
Digital Adaptation of Polish Citizens Aged 65+

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Abstract:

Purpose: Digital adaptation of people over the age of 65 is a significant social and economic challenge in Poland. The steady increase in the number of seniors has a tremendous impact on the economy. This article points out the complex reasons behind this phenomenon, describes actions taken to date, and highlights the mistakes made while addressing this issue.

Design/Methodology/Approach: This article presents practical observations gathered by the author during research supported by demographic data illustrating the problem. A qualitative survey was also conducted to collect data.

Findings: Individuals aged 65+ are poorly prepared to use the internet. It is their children and grandchildren who help them use this medium, otherwise being beyond their reach. A lack of basic user knowledge remains the main barrier to individuals over the age of 65 willing to get engaged in meaningful interactions or make use of online services.

Practical implications: The presented results can support the change of approach and help individuals 65+ succeed with digital adaptation. Nevertheless, the government and non-governmental organizations (NGOs) should and can, as shown in the article, seize the opportunity and support people aged 65+ in using the internet.

Originality/Value: Dynamic changes observed in the social environment require innovative methods and a comprehensive approach to educating people 65+. This issue seems to be insufficiently represented in academic literature. Thus this article aims to fill this gap.

Keywords: Digital adaptation, ageism, social aspects, individuals 65+.

JEL codes: J14.

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1. Introduction

For many years Poland, same as other Member States of the European Union, has been struggling with a growing number of senior citizens - an issue which presents numerous challenges, including the digital adaptation of people aged 65+. Given its gravity, the matter has been given top priority and has been included in the provisions of the Lisbon Strategy adopted at the European Council summit in 2000.

The strategy highlighted, among others, the need for professional activation of seniors and offering them training sessions to keep them professionally active as long as possible (Pietrzyk, 2020).

The rapid development of communication technology and the digitalization of social services has rendered the problem even more urgent. However, failure to observe transition or preparatory periods has made it hard for many to adapt to the new reality, especially for the elderly.

The SARS-CoV-2 pandemic led to enforced isolation called “lockdown” (Regulation of the Minister of Health on the announcement of the state of epidemic threat on the territory of the Republic of Poland; Journal of Laws 2020, item 433, 323). Unexpected events triggered the accelerated digitalization of public services.

Since there was no time to prepare society for such a change, the group of persons unable to make full use of the advantages of the internet increased. Senior citizens, with no education possibilities in this respect, suffered the most. Apart from the public sphere, the pandemic has also accelerated the digitalization of organizations with the training materials now being supplied in an electronic form (Pietrzyk, 2022).

Bridging the digital gap with digital methods will be of no use for seniors 65+. The aspects listed above indicate the scale and the effects of this phenomenon. Digital exclusion of the elderly is another crucial element of the digital gap. Ageism, i.e., discrimination against people based on their age, is conviction-driven and is the worst of all (Gross, 2018).

The academic literature provides different terms to describe this phenomenon. Digital adaptation is described as the process of adapting to the widespread digitalization and “living in a network”, while digital exclusion or the digital gap is defined as a low adaptation degree or failure to adapt to the aforementioned changes. A clear definition of digital exclusion will let us determine the features of digital adaptation 65+.

As such, digital exclusion or digital gap is interpreted differently and there is no one widely accepted definition. This is illustrated in Table 1:

Table 1. Selected definitions of digital exclusion

Author	Source	Definition
www.oecd.org	OECD Digital Economy Outlook (2020)	Lack of access and ability to use and take advantage of information and communication technology
W.Jastrzębska, A.Jastrzębska	Digital exclusion - causes, threats, and barriers to overcome it. Case study „Nierówności społeczne a wzrost gospodarczy. Modernizacja dla spójności społeczno-ekonomicznej w czasach kryzysu”, (“Social inequalities and economic growth. Modernization for the purpose of socioeconomic cohesion in the age of crisis,”) Publishing House of the University of Rzeszów (2012), Journal 25, pp. 91-104.	The essence of digital exclusion is the division of society into those who have access to the internet and other telecommunications technologies and those deprived of such a possibility.
A.Bujak	Bujak, A. (2013). Wykluczenie cyfrowe jako szczególny przykład wykluczenia społecznego w gospodarce opartej na wiedzy. (Digital exclusion as a specific example of social exclusion in the knowledge economy) W M. Pokrzywa & S. Wilk (editor), Wykluczenie społeczne: Diagnoza, wymiary i kierunki badań (Social exclusion: diagnosis, scope and research directions), pp. 263-275. Rzeszów, Publishing House of the University of Rzeszów	Digital exclusion is associated with systemic differences in terms of access and use of modern technologies among individuals representing different educational backgrounds, remuneration levels, professional statuses, places of residence, who are at different stages in life.
M.Castells	Castells, M. (2003). The Internet Galaxy: Reflections on the Internet, Business, and Society (translated by T. Hornowski) Poznań: Rebis.	A division between persons, enterprises, institutions, regions and societies that have the material conditions and are culturally predisposed to function in a digital world, and despite all that are unable to adjust to the pace of current changes.
D.Batorski and A.Ploszaj	Batorski, D., & Płoszaj, A. (2012). Diagnoza i rekomendacje w obszarze kompetencji cyfrowych społeczeństwa i przeciwdziałania wykluczeniu cyfrowemu w kontekście zaprogramowania wsparcia w latach 2014–2020. (Diagnosis and recommendations	The term digital exclusion refers to differences between persons who have regular access to information and communications technology and make use of it, contrary to persons who don't have such access.

	<p>concerning digital competencies of the society and counteracting digital exclusion in the context of planning support for the years 2014-2020.) Warsaw: The Ministry of Regional Development.</p>	
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Source: Authors' analysis.

Following D. Batorski's definition digital adoption may be regarded as regular access to information and communications technology and the ability to use it efficiently.

The definitions presented above give a different perspective on digital exclusion and related consequences. Moreover, primary sources distinguish between different levels of digital exclusion or digital adaptation depending on internet/tools availability, internet literacy, and willingness to use it.

Yet, for the purpose of this article, the main focus will be placed on the group of persons over the age of 65. Aging is the main factor determining the scale of digital adaptation as the age of citizens plays a key role in terms of the availability of and access to digital services. However, there are also other elements as presented in Figure 1.

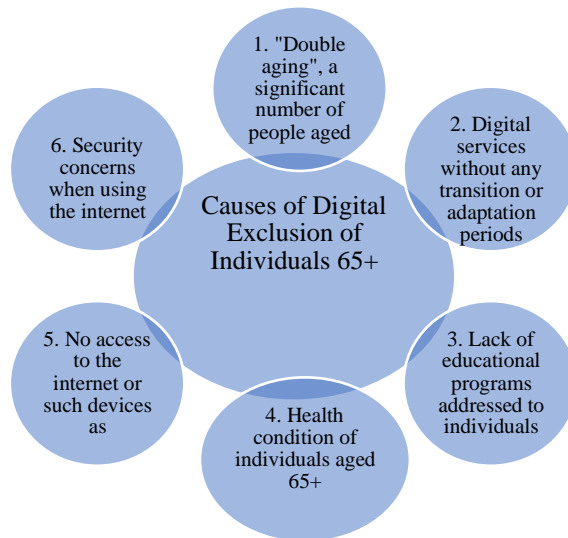
2. Demographic Changes in Poland

Demographic changes in Poland are called “double aging” which indicates a rapid rise in the number of persons aged 80 and over in the general population of seniors who are becoming a growing social and economic challenge (Program Wieloletni 2020:6).

According to the data of the Statistics Poland, as at 31 March 2021 the population of Poland reached 38.36 million, with 9.7 million persons aged 60 and over representing 25.7% of all Polish citizens (www.stat.gov.pl accessed in August 2023). The current trend is expected to continue. Given an unfavorable demographical structure, the number of persons aged 60+ is projected to exceed 10.8 million by 2030.

Another growing phenomenon is the so-called “feminization of aging” which occurs when in a group of persons aged 60+ the population of women constitutes 58%. This stems from a higher mortality rate among men and intensifies in older age groups (Program Wieloletni, 2020). “Singularization of aging” comes next. This term is used to define a growing percentage of single-person households. Based on the forecasts of the Statistics Poland, in 2030 as much as 53.3% of households will be headed by persons aged 65 and over (Program Wieloletni, 2020). Statistical data illustrate the scale of the problem.

Figure 1. Selected factors influencing the digital adaptation of persons over the age of 65.



Source: Own analysis.

The implementation of Industry 4.0 has increased the dynamics of technological developments. The term Industry 4.0 mainly refers to the application of digitalization, technological innovations, and robotic technology (Wpływ przemysłu 4.0. 2018).

In Poland, the philosophy of Industry 4.0 is becoming increasingly popular. Its unquestionable efficiency, confirmed with hard data, shows an increase in the productivity of enterprises that have implemented the smart manufacturing policy. Demographical changes, which negatively affect the acquisition of qualified personnel, are also of great significance (Klimek, 2019). The said economic trend triggers changes in the services sector and impacts the quality of life.

Nevertheless, the implementation of digitalization with no time planned for its adaptation is another reason for a growing digital exclusion. The government's decision to take unprecedented steps and introduce special legal regulations in 2020 was a response to enforced isolation (lockdown) meant to protect human health and life. But even now, solutions that are being implemented do not seem to consider the needs and limitations of senior citizens.

For instance, recently the Polish Commissioner for Human Rights inquired the Polish Ministry of Family and Social Policy about the obligation arising from the amendments to the act on the social insurance system adopted on 24 June 2021 which entailed adding articles 47b and 47c.

Under the said articles a payer of social insurance contributions is obliged to open an information profile on a platform of the Polish Social Insurance Institution (ZUS). Many persons aged 60 and over are unable to meet this obligation. What is more, the requirement to have a ZUS profile does not solve the problem of its accessibility.

At the same time, the Expert's Commission on the Elderly attached to the Commissioner for Human Rights issued an opinion on the changed regulations regarding obligatory digital reporting and tax settlements for non-governmental organizations. The Polish Commissioner for Human Rights highlights that a large number of such organizations provide support to persons aged 60 and over, the majority of whom lack digital competencies.

This problem concerns, among others: Rural Homemakers' Clubs, Universities of the Third Age etc. The said act introduces the obligation to use an electronic signature which, apart from being an obvious barrier for persons who lack such competencies (leaders of such organizations are aged 65+), entails an additional cost. The Polish Commissioner for Human Rights underlines the inconsistency of the aforementioned legislation with the acts of 4 April 2019 on digital accessibility of websites and mobile applications of public entities and the act of 19 July 2019 on providing accessibility to people with special needs.

Despite many measures taken with the aim of educating persons 65+ and improving their digital competencies, the problem still remains valid. Digital competencies are defined as “a set of skills conditioning an efficient use of electronic media that include the ability to use electric devices, software and a range of diverse applications (IT literacy), as well as the ability to search for necessary information in different sources, both electronic and traditional, so as to process them and use as intended (information competencies)” (Batorski, 2020).

The gravity of the problem is illustrated by figures of the Statistics Poland and the National Media Institute (kim.gov.pl). Nearly half of persons aged 60-74 use the internet at least once a week. In 2021 the percentage of persons representing the 60-74 age group with basic or lower-secondary education who regularly used the internet reached 21.4%, the respective numbers for persons with upper-secondary and higher education being 50.3% and 91.3%. In the past 3 months seniors were most likely to access the internet via smartphones (44.6%) and laptops (32.1%) (www.stat.gov, 2023).

The government has launched a number of state educational programs to address this area, e.g., Program Wieloletni na rzecz Osób Starszych AKTYWNI+ na lata 2021-2025 (Long-Term Program for the Elderly: ACTIVE+ for the years 2021-2025), the Ministry of Family, Labour and Social Policy, or the previous program ASOS for the years 2012-2013 and 2014-2020. In addition, many state authorities, such as the Polish Financial Supervision Authority, organize dedicated training sessions related

to their areas of expertise. CEDUR 2023 webinars on cybersecurity, financial frauds committed online, with a particular focus on mobile devices. (knf.gov.pl)

Nevertheless, such initiatives do not solve the problem of digital adaptation. If a senior person does not use electronic media, naturally they are not able to take part in a webinar held online. No precise data on the number of participants are available.

There is no doubt that non-governmental organizations, foundations, Universities of the Third Age, Rural Homemakers' Clubs, and local cultural centers play a central role in the lives of persons aged 65+.

A good example is a project called "Seniors in the web" organized in 2022 and 2023 under the Countering Disinformation among Vulnerable Populations in Central Europe program which provides funds for training sessions for local communities. Yet, in order to take part seniors need to have basic digital skills which excludes many persons aged 65+ at the very start. Despite numerous educational initiatives, there is still space for more. A comprehensive approach to the issue is what is needed the most.

According to the figures of the Statistics Poland from 31 December 2021, out of a group of 130 701 persons aged 60+ who joined activity clubs, sections, community, and cultural centers, only 1349 attended IT classes, which accounted for 1.031% (Stat.Gov.Pl 2023:62). The data refer to seniors who enrolled in activities offered by local organizations. It should be stressed, though, that the total number of persons aged 60 and over in Poland amounts to 9.7 million. Such comparison indicates that merely 0.0139% of Polish seniors take part in such classes (seniorzy.pl 2023).

Physical and mental health may constitute another barrier to digital adaptation for persons 65+, which results from changes that occur with aging. The said changes include both physical factors such as impaired vision, loss of hand dexterity, back-related ailments, and mental ones such as neurodegenerative changes, e.g. dementia preventing the acquisition of digital competencies.

A fear of using the internet is a separate category. Here, the lack of knowledge about its safe use might be the source of the issue that could be solved through proper education.

It is also crucial to adjust software interfaces and computer devices to the needs of the elderly (bigger font and simplicity). This aspect has been regulated by the legislator based on the Web Content Accessibility Guidelines (WCAG ver. 1). The said document provides recommendations for the development of websites and mobile applications to make them accessible for persons with visual or hearing impairment, physical or intellectual disabilities.

Websites and mobile applications developed in line with the WCAG are called digitally accessible. By law, public institutions (ministers, offices and local governments, schools and universities, hospitals, online services for citizens) were obliged to adjust their websites and applications to the needs of persons with disabilities by 23 September 2020 (zis.gov.pl 2023).

Lack of financial resources to purchase electronic devices and thus being able to use the internet, and to pay for the internet connection is another barrier to digital adaptation. Data furnished by the Statistics Poland indicate a drop in the purchasing power of households in the past years. This stems from increased inflation, which in Poland reached the level of 15%, with salaries and social benefits remaining intact.

Average monthly disposable income per capita in a household, with at least one person aged 60 and over, amounted to PLN 2017 and increased by 8.0% compared to the previous year. Average monthly expenditure per capita in those households reached PLN 1285, i.e., increased by 8.9% compared to the year 2020 (Stat.Gov.Pl 2023:32). Moreover, persons 65+ have felt the impact of rising energy, food, and private health care prices in particular. In such circumstances, internet expenses become a low priority.

Digital adaptation of persons 65+ is a complex issue, with the main cause being rapid changes inherent in the aging process of Polish society.

3. The Consequences of Poor Digital Adaptation

Let's take a closer look at the consequences of poor digital adaptation among individuals aged 65+, which can lead to significant consequences, both for individuals and for society as a whole. Lack of access to digital processes can exacerbate social inequalities as elder individuals who do not use technology have limited access to educational, professional, and cultural opportunities available online.

Modern services such as online banking, shopping, or scheduling medical appointments are becoming increasingly popular. Seniors without access to these services may encounter difficulties in handling everyday matters.

The lack of digital banking skills can lead to difficulties in managing personal finances, paying bills, or budgeting. Online banking services are often cheaper or free of charge.

The internet is a primary source of information on health, education, news, and many other areas. Senior individuals who do not use the internet may have limited access to such information, which can affect their ability to make informed decisions.

Elder individuals who do not use the internet may experience social isolation. In today's society, many social interactions and family contacts occur online, and missing out on these activities can lead to loneliness.

Seniors who continue to be engaged in professional activity or wish to acquire new skills may face difficulties in finding employment or advancing in their careers if they lack digital skills.

Minimal use of laptops and smartphones also significantly limits the opportunities for two-way communication with the external world using ICT (Information and Communications Technology).

On the other hand, the ongoing digitization of services, including social services, is geared towards the utilization of the latest technologies, where access to the internet through a smartphone is considered a necessary minimum (Czarnecka, Kelm, and Koczur, 2023). This leads to a limited use of the internet where two-way interaction is not required.

Figure 2. *The consequences of the lack of digital adaptation for individuals aged 65 and older*



Source: Own analysis.

Therefore, it is important to take action to reduce digital exclusion among individuals aged 65 and older, including digital education, technical support, and access to digital tools. This can help seniors participate more fully in social life and take advantage of the benefits that digitalization offers.

4. Digital Adaptation Among Individuals Aged 65+

In August 2023, a study was conducted on digital adaptation among individuals aged 65+. The study took place at the Managerial Academy of Applied Sciences in

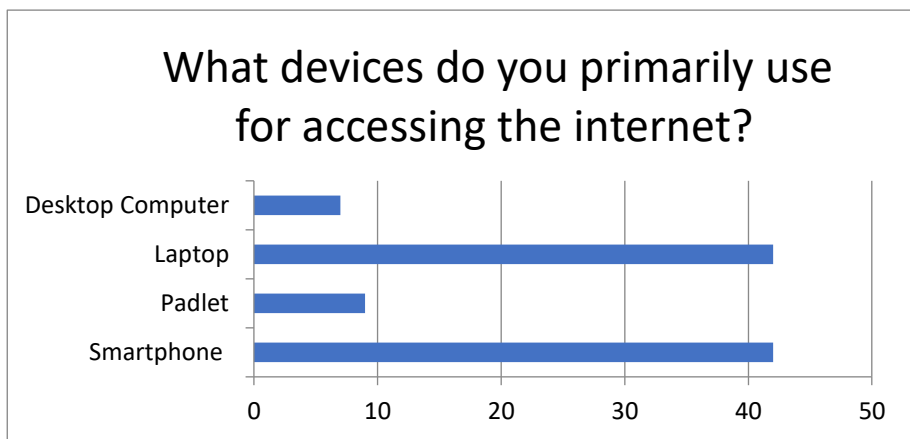
Warsaw among students of the University of the Third Age. The survey was conducted among a group of n=30 respondents who were participating in activities offered by the University of the Third Age.

The study aimed to examine how individuals aged 65+ utilize the internet. The study sample included only those individuals who use the internet, so it may not fully represent the scale of digital exclusion among the elderly population.

Additionally, there was an overrepresentation of women in the group, making up 75% of the participants (“feminization of aging”).

The first question concerned the type of devices primarily used for accessing the internet. Smartphones and laptops turned out to be the most popular yet not the most user-friendly device for persons 65+.

Figure 4. What devices do you primarily use to access the internet?

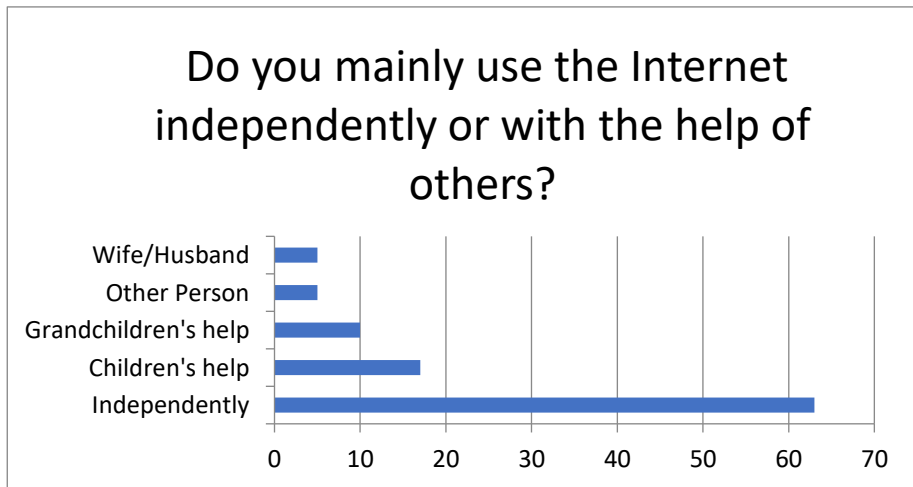


Source: Own analysis q 1.

Padlets came second as they offer a whole range of possibilities. Desktop computers are not popular at all, probably due to their inconvenience. Generally, individuals 65+ are equipped with modern devices to use the internet.

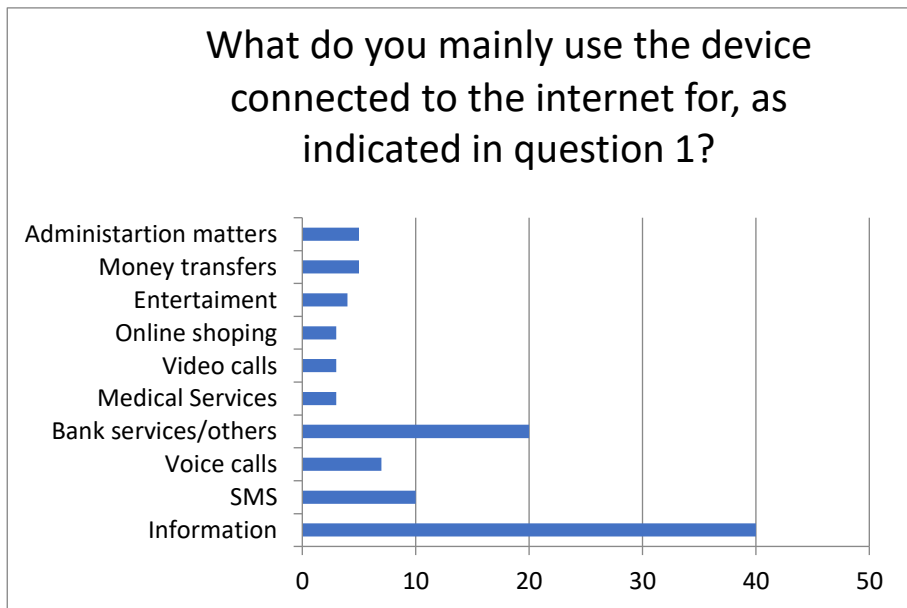
People 65+ declare that they use the internet independently, however, at times they need a little help with updating the software or more demanding operations. Generally, they do not look for assistance in institutions. Seniors who may not turn for help to their children or grandchildren face many obstacles while using the internet. Only one respondent admitted asking his wife for help with the internet.

Figure 5. Do you mainly use the internet independently or with the help of others?



Source: Own elaboration q 2.

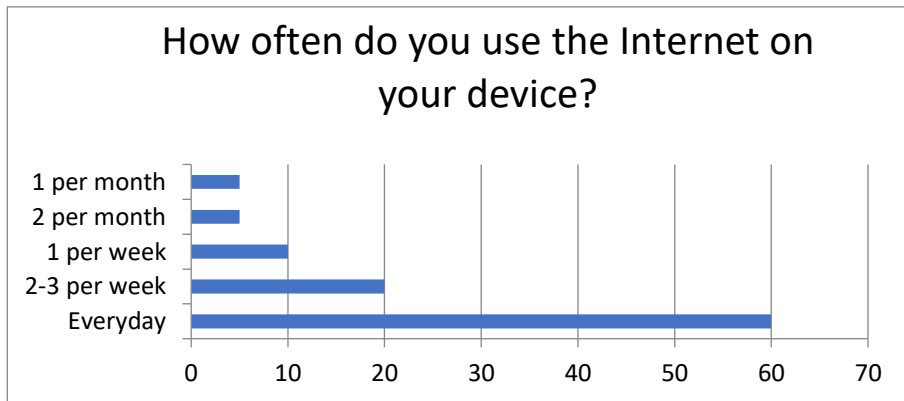
Figure 6. What do you mainly use the device connected to the internet for, as indicated in q. 1 ?



Source: Own elaboration q 3.

Individuals aged 65+ mainly use the internet to search for information. It also happens that they are forced to use online banking and some other services as in some cases it is the only way to do that. Interestingly enough, the internet is also regarded as a source of entertainment and a communication platform. Generally, seniors tend to avoid situations where any type of interaction is required.

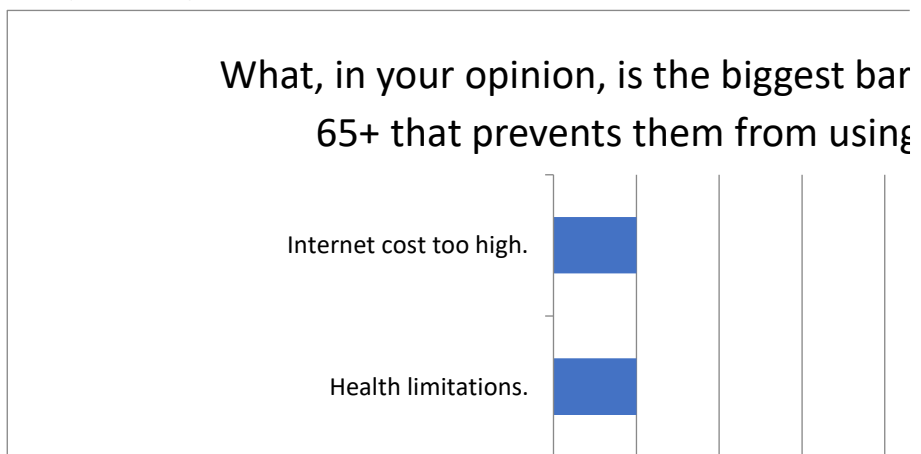
Figure 7. How often do you use the internet on your device?



Source: Own analysis q 4.

Most people aged 65+ use the internet every day, which has become their daily routine. They are looking for information and entertainment. At the opposite extreme are seniors who use the internet very rarely, to make money transfers only (1-2 per month).

Figure 8. What, in your opinion, is the biggest barrier for people aged 65+ that prevents them from using the internet?



Source: Own analysis q 9.

The biggest barrier for people aged 65+ that prevents them from using the internet is a lack of knowledge of how to safely navigate through the web. Health limitations also appear as a significant hindrance. Only one respondent admitted that he couldn't afford the internet.

Education of seniors aged 65 and over should be the key element in attempts to bridge the digital gap. It would also boost their confidence online (94% of the respondents are aware of cybercrime). On the other hand, only 31% of survey participants found a training course dedicated to that subject. What is important, 65% declared they would join such a course.

5. Conclusions

Access to the internet and the internet itself has been regarded as a civilizational achievement, an attribute of a member of a democratic modern society. Nowadays seniors aged 60 and over face the risk of various types of social exclusion, and digital technologies should not be added to this list (Rak, Petrowicz, and Pokojka, 2016).

Digital exclusion of individuals aged 65+ leads to multiple social and economic consequences. However, previous efforts, despite many successes, have not adequately addressed the real needs. As already mentioned, only 0.0139% of this age group receives systematic education in this area. Several dependencies are also noted. Seniors are interested in gaining new skills and expanding their knowledge but the training offer is either limited or not accessible at all.

The "feminization of aging" is an important factor, pushing women to be more interested in acquiring new competencies and using the benefits of the internet. It is also important to note that seniors, without the support of their children or grandchildren, would practically not be able to use the internet on their own. This highlights another significant problem, namely loneliness experienced by the elderly. Left on their own, with no support from close family members, senior citizens are unable to use the internet even for communication purposes.

In Poland, the problem of digital exclusion of individuals aged 65+ has been on the rise for some time now and requires further research and monitoring.

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