

Information Needs about Public and Social Services of Portuguese Elderly

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Abstract: In a society increasingly attentive to the problems faced by seniors it is essential to promote their independence and autonomy. Providing these citizens with adequate information to support daily decision making processes and to be alert about situations of disadvantage and inequality is a concern of several entities seeking to promote elderly empowerment. A number of *gerontechnologies* aimed to "add quality years to life" have appeared to stimulate healthy, active and independent life. In line with this, it is being developed the +TV4E interactive TV platform, which aims to promote the info-inclusion of Portuguese seniors through the exhibition of informative contents about public and social services on TV. This paper aims to assess the public and social services Portuguese seniors feel most in need to access information about. Findings of this exploratory study showed that the information needs of elderly are organized in the following macro-areas: health care and welfare services; social services; financial services; culture, informal; education and entertainment; security services; local authority services; and transport services.

1 INTRODUCTION

Population ageing is an inescapable and undeniable fact that in the last decades has led to a significant inversion of the ageing pyramid in the developed societies. Almost all countries are facing an increasing longevity of adults, which reflects the growth in the number and proportion of older people (Rosenberg et al., 2013). This element represents one of the great challenges for practically all sectors of society, such as, labour and financial markets, goods and services, such as housing, transportation and social protection (United Nations, 2015). Projections indicate an abrupt increase in the number of people aged 60 or over in the medium term future. Between 2015 and 2030 it is projected that the total population with 60 years and over will increase from 901 million to 1.4 billion, reaching nearly 2.1 billion in 2050 (United Nations, 2015).

In the particular case of Portugal, 2,032,606 citizens were 65 years or over in 2012. Optimistic projections considering current trends of fertility, mortality and migration show that in 2060 this number will increase to 3,343,987 (Instituto Nacional de Estatística, 2014).

On the one hand, the increase in life expectancy should be considered a great achievement for developed societies, but on the other hand it raises a number of challenges to citizens, governments and communities. Changes in health public policies, retirement and pension policies, social security and education are some of the consequences of demographic ageing (Teixeira et al., 2013; He et al., 2016).

Though living longer may be something to be celebrated, it can be distressing and problematic also both for the individuals themselves and for those around them if no proper conditions for being independent, active, and healthy are available. It is important to develop policies and strategies that allow older people to maintain or improve their quality of life, so that ageing is seen from the perspective of "add life to years" and not "add years to life".

Considering the ageing process, the concept of "quality of life" is highly determined by the individual's ability to maintain their autonomy and independence (Kalache & Gatti, 2002). Maintaining these abilities is a role for the individuals, but it is also affected by resources available to support them.

Hence, ensuring that the elderly have a continuous access to adequate information to age in a healthy and autonomous way is one of the great challenges of public health (Rosenberg et al., 2013).

Considering that the world is becoming more technological, the ageing population reality has led to the appearance of *gerontechnologies* as one of the greatest bets of different stakeholders, such as innovative entrepreneurs and enterprises, which are drawing their attention to senior's concerns and needs. These technologies aim to support older people to maintain their autonomy, increase the feeling of belonging to a community, enlarge the social networks, and improve the wellbeing and literacy (Rice & Carmichael, 2013; Silva et al., 2016). Over time, there have been emerged several innovations in medicines, assistive devices, robotics, sensor systems, e- and m-Health, as well as strategies for health systems and social support (Rosenberg et al., 2013).

The access and the ability to obtain information enable individuals with the knowledge needed to identify and be alert to disadvantage and inequality situations. This information influences not only the quality of life of individuals but also of those who are close and dependant on them.

Some news and reports mention that the Portuguese elderly have low literacy levels in areas such as health and finances (Espanha et al., 2016; Banco de Portugal, 2016). Low literacy levels associated with the difficulty of access information in a credible, fast and comprehensible way put the elderly in a disadvantaged situation. The Portuguese Minister of Labour, Solidarity and Social Security, Vieira da Silva, once affirmed that thousands of Portuguese elderly in monetary poverty line situation might not be able to access the Solidarity Supplement for the Elderly. However, many of these citizens do not access to this monthly financial support from the state due to lack of knowledge about public services they could benefit from (RTP Notícias, 2016).

Despite not being a *gerontechnology per se*, the television is one of the greatest media platforms with high importance in seniors' life. In a world full of information sources and media, such as radio, books, magazines, pamphlets, social networks, etc., television is still in a prominent position as the preferred information source for the elderly (Fontana, 2004; Edwards, 2006; Zou & Zhou, 2014; Edewor et al., 2016). Statistics show that in Portugal people with 65 years and over watch TV 5 hours and 8 minutes a day, in average (Marktest Group, 2011). Therefore, television is an audiovisual media with

great potential for providing information and entertainment to seniors.

Thus, it is essential that services and products are designed and developed according to concerns and expectations of potential target users, improving their efficiency and efficacy. The co-creation innovation, is one of the most powerful design principles of new innovations as well as the user's experience (Rosenberg et al., 2013). In this context, the +TV4E project comes up with an Interactive TV (iTV) platform to promote seniors info-inclusion (Silva et al., 2016). This platform aims to deliver information about public and social services tailored for seniors during the traditional TV experience in pre-programmed transmission breaks.

So, in order to create these high-value informative contents, the research team of considered essential to explore the perspective of specialists and seniors regarding the information available on +TV4E platform.

Therefore, the present study aims to explore and analyse the opinion of specialists in public health promotion of seniors regarding public policies development in Portugal. In addition, this study elicits constructive contributions from seniors regarding their information needs. Information gathered is essential to build a list of public and social services whose information will be broadcasted to Portuguese elderly in a clear and efficient way through +TV4E platform.

2 INDEPENDENT LIVING AND TECHNOLOGIES

Over time, a set of transformations occurred in human beings at biological, psychological and social level characterized by several physical, psychological and social changes (Schneider and Irigaray, 2008; Schroots and Birren, 1980). Although being old is not necessarily synonymous of illness, disability, dependency, isolation and loneliness, these changes lead to the emergence of new challenges.

2.1 Active Ageing

As a result of the individual and demographic ageing, the World Health Organization (WHO) adopted the term "active ageing" in 2002. WHO advocates that a longer life must be accompanied by continuous opportunities in three areas: health, participation and security. Hence, in order to

enhance older people quality of life the “active ageing” concept consists in the process of optimizing opportunities in these areas (Kalache and Gatti, 2002).

The active ageing allows individuals, throughout their life course, to realize their potential for physical, social, and mental wellbeing and to participate in society, while providing them the adequate protection, security and care, when needed (Kalache and Gatti, 2002). The quality of life of elderly will depend on the risks and opportunities they experience over life course, as well as the support provided by other generations when necessary (Kalache and Gatti, 2002).

The concept of “quality of life” is highly broad, complex, subjective, and incorporate 6 essential domains, namely the physical and psychological area, level of independence, environment, personal beliefs/spirituality and social relationships (World Health Organization, 1998). At advanced stages of life, quality of life is highly determined by the ability to maintain autonomy (ability to make personal decisions of daily life according to own rules and preferences) and independence (ability to perform functions related to daily living with no and/or little help from others) (Kalache and Gatti, 2002).

2.2 Gerontechnologies

In an increasingly technological and computerized world, new technologies accountable for supporting the elderly are commonly called *gerontechnologies*. This type of technologies has great potential to support ageing and to ensure good health, social participation (such as to stay linked with the community) and independent living (Harrington and Harrington, 2000).

Harrington and Harrington (2000) defined five favourable points for technologies to meet the challenges of an ageing society, namely: (1) technology can play an important role to prevent age related diseases; (2) *gerontechnologies* can enhance the performance and opportunities of older people in new roles; (3) *gerontechnologies* can compensate the declining capacities; (4) technologies provide technical support to assist caregivers, and (5) technologies support older people indirectly by improving research on ageing.

Regarding the process of developing technologies for seniors, Masahito Kawamori in the Global Forum on Innovations for Ageing Populations, considered six key factors for eHealth design for older adults, which should also be seen as

guidelines for technologies in other areas: ease of use and simplicity; security; credible information with assured quality; low stress adoption and initial use: little training for use and maintenance; and seamless integration into daily life (Rosenberg et al., 2013).

Though technologies cannot replace human interaction, they evolve faster than ever before (Coulombe and Zhang, 2015) and tend to be increasingly “humanized” and less invasive. The potential of technologies to fulfil needs of elderly is already taken into account by government and private institutions in debates and discussions among different stakeholders (e.g. academics, politics, decision makers, private enterprises, investors, developers, etc.) (Rosenberg et al., 2013; Coulombe and Zhang, 2015).

It is essential that those who want to develop technologies for the elderly change their perception of ageing and consider seniors as part of the solution and not be deemed “the problem” (Rice and Carmichael, 2013; Coulombe and Zhang, 2015). Stereotyping the elderly as people who become suddenly passive and dependent, taking us to develop things *to* older people rather than create things *with* older people (Coulombe and Zhang, 2015). The potential of the elderly as a valuable resource of wisdom for innovation is being lost because older people are treated as just recipients of products (Coulombe and Zhang, 2015).

Co-creation is one of the most important secrets for designing new and innovative solutions to seniors (Rosenberg et al., 2013). It is essential, since early stages of technology development, to assess needs, expectations, and opinions of this population segment (Doménech et al., 2013). Ensuring a better alignment with preferences and needs of the elderly may lead to more acceptable and adequate solutions, fostering positive and important changes in costumers’ lives (Queirós et al., 2014; Rosenberg et al., 2013).

2.3 Senior’s Information Needs

One of the areas in which Portuguese elderly, and even younger people, have difficulty to access and understand information is about public services. This is not only due to the fact that information in public services are often scattered and sometimes difficult to understand, but it is also due to low literacy levels of aged groups (Instituto Nacional de Estatística, 2012) that makes retrieving and understanding information a complex process. Portuguese elderly are commonly in a disadvantaged position for not

knowing how to access public services or which sort of assistances they can benefit from (e.g. medication discounts, financial contributions from the state, etc.). This leads to a high informational dependency on their formal and informal caregivers (Silva et al., 2016).

Portuguese government is aware of the importance of new technologies, and thus has been developing several platforms and services in a technological base, such as in the field of health, finances and social services. Portugal is one of the European countries with highest indicators of online public services provision to citizens and enterprises (Portal do Cidadão, 2015). In addition, this country has also an important bet in the health area with the strategy of e-health (Serviços Partilhados do Ministério da Saúde, 2015).

The European e-Government Benchmark (2015) refers that Portugal has high levels of digitalisation (usability, ease of use, speed, etc.) but this country still has a long journey regarding the penetration of these services (dissemination, accessibility, among others) (Portal do Cidadão, 2015; Barroso and Vasconcelos, 2016). The use to public services is a right of all citizens, and age cannot be an exclusion factor for accessing them.

Even when information regarding services, activities and programs from which seniors could benefit is available, the low capacity to properly understand such information by these citizens can put their quality of life at risk, which means that, providing adequate and personalized information needed by older people is critical to ageing well and to be socially included (Everingham et al., 2009). Therefore, delivering public services information is vital for a successful planning and implementing of public policies.

In addition, being aware of what is going around and how to proceed to live by the government and society rules is essential to promote the active ageing, particularly with independency and autonomy, as encouraged by WHO (Kalache and Gatti, 2002).

Over time, the *public service* term has always generated discomfort and misunderstandings regarding the multiple connotation of the “public” word. In order to clarify this concept, the European Commission created the term *Services of General Interest* (SGI), which is subdivided into several categories and concepts. SGI comprehend services, activities and programs tailored to fulfil citizen's wellbeing, considered to be of general interest by public authorities, and thus subjected to a set of predetermined public-service regulations (European

Commission, 2011; European Commission, 2003). SGI comprehend a wide range of activities, functions and resources, from large telecommunications, postal services and water supply to healthcare, education and financial services. However, though this definition still suffers from lack of clarity in its terminology, generating discussion and debates (European Commission, 2011), it usually includes services referred to areas of state sovereignty (defense, security and justice), health care, social security, education, housing, and also the radio and television broadcasting service.

Basic and essential services, such as energy, transport and telecommunications, are also of general interest, either when provided by public authorities or private enterprises. Local laws define as essential public services the supply of water, electricity, natural gas and liquefied petroleum gas; electronic communications; postal services, waste management and the collection and treatment of wastewater (Fundação Francisco Manuel dos Santos, 2016).

The development of an interactive television (iTV) platform (+TV4E), conducted at the University of Aveiro, Portugal, that allows the enrichment of the television experience, by interleaving the normal broadcast with informative spots related to public and social services edited accordingly to the user's profile, is in the early stage of the development.

Considering the individual, social and technological context mentioned above, the research team of +TV4E wants to develop an iTV platform focused on the elderly and developed with them. In this way, services that older people most need to access information about will be assessed based on specialists in public policies and potential target-users inputs. The methodology used will be explained in the following section.

3 METHODOLOGY

This paper is based on an exploratory study and aims to assess Services of General Interest (SGI) tailored for seniors whose information should be delivered by the +TV4E platform. To achieve this and in order to establish the scientific validity of this study opinions and information were gathered from potential target users as well as from research specialists of different sectors and with diversified backgrounds.

The information assessment regarding SGI needed by Portuguese elderly started with a

exploratory scientific literature review in international databases with the keywords "elderly" and "information needs" that aimed to support the discussions with the research specialists in a focus groups carried out afterwards. This works intended to design a primary version of the survey submitted to seniors, potential users of +TV4E platform.

Data collection occurred in four key moments (see Figure 1), with different stakeholders and diverse techniques: (i) exploratory literature into the information needs of older adults; (ii) exploratory interview with one expert in the field of gerontology working in the community; (iii) one focus group and survey with 4 experts in the field of public policies and services, and (iv) one focus group and survey with 11 seniors.

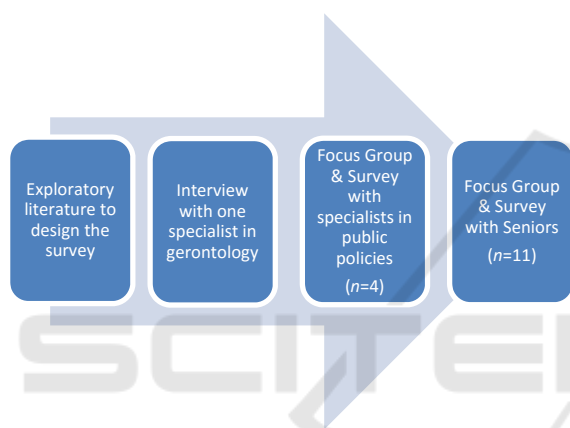


Figure 1: Timeline of data collection.

Two research team members, via Skype, undertook the interview with the specialist in gerontology and all the other data collection work were guided and supported by four members of +TV4E project team. After each collecting task, data was further analysed by the whole team in order to integrate and/or exclude categories of public and social services referred in the taskforce of interaction with the participants. This process aimed to mature and consolidate the following moments of interaction.

The selection of methodologies for data collection, referred previously, took into account their benefits for each moment. According Morgan (1997), Focus Group is defined as a method for collecting data through interactions and group discussions, where topics suggested by one moderator, usually the researcher, are discussed. This technique can be treated as a mix of participant observation and in-depth interview to characterize participants' perceptions and attitudes. It is a very useful tool for accessing a broad range of views and

information, about how people or a group of people think about a specific topic (Mack et al., 2005; Morgan, 1997). Therefore, it is a widely used qualitative methodology, whose objective is to identify the opinions, attitudes and preferences of possible users of a product/service. In this technique it is applied the moderate discussion on a specific topic and the session is moderated by an element with experience and leadership ability. The focus group should be conducted with a limited group in terms of number and is advisable to have between 6 and 10 participants. In this type of technique, spontaneous opinions and comments can be obtained (Coutinho, 2015), and it is also considered an adequate method for gathering insights regarding the information needs of a specific group of citizens (Barrett and Kirk, 2000).

Interview is a method for collecting data through verbal questions to individuals pre-defined by the researcher (Coutinho, 2015). It is guided by issues designed to collect data on the research topic and organized according to an Interview Guide. Based on direct interactions between the researcher and interviewee, this method makes possible to obtain information that would never be obtained through traditional questionnaires. It is essential that the interviews take place in an open and flexible environment in order to foster reflections, ideas and presuppositions about the research theme (Quivy and Campenhoudt, 1998).

The data collection methodology through surveys involves making questions to individuals, which aims to collect information regarding attitudes, feelings, values, opinions or factual information. When questions are presented through an inquire in which the respondents answer by themselves, it is called a questionnaire or self-administered (Coutinho, 2015).

Overall, questionnaires are used when it is wanted to inquire a large number of people in order to characterize traits that identify large groups of subjects (Quivy and Campenhoudt, 1998). In the following section it will be presented the results that fundament the list of public and social services from which seniors are interested in obtaining information.

4 RESULTS

In this section, it will be presented the results of literature analysis regarding the elderly information needs, which will be the starting point for the construction of the first version of the survey on

public and social services. Right after, it will be presented the main results of the interview with the specialist in gerontology who works in the community followed by the findings obtained in two focus groups with the specialists in public policies and services and with seniors recruited in the context of the +TV4E project. Concerning this last point, it should be noted that after each focus group, an updated version of the survey was elaborated, taking into account the inputs from the participants.

4.1 Exploratory Literature to Design the Survey

Obtaining proper information and being constantly updated about professional, personal and social life is essential to have good levels of quality of life (Edewor et al., 2016; Bruce, 2005). Information is crucial to face daily living challenges, to make informed decisions and to be alert to situations of disadvantage and inequality. Have a good understanding in key areas to citizenship is essential to promote and improve the quality of life.

Although societies are increasingly conscious and awakened to the elderly's needs, few recent studies have examined the information needs of the seniors (Edewor et al., 2016). Being aware of the elderly information needs is essential to plan and implement public policies and services properly.

In 1985, a survey developed by Troup (1985) revealed that Scotland's elderly identifies money/housing, leisure opportunities and health matters as the main areas of information needs as well as aspects of finance, housing and benefits.

Two decades later, Barret (2005) analysed the support and information needs of seniors and disabled older people in the United Kingdom, with a total sample of 1630 respondents. Results showed it was hard for the elderly to have practical support on their daily problems as well as to receive information that enables them to access such support. In addition, several respondents mentioned their needs of information on financial and practical help, housing, products and home adaptations, support and services at home that are available to them (Barrett, 2005).

According studies conducted by Zou and Zhou (2014) in Chinese Rural Community, information needs of old citizens are distributed in 5 categories and 13 subcategories: physiological (food, clothing, care and shelter); safe (healthcare and pension policy), affective (friends and family activities and club activities); respected (self-assessment and social evaluation) and self-realized (jobs and

knowledge skills). This study was supported by 600 respondents, which referred that information quality, reliability, relevance, and accessibility highly influence the choice of information sources (Zou & Zhou, 2014).

Edewor and colleagues (2016) found that information needs of Nigerian elderly consist of health conditions, pension/finance, government policies, current affairs, transport, among others. They also often choose family members as the preferred source of information.

In another approach, Everingham and colleagues (2009) inquired the elderly about their needs for recent information, as they often search for information at a time of crisis or life change. Findings show that elderly search information about availability of programs for delivering hot meals regularly, home health care, special transport, and other assistance services. Also, they want to know all the benefits, concessions, rebates and subsidies they are entitled to.

Although none of the studies mentioned above have focused on the information needs of the Portuguese elderly, there are transversal trends, especially in the areas of healthcare, financial help, pensions and local policies. Therefore, the research team developed the first version of the survey that was divided into 3 macro areas of interest and respective services (Table 1), namely: health services, social services and financial services.

Table 1: Macro-areas of interest and corresponding services.

Macro-area of interest	Services
Health Services	Primary care Hospital care Continuous and Integrated care Transport
Social Services	Social support and programmes
Financial Services	Taxes Health fees Subsidies in medicine Social tariffs Financial assistance

Each macro-area consisted of a number of services, activities and programs. Health services comprise primary care, hospital care, continuous and integrated care, and transport (for health or treatment services). Social services include the social support and specific programmes for older people (home care services, senior social club, adult day care center, adult night care center, foster family, nursing homes and social, and leisure activities services).

Taxes, health fees, subsidies in medicine, social tariffs and financial assistance (reforms/retirement pension, subsidies, benefits, supplements) were the integrated services in the financial macro-area.

It should be noted that some of the services are transversal to more than one macro-area. Health fees and subsidies in medicine are services that concern to the macro-areas of “Health Care and Welfare Services”, “Social Services” and “Financial Services”. Social tariffs and financial assistance are specific services transversal to the macro-areas of “Social Services” and “Financial Services”.

4.2 Interview with Specialist in Gerontology

Formal caregivers play an important role in elderly lives, both institutionalized and the ones who are integrated in the community context. These caregivers deal continually and directly with seniors, representing a privileged source of knowledge about their information needs. Considering that elderly do not have the means or knowledge to resolve their issues without external assistance, these professionals are the ones who often support the resolution of many daily problems of older people. In this sense, an interview was carried out with a professional working in the community, with academic background in gerontology.

The gerontologist, S.R., is specialist in seniors' welfare promotion and active ageing, and also in public health promotion in Lisbon downtown. S.R. has 6 years of experience as formal caregiver of seniors and technical coordinator of a non-profit organization. Some of the tasks performed by this professional range from ensuring companionship, administering healthcare treatments, and supporting aged people with daily activities, such as buying groceries, funding support to home cleaning and repairing, etc.

The gerontologist was invited to answer to an interview with open-ended questions, in October 2016. The aim of this interview was to determine the main information needs areas in public services, and also the sources of information used by the expert and their team to respond to seniors' requests.

There are three main conclusions that result from this step of the exploratory study, namely:

- the average digital literacy of people attended by this expert is rather low;
- most of the 118 users attended by the institution where the specialist works watch television and is through this medium they receive the majority of the information;

- there are a number of governmental and web portals which provide reliable information about public and social services, that are used by this specialist and their team to respond to users' requests (eg. Social Security Portal available in www.seg-social.pt).

It should be noted that some of the characteristics of the population attended by the institution where S.R. works in the downtown Lisbon, are: very old people (the age average of the population assisted is 83 years), low profits, low digital literacy, widowers, without own car, residents in apartments without lift (typically in the 4th or 5th floor), and socially very isolated.

This interview confirms what many studies and reports advocate about television preference of elderly as a medium for obtaining information. In this population, accessing information via internet was not usual.

“Only 2 of our 118 users have internet access”.

It has also been found that a lot of elderly do not understand the information about public services.

“An interesting fact is that all users watch television, through which they receive most of the information. However, although they receive a lot of information through television, sometimes they do not understand the information properly. In other words, the information reaches the elderly and then they cannot deconstruct and understand it (e.g. they struggle to understand the meaning of “freeze the reform/retirement pension”¹). This sometimes leads to unnecessary alarmed and worry situations.”

According to S.R.'s opinion, the most relevant information about public and social services requested by the users are:

- knowing which social and financial support they are entitled to;
- knowing where they can get information about the supports and how to obtain them;
- knowing the health professionals near from their residence;
- get information about financial issues;
- get information regarding the rights of people in the health area;
- questions related to juridical support;
- social security support;

¹ "Freezing the pension/retirement pension" is a commonly used concept referred to the temporary restriction of new requests for early retirement (retirement before legal age). Often, this term is also used in jargon to refer to the temporary or definitive restriction of updating the values of the reforms.

- which are the social responses near from their residence and general news.

With these inputs, it was after discussed some of the main sources of information used to appropriately support requests from the elderly.

The list of information sources was further analysed by the research team and presented to the participants in the focus group with specialists.

4.3 Focus Group & Survey with Specialists in Public Policies

The interview with a gerontologist allowed understanding the areas in which older people struggle to access information about. After the interview, it was conducted the focus groups phase.

It was carried out two moments of collecting data with two different sets of participants from different areas. The first focus group was developed with researchers with academic and political background in the area of public and social policies, while the second focus group was conducted with seniors recruited in the context of the +TV4E project.

The focus group with research specialists in public policies aimed to analyse the macro-areas of interests proposed by the +TV4E team and validate the areas of the sources of information regarding the social and public services.

Even though it is a challenging and difficult task, it is highly valuable to promote the discussion and debates among professionals with *know-how* in different fields of knowledge. Concerning the peculiar inter-disciplinarity of the +TV4E project and the concepts covered by it, this focus group was developed with 4 professionals from different areas:

- a senior academic research with interests focus on the relationship between new information and communication technologies and people/organisations;
- a researcher with background in gerontology, with research work in technology assessment for the elderly, including Ambient Assisted Living products and services, and also in the field of assistive technologies use and evaluation of human functioning and environmental factors using the International Classification of Functioning, Disability and Health;
- a senior researcher and specialist in spatial planning policies, territorial governance, health geography and policies, and economic, social and territorial impacts of Information and communications technology;
- a gerontologist working in a Portuguese town

hall, in the social action office, with responsibilities focused on the detection, interventional planning, action and/or referral of problematic social situations of the elderly population.

The specialists were invited to participate in the focus group, in October 2016, moderated by the responsible research coordinator of the +TV4E project, who has several years of experience in group approaches and leadership skills.

After the legitimation and presentation of the project, a survey based on the literature review and the interview was handed to the participants and it was requested each participant to analyse the relevance of the macro-areas of interest presented as well as their respective services. It was confirmed by these professionals, based on their own experience, that seniors often have problems to access and understand information about social and public services.

All the participants considered the presented macro-areas and corresponding services of high importance for the Portuguese seniors. Throughout the focus group, which lasted approximately 120 minutes, ideas and experiences were discussed and shared. These discussions led to the inclusion of other macro-areas of interest, namely:

- culture, informal education and leisure;
- transport services (in general);
- security services;
- city services;
- mandatory local services;
- news.

In addition to these suggestions, it was also proposed to rename "Health Services" to "Health Care and Welfare Services", considering the wide range of information concentrated in this macro-area.

After analysing the inputs of this focus group the research team reformulated the previous version of macro-areas of interest for senior citizens (Table 2).

Table 2: Macro-areas of interest and corresponding services after the FG with specialists.

Macro-area of interest	Services
Health Care and Welfare Services	Primary care Hospital care Continuous and Integrated care Transport Welfare Pharmacies
Social Services	Social support and programmes

Table 3: Macro-areas of interest and corresponding services after the FG with specialists (Cont.).

Macro-area of interest	Services
Financial Services	National and local taxes Health fees Subsidies in medicine Social tariffs Financial assistance
Culture, Informal Education and Entertainment	Senior Tourism Entertainment Informal Education
Security Services	National Republican Guard Public Security Police
Local Authority Services	Town hall citizen support office Specific benefits of local authorities Civic services
Transport Services	Taxi number by district Number of public transport Airlines contact

Culture, Informal Education and Entertainment comprise senior tourism, informal education (e.g. Senior Universities, etc.) and entertainment (information about tours, parks available in the surrounding area, etc.). The Security services encompass services and programs developed by the Portuguese security forces with a focus on the senior population (e.g. Program "I'm here" for adults). The Local Authority Services macro-area includes information usually accessed through the town hall citizen support office about specific benefits of local authorities and civic services. The Transport Services comprises the taxi number contact by district, contact number of public transport (e.g. bus and train information) and airlines contact.

The survey regarding seniors' information needs was updated considering the structure presented in Table 2.

4.4. Focus Group & Survey with Seniors

As mentioned earlier in this paper, it is essential to develop products and services that effectively fulfil user needs and expectations. When these users are seniors, it is even more important that, from the beginning of the process, they are recruited and involved in the development process.

After assessing the information needs of the elderly from the research specialists' perspectives, a focus group was carried out along with potential target users of the +TV4E platform. These target

users will play a key role in the collaborative design process of the platform +TV4E.

Thus, this focus group aimed to assess the feedback of senior population regarding the services in which they feel more necessity to access in a clear and concise way.

To this moment, 11 older people from a Senior University took part in the focus group. As in the focus group with the specialists, this one was led and moderated by the principal researcher of the project, supported by 3 team members and lasted around 120 minutes.

After the presentation of the +TV4E project, some of its characteristics, as well as the valuable outcomes of collaboration with seniors, a questionnaire was delivered with purposes of validating the 7 macro-areas of interest and their respective services. Respondents were asked to score a list of 23 services identified in the previous steps as key services important for them to receive information about. This list was based in a Likert type scale to classify from 1 (unimportant) to 3 (very important).

From the 11 participants in the focus group, the female gender represented 63.6% of the sample (n=7), and male 36.4%(n=4). The ages ranged from 59 to 77, with an average of 67 years old. The descriptive analysis (*mean* and *SD=standard deviation*) of data collected through the survey with the elderly is presented below (Table 4).

Table 4: Descriptive analysis regarding the Macro-area of interest and corresponding services.

Macro-area of interest and corresponding services	mean	SD
Health Care and Welfare Services		
Primary care	2,9	0,32
Hospital care	2,4	0,52
Continuous and Integrated care	2,9	0,33
Transport	2,4	0,52
Welfare	2,4	0,52
Pharmacies	2,3	0,48
Social Services		
Social support and programmes	2,9	0,38
Financial Services		
National and local taxes	2,8	0,42
Health fees	2,2	0,63
Subsidies in medicine	2,4	0,52
Social tariff	2,0	0,50
Financial assistance	2,2	0,63
Culture, Informal Education and Entertainment		
Senior Tourism	2,8	0,46
Entertainment	2,6	0,52
Informal Education	2,4	0,52

Table 4: Descriptive analysis regarding the Macro-area of interest and corresponding services (Cont.).

Macro-area of interest and corresponding services	mean	SD
Security Services		
National Republican Guard	2,7	0,50
Public Security Police	2,7	0,50
Local Authority Services		
Town hall citizen support office	2,4	0,53
Specific benefits of local authorities	2,3	0,50
Civic services	2,3	0,50
Transport Services		
Taxi number by district	2,1	0,33
Number of public transport	2,0	0,50
Airlines contact	1,7	0,71

With the exception of “airlines contact” (mean=1,7), all services had averages higher than 2 points. Receiving information about primary care, continuous and integrated care, and social support and programmes were considered as the most important by the respondents (mean=2,9), followed by national and local taxes, and senior tourism (mean=2,8).

The services in which seniors pointed as less needed to receive information about were: number of public transport (mean=2,0), social tariffs, and number of public transport (mean=2,0), followed by taxi number by district (mean=2,1), health fees and financial assistance (mean=2,2).

The values obtained in the survey show the relevance of information regarding public and social services to senior citizens. The +TV4E research team will consider these findings in the upcoming phases of this project. Moreover, these results should possibly be considered also by national policy makers as clear indicators of information needs of the older age population segment.

5 DISCUSSION

Findings reveal homogeneity and agreement, both across literature and the participants of this exploratory study.

It is important to observe that the 3 main areas of seniors’ information interest (health care and welfare services; social services; financial services), assessed by the research team during the process of literature review (Troup, 1985; Barrett, 2005; Edewor et al., 2016; Everingham et al., 2009) were always considered as highly relevant by all research specialists and seniors who took part in the focus

groups. It should be highlighted this situation, regarding the high scores given by the elderly to these 3 areas in the survey, with all the corresponding services with averages above 2,0.

Moreover, it is worth noting that the macro-areas suggested by the research specialists, included in the survey (culture, education and leisure; transport services; security services; city services; mandatory local services), were considered as areas of great interest and importance need for the seniors also.

The macro-transport area had the lowest scores. However, despite these scores, according to Edewor and colleagues (2016) and to focus group with research specialists, transportation is a very important area for seniors. During the focus group with the seniors it was strongly pointed that information about bus schedules would be extremely desirable.

Throughout the process of literature reviewing, interview, focus groups and surveys it is noted that there is a great lack of access to clear and coherent information by the Portuguese elderly. Thus, the +TV4E project has great potential to promote higher levels of quality of life and independence to their users.

6 CONCLUSIONS

The challenges and opportunities that come with ageing, both at personal and community level, are drawing the attention of several sectors of society.

Promote independent and autonomous living is an obligation of governments, enterprises, academia and society, which is reflected in efforts to develop active ageing policies, products and services that promote quality of life in older age.

One of the answers to fulfil seniors’ needs are the technological innovations that have appeared in the last decades. In addition, when a technology for seniors is under development, it is important to consider needs and expectations of potential target users all over the development process. This process is called “co-creation” and is a key point to develop solutions that generate real and valuable effects on the individuals’ lives. It is also important to listen to research specialists experience and *know-how* in order to make the process of assessing seniors’ information needs much more effective.

Considering the context and the objectives of the +TV4E project, the present paper focuses on the obstacles faced by older people to access reliable and understandable information about social and public services.

Professionals and academics in gerontology, technology and political science argue that there are several areas of concern about which it is necessary to bring clear information to the elderly. These seven areas are: (1) health care and welfare services; (2) social services; (3) financial services; (4) culture, informal; education and entertainment; (5) security services; (6) local authority services and (7) transport services.

While the literature review focused on foreign articles, it seems that the information needs of the elderly are quite similar among peers from other countries around the world.

One of the promising fields to conduct further research is relative to the macro-area of transport. It is understandable that one of the ways to promote the active aging of individuals is to promote their inclusion and participation in the activities of society. However, showing schedules, routes and other issues related to public transports is technically complicated for the development of +TV4E platform. It should be noted that for a first prototype, it is intended that this platform should be intuitive, with a high degree of usability, and with a low degree of intrusiveness. So, it is suggested as future research the study of the importance of the transport service available in platforms as the +TV4E, and in what way this information can be broadcasted to the user.

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