

Study on the improvement path of rural gradient elderly services from the perspective of digital inclusion

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Abstract. In the process of building a demonstration zone of common prosperity, the "digital divide" and "digital dilemma" faced by the elderly deserve attention. In order to fully realize common prosperity, rural elderly services cannot be neglected, and the importance and necessity of digital inclusion has become more and more prominent. By clarifying the concepts and connotations of digital divide and digital inclusion, analyzing the digital divide encountered by the elderly in rural life, and taking digital inclusion as the starting point, we propose concrete measures to expand and deepen the smart senior care products and services, strengthen data linkage, and retain "non-digital" senior care services to create a digital senior care service scenario for the rural elderly. We propose specific measures to expand and deepen smart elderly care products and services, strengthen data linkage and retain "non-digital" elderly care services, in order to provide reference for future research.

Keywords. Digital inclusion, rural gradient senior care service, improvement path.

According to the data of the 7th National Population Census, the proportion of elderly people has increased from 18.7% to 27.1% in the past 20 years since the ageing society began in 2000, far exceeding the international standard of 10%, and the degree of aging is getting deeper. For example, during the epidemic prevention and control period, some elderly people were unable to use their smartphones to display their health codes, making it difficult for them to travel. According to the 47th report of the China Internet Information Center, there are nearly 150 million elderly people in China who have not been "connected" to the Internet [1]. Therefore, in 2020, the State Council issued the Implementation Plan on Effectively Solving the Difficulties of the Elderly in Using Smart Technologies, which requires all regions to effectively solve the outstanding difficulties encountered by the elderly in using smart technologies and better help them cross the digital divide. According to the 49th report of China Internet Information Center, the number of elderly Internet users aged 60 and above in China reached 119 million, and there is great potential for the digital development of elderly services [2]. In the process of building a model zone of common prosperity, the "digital divide" and the "digital divide" faced by the elderly in rural areas have been discussed. In the process of building a model zone of common prosperity, the "digital divide" and "digital dilemma" faced by the rural elderly deserve attention and solution. In this study, we clarify the concepts and connotations of digital divide and digital inclusion, and analyze the digital divide encountered by the elderly in rural life. The digital divide and digital inclusion are the starting points of this study. This study aims to provide a reference for future research.

1. The concept and connotation of digital divide and digital inclusion

1.1. The current situation of research on digital divide and digital inclusion

With the deepening of digitalization, digital divide and digital inclusion have gradually entered people's vision, meanwhile, the issue of old-age care involving basic livelihood has increasingly become a hot issue for theoretical research. A wide range of scholars have conducted a series of valuable explorations on the situation of elderly care in rural areas, digital inclusion of the elderly and smart elderly care model. One is the research on different models of elderly care in rural areas. Li Hongyuan [4] introduced a new model of social organizations embedded in elderly care in rural areas, and proposed to create a new community of original elderly care. Ding Yu et al [5] suggested enhancing the happiness and sense of access of rural elderly people by advocating cooperative production of rural mutual care. Selwyn proposed that the emergence of digital divide is not only related to individual ICT level, but also to psychological and economic factors [6]. To solve the digital divide, we need to rely on the joint efforts of the whole society, and the concept of digital inclusion is thus created. The third is an empirical study on digital inclusion of the elderly. Chen Wenqin [7] elaborated on the digital divide in an aging society and proposed to narrow the ability gap, improve the "technological self-efficacy" of the elderly group, and increase social support in order to improve the quality of life in old age. Lin Bao [8] proposed to enhance the relevant skills of the elderly and improve the age-appropriateness of related applications to ensure that the elderly keep pace with the times and build a smart aging society shared by all. Fourth, research on digital aging model. Regarding the research on digital elderly care model, Lu Yingchun et al [9] examined the typical characteristics of the interactive service model of elderly care service supply from the dimensions of service management, resource integration, supply-demand docking, and service products, and explored the main problems in demand expression, service response, service delivery, and service acquisition, etc., and on this basis put forward targeted countermeasures to improve the overall effectiveness of elderly care service supply in the era of digital governance. The overall effectiveness of elderly service provision in the era of digital governance is improved. Fang Xing et al [10] analyzed the differences in income sources, literacy levels, and the proportion of Internet users among different age groups of the elderly, and suggested strengthening the construction of Internet infrastructure, establishing a unified platform for elderly services, and personalized senior care service platforms, so as to promote the development of "integrated digital economy" in the senior care industry. The study also suggests the development of "integrated digital economy" in the senior care industry. There are few reports on the development paths of elderly care services in different age gradients in

rural areas. Therefore, this study provides recommendations on rural senior care services from the perspective of digital inclusion.

1.2. Digital Inclusion Theory

At the beginning of the 21st century, digital inclusion, along with digital literacy, digital divide, and digital exclusion, and other concepts related to digital inclusion began to receive widespread attention. As early as 2014, the UK released the "Government Digital Inclusion Strategy", which proposed digital inclusion from the perspective of digital skills, connectivity, and inclusion. Strategy". In the case of China, compared to developed Western countries, digitalization started late and the digital level of the masses has to be improved. The "Guidance on Developing the Digital Economy to Stabilize and Guidance on Stabilizing and Expanding Employment" was released in 2018, proposing that by 2025, China's national digital literacy should reach the average level of developed countries. In the context of digital reform, it is particularly important to bridge the digital divide in the production and life of the masses. The Center for Informatization Research of the Chinese Academy of Social Sciences has released a book entitled "Digital Literacy in China's Villages in the Context of Rural Revitalization Strategy". The digital literacy of farmers is not only related to the convenience and benefits of their daily life, but also to the construction of digital villages. It is also related to the construction of digital villages and the timely realization of the strategic goals of rural revitalization and common prosperity. The report shows that the digital literacy gap between urban and rural residents is 37.5% [11].

2. The Digital Divide Rural Older Adults Encounter in Their Daily Lives

At present, rural elderly people face the situation that digital elderly services are not available. They encounter the technical gap of using digital platform and unreasonable product design, the psychological gap of not accepting new technology, and the economic gap of not being able to buy. There are still some problems in the digital senior care service for the rural elderly.

2.1. Technology gap: digital elderly care products are not suitable for the aging

Most of the digital terminal products are designed and built for the general public, but the degree of aging-appropriateness of the service equipment is not enough and the accuracy of the services provided is not sufficient. Many elderly people are still using old-age mobile phones, and 5G signals and digital governance platforms are not enough for them. However, they can only use the functions with the assistance of family members or town

2.2. Economic divide: Insufficient consumption ability of the elderly to buy smart senior care products

There are various varieties of smart senior care products, such as wearable devices, self-health monitoring devices, home service robots, etc., which are constantly being introduced, but the price discourages most families. Most of the rural elderly groups are farmers with low income and cannot afford to buy advanced intelligent senior care terminal equipment.

2.3. Psychological gap: the subjective willingness of the elderly to accept digital senior care services is not strong

On the one hand, the decline of physiological functions restricts the use of digital devices by the elderly. As they grow older, the hearing and touch, reaction, cognition and perception of the elderly have declined, and they have greater difficulties in using touch screen products and mouse, so they lose the motivation to use intelligent terminal devices. On the other hand, they themselves are negative and resistant to new things such as the Internet. They are not motivated to learn, and they are also worried about identity theft and information security. Therefore, the subjective will to use digital devices is not strong.

2.4. Social divide: less humanistic care for the elderly in the digital age

The vulnerable group of the elderly is easily ignored in the path of achieving the goal of common prosperity. The humanistic care for the elderly is less. The number of caregivers and volunteers is low, and the elderly are still mainly self-help and family members' care, and their spiritual needs are unevenly met. The degree of satisfaction of spiritual needs is uneven.

3. Specific measures to improve rural gradient elderly services from the perspective of digital inclusion Specific measures

In the reality that the traditional concept of family elderly care is deeply rooted, digital elderly care service should be intelligent and modernized, but also grounded and close to life, with family and home care as the focus.

3.1. Technology dimension: expand and deepen intelligent senior care services

In order to facilitate the life of the majority of the elderly, we should make full use of the existing network

infrastructure and project R&D team to develop senior care service products suitable for rural elderly people, such as health management smart bracelets, one-key call buttons and other home digital terminals. The products can meet safety and medical security needs of the elderly at home, but also to meet their diverse spiritual needs in rural life. Especially for the elderly, through the digital equipment and the external digital devices, the elderly can enjoy haircuts, housekeeping and psychological counseling without the need to go home.

3.2. Economic dimension: government underwriting aging-friendly senior care products and services

Under the guidance of the goal of technology ageing-appropriate, it integrates the emerging industries such as smart home, smart countryside, smart medical care and smart public services. The government carries out policy and fund underwriting, establishes a reasonable market access mechanism, and provides certain policy dividends, tax preferences, and financial credit support to senior-care-related enterprises. At the individual level, the government and intelligent terminal equipment sales enterprises formulate agreements to give certain discounts to rural elderly people when they purchase equipment, so that they can afford and use intelligent senior care equipment; at the village level, certain thresholds are established, and priority is given to bidders who can accurately provide intelligent senior care services, and free public senior care services are provided to the elderly as far as possible. The government can also unify the procurement of smart senior care equipment and provide senior care equipment rental services to benefit every senior citizen.

3.3. Psychological dimension: government, enterprises and social groups help older people with product use

The government should coordinate the development of digital literacy promotion action plans, and organize certain training for the elderly, especially their family members, on the use of digital skills, which should focus on diversified contents. A large portion of the younger elderly are still loyal advocates of smart devices. Middle-aged rural seniors can also acquire some skills in using digital devices after training. The relevant software development enterprises should also focus on the overall situation, take into account the needs of the public, and develop more applications that more people can understand and learn at a glance, so that the elderly can continuously improve their skills in the practical application and gradually enhance their digital literacy. The electronic health record management will enable each elderly person to feel cared for by family, government and society, enhance their confidence in using smart devices and improve their sense of technological self-efficacy.

3.4. Social Dimension: Strengthening data linkage and preserving "non-digital" elderly care services

Strengthen multi-departmental coordination and cooperation, improve medical supply in various ways, integrate unused resources, and lower the threshold for social forces to enter the elderly service industry. Rural areas are a society of acquaintances, so regardless of the age of the elderly, village committees, grid members and neighbors can quickly understand their actual needs and do their best to help them solve their problems. The power of caregivers and volunteers should be fully utilized, and people should be actively encouraged to participate in voluntary activities and use the resources of village community volunteers to serve the elderly, and training on knowledge of elderly caregivers can also be held for women who are idle at home in rural areas during farming hours, so as to strengthen the social care team and strive to provide better life and spiritual security for the elderly.

4. Conclusion

While the degree of digital inclusion is deepening, the information security of rural elderly people should be protected, the area of their fraud prevention should be concerned, and the process of elderly fraud legislation and policy development should be accelerated from legislation. At the same time, it is recommended that multiple subjects such as families, government, enterprises and volunteers should be involved, especially the importance of family members' care should be highlighted, and volunteers' home visits or manual services in public services need to be retained. For rural Humanistic care for the elderly is indispensable, and it is necessary to care for the spiritual life of the elderly while meeting the needs of material life, to provide psychological guidance for the elderly, to enhance their sense of well-being, and to let the elderly living in rural areas enjoy the fruits of common prosperity.

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