



INVESTIGACIÓN/RESEARCH

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USING NEW TECHNOLOGIES FOR THE ELDERLY IN A RURAL LOCALITY

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ABSTRACT

With this article, we seek to carry out a vision of the possibilities the New Information and Communications Technologies offer for learning, concretely for their use by the elderly, understanding that these are means and channels to be used and enjoyed exclusively by youths, as several authorities think. Especially, if we keep in mind that we meet a constantly increasing number of elderly that decide to give answer to queries or ambitions that, for some reason, they have not been able to solve in previous times of their life. The latest breakthroughs in Information and Communications Technology provide the almost 8 million over-65-years-old Spaniards with solutions helping them to remain socially active. Therefore, we made a short descriptive questionnaire to attain the objectives we had in mind. The results show little and slightly growing use of Internet and the new technologies in a rural population called Cabezón de Pisuerga in Valladolid province.

KEY WORDS: New Technologies - Elderly - Communication - Internet - Ageing - Interaction.

USO DE LAS NUEVAS TECNOLOGÍAS POR LAS PERSONAS MAYORES EN UNA LOCALIDAD RURAL

RESUMEN

Con este artículo, se pretende realizar una visión de las posibilidades que ofrecen las Nuevas Tecnologías de la Información y la Comunicación para el aprendizaje, concretamente para su uso por las personas mayores, entendiendo que nos

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encontramos ante unos medios y canales de uso y disfrute exclusivo por los jóvenes, como se viene pensando desde diferentes instancias. Máxime, si tenemos en cuenta que cada vez nos encontramos con un número mayor de personas mayores que deciden dar respuesta a interrogantes o ambiciones, que por algún motivo, no han podido ser resueltas en épocas anteriores de su vida. Los últimos avances en Tecnología de la Información y Comunicación ofrecen a los casi 8 millones de españoles que superan los 65 años, soluciones que les ayudan a permanecer activos socialmente. Para ello se ha realizado un breve cuestionario descriptivo para la obtención de los objetivos marcados. Los resultados aportan un bajo y ligero uso y crecimiento de Internet y de las nuevas tecnologías en una población rural llamada Cabezón de Pisuerga de la provincia de Valladolid.

PALABRAS CLAVE: Nuevas tecnologías - Mayores - Comunicación - Internet - Envejecimiento - Interacción.

1.

INTRODUCTION

We cannot possibly forget that technology had never increased like hitherto, so now we have not only those who we might consider to be traditional technologies but also the so-called new technologies. Assuming that the "traditional" and "new" concepts should be taken somewhat cautiously, the reality is that, when faced with the industrial and traditional technologies of the industrial revolution or the first and second waves, using the terminology of the famous contemporary visionary Alvin Toffler, today there is a variety and multitude of technologies ranging from microelectronics to telecommunications, passing through biotechnology, not forgetting renewable technologies; as it had not happened before. All agree with the statement that society has gone through several technological revolutions, which generally fall into three categories: agricultural, industrial and information. The first was characterized by the use of draft animals, crop rotation and automation of agriculture and seed selection, and the second by development of the first textile and steel industries and the appearance of electricity (Duby, 1991). The current third one is the one of information that adopts information as a basic element of technological development, with an emphasis not on the products but on processes, and it does not develop in isolation but interconnected and mutually reinforcing. Network society, as some call it, which comes from the revolution in information technologies, restructuring of capitalism and demise of statism. Technological society, information or network that is configured by a variety of features that, without trying to limit them, we can specify as follows:

- Globalization of economic activities;
- Increased consumption and mass production of consumer goods;
- Replacement of mechanical production systems with others of an electronic and automatic nature;
- Modification of production relations, both socially and technically;
- Flexibility of work and labor instability;
- Emergence of new labor sectors, such as the one dedicated to information and new working

- arrangements such as telecommuting;
- Globalization of the media of traditional masses, and interconnection of both traditional and innovative technologies so as to make it possible to break the space-time barriers and to reach long distances;
 - Transformation of politics and political parties, establishing new mechanisms to fight for power;
 - Tendency to Americanization of society.

The impact of the information society because of the use of new information and communications technologies exceeds the limits of the amount of information that can be made available to the people, the speed with which it can be transferred, or how effectively it can reach its destination to reach all social sectors, having a direct impact on the labor market with emergence of new union sectors, enhancement of new professions, disappearance of others, transformation of certain work activities that are adapted to the new times, and what can be more significant, the possibility that the subject may develop different professional activities throughout his life (González, 1996); not to mention its impact on the different stages of our lives.

As we are seeing, the use of new technologies in the information society is not just "a technological issue, it is basically a big political, cultural, economic and social challenge" (Torres, 1994: 91). We are facing a real revolution in all contexts of human beings, from the political to the economic, the social and the cultural aspects.

This information society has been driven by different means, the fundamental ones being computing, telecommunications and communication networks. As for computing, its impact has been such that could be compared with the discovery of the wheel or fire by humans; however, its significance in the new culture has not been solely as a tool that allows us to write, calculate, simulate, store, process information and communicate with others, but what is more important, it is offering us new models of mind through simulation where our ideas and fantasies can be projected (Turkle, 1997: 15).

Clearly determined by the advent of computing, we find telecommunications and the so-called information highways coming from the interaction of different information and communications technologies, thanks to computing. At the same time, we must not forget the mutations they offer, such as multimedia. It is also important to realize that communication networks are not exclusively made up by technological and instrumental means but also, and they may be the most important ones, by all contents and messages that are generated by users of networks, such as those that are transported directly or elaborately by the user from the network. Rather than being information-sharing networks, they are networks of interaction between people.

The influence of these new information and communications technologies will have a significant impact on the future society, proposing changes ranging from ways to approach and generate knowledge to the type of interaction established among people.

To Gates (1995), one of the "gurus" of the information society, the influence of these new technologies will have different impacts on society, such as: access to unlimited information by all and at any time, individualized instruction by teachers using multimedia and authoring software, extension and dissemination of knowledge and research among teachers and

researchers, the possibility that teachers may have to overcome the expositional methodology and focus on solving problems, more participation-collaboration in the school environment as an immersive educational community.

Ramonet (1997), tells us clearly that one of the dangers we find today is that the new information and communications technologies may to come to separate the world into two broad categories: "information poor" and "information rich" with a strong subjugation and subordination of the former to the latter.

Possibly now it is time to ask ourselves, what shall we understand as new information and communications technologies? And in this case we can say that they are those interactively revolving around telecommunications, computing and audiovisuals, and their hybridization: multimedia. Anyway, we cannot forget that the current paradigm of new technologies is the computer networks allowing us, in the interaction of computers, to extend the power and functionality that computers have individually, allowing us not only to process information stored on physical media but also to access resources and services provided by computers in remote locations.

What is most significant in the interactive possibilities of the new information and communications technologies is that they are enabling that control of the media, which for some time was located in the emitter, can move toward the receiver, which will determine both time and mode of use. At the same time, it will be able to modify its role and acquire the function of message transmitter.

This interactivity, as Bettetini noted (1995: 17), is characterized by three basic significant facts: the multidirectionality of sliding information, the active role of the user in selecting the required information, and real-time communication. According to this author, we can define interactivity as a man-machine dialogue that makes it possible to produce new textual objects that were not completely predictable a priori. Interactive technologies that, to Miller (1990), have a number of advantages: reduced time and cost of learning, distribution of information more consistently than live instruction, privacy in the individual interaction taking place with the material, control of one's own learning, increased retention, allowing us to potentially and safely explore hazardous contents, increased motivation, easy accessibility leading to increased democratization of education, and allowing students to control their own learning process. However, we must not lose sight of the fact that using interactive media requires a number of features ranging from a specific design to the contemplation of a model of user concerned about finding information or new associations with it.

Until relatively recently the influence of the so-called new information and communications technologies focused mainly on the military, banking, and transfer of mass communication, shortly afterwards its impact is reaching all sectors of society, from education to medicine, and from the art world to research on information (Castells, 2006: 60).

1.1 Is the use of new technologies a matter of age?

One of the stereotypes of modern society – and we dare to say that also during the history of the media – is that the use of technologies is associated in principle to young people. Without

denying the fact that every new technology is initially used to a greater extent by younger people, among other reasons because the world in which they operate gives them more opportunities to interact with them; this should not be understood as technologies being denied to people of different ages, whether children or elderly. There is no "a priori", no element leading us to point out, for example, that the Internet is reserved for people within a range of age.

On the contrary, every time we find more experiences, institutionally supported or not, to incorporate these technologies at the earliest levels of education. And, at the same time, the creation of telematic environments for the elderly is increasing both publicly and privately. Such is the case of companies from various sectors such as banking, which make available to the elderly a telematic environment for interaction and service development.

At the same time, the creation of virtual communities composed of a group of people connected through a computer network allowing them to interact with each other to discuss specific issues is quite being encouraged. There are virtual communities of all types, among them the phenomenon that came to be known as "gray panthers", ie elderly connected to the network, it is gradually extending in countries where network technology is becoming faster and affordable.

1.2 The elderly and the new information and communications technologies.

Based on the principle that there need not be different uses of the new technologies according to certain range of age of users, we can point out the following as those offering more possibilities: means of social, cultural and recreational interaction, help, work activity and training.

One of the most significant possibilities new technologies give to the elderly is to help them overcome one of their biggest fears: loneliness; both individually and in relation to their being aloof from their relatives. Thus, the interaction is increased in cyberspace, thereby facilitating their personal and social autonomy.

From this perspective, new technologies, especially the Internet, can encourage the creation of a communication environment facilitating the development of interpersonal relationships and contact with their environment, regardless of the ability of the individuals to move or the spatial situation where they may be. This perspective undoubtedly will have repercussion in opening a new way of communication for this group of people.

These environments are favored, firstly, by the fact that technology is becoming more friendly and therefore easier to interact with, and secondly, because the environments offered are more interactive and multimedia. At the same time, the strangeness aroused till some time ago by the new technologies is gradually disappearing, so they are becoming more present in our society, as we can see by the steady increase in different ads on Internet "portals" on television or because it is increasingly more usual that the famous "www" invade the television screens and advertisements. There is no doubt whatsoever that the Internet has become normal and usual in our culture, we have already started using naturally the term "networked world".

Jumping around, and as redundancy to what has already been discussed about the association between new technologies and the elderly, we can see images of elderly in the latest ads appearing on television on Internet portals, as if to call attention to this target group.

All this is impacting for the partnerships of elderly to create web sites on the Internet, wherefrom they can provide users with information on the various activities performed by the partnership, institutional information, opportunities for exchanging experiences among subjects, and areas to talk and exchange experiences.

In the evolution of information technologies, especially computing, which are the foundation of telecommunications, we can differentiate two great stages, the first one is characterized by their significance to perform various operations as fast and reliable as possible; while the second one is backed by their recognition, influence and social use. In other words, we can say that technologies initially created as a calculating and writing tool have gradually been transformed into communication tools, so that they have stopped being tools to extend the capabilities of the intellect and have become tools to expand the physical and communicative presence of the individual. These last comments allow us to say that the new technologies, especially telematics, are above all instruments connecting people to communicate and relate to one another, thus overcoming the barriers of time and space.

1. OBJECTIVES

The main objectives of this piece of research are the following:

- Know the needs and the current situation in which the elderly are as regards their relationship of use with new technologies in a rural area²;
- Find Out what tools and habits of use / consumption they have with respect to the use of the Internet and the new technologies;
- Know what the profile is within a larger population on the use of the Internet to improve their quality of life.

To do this, we designed and conducted a questionnaire in September 2014 in order to know the Internet user profile of people aged between 65 and 75 years. A self-administered questionnaire including four closed questions and an open question was previously developed and a pretest of said questionnaire to 5 people being the age under study was previously performed.

The aim was to refine it and detect early enough errors for later dissemination. The questionnaire included a total of 5 questions. Most of them were closed (choice of answer and questions being exclusive of one other). There was an open question to know the opinion of the respondent (number 5). Overall, the survey worked well and did not require any major modifications. Only the order of some questions was modified to make them clearer and better focus the subject matter for the respondent. Since the sample was a group of people being from 65 to 75 years, a short and clear questionnaire was made to improve understanding of the questions since it was self-administered, ie the interviewer was not present when the questionnaire was answered.

3. METHODOLOGY

3.1 Structure of the Questionnaire

In total, as said above, there were 5 questions. A clear and short questionnaire to help the older public to easily answer. At the beginning, in its heading, the objectives sought in the study and the university performing that piece of research were explained. Questionnaires were totally anonymous.

² Cabezón de Pisuerga is a locality in Valladolid to the north, 12 km away from the city. A total of 4,200 people have been counted in the census, 1,410 out of them being from 65 to 75 years old and 312 being from 65 to 75 years old have a partner card and frequently go to the Home of the Elderly and the Retired; therefore, a representation of 20% of the total was gathered (62 out of the 312 people were surveyed)

The questions are listed below:
The first question seeks to know how much time is spent per day to connect to Internet. The second question seeks to know the place where the elderly gets connected. The third question seeks to know the mobile or fixed device used for connection.

The last questions, 4 and 5, sought to know the rationale for using the Internet. Question 4 was specifically about what services and information were sought through online communication. This question was fully open.

Question 5, referred, with the choice of several answers, to the current use of certain services related to new technologies such as the use of home automation, telecare (any services to facilitate the quality of daily and household life).

Finally to close the questionnaire, participation was appreciated and socio-demographic questions were included such as:

Studies conducted, current income, age and marital status of the person (household) were also consulted. Finally, a question about the hobbies of the elderly person was included.

Thus, one could relate the level of education and hobbies with Internet use, as well as the specific age at which the online channel was more regularly used.

Obviously, we must not forget that we focus on a study that takes place in a rural population. Research in the future can follow the comparative lines of use by the elderly of new technologies in an urban area compared to a rural area.

3.2 The Sample

The sample has selectively and restrictively been focused on a town in the province of Valladolid. We contacted the Association of the Elderly in the Cabezón de Pisuerga town to choose a sample of 62 elderly people (aged from 65 to 75 years) who attended the activities scheduled by the House of Culture of Cabezón Town Council. Thus, in a physical place as a branch of the House of Culture, it was reported on several occasions that the project would be carried out with the elderly.

3.3 Distribution of Questionnaire

The allocation and distribution of the questionnaire took a month (September 2014).

In July, a permit was requested to the Cabezón de Pisuerga Town Council to inform of the distribution of the questionnaire on three occasions at the House of the Elderly. Therefore, in the first week of September, he went several times to ensure an affordable and representative sample of people attending regularly and using the computer rooms in the village (at the House of the Elderly or the Retiree).

The schedule was as follows:

1. First, contact was made with the person responsible for the House of the Elderly, the Town Council and the House of Culture in that village. The contact was by phone and in person. It was conducted in July 2014;
2. When the approval by the responsible person was obtained, a date was established and set to deliver the questionnaires physically and personally at the House of the Elderly;

3. In September 2-5, 2014, the elderly were informed of the project and self-administered questionnaires were delivered.

4. In September 20-25, all questionnaires were collected and we asked about any possible incidents that could have come up;

5. Finally, the collaboration of the Town Council, the House of Culture and the House of the Elderly in Cabezón de Pisuerga was appreciated in writing, and analysis began with the statistical data obtained from the questionnaires.

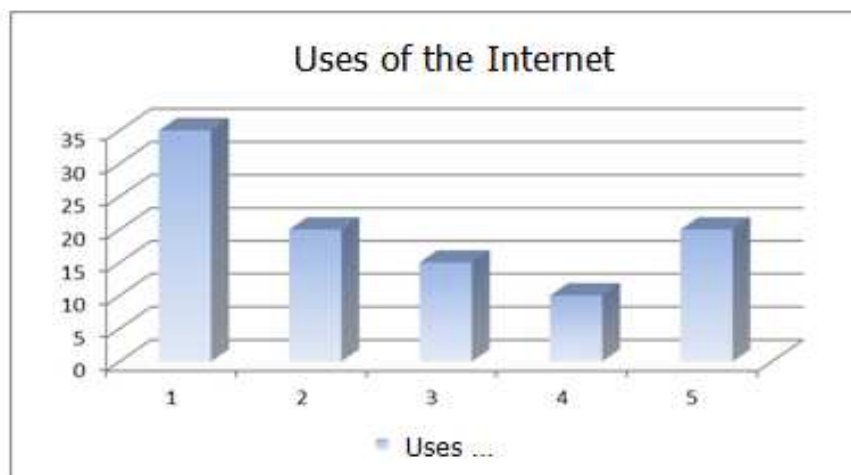
Sixty-two survey sheets of people who had come in September 2-25 to the House of the Elderly or the Retiree were collected.

4. DISCUSSION

Below are the most important results on the objectives of this piece of research:

On the uses of the Internet, most of them, 30% (value of 1) use the Internet to search for health-related and cultural information. There are similar values of 20% who mainly use it to communicate and 20% for entertainment. Finally, 10% use it for training and work and 15% for hiring and paying various services such as travels, courses and cultural works.

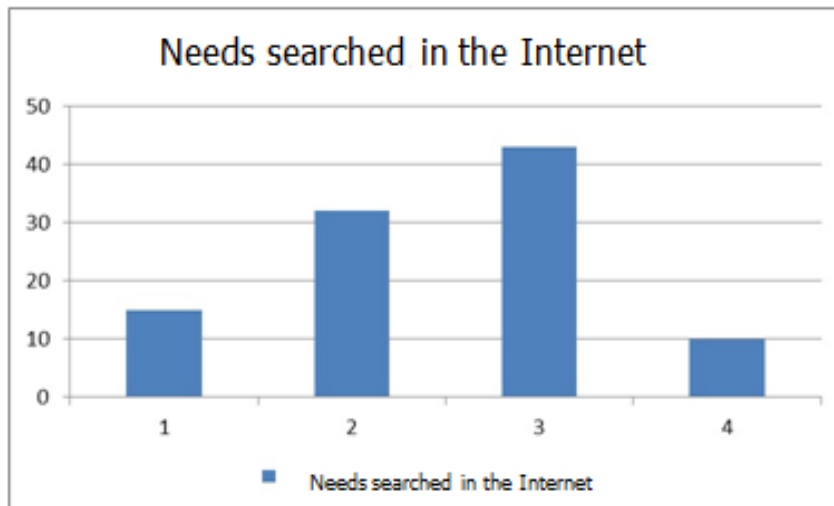
Figure 1. Uses of the Internet



Source: Own devising

As for main needs searched in this media, it is mainly observed the 43% sought services related to improving health care at a distance, 32% sought communication with family and friends, 15% read information and entertainment, and 10% sought cultural training.

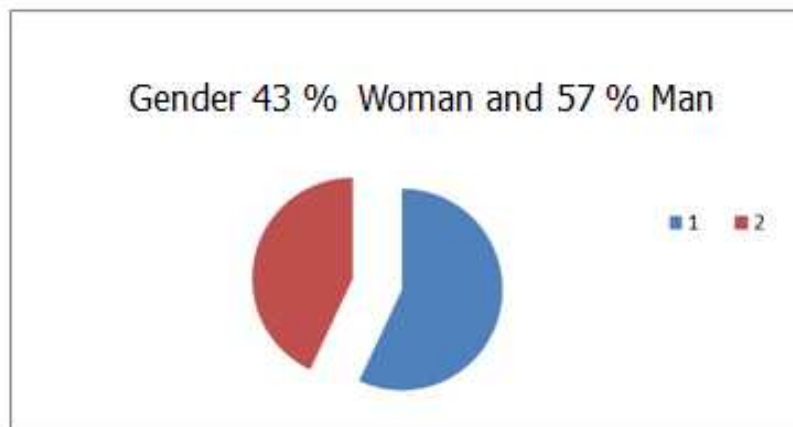
Figure 2. Needs searched in the Internet



Source: Own devising

The profile of user³ of this media is a man being from 65 to 72 years, retired with medium-low (69%) purchasing power, with elementary education (72%) and high school education (20%). Only 8% have college education. He lives with his wife (71%) and 29% of men are widowers living alone or with sons who live in the same population in Cabezón de Pisuerga. Their hobbies are mainly fishing, walking and watching TV at home.

Figure 3. Sex of respondent



Source: Own devising

As for the exposure time, ie the time spent on their network connection, 48% spend about an hour. Twenty-eight percent from one to two hours, and 24% more than two hours a day.

³ We must not forget that it is a rural population

They get connected mainly via a fixed device (89%), and the remaining group through a mobile device (only 11%). The place of connection ranges from the house of the retiree (78%) and the other 22% get connected from their home mainly through a fixed computer.

As we have read, one of the most important and essential aspects that NICT⁴ encourage is the communicative process, configuring it in the most important element during the teaching-learning act. We can define communication as the process that is developed between subjects having some kind of convention and, by using it, they exchange something, regardless of the space-time situation of each of them.

According to Montero (2000), the elderly can learn through software and media that must both take into account the personal characteristics and circumstances surrounding this sector and, of course, reconsider the educational harmony that this possibility has left aside. In this regard, we must bear in mind that we speak of a rural area and the main concern of many respondents is the need for information and health services through the Internet, ie whether counseling or medical contact often covered by home care and telecare.

When analyzing the possible relationships that can occur between new technologies and training, the first thing we must recognize is that the so-called learning throughout life is being promoted in the information society, the idea that it should be limited to a specific period of life and to specific institutions in which we acquire a set of skills allowing us to develop ourselves throughout our social and working life being discarded. In this area, as it is a non-urban population, this use and need are not as valued as if it were an urban area as in the case of Valladolid, the capital.

That is why in certain rural populations the universities for the elderly are being developed, where many of our elders are very involved in social and cultural activities.

In this aspect of training, we should not forget that new technologies have come to break the two traditional variables in which our educational system largely rests: space-time coincidence between teacher and student; and they have come to develop what is to be known as flexible and distance learning; ie learning can take place using the telematic synchronous and asynchronous communication tools. Moreover, individualized and flexible learning occurring outside the traditional context is acquiring greater importance, as it had not happened before, among other reasons because it takes as operating principle that each person has their own learning abilities and characteristics, specific learning rhythms and styles and concrete time availability.

Cabero and Barroso (1996), point out that training in the future, regardless of the educational level to which we refer, will be determined by various characteristics such as: more individualized, more flexible, resource-based, accessible, remote, and interactive.

Individualized, since education will progressively tend to respond to the specific needs of individuals, in what is being called education on demand; ie direct educational responses to requests for training made specifically by students. This will lead to our giving more meaning to the individual characteristics of subjects and to our adapting the training processes to their learning rhythms and time availability. This spirit of training will lead us to enhance teaching based on the student rather than teaching based on the teacher, the educational system of teaching will revolve around the student.

Moreover, we find that training will tend to be more flexible, because the educational offers and opportunities offered to citizens will not be limited only to the regulated and traditional instances of learning about his surroundings but, instead, a new field of possibilities will be opened up; so the citizen can choose courses and training proposals issued by training instances different from the space in which the citizen is located. This will make it possible

⁴ New Information and Communications Technologies

that training of individuals is not mediated by the quality of the centers they have around, not to mention the possibility of solving one of the problems of schools, ie the slow pace with which new discoveries and ideas come to be available to the community of those who participate there.

Additionally, this flexibility must also be understood from the possibility of extending the media with which people can interact for learning, having at their disposal from traditional media such as television and the textbook to the newest ones such as hypertext or multimedia.

5. CONCLUSIONS

The use of new technologies as a tool for aid, health care and first aid for the elderly is increasingly being boosted. In this sense, the tracking devices and application for assistance, both by telephone or by video over IP, are already known. There is to some extent a service for monitoring and health care for the person. It will not be long the day when a control unit constantly receives data on vital constants of people, thus facilitating telecare for the people for preventive medicine. From another perspective, we must not forget that one of the developments of the 21st century is home automation, ie the sector of computer science that does research on providing artificial intelligence to household appliances to improve their use by certain people like the elderly. This will allow preprogrammed refrigerators to request grocery products when we have run out of them, within a network of supermarkets and analyzing the quality-price ratio, damaged household appliances will get in direct contact with the technical services of business firms; so this type of problematic and complicated situations for the elderly and for those living alone is a considerable advantage to improve their quality of daily life.

The new technologies are generally encouraging the development of a new form of work, the so-called home working or teleworking, which will occupy an important part of the labor sector in the near future (Cabero and Barroso, 1996). Overall, teleworking means workers' relocation out of the company, work activities being carried out in their own homes, and electronic means being used for relations between workers and the company. The advantages and disadvantages that have been pointed out on labor activity are diverse, and some of the advantages are: the possibility of having workers schedule and organize their time, avoiding the costs and loss of time entailed in traveling to the workplace, organizing one's leisure time according to one's interests, savings for the company as it can reduce space and furniture needed to perform labor activities, providing certain groups such as women and people being somehow disable with an approach to the labor world, facilitating the presence of retired people in the work activity, reducing absenteeism to the company, reducing non-productive time, market flexibility regarding labor relations, and creation of new jobs. Meanwhile, some of the disadvantages are the following: social isolation of workers from reality and labor socio-community, the possibility of forcing the worker to be available to the company twenty-four hours a day, additional costs for workers who need to have minimal technological infrastructure at home and expand their particular area of housing so that they can develop their labor activity there, job insecurity for workers as they are less engaged with the company, and limitations for promotion within the company. No doubt that besides the potential of the Internet for communication and its field of action in the economic field, another major field where new technologies, especially the Internet, are expanding their spectrum is the field of culture. And, in this sense, we can begin by noting that information databases and websites on the Internet are expanding significantly. Internet is beginning to approach its real challenges of future and to be a content network. The number of websites on diverse contents is expanding unexpectedly, in the network we can possibly

find everything, but we should not confuse it with the fact that we do find it, to do so we will have not only to master the structure of network operation but also to have skills for locating information on the network; skills that, with the constant appearance of thematic and non-thematic portals, are making this activity extraordinarily easy. However, this piece of research shows that, in rural towns in the province of Valladolid as in the case of Cabezón de Pisuerga, the elderly have a greater concern for health care and contact with this sector for advice and search for information, which is why, in addition to training, entertainment and leisure, the Internet is mainly used for this purpose, which is to ensure assistance to persons living alone and in rural areas.

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