

# Key factors that determine the relationship and use of e-commerce by the elderly in Spain

## Factores clave que determinan la relación y el uso del comercio electrónico por parte de las personas mayores en España

### *Fatores-chave que determinam a relação e o uso do comércio eletrônico por pessoas idosas na Espanha*

**Marilé Pretel-Jiménez**, Universidad CEU San Pablo, Madrid, Spain (mapretel.fhm@ceu.es)

**Mónica Viñaras-Abad**, Universidad Complutense, Madrid, Spain (mvinaras@ucm.es)

**Leopoldo Abad-Alcalá**, Universidad CEU San Pablo, Madrid, Spain (abad.fhm@ceu.es)

**ABSTRACT** | This paper analyzes e-commerce's challenges and opportunities for the over-60s and delves into the motivations and constraints that determine its use, as well as the vision of industry experts on this audience so that this population segment fully becomes part of a digitized society. It is estimated that in 30 years the over-60 population will go from 12% to 22% (Organización Mundial de la Salud, 2018). Europe and North America are the most aged areas in the world: it is estimated that, in 2050, one in four people could be 65 years old or older (United Nations, 2019). In Spain, the projections of the Institute for the Elderly and Social Services indicate that "in the year 2065 people over 80 years of age will represent 18.1% of the total population" (Vidal-Domínguez et al., 2017, p. 37). The study uses a methodological triangulation supported by two qualitative techniques, focus groups and the Delphi method. Four focus groups were conducted consisting of people over 60 years of age of both sexes who use the Internet, with diverse educational and socioeconomic levels, living in urban areas of variable size. The Delphi was made up by private sector experts in the field of e-commerce. The main conclusion is the absence of strategies and specific actions in commercial websites towards this growing population group and with an interest in increasing their digital skills.

**KEYWORDS:** e-commerce; elder people; empowerment; active aging; Spain.

#### HOW TO CITE

Pretel-Jimenez, M., Viñaras-Abad, M., & Abad-Alcalá, L. (2022). Factores clave que determinan la relación y el uso del comercio electrónico por parte de las personas mayores en España. *Cuadernos.info*, (53), 253-272. <https://doi.org/10.7764/cdi.53.39399>

---

**RESUMEN** | Este trabajo analiza los desafíos y oportunidades del comercio electrónico para los mayores de 60 años y profundiza en las motivaciones y frenos que determinan su uso, así como en la visión de los expertos del sector sobre este público para que este segmento poblacional entre plenamente a formar parte de una sociedad digitalizada. Se estima que en 30 años la población de más de 60 años pasará de 12% a 22% (Organización Mundial de la Salud, 2018). Europa y América del Norte son las zonas más envejecidas del mundo: se calcula que, en 2050, una de cada cuatro personas podría tener 65 años o más (United Nations, 2019). En España, las proyecciones del Instituto de Mayores y Servicios Sociales apuntan a que "en el año 2065 las personas de más de 80 años representarán un 18,1% sobre el total de población" (Vidal-Domínguez et al., 2017, p. 37). El estudio utiliza una triangulación metodológica apoyada en dos técnicas cualitativas, los grupos de discusión y el método Delphi. Se han realizado cuatro focus group formados por mayores de 60 años de ambos sexos que utilizan Internet, con diverso nivel educativo y socioeconómico, residentes en zonas urbanas de tamaño variable. El Delphi se constituyó por expertos del sector privado pertenecientes al ámbito del comercio electrónico. La principal conclusión es la ausencia de estrategias y de acciones específicas en las webs comerciales hacia este grupo poblacional cada vez más numeroso y con interés en incrementar sus habilidades digitales.

**PALABRAS CLAVE:** comercio electrónico; personas mayores; empoderamiento; envejecimiento activo; España.

---

**RETOMAR** | Este artigo analisa os desafios e oportunidades do comércio eletrônico para os maiores de 60 anos e aprofunda as motivações e freios que determinam a sua utilização, bem como a visão de especialistas do setor sobre este público para que este segmento populacional entre plenamente a fazer parte de uma sociedade digitalizada. Estima-se que em 30 anos a população com mais de 60 anos passará de 12% a 22% (Organização Mundial da Saúde, 2018). A Europa e a América do Norte são as áreas mais envelhecidas do mundo: onde se estima que, em 2050, uma em cada quatro pessoas poderia ter 65 anos ou mais (United Nations, 2019). Na Espanha, as projeções da Instituto para Idosos e Serviços Sociais indicam que "no ano 2065 as pessoas com mais de 80 anos representarão 18,1% da população total". (Vidal-Domínguez et al. 2017, p. 37). O estudo propõe uma triangulação metodológica apoiada em duas técnicas qualitativas, os grupos de discussão e o método Delphi. Foram realizados quatro grupos focais formados por pessoas com mais de 60 anos, de ambos os sexos que usam internet, com diferentes níveis de escolaridade e socioeconômicos, residentes em áreas urbanas de porte variável. O método Delphi foi formado por especialistas do setor privado na área de comércio eletrônico. A principal conclusão é a ausência de estratégias e ações concretas nos sites comerciais para este grupo populacional cada vez mais numeroso e com interesse em aumentar as suas competências digitais.

**PALAVRAS-CHAVE:** comercio electrónico; personas mayores; empoderamiento; envejecimiento activo; España.

## INTRODUCTION

The aging of the world's population as a result of increasing life expectancy and the development and implementation of technological advances in the field of digitalization pose major challenges for us as a society. One such challenge is to ensure that the over-65 age group, which is highly vulnerable to this development due to its late adoption of new technologies, is not left behind. Information and communication technologies (ICTs) have transformed the way we work, consume, manage and relate to each other. It has evolved from an information society to a knowledge society, in which realities such as telemedicine, remote working, digital platforms, videoconferencing or e-commerce are emerging (Román García et al., 2016). A reality that has accelerated as a result of the COVID-19 pandemic, changing the habits and customs of the population, and from which the elderly should not be left out. In this regard, a recent study by Llorente-Barroso and colleagues (2021) confirms the role of ICTs as an element that has contributed to coping emotionally with confinement and avoiding the risk of isolation and exclusion. In Spain, according to the Instituto Nacional de Estadística (2022), this group represents 20.08% of the population (47,432,805) as of January 1, 2022. The agency counted 9,527,263 people aged 65 and over. In 18 years, this population segment has grown by two million people in Spain, but this increase may be somewhat decimated by the impact of the pandemic that we continue to suffer, as the disease particularly affects people over 65 years of age (Statista, 2020).

In terms of data on their relationship with ICT, according to the General Media Study (<https://internet.aimc.es/index.html#/landing>), 87.6% of Spaniards are Internet users, of whom 84.3% are connected daily. The majority (69.9%) are between 14 and 54 years old, while only 16.2% are over 55 years old and only 9.2% are over 65 years old.

Although the digital divide still exists in Spain, there are signs that it is narrowing, according to data from the National Statistics Institute's latest survey on the equipment and use of information and communication technologies in households (Instituto Nacional de Estadística, 2021). The percentage of people aged between 16 and 74 who use the Internet on a daily basis is 85.8%, while this figure falls to 56.3% for people aged between 65 and 74. Among the population groups with the highest percentage increase in Internet access compared to the previous year is the 65-74 age group, with 5.5 percentage points more than in 2021. This positive trend could be even greater if the barriers and limitations in terms of their digital skills could be overcome. It is true that technology has not reached all social groups in the same way, but neither has it done so in welfare state societies. In these digitized societies, it is the elderly who find it most difficult to develop

these skills and are therefore at risk of social exclusion (Holgersson et al., 2019). Most interventions target aspects such as health and nutrition (Azmi et al., 2019).

As a result, the reality that seems to be emerging is that of a generation of hyper-connected young people versus an older generation that is far removed from this scenario.

The purpose of this article is to understand, from the perspective of older users, the motivations and barriers to appropriate use of the Internet and, in particular, e-commerce. It is also interesting to know how professionals in the field consider the elderly Internet user and if there are specific measures for their digital inclusion, taking into account the limitations of this segment. The ultimate goal is to make visible the digital divide suffered by the elderly in order to contribute to their digital inclusion, empowerment and better quality of life.

#### **THEORETICAL FRAMEWORK. THE USE OF E-COMMERCE BY THE ELDERLY**

New technological advances and new consumer habits seem to be the factors that have led to an increase in the use of e-commerce. According to the study prepared by IAB (2021) in Spain - although it limits the sample to those over 70 years old - online shoppers between 55 and 70 years old reached 18%, two points more than in 2020, probably due to the confinement experienced in the first half of 2020, which increased purchases on the Internet in a generalized way. While there are many advantages of the Internet for the elderly, e-commerce has not yet established itself among them. The main reasons are the lack of confidence and the perception of insecurity in the procedures and purchases, due to the complexity or poor legibility of the designs and procedures, and the lack of knowledge (Román et al., 2016). These obstacles have already been analyzed by Egger (2000), who pointed out that lack of trust is one of the main barriers. A comparative study on the risk perception of adolescents and adults in digital transactions (Liebermann & Stashevsky, 2002) concludes that it is seniors who perceive significantly higher risks. All these studies approach e-commerce from the perspective of consumer confidence, an aspect that can be extrapolated to the elderly in particular. This is confirmed by Román-García and colleagues (2016) in their research on adults' digital literacy, which concludes that one of the main obstacles is the lack of trust when entering personal data such as credit card number or telephone number, which shows their limited use of ICT compared to the rest of the population (Agudo Prado et al., 2013). This research confirms the findings of McKnight and colleagues (2002) and Lee and Turban (2001). The study by Salam and colleagues (2005) concludes that the perception of risk and uncertainty related to online shopping is minimized by the effects generated by the trust associated with the online store.

One of the most recent works on older people and e-commerce (Viñarás et al., 2022) identifies up to eleven typologies of users. Their main conclusions confirm the barriers related to trust. On the other hand, with basic digital skills, the elderly consider themselves capable of making purchases on the Internet.

The physical limitations of aging are another relevant aspect that makes it necessary to adapt accessibility, navigability, usability and web design to the needs of this group. Most of the early work on the relationship between the elderly and e-commerce has been in the area of accessibility, with work on the readability of websites for the elderly (Bernard et al., 2001). Getting older leads to a loss of skills that make it difficult to use different devices (Campbell, 2015). Some people experience significant impairments from the age of 60 and others do not experience such problems until after the age of 80, although, as noted by Glisky (2007), process memory does not suffer from aging, allowing older people to acquire and reproduce skills. Condeza and colleagues (2016) developed a web prototype with relevant content on health and aging in different formats, taking into account these limitations, which confirms a higher participation of this social group when these variables are taken into account. It is therefore concluded that integrating this group into the digital world requires rethinking the design and structure of the interface and platforms, which must be adapted to the physical limitations of adults (Chadwick-Dias et al., 2007) and be interested in their demands for simplicity and formal and conceptual practicality (Abad Alcalá et al., 2017). Besides the physical difficulties, another major obstacle identified is related to the difficulties in using technology, since it is often conceived and designed by and for young people (Hardy, 2013), so that for the older group, the benefits offered by its use do not compensate for the significant effort required to adapt it (Llorente-Barroso & Sáez-Díez-Rebanal, 2019). In the same line, with the emergence of Web 2.0, people of all ages can be encouraged to use the Internet, but this requires reflection on the interface and design, which should be oriented to the physical requirements of the elderly (Chadwick-Dias et al., 2007). A number of studies address this perspective by focusing on aspects such as accessibility and navigability, as in the case of Bernard and colleagues (2001), who analyze the design of websites for the elderly from the point of view of readability (Tjandra et al., 2022).

Therefore, the studies reviewed confirm the digital divide in this segment of the population. While e-commerce is consolidating as an alternative to the physical act of shopping, it is not doing so proportionately for the elderly, despite being a growing segment of the population. According to the National Institute of Statistics (Instituto Nacional de Estadística, 2022), 93.9% of people between the ages of 16 and 74 have used the Internet in the last three months, and almost 55.2% have made an online purchase. These data confirm the results of research on the profile of

the older Internet shopper, such as that of Kau and colleagues (2003), who refer to the segment of shoppers over 50 years of age as laggard e-shoppers, representing the lowest percentage of Internet users who make purchases over the Internet.

## **METHODOLOGY**

At the beginning of the study, we stated that this research aims to identify the motivations and barriers to the use of e-commerce by people over 60 years of age, as well as to detect challenges and opportunities in order to define possible lines of action leading to their digital social inclusion.

To this end, we propose a methodological triangulation supported by two qualitative techniques, focus groups and the Delphi method (also used in the previous work by Gallego et al. (2016) to identify the barriers and motivations to the adoption of e-commerce in Spain). Using a social research method based on validating the conclusions of each method through confluence has been applied on numerous occasions (Jick, 1979) and provides greater reliability and validity to the results obtained in the fieldwork. Some authors point to a lower degree of confidence in the conclusions of studies based on a single methodology (Smith, 1975) and a greater likelihood of bias, either from a lack of data or from the researcher's own interpretation of the data (Oppermann, 2000).

Triangulation, therefore, emerges as a research strategy that helps us to increase the validity of the results, minimize the possibility of bias, strengthen their congruence (Bagozzi & Yi, 1990; Blaikie, 1991; Ferketich et al., 1991; Smith, 1975), and thus verify the conclusions drawn by contrasting the two methodologies, thereby obtaining greater reliability (Denzin, 1970). In the same vein, other authors, aware of the limitations that the use of a specific methodology could present, defend the combination of methods with the aim of neutralizing the biases inherent in each technique (Creswell, 2014).

We chose a mixed research design, which was approached in a sequential exploratory manner, based on the conduct of focus groups in a first phase, to apply the Delphi method to experts in the field in a second phase. The sequential approach of both qualitative methods aims at understanding the constraints and motivations of the group analyzed, in order to be able to extract the main conclusions and premises of the research on the subject to be studied and, subsequently, to proceed to the elaboration of the questions to be put to the professionals of the sector (Myers & Oetzel, 2003).

In Phase I, four focus groups were conducted, consisting of between five and nine participants over the age of 60, of both sexes, Internet users or at least with

prior knowledge and experience in the digital environment, from the middle or upper middle social class, with different educational and socioeconomic levels, residents of different Spanish urban areas of varying size, and with an interest in maintaining an active life. The discussion group or focus group (Maxera & Álvarez Blanco, 2019) has been valued as a technique for analyzing the use of e-commerce by older people, since it constitutes one of the most effective qualitative formulas for obtaining perceptions about a specific area of interest (Krueger & Casey, 2009). In accordance with Edmunds (2000), we took special care to ensure that the moderators of the groups were experts with knowledge of the topic, but without influencing the participants. Similarly, a discussion guide was created prior to the development of the groups in order to respond to the objectives set in the research and to allow us to categorize the information collected at a later stage. This guide was designed with a holistic view of the topic so that each of the issues under study could be addressed. The sample met the criterion of being made up of Internet users over the age of 60. The sessions took place in Madrid and Barcelona during 2019. All groups were recorded and then transcribed for analysis. Once the information had been collected, the opinions and perceptions were classified by comparing them, looking for common points and discrepancies in the different thematic lines raised, thus exploring the relationship between the variables within the population studied (Onwuegbuzie et al., 2009).

Ítems	Grupo 1	Grupo 2	Grupo 3	Grupo 4
Participants	5 people	9 people	6 people	8 people
Age	62 to 68 years old	62 to 75 years old	Over 65 years old	69 to 73 years old
Educational level	University and high school education	University and high school education	University	University and high school education
Socioeconomic profile	Middle-class	Middle-class	Upper-class	Middle and upper class
Professional profile	Low-level managers and professionals Low-level supervisors and technicians	Mid-level professionals and low-level professionals	Managers	Managers

**Table 1. Focus group discussion groups data sheet**

*Source: Own elaboration.*

<b>Technique:</b>	Structured questionnaire	<b>Distribution:</b>	E-mail
<b>Universe:</b>	Digital area managers	<b>Responsible for:</b>	E-commerce
<b>No. of interviews:</b>	8 experts		
<b>Sampling</b>	Not randomized	<b>Country:</b>	Spain
<b>Period:</b>	2019		

**Table 2. e-Delphi questionnaire data sheet**

*Source: Own elaboration.*

After analyzing the main elements of the speeches obtained and drawing a series of conclusions related to the research objective, categorized by thematic criteria and reinforced with extracts from the statements of the participants in the results, we proceeded to phase II, applying the e-Delphi methodology (Hasson & Keeney, 2011). The phases included the definition of the research objective, the design of the questionnaire, the first round and the analysis, the second round with a consensual questionnaire and the conclusions (Mohedano, 2008). The panel was composed of eight experts working in companies that manage the most important e-commerce websites in Spain, who were directly responsible for their management at the time of the research. The respondents were contacted by telephone to explain the purpose of the study and the importance of their expert opinion. The questionnaire was then distributed by e-mail, accompanied by a preliminary text emphasizing the importance of their experience and guaranteeing the confidentiality of the information collected. The first questionnaire distributed was designed taking into account the conclusions drawn in phase I in order to contrast, validate and reinforce the results. The second questionnaire is defined on the basis of the identification of the most relevant criteria on which the respondents agree in the first form.

In the social sciences, e-Delphi is a classic way of obtaining information in numerous relevant studies and has generated an extensive scientific literature (Nogales, 2013; Kvale, 2011; Vargas-Jiménez, 2012). It is highly recommended as a methodology due to the limited time available to respondents (Nogales, 2013) and the valuable information they provide (Kvale, 2011). Although, as a structured questionnaire, it lacks the flexibility and adaptability of face-to-face interviews (Hernández Sampieri et al., 2014), the previous conversation allowed the interviewer to clarify and advance the questions and obtain answers that facilitated their categorization and, therefore, greater ease of analysis (Creswell, 2014), avoiding the influence bias of the interviewer.



## RESULTS

Based on the sequential combination of methods (Mills & Birks, 2014; Glaser et al., 2013), the methodological proposal chosen to develop this research allows us to extract relevant information about the purchasing habits and identify the motivations and obstacles of the senior user in relation to e-commerce, and identify the opportunities and challenges for companies in adapting their e-commerce pages.

The following results, extracted from the focus groups, helped in the preparation of the subsequent questionnaire that was addressed to the professionals of the sector. In the analysis of the focus groups, there are four clearly differentiated thematic points that help us to correlate the results obtained in the Delphi: 1) seniors' relationship with the Internet; 2) how they use e-commerce; 3) main motivations; 4) main barriers; and 5) challenges and opportunities.

### Senior users' relationship with the Internet

In general, the sense of empowerment that comes from interacting with technology rewards the effort of adapting to it and leads to a deeper reflection on the time spent with it. Statements such as "Sometimes I think I have a certain addiction" (group 3), "I'm very addicted to watching the weather or whatever I can find all day long" (group 1), "I set myself a few hours so that I don't get stuck" (group 2) confirm this.

In this respect, the panel of experts supports this evolution with regard to ICT, although they distinguish two different groups based on age criteria (60 to 69 years) and according to social class and economic level: "The relationship of older people with technologies is very different" (expert 1), "The relationship is different depending on the age groups. Those over 70 have come into contact later (...), with the relationship improving the closer one gets to the age of 60" (expert 3), "We currently identify two different segments in their behavior: those over 60 and those under 65" (expert 4). In terms of the types of activities they do when they go online, most groups say they do Google searches, use email, or do business with the bank. Particularly noteworthy is the widespread use of the instant messaging application WhatsApp to keep in touch with friends or family: "[...] of course they installed WhatsApp, so now it's on full blast" (group 4). In the same sense, the experts point out that "the UX improvement in smartphone-type mobile devices is lowering the barriers [...], many older people use applications like WhatsApp, with a very high motivation to stay in touch with their close relatives" (expert 3), "they use the mobile [...] and download apps" (expert 4).

On the other hand, they express several times their difficulties in dealing with new technologies: "I find it very difficult to do many things

alone on the Internet” (group 1). The digital managers of the companies, who recognize the existing digital divide, are well aware of this:

“We can encounter all kinds of cases”, “[...] and they often have difficulties in understanding it” (experts 6 and 8); “the older segment has distanced itself from the Internet and [from] new information and communication technologies” (expert 2).

### **How do they use e-commerce**

While there is a generalized use of the Internet in all groups, it is not the same when asked about the experience of buying products or services through e-commerce platforms, which varies greatly depending on the skills of the user and the accompaniment of a more qualified user, who in most cases is usually a family member. “[Taking] the step to buy, sometimes we have bought, we have bought flights, tickets, but sometimes alone and always with the help of our children, because although we know how to do it or the system is easy, but you never trust [...]” (group 1). “Something that I really can’t find anywhere else, but my daughter tells me that [...] my daughter buys and sells everything online” (group 3).

The initiation to this type of purchasing habit starts with less risky purchases, such as tickets for shows, and then moves on to buying other services that require more skills, such as managing a trip. Some of the most frequently mentioned platforms in the groups are: Booking, Trivago, eDreams or EsyJet: “I have to admit that for the last three trips I took, I went to Booking or Trivago and I did everything...” (group 1).

For experts in the field, the involvement of seniors is already a reality, thanks largely to the proliferation of smartphones and tablets and the development of simple applications, as well as the involvement of younger and therefore more digitally savvy seniors: “As more young people join the group, the growth will be consolidated” (expert 1). They agree on the role of close relatives or other figures as ambassadors at the beginning of the first purchase actions, where “their knowledge increases when an application appears that is recommended by their children or friends” (expert 6); “to introduce them to ICTs (...) and from there to teach them how to use them” (expert 7).

### **Main motivations regarding the use of e-commerce**

These users see many positive aspects in the use of e-commerce, including the wide range of products offered: “During Reyes, the product was not available in any store [...] The truth [is] that it worked wonders” (group 1); the lower price: “On the Internet, you went in, it was cheaper, they brought it home the next day” (group 1), or the convenience of mobile Internet: “[...] You pay with your mobile phone [...] I think it’s great because I never carry cash” (group 2).

It is also important that the first experience is satisfactory, as it affects their level of trust: “I buy a lot of things on Amazon. In the beginning, I was like you: will the doorman be there, will I get it, but look, nothing has ever happened to me” (group 3), including the experiences they have through family or friends:

“I have a 37-year-old daughter who does everything on the Internet. [...] the packages come to my house [...] she brings me the little package [...] super-perfect, because also, of course, she started showing me the products and the prices and I said, this is great” (group 4).

For the managers in charge of online stores, it is essential to focus on creating satisfying experiences that facilitate the inclusion of these citizens, but they recognize the lack of strategy in this regard: “This group is treated as a consumer or worker, it has not been segmented by age” (experts 3 and 6); “This social group is not given a differentiating role either in the action strategies or in the Internet environment” (expert 4).

### **Main obstacles to the use of e-commerce**

The emotions –such as fear or uncertainty– triggered by the environment increase their sense of vulnerability, often paralyzing the decision-making process and resulting in no purchase: “I did everything, but at the last minute I got cold feet” (group 3). “The experience [...] is positive, but the fear [...] because every opportunity is an opportunity to be robbed” (group 1). “[...] I say I’m going to try, but [...] I always have one thing left [...] I’m a little afraid” (group 1).

If we delve deeper into the knowledge of what generates this impression, the use of credit cards and the fear of giving personal data stand out: “I don’t want my bank account on a card because I don’t trust it” (group 3); “If you want to buy something, you have to give your account number and all your personal data [...]” (group 1).

The participants who stated that they had little or no intention of buying argued that they preferred to buy the products physically and check them in situ: “But first [...] I don’t know exactly if the color, and when I get it, if it’s exactly what I want...” (group 1), and that they had the time to do so: “I like to do a lot of things in person because you buy without seeing. When I go to the market, I see them” (group 3). The inconvenience or difficulty of returning products if they do not correspond to expectations is identified as one of the main obstacles: “I don’t buy because I see that there is a problem to return...” (group 1); “And then they say, oh, it’s not what I expected, you have to return it” (group 4). Most of the participants in the focus groups emphasize the importance of the security of the web to buy: “[...] But buying online, you have to have a lot of confidence in the company you buy from” (group 2).

Another important barrier is related to design, language or anti-robot filters: “Oh, and the small print [...] if you don’t wear glasses, that’s really a problem for older people” (group 1); “Or they tell you that you have to type in some letters. Why do they put such difficult letters? [...]” (group 1). Lastly, and less relevant, are the problems arising from the ease of forgetting usernames and passwords: “I have a site with 100 different passwords, users and passwords” (group 3), or the inconvenience of having to wait for packages to arrive: “I don’t like it because it’s a nuisance to have to be at home to see if the package is coming” (group 3). The experts agree on the absence of this type of consumer in their user profiles:

“[The number of] web users in this age group is much lower than that of older customers in the face-to-face network, from 28.67% in face-to-face to 6.14% on the web” (expert 1), and they believe that this is directly related to the difficulty in using new technologies and the lack of products and services designed for them, so they think that applications and technological products should be developed that allow them a simpler use, taking into account the characteristics and physical limitations typical of this vital stage: “A product that would allow them to use the Internet in a simple way, using their own records to reduce existing barriers” (expert 2); “Consider adapting the web design and mobile application to the specific characteristics of the elderly” (expert 8).

### **Challenges and opportunities**

This generation of seniors is particularly interested in learning, becoming independent, and thus integrating into the digital world, aware of the gap in knowledge and skills that separates them from other generations. One of the main proposals to promote this integration is based on the request for more training to be able to stand up for themselves and not have to depend on their children to carry out procedures and formalities, an aspect that the panel of experts consulted considers crucial: “Acting with ad hoc training for them would be very interesting, they have time and resources” (expert 1). Another of the main requirements is simplicity of design: “[...] that administrations and all application pages should be simpler [...] and more user-friendly [...]” (group 2), a point also mentioned by digital managers: “Consider adapting the design of the website and mobile application to the specificities of older people” (expert 4). On the other hand, they claim that technologies should be made more user-friendly, especially for those who have not had the opportunity to have contact with computers during their working life: “[...] In the official sites, do not assume that we all have knowledge of information or telematic operations, and make them more accessible” (group 2). This is an issue of great importance for the professionals interviewed, who see the development of adapted pages and applications as a way of integration, as long as they comply with the premise of easy access and navigability: “Develop specific services for

this segment” (expert 3); “Provide them with a product that would allow them to use the Internet in a simple way, using their own records to reduce the existing barriers” (expert 5).

On the other hand, they mention the possibility to ask questions while using the platform in a fluid way: “To be able to write what you want and get an answer, because it puts you in the chat [...] but it is not a fluid conversation” (group 2). It is true that some of the managers interviewed explain the measures taken by their company with regard to this elderly segment; an example is the effort made by the telephone companies to develop specific services, taking into account the physical limitations of this stage: “Develop specific services for this segment of the population”, or the one proposed by expert 3, based on training to achieve greater integration and participation: “Act with training (...) to motivate them” (group 3).

## **CONCLUSIONS AND DISCUSSION**

The main objective of this research was to identify the challenges and opportunities for the over-60s in the use of e-commerce in Spain, analyzing aspects related to their digital skills, as well as the motivations and barriers related to the use of e-commerce.

Notwithstanding the difficulties of the elderly in interacting with e-commerce, the results of this research confirm what some studies have shown in relation to the positive predisposition to use e-commerce websites when this group perceives the usefulness of using these sites to the extent that it makes their lives easier (Smith, 2008). They feel empowered by the sensations associated with completing transactions such as purchasing simple services –for example, buying a ticket– or more complex ones, such as booking a trip. They have embraced the paradigm shift from being the one who teaches to being the one who learns by their children’s hand to master the technological skills they lack. They trust them with their first digital shopping forays, declare them to be very satisfying, and open the possibility of repetition.

This positive attitude of seniors towards the technological challenge contrasts with the lack of specific strategies on the part of companies with commercial websites. Although they are aware of the needs of this group, only a few are currently responding to the technical specifications and content adaptations required to truly integrate this segment. Aspects such as design or simplification of the navigation structure would be of great help in avoiding the obstacles reported by these users. In this sense, there are also barriers related to the treatment of personal and banking data, such as the information requirements imposed by

companies when making returns, despite the fact that these measures aim to increase their trust (Rajaobelina et al., 2020). In fact, accessible design and an inclusive content strategy would allow e-commerce companies to expand their business among this population (Karahasanovic et al., 2009).

Promoting the use of e-commerce therefore depends to a large extent on companies making forward-looking decisions. The experts interviewed are aware of this challenge and suggest measures related to the development of specific applications for these seniors, training courses and measures that take into account their physical limitations.

Last but not least, for the managers of these commercial sites, there is a need to train and integrate adults in the new technologies that are already present in their market, such as virtual reality, artificial intelligence, cloud computing or machine learning, whose knowledge by the over-60s could contribute to their quality of life.

#### **FUNDING**

*Personas mayores, e-commerce y Administración Electrónica: hacia la ruptura de la tercera brecha digital* (Elderly people, e-commerce and e-Government: towards breaking the third digital divide) (CSO2015-66746-R) funded by the Directorate General for Scientific and Technical Research of the Ministry of Economy and Competitiveness, and *Nuevos escenarios de vulnerabilidad digital: alfabetización mediática para una sociedad inclusiva PROVULDIG2* (New scenarios of digital vulnerability: media literacy for an inclusive society PROVULDIG2) (H2019/HUM775) funded by the Community of Madrid and the European Social Fund (2020-2022).

#### **REFERENCES**

- Azmi, A. K., Abdullah, N., & Emran, N. A. (2019). A recommender system model for improving elderly well-being: A systematic literature review. *Int. J. Advance Soft Compu. Appl*, 11(2). <http://188.247.81.52/PapersUploaded/2019.2.7.pdf>
- Abad Alcalá, L., Llorente-Barroso, C., Sánchez-Valle, M., Viñarás-Abad, M., & Pretel-Jiménez, M. (2017). Electronic government and online tasks: Towards the autonomy and empowerment of senior citizens. *Profesional De La Información*, 26(1), 34-42. <https://doi.org/10.3145/epi.2017.ene.04>

- Agudo Prado, S., Fombona Cadavieco, J., & Pascual Sevillano, M. Á. (2013). Ventajas de la incorporación de las TIC en el envejecimiento (Advantages of incorporating ICT in aging). *Revista Latinoamericana de Tecnología Educativa – RELATEC*, 12(2), 131-142. <https://relatec.unex.es/article/view/1169>
- Bagozzi, R. P. & Yi, Y. (1990). *On the analysis of Multitrait-Multimethod matrices in consumer research*. School of Business Administration Working Paper 643. University of Michigan. <https://deepblue.lib.umich.edu/bitstream/handle/2027.42/35381/b2034943.0001.001.pdf?sequence=2>
- Bernard, M., Liao, C. H., & Mills, M. (2001). The effects of font type and size on the legibility and reading time of online text by older adults. In M. Tremain (Chair), *CHI'01 Extended Abstracts on Human Factors In Computing Systems* (pp. 175-176). ACM. <https://doi.org/10.1145/634067.634173>
- Blaikie, N. W. H. (1991). A critique of the use of triangulation in social research. *Quality & Quantity: International Journal of Methodology*, 25, 115-136. <https://doi.org/10.1007/BF00145701>
- Campbell, O. (2015, February 5). Designing for the elderly: Ways older people use digital technology differently. *Smashing Magazine*. <https://www.smashingmagazine.com/2015/02/designing-digital-technology-for-the-elderly/>
- Chadwick-Dias, A., Bergel, M., & Tullis, T. S. (2007). Senior Surfers 2.0: A Re-examination of the Older Web User and the Dynamic Web. In C. Stephanidis (Ed.), *Universal Access in Human Computer Interaction. Coping with Diversity* (pp. 868-876). Springer. [https://doi.org/10.1007/978-3-540-73279-2\\_97](https://doi.org/10.1007/978-3-540-73279-2_97)
- Condeza, A. R., Bastías, G., Valdivia, G., Cheix, C., Barrios, X., Rojas, R., Gálvez, M., & Fernández, F. (2016). Adultos mayores en Chile: descripción de sus necesidades en comunicación en salud preventiva (Elderly in Chile: describing their needs for preventive health communication). *Cuadernos.Info*, (38), 85-104. <https://doi.org/10.7764/cdi.38.964>
- Creswell, J. W. (2014). *A concise introduction to mixed methods research*. SAGE.
- Denzin, N. K. (1970). *Sociological Methods: A Sourcebook*. Aldine Publishing Company.
- Edmunds, H. (2000). *The Focus Group Research Handbook*. McGraw-Hill professional.
- Egger, F. N. (2000). Trust me, I'm an online vendor: towards a model of trust for ecommerce system design. In M. Tremain (Chair), *CHI '00 Extended Abstracts on Human Factors in Computing Systems* (pp. 101-102). <https://doi.org/10.1145/633292.633352>
- Ferketich, S. L., Figueredo, A. J., & Knapp, T. R. (1991). Focus on psychometrics. The multitrait-multimethod approach to construct validity. *Research in nursing & health*, 14(4), 315-320. <https://doi.org/10.1002/nur.4770140410>
- Gallego, M. D., Bueno, S., & Terreño, J. F. (2016). Motivaciones y barreras para la implantación del comercio electrónico en España: un estudio Delphi (Motivations and barriers for the implementation of electronic commerce in Spain: a Delphi study) *Estudios Gerenciales*, 32(140), 221-227. <https://doi.org/10.1016/j.estger.2016.08.002>
- Glaser, B., Walsh, I., Baily, L., Fernandez, W., Holton, J. A., & Levina, N. (2013). Grounded theory methodology. Introducing Qualitative Research in Psychology. In S. Taneja (Ed.), *Academy of Management Proceedings* (pp. 69–82). <https://doi.org/10.5465/ambpp.2013.11290symposium>

- Glisky, E. L. (2007). Changes in cognitive function in human aging. In D. R. Riddle (Ed.), *Brain Aging: Models, Methods, and Mechanisms* (pp. 3-20). CRC Press Taylor & Francis.  
<https://doi.org/10.1201/9781420005523>
- Hardy, Q. (2013, July 5). Technology workers are young (really young). *The New York Times*.  
<http://nyti.ms/3fRB4qk>
- Hasson, F. & Keeney, S. (2011). Enhancing rigour in the Delphi technique research. *Technological Forecasting & Social Change*, 78(9), 1695-1704. <https://doi.org/10.1016/j.techfore.2011.04.005>
- Hernández-Sampieri, R., Fernández-Collado, C., & Baptista-Lucio, P. (2014). Cómo se originan las investigaciones cuantitativas, cualitativas o mixtas. (How quantitative, qualitative or mixed research originates). *Metodología de la investigación* (pp.24-29). Mc Graw Hill.  
[http://metabase.uaem.mx/bitstream/handle/123456789/2771/506\\_2.pdf](http://metabase.uaem.mx/bitstream/handle/123456789/2771/506_2.pdf)
- Holgersson, J., Söderström, E., & Rose, J. (2019). Digital inclusion for elderly citizens for a sustainable society. In P. Johannesson, P. Ågerfalk, & R. Helms (Eds.), *Proceedings of the 27th European Conference on Information Systems (ECIS) (7)*. Association for Information Systems.  
<https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1317503&dswid=7810>
- IAB. (2021). *Estudio anual de eCommerce (Anual e-Commerce Study)*. IAB.  
<https://iabspain.es/sin-acceso/?download-id=57629>
- Instituto Nacional de Estadística. (2021). Encuesta sobre equipamiento y uso de TIC en los Hogares (ICTs Equipment and use in homes). <https://www.ine.es/jaxi/Tabla.htm?tpx=50895&L=0>
- Instituto Nacional de Estadística. (2022). Población residente por grupo de edad (Resident population by age group). <https://www.ine.es/jaxiT3/Datos.htm?t=9689>
- Jick, T. D. (1979). Mixing Qualitative and Quantitative Methods: Triangulation in Action. *Administrative Science Quarterly*, 24(4), 602-611. <https://doi.org/10.2307/2392366>
- Jiménez Martínez, J. & Martín De Hoyos, M. J. (2007). Indicadores y dimensiones que definen la actitud del consumidor hacia el uso del comercio electrónico (Indicators and dimensions that define the consumers's attitude towards the use of electronic commerce). *Cuadernos de Economía y Dirección de la Empresa*, 10(31), 7-30. [https://doi.org/10.1016/S1138-5758\(07\)70081-6](https://doi.org/10.1016/S1138-5758(07)70081-6)
- Karahasanovic, A., Karahasanović, A., Brandtzæg, P. B., Heim, J., Lüders, M., Vermeir, L., Pierson, J., Lievens, B., Vanattenhoven, J., & Jaans, G. (2009). Co-creation and user-generated content-elderly people's user requirements. *Computers in Human Behavior*, 25(3), 655-678. <https://doi.org/10.1016/j.chb.2008.08.012>
- Kau, A. K., Tang, Y. E., & Ghose, S. (2003). Typology of online shoppers. *Journal of Consumer Marketing*, 20(2), 139-156. <https://doi.org/10.1108/07363760310464604>
- Krueger, R. & Casey, M. (2009). *Focus Groups: A Practical Guide for Applied Research* (4th Ed). SAGE.
- Kvale, S. (2011). *Las entrevistas en Investigación Cualitativa* (Interviews in qualitative research). Ediciones Morata.
- Lambert-Pandraud, R., Laurent, G., & Lapersonne, E. (2005). Repeat Purchasing of New Automobiles by Older Consumers: Empirical Evidence and Interpretations. *Journal of Marketing*, 69(2), 97-113. <https://doi.org/10.1509/jmkg.69.2.97.60757>



- Lee M. K. O. & Turban E. (2001). A Trust Model for Consumer Internet Shopping Journal. *International Journal of Electronic Commerce*, 6(1), 75-91. <https://doi.org/10.1080/10864415.2001.11044227>
- Liebermann, Y. & Stashevsky, S. (2002). Perceived risks as barriers to Internet and e-commerce usage. *Qualitative Market Research*, 5(4), 291-300. <https://doi.org/10.1108/13522750210443245>
- Llorente Barroso, C. & Sáez-Díez Rebanal, C. (2019). Los retos de las personas mayores ante el comercio electrónico: El caso de Amazon (Challenges of the Elderly in E-Commerce: Case Study on Amazon). *Comunicacao, Midia e Consumo*, 16(45), 32-60. <https://doi.org/10.18568/CMC.V16I45.1883>
- Maxera, M. & Álvarez Blanco, L. (2019). Los grupos de discusión como instrumento de valoración de la cultura científica de la ciudadanía. Propuesta de diseño de un grupo de discusión (Discussion groups as an instrument for valuing the scientific culture of citizens. Design proposal for a discussion group.) In A. P. Costa, S. Olivera e Sá, P. A. de Castro, & D. Neri de Souza (Eds.), *CIAIQ2019* (vol. 1) (pp. 1075-1080). Ludomedia. <https://proceedings.ciaiq.org/index.php/CIAIQ2019/article/view/2411>
- McKnight, D. H., Choudhury, V., & Kacmar, Ch. (2002). Developing and Validating Trust Measures for e-Commerce: An Integrative Typology. *Information Systems Research*, 13(3), 227-359. <https://doi.org/10.1287/isre.13.3.334.81>
- Mills, J. & Birks, M. (2014). *Qualitative Methodology: A Practical Guide*. SAGE.
- Mohedano, F. O. (2008). El método Delphi, prospectiva en Ciencias Sociales a través del análisis de un caso práctico (The Delphi method, prospective in Social Sciences through the analysis of a practical case). *Revista Escuela de Administración de negocios*, (64), 31-54. <https://doi.org/10.21158/01208160.n64.2008.452>
- Myers, K. K. & Oetzel, J. G. (2003). Exploring the dimensions of organizational assimilation: Creating and validating a measure. *Communication Quarterly*, 51(4), 438-457. <https://doi.org/10.1080/01463370309370166>
- Nogales, A. F. (2013). La entrevista en profundidad (The in-depth interview.) In F. J. Sarabia Sánchez (Coord.), *Métodos de investigación social y de la empresa* (pp. 575-599). Pirámide.
- Organización Mundial de la Salud. (2018, October 4). Envejecimiento y salud (Aging and health). *Who.int*. <https://www.who.int/es/news-room/fact-sheets/detail/envejecimiento-y-salud>
- Onwuegbuzie, A. J., Johnson, R. B., & Collins, K. M. (2009). Call for mixed analysis: A philosophical framework for combining qualitative and quantitative approaches. *International journal of multiple research approaches*, 3(2), 114-139. <https://doi.org/10.5172/mra.3.2.114>
- Oppermann, M. (2000). Triangulation—a methodological discussion. *International Journal of Tourism Research*, 2(2), 141-145. [https://doi.org/10.1002/\(SICI\)1522-1970\(200003/04\)2:2<141::AID-JTR217>3.0.CO;2-U](https://doi.org/10.1002/(SICI)1522-1970(200003/04)2:2<141::AID-JTR217>3.0.CO;2-U)
- Rajaobelina, L., Brun, I., Line, R., & Cloutier-Bilodeau, C. (2020). Not all elderly are the same: fostering trust through mobile banking service experience. *International Journal of Bank Marketing*, 39(1), 85-106. <https://doi.org/10.1108/IJBM-05-2020-0288>

- Román-García, S., Almansa-Martínez, A., & Cruz-Díaz, M. D. R. (2016). Adultos y mayores frente a las TIC: la competencia mediática de los inmigrantes digitales (Adults and elders and their use of ICTs: Media competence of digital immigrants). *Comunicar*, 49, 101-110. <https://doi.org/10.3916/C49-2016-10>
- Salam, A. F., Iyer, L., Palvia, P., & Singh, R. (2005). Trust in e-commerce. *Communications of the ACM*, 48(2), 72-77. <https://doi.org/10.1145/1042091.1042093>
- Smith, H. W. (1975). *Strategies of social research. The methodological imagination*. Prentice Hall.
- Smith, T. (2008). Senior Citizens and E-commerce Websites: The Role of Perceived Usefulness, Perceived Ease of Use, and Web Site Usability. *Informing Science: The International Journal of an Emerging Transdiscipline*, 8, 59-63. <https://doi.org/10.28945/3268>
- Statista. (2020). *Seniors in Spain*. <https://www.statista.com/study/89495/seniors-in-spain>
- Tjandra, A. M., Widjono, R. A., & Violeta, K. N. (2022). Systematic Review: Interface Design Study in eCommerce for Elder. In J. Jamaludin, H. A. Azizan, N. A. M. Salim, N. Hassan, & A. M. Hashim (Eds.), *DESIGN-DECODED 2021: Proceedings of the 2nd International Conference on Design Industries & Creative Culture, DESIGN DECODED 2021, 24-25 August 2021, Kedah, Malaysia* (Vol. 5) (pp. 409-418). European Alliance for Innovation.
- United Nations. (2019). *World Population Prospect: The 2019 Revision*. UN.
- Vargas-Jiménez, I. (2012). La entrevista en la investigación cualitativa: nuevas tendencias y retos (The interview in the qualitative research: trends and challengers). *Revista Electrónica Calidad en la Educación Superior*, 3(1), 119-139. <https://doi.org/10.22458/caes.v3i1.436>
- Vidal Domínguez, M. J., Labeaga Azcona, J. M., Casado Durandez, P., Madrigal Muñoz, A., López Doblas, J., Montero Navarro, A., & Meil Landwerlin, G. (2017). *Informe 2016. Las Personas Mayores en España. Datos Estadísticos Estatales y por Comunidades Autónomas* (Report 2016. The Elderly in Spain. State Statistical Data and by Autonomous Communities). IMSERSO.
- Viñarás Abad, M., Pretel Jiménez, M., & Quesada González, C. (2022). E-Commerce, social media and Social Inclusion: A Typology of Users Over 60 Years of Age in Spain. *Communication & Society*, 35(3), 141-154. <https://doi.org/10.15581/003.35.3.141-154>

## ABOUT THE AUTHORS

**MARILÉ PRETEL**, associate professor at the Universidad CEU San Pablo in Madrid. Ph.D. in Communication from the Universidad Complutense de Madrid, with six years of research recognized by the CNEAI. Specialized in brand strategy development, her current lines of research revolve around digitalization and social networks, artificial intelligence, brands and vulnerable audiences. She was Director of Client Services and Strategies at TBWA.

 <https://orcid.org/0000-0001-6775-047X>

**MÓNICA VIÑARAS**, professor at the Universidad Complutense de Madrid, Ph.D. from the Universidad Complutense de Madrid, tenured professor, she has two six-year research periods recognized by the CNEAI. Her lines of research focus on the management of communication and public relations in organizations and their impact on society, communication in the cultural sector, management of intangibles, and Corporate Social Responsibility, with special attention to vulnerable audiences.

 <https://orcid.org/0000-0001-8792-5927>

**LEOPOLDO ABAD-ALCALÁ**, Professor of Constitutional Law at Universidad CEU San Pablo. Three six-year research periods recognized by the CNEAI. Member of nine competitive research projects funded by public institutions. Lead Researcher (PI) in the projects: Elderly people, e-commerce and electronic administration: towards the breaking of the third digital divide (CSO2015-66746-R) and Digital Divide and Elderly People: Media literacy and e-inclusion (CSO2012-36872), both funded by the Ministry of Economy and Competitiveness within the National Plan of R+D+i.

 <https://orcid.org/0000-0002-4194-6404>