceptance of online banking: an extension of the technology acceptance model. *Internet Research: Electronic Networking, Applications and Policy*, 14(3), 224–235. <u>http://dx.doi.org/10.1108/10662240410542652</u>

Powell, M. & Ansic, D. (1997). Gender differences in risk behaviour in financial decision-making: an experimental analysis. *Journal of Economic Psychology*, 18(6), 605-628. http://dx.doi.org/10.1016/s0167-4870(97)00026-3

Ramón-Jeronimo, M.A., Peral-Peral, B. & Arenas-Gaitán, J. (2013). Elderly Persons and Internet Use. *Social Science Computer Review*, 31(4), 389-403. <u>http://dx.doi.org/10.1177/0894439312473421</u>

Ringle, C. M., Wende, S., & Will, A. (2005). SmartPLS 2.0 (M3), Hamburg.

Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, 39(2), 273–315. <u>http://dx.doi.org/10.1111/j.1540-5915.2008.00192.x</u>

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: four longitudinal field studies. *Management Science*, 46, 186–220. http://dx.doi.org/10.1287/mnsc.46.2.186.11926

Venkatesh, V., & 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 behaviour. *MIS Quarterly*, 24(1), 115-139. <u>http://dx.doi.org/10.2307/3250981</u>

Walker, R.H., & Johnson, L.W. (2006). Why consumers use and do not use technology-enabled services. *Journal of Services Marketing*, 20(2), 125–135. <u>http://dx.doi.org/10.1108/08876040610657057</u>

Walker, R.H., Craig-Lees, M., Hecker, R., & Francis, H. (2002). Technology-enabled service delivery: an investigation of reasons affecting customer adoption and rejection. *International Journal of Service Industry Management*, 13(1), 91-106. <u>http://dx.doi.org/10.1108/09564230210421173</u>

Wood, E., Lanuza, C., Baciu, I., MacKenzie, M., & Nosko, A. (2010). Instructional styles, attitudes and experiences of seniors in computer workshops. *Educational Gerontology*, 36(10-11), 834-857. http://dx.doi.org/10.1080/03601271003723552

Yuen, Y.Y., Yeow, P.H.P., Lim, N. & Saylani, N. (2010). Internet banking adoption: comparing developed and developing countries. *The Journal of Computer Information Systems*, 51(1), 52-61.

Zuccaro, C. & Savard, M. (2010). Hybrid segmentation of internet banking users. *Journal of Bank Marketing*, 28(6), 448-464. <u>http://dx.doi.org/10.1108/02652321011077698</u>

Acknowledgements

The initiative Andalusia Projects of Excellence has financed this research through the project P09-SEJ-4568. We want also to thanks the collaboration of Dra. Rosa M^a Avila and the Classroom Experience at the University of Seville in the data collection.