

Opportunities and challenges for older people in the digital society¹

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Abstract: *As society advances into the digital age, digital literacy and skills have become essential in expanding individuals' access to information, knowledge, and social services, while also fostering greater social interaction and engagement. Drawing on a synthesis and analysis of relevant literature, this paper underscores that the rapid development of digital technologies presents significant opportunities for older people to improve their quality of life. Nonetheless, it also poses considerable challenges, as older adults remain among the groups most at risk of exclusion in the digital era. Therefore, formulating policies and programs to strengthen digital capabilities and literacy among the elderly is of great importance, contributing to their inclusion and development within the digital society.*

Keywords: Older People, Population Aging, Digital Society, Digital Transformation

1. Introduction

According to the United Nations report (2020), the global population aged 65 and older was estimated at approximately 727 million in 2020. This demographic is projected to increase from 9.3% in 2020 to 16.0% by 2050, surpassing 1.5 billion individuals, with women accounting for 55% of this group. By the mid-21st century, one in every six people worldwide will be aged 65 or older.

Preparing for an aging population is of paramount importance in achieving goals of the 2030 Agenda for Sustainable Development, as demographic aging is intricately linked with key sustainable development objectives such as hunger alleviation and poverty eradication, good health and well-being, gender equality, economic growth and sustained employment, as well as the reduction of inequalities. In the report *Aging, Older Persons and the 2030 Agenda for Sustainable Development*, Dugarova (2017) emphasizes that addressing the isolation and vulnerability experienced by older adults requires more than merely identifying them as a vulnerable group. Rather, older

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persons must be recognized as active agents of social development in order to achieve genuine, inclusive transformation and sustainable development. Population aging offers significant opportunities for sustainable development, particularly when older generations are actively engaged in the economy, labor markets, and broader society. With their wealth of experience, knowledge, and skills, older adults make substantial contributions to economic growth, unpaid caregiving, civic participation, and community governance. Nonetheless, alongside these opportunities, demographic aging also poses considerable challenges for governments, societies, and older individuals themselves, thereby demanding urgent policy responses and forward-looking policy measures to prepare nations to effectively address these challenges.

In Vietnam, data from the 2019 Population and Housing Census indicates that as of April 1, 2019, there were 11.41 million older persons, accounting for 11.86% of the total population (National Statistics Office, 2021). Between 2019 and 2021, the number of older people in Vietnam increased by 1.17 million, bringing the total to 12.58 million, or 12.8% of the population (National Statistics Office & UNFPA, 2021). Vietnam is currently one of the countries experiencing the fastest rates of population aging in the world. According to the National Statistics Office (2020), Vietnam is projected to transition from an aging phase to an aged society by 2036, when people aged 65 and over are expected to constitute 14.2% of the population. This aged phase is anticipated to last from 2036 to 2055, after which Vietnam is likely to enter a super-aged

phase, in which individuals aged 65 and above will comprise 21% or more of the total population.

In response to the rapid population aging, Vietnam has issued Decision No. 383/QĐ-TTg, dated February 21, 2025, by the Prime Minister, approving the National Strategy for Older Persons until 2035, with a vision toward 2045. This strategy acknowledges older persons as a crucial force in both social and national development. Accordingly, it underscores the need to support, protect, and empower older persons in their roles, ensuring a balance between their rights and responsibilities. The strategy also emphasizes improving their quality of life and leveraging new technologies to enhance service quality, in response to the growing needs of this population group.

A digital society is a progressive one, characterized by the application and integration of information technology into all aspects of life. In this context, digital competence and literacy are vital for human development broadly, and for older adults in particular. Due to age- and health-related factors, older persons often face greater challenges in gaining physical access to social services and maintaining social connections. Digital literacy can offer older adults enhanced opportunities to expand their knowledge, access healthcare, engage in social life, and sustain interpersonal relationships. However, limited digital competence remains a significant barrier that prevents many older persons from fully utilizing digital technologies to improve their quality of life, especially in accessing information, knowledge, social services, and participating in community life. Moreover, limited digital competence may

expose older individuals to various risks in using digital technologies, such as cyber fraud. Drawing on a literature review, this article explores the emerging issues, both opportunities and challenges, faced by older adults, with a particular focus on digital competence and literacy in the context of the growing influence of information technology on contemporary society.

2. Emerging issues for older adults in the digital society

2.1. Digital advancements offer new opportunities for older adults, yet also risk leaving them behind

In the digital era, older adults are presented with numerous opportunities and benefits arising from the rapid advancement of digital technologies. However, they are also considered a social group at risk of being left behind in the wake of digital progress. According to the report *Ageing in a digital world - From vulnerable to valuable* by the International Telecommunication Union (2021), while communication and information technologies hold significant potential for mitigating economic and social inequalities faced by older adults, they may also exacerbate existing disparities and create new forms of inequality. Therefore, it is essential for stakeholders, particularly governments, to ensure that public policies effectively leverage the positive potential of new technologies as tools that can promote opportunities to encourage the active participation of older adults in all aspects of daily life. In this context, digital inclusion becomes a crucial driver for enhancing both economic and social engagement within the information society, particularly for older adults.

According to H. J. Yoo (2020), as the global population becomes increasingly

interconnected through the internet and mobile devices, older adults are progressively adopting internet-based services, including education, healthcare, finance, and communication. Despite the growing integration of digital technologies into their lives, older adults continue to face unique challenges resulting from age-related changes. These barriers hinder their ability to keep pace with rapid technological advancements. Therefore, it is essential to establish a high-quality learning environment that empowers older adults to lead more effective and meaningful lives through the use of mobile devices.

Köttl and Mannheim (2020) highlight that, in a rapidly digitalizing society, equal opportunities for accessing and using digital technologies are critical for social inclusion and active participation. However, older people often internalize strong biases about their ability to use and learn digital technologies. These age-related stereotypes can pose significant barriers to the adoption and effective application of these technologies. Ageism affects the design, implementation, and utilization of digital technologies. In the digital context, ageism manifests at three levels: macro (design and policy), meso (social and organizational environments), and micro (individual), with each level interacting and influencing the others. Therefore, it is essential to review our understanding of the digital technologies that older adults desire and need, their capacity to engage with these tools, and the extent to which they are meaningfully included and empowered in the design of both digital technologies and related policies. To enhance digital literacy and foster the adoption of digital technologies among older adults, policy

interventions should prioritize eliminating age-related biases and discrimination, rather than viewing aging as an obstacle to digital engagement.

To fully leverage the benefits of digital technology for human development, individuals must possess digital literacy. However, older people face considerable disadvantages in this regard due to factors such as limited exposure to technology, changes in cognitive abilities, physical challenges associated with aging, and concerns about adopting new technologies. Furthermore, older persons generally have less experience with modern technologies and communication platforms, as their personal and professional lives have not involved much use of digital facilities. Although the trend of Internet usage among older adults is increasing in many countries, a significant gap remains compared to younger generations (Eurostat, 2023). The digital divide between generations is largely attributed to older adults' limited knowledge and ability to effectively utilize digital devices (Castilla et al., 2018).

2.2. Enhancing digital literacy and competence plays a crucial role in improving the quality of life and fostering the development of older people in the digital age

Kim et al. (2022) argue that modern society is undergoing profound transformations driven by the Fourth Industrial Revolution. The rapid shift toward an information society has exposed the digital vulnerability of older people, largely due to limited digital literacy - a key competency for navigating the information society. This limitation has become a significant barrier for older adults, who already face challenges in accessing

information and using digital devices. Based on a survey of older adults in South Korea on the impact of digital literacy on life satisfaction while accounting for both depression and social participation, Kim et al. (2022) reveal that depression mediates the relationship between digital literacy and life satisfaction. In this relationship, this mediating effect diminishes as social participation increases. These findings highlight the importance of both digital literacy and social engagement in enhancing older adults' well-being. Therefore, it is essential to design educational programs for digital literacy that improve older people's ability to use digital devices and foster their continued social engagement. Such initiatives provide a foundation for addressing issues such as the digital divide and digital inequality through welfare programs for the elderly and policies that enhance their personal competence and empowerment.

Jang and Je (2022) emphasize that digital media literacy is positively associated with quality of life and health-promoting behaviors among older adults, particularly in exceptional circumstances such as the Covid-19 pandemic. In contrast, loneliness is negatively correlated with these two factors. Furthermore, quality of life is positively linked with health-promoting behaviors. As such, it is essential to implement digital literacy education programs for older people in the future, aimed at reducing the loneliness, enhancing their quality of life, and improving health care behaviors.

Digital literacy education programs enable older adults to access online welfare services, thereby strengthening their social support, self-esteem, and overall well-

being. Lee et al. (2022) assess the impact of digital literacy education on the use of digital devices among older persons (aged 65 and above) living in rural areas, as well as its influence on depression, happiness, quality of life, self-efficacy, and cognitive function. Their findings indicate a significant increase in smartphone and video usage among participants in the digital literacy program compared to those in the control group. Moreover, there is a marked improvement in happiness and cognitive function scores, particularly in dementia screening, following the training. Overall, the digital literacy program substantially enhances the participants' proficiency in smartphone usage, video-recording skills, levels of happiness, and cognitive performance. Based on these findings, the authors recommend that the government implement digital literacy programs for older persons in rural areas to promote their well-being and cognitive abilities.

2.3. Although digital literacy is increasingly recognized as a vital skill and plays a crucial role in the lives of older adults, their practical competence in this area remains significantly limited

In the report on the digital divide and challenges to digital equity, the Alliance for Digital Equality (2021) defines the digital divide as the disparity in access to digital technologies¹. The “digital divide” refers to the gap between those who are able to benefit from these technologies and those who are not. This gap contributes

¹ In the authors' study, the digital divide is defined as the disparity in access to digital technologies. It refers to the gap between those who are able to benefit from digital technologies and those who are not.

to economic, educational, and social inequalities. Drawing on research conducted in Massachusetts (USA), the report identifies certain social groups - particularly older people - as being disproportionately disadvantaged by the digital divide. It demonstrates four primary barriers to digital equity, including the lack of internet connectivity, lack of devices, insufficient digital literacy, and inadequate policy frameworks. Among these barriers, limited digital literacy poses the greatest challenge for older adults.

Despite a gradual increase in internet usage among older adults, their overall digital engagement remains significantly lower than that of younger generations. Asteriou and Gkeka (2023) report that in 2017, more than two-fifths (44%) of individuals aged 65-74 in the EU-27 has never used a computer - a figure that showed little improvement by 2019. The proportion of older people possessing digital skills remains notably low. In 2019, approximately one-third (31%) of the EU-27 adult population demonstrated digital skills above a basic level. However, the corresponding figures for older adults were markedly lower, with only 16% of individuals aged 55-64 and just 7% of those aged 65-74 reaching this threshold. Older adults continue to engage less frequently in internet activities such as emailing, video or voice calls, information searching, and online banking. Although online shopping is gaining popularity among this demographic, its overall adoption remains limited. The study also highlights that older women tend to exhibit lower levels of digital literacy compared to their male counterparts.

According to Schreurs et al. (2017), although older people have demonstrated

a growing tendency to adopt information technology and contemporary media, they still lag behind in terms of digital engagement. Through surveys and interviews with older adults, the study examined how this demographic perceives their own digital skills, barriers to their digital literacy, social support systems available to them, and institutions they rely on for assistive technology. The findings reveal that older persons perceive age as a significant factor affecting their adoption of technology and indicate differences in how they and younger generations use technology. A lack of skills, social support, and institutional frameworks are identified as key barriers preventing older people from accumulating experience and adapting to technological advancements.

In recent years, several studies have focused on older adults in Vietnam in the context of the development of digital technologies. Do Van Hung et al. (2023) adopt UNESCO's theoretical framework on information literacy to conduct surveys and assess the information competence of older persons, identifying and evaluating factors influencing the development of their information literacy. The study highlights several factors affecting the information competence of older adults, including technological factors, educational attainment, occupation, age, gender, as well as attitudes and perceptions within this demographic. In an effort to understand the adaptability of older people to digital technologies in Vietnam, Nguyen Huu Hoang (2022) examines various aspects of their technological adaptation and their attitudes toward the role of digital technologies in daily life. Data analysis reveals that over 81% of older adults used

modern digital devices, with this rate declining as age increased. However, they are less likely to access and use digital health applications - except those related to Covid-19 prevention. They demonstrate flexible adaptability and enthusiasm for "reading online newspapers", "livestreaming public discussions", and "accessing online entertainment such as films and music". While expanding their digital platforms, they continue to value real-world activities and in-person social interactions. Significantly, 86.6% of older people supports the application of digital technologies to improve quality of life and expressed a positive view of its role in everyday life (Nguyen Huu Hoang, 2022). Nguyen Huu Hoang (2023) also emphasizes that older adults gradually become familiar with and adapt to the use of information technology applications during the Covid-19 pandemic. Applications such as mobile phone calls, internet access, and social networks see increasing adoption by older adults, who consider them essential tools for coping with negative psychological states, such as sadness and anxiety, alongside other mechanisms during the pandemic. Notably, older adults are less likely to use applications and software designed, recommended, or mandated by the government to protect and maintain public and personal health. The study further highlights that the primary barrier to older people's access to and utilization of information technology during the pandemic is their lack of familiarity with these digital tools. Nevertheless, older persons have demonstrated a positive attitude toward continued engagement with, use of, and exploration of the conveniences offered by information technology, both

during and after the pandemic (Nguyen Huu Hoang, 2023). Several factors, particularly demographic ones, affect older adults' adaptability in the digital society. A study by Nguyen Thi Xuan Hoa et al. (2022) highlights that factors such as age, living standards, educational attainment, and place of residence are among the most significant determinants of the digital divide and the digital adaptability of older people. The study further reveals that older adults in Vietnam maintain a positive attitude toward the digital environment. However, the lack of government policies and limited attention from media service providers have hindered older adults' inclusion in the digital society and their access to or utilization of online services.

2.4. Given the importance of digital literacy to the lives and development of older adults, many countries have implemented initiatives and measures to promote digital literacy within this demographic

As information and services increasingly shift to cloud-based platforms, a growing number of older people are expected to utilize internet-based services such as healthcare, education, finance, and others. Therefore, it is crucial to develop models and strategies that facilitate older adults' acquisition and enhancement of digital skills. Improving digital literacy for this specific demographic requires targeted efforts and support. Numerous countries worldwide, including the United States, the United Kingdom, Australia, Canada, Japan, South Korea, and Singapore, have implemented programs and initiatives aimed at promoting digital literacy among older adults. Martínez-Alcalá et al. (2018) introduce a digital literacy support tool

for older adults, which contributes to significant improvements in their digital literacy levels. Positive results concerning ease of use, perceived usefulness, attitudes toward usage, and intention to use indicate that older persons regard this support tool as effective in enhancing their digital competence. These findings suggest that older adults are capable of learning and acquiring digital literacy skills, provided they are strongly motivated or aware of the functional benefits associated with information technology. Hutchet and Pötz (2020) discuss results of a contextual analysis of the needs and preferences of older people regarding training courses in digital literacy, digital communication, and media literacy across four European countries (Bulgaria, Germany, Greece, and Italy). The findings are analyzed in light of the increasing complexity of misinformation and challenges it poses to both society, democratic systems, and various digital divides. This study provides an overview of cognitive needs and preferences for digital and media literacy training for older adults, reflecting the perspectives from both experts and the older adults themselves. Furthermore, several existing training initiatives targeting various age groups are being analyzed to identify best practices and key recommendations for implementing intergenerational training programs in digital and media literacy. The analysis also reveals a shared concern across age groups regarding digital proficiency and curiosity about misinformation, as well as strategies for addressing it. The findings highlight that while numerous initiatives aim to enhance digital literacy, they often prioritize younger generations. In

regions where older adults are included in training programs, most initiatives focus on digital skills for using digital devices and the Internet, yet few foster the ability to critically understand and interact with online content (Hutchet & Pötz, 2020).

According to Moore and Hancock (2022), older adults are particularly affected by online misinformation, likely due to their comparatively lower levels of digital literacy relative to younger people. Several interventions have targeted this demographic to improve their digital literacy. Moore and Hancock (2022) report the results of a digital literacy intervention implemented for older adults during the 2020 U.S. election. The intervention consists of a series of guided, interactive modules aimed at teaching older users concepts and skills necessary to identify online misinformation. The findings reveals that participants who receives the intervention have demonstrated a significant improvement in their ability to distinguish between real and fake news, whereas those who do not participate in the intervention have showed no such improvement. Moreover, older persons who take part in the intervention are more likely to apply effective strategies for detecting online misinformation, both in comparison to their pre-intervention performance and to the control group (Moore & Hancock, 2022). These findings underscore the critical importance of promoting digital literacy among older people in the digital age.

3. Conclusion

In the context of the ongoing and rapid global shift toward a digital society, enhancing digital skills and literacy presents significant opportunities for

older persons to access information, maintain social connections, alleviate isolation and loneliness, and improve access to public services - particularly healthcare. However, many older adults face numerous challenges in adapting to the digital society, which may result in their exclusion. Addressing this issue requires countries to implement supportive policies and targeted interventions aimed at strengthening digital skills and literacy among older adults, thereby enabling them to engage confidently, proactively, and effectively in the digital environment. In Vietnam, where digital transformation is swiftly progressing amidst a rapid population aging, there is an urgent need for in-depth research into challenges, opportunities, and adaptive capacities of older people in the digital age. In addition, Vietnam should develop programs and initiatives aimed at enhancing tailored, age-friendly digital literacy and skills to bridge the digital divide between older adults and younger generations. Such efforts contribute to promoting digital equality, ensuring that all individuals, including older adults, can fully benefit from achievements of digital technologies and the digital transformation □

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