The Governance Dilemma and Optimization Path of Digital Divide for the Elderly in China

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Abstract: At present, China is facing the great challenge of an aging population, and the digital divide for the elderly has become a difficult problem that the government has to face. This paper adopts the literature review method, summarizes the previous research results, analyzes the difficulties existing in the governance of the digital divide for the elderly from the perspectives of the elderly themselves, enterprises and the government, and gives optimization suggestions, aiming to provide some theoretical references for bridging the digital divide for the elderly in China. The research shows that the negative perception of the elderly themselves, the incomplete transformation of enterprises to adapt to the aging, and the absence of government policies are all the existing dilemmas in this aspect of governance. Based on this, the paper puts forward the path of governance optimization: the family should assume the obligation of digital feeding; Enterprises need to enhance the sense of social responsibility and actively participate in the aging transformation; The government should improve the implementation rules of the policy and formulate corresponding laws and regulations.

Keywords: elderly care, digital divide, China, public policy

1.   Introduction

With China officially entering the aging society in 2000, the aging degree of China is deepening. Granting to the data released by the National Bureau of Statistics of China, there will be 209.78 million people aged 65 and above in China, accounting for about 14.86% of the total population in China, and China has entered a serious aging society in 2022 [1]. As shown in Figure 1, the number of newly-born population in China has shown a downward trend since 2017. By 2022, the number of deaths in China exceeded the number of newly-born population, and the population showed negative growth, indicating that the aging problem is becoming increasingly serious and China is facing the great challenge of population aging.
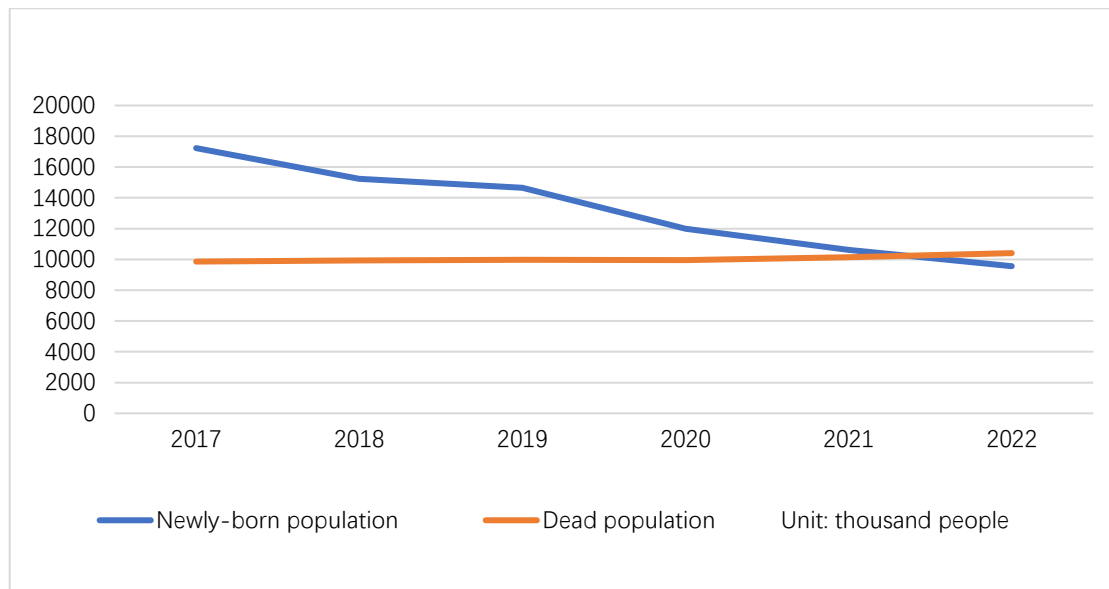
Figure 1: The number of newly-born population and dead population in China, 2017-2022 [1].

The deepening of the aging degree has resulted in the increasing demand for elderly care. Zhao Yihong and Nie Qian's research shows that the elderly care services provided by elderly care institutions are not able to meet the needs of the elderly in China [2]. At present, the traditional service system that only relies on family elderly care cannot solve the growing demand for elderly care, and China needs to explore new ways of elderly care service to alleviate this imbalance between supply and demand [3]. China has introduced a series of elderly care policies to actively respond to the population and a national strategy to deal with the aging population. At present, the rapid development of modern information technology such as the Internet of things and cloud computing, combined with the traditional elderly care pattern can effectively improve service quality and service efficiency, in this context, the concept of smart elderly care came into being. The smart elderly care pattern combines high-tech technologies such as the Internet with elderly care services, and forms an overall new elderly care pattern through the Internet of thing for society, government and relevant institutions, aiming to provide more high-quality and efficient elderly care services. The smart elderly care pattern is the product of the development of the times, breaking a series of defects of the low efficiency of the traditional elderly care pattern. The elderly can enjoy the comfort and convenience brought by scientific and technological progress.

However, the implementation of the smart elderly care pattern is bound to face a problem - the elderly digital divide. In the context of the deepening aging of the population, the implementation and popularization of the smart elderly care pattern is an inevitable trend of the development of the times, and overcoming the digital divide of the elderly is the only way to implement the smart elderly care pattern. How to bridge the digital divide of the elderly has become a problem that the country and the government have to face and solve. By integrating the research results of previous scholars and using the research method of literature review, this paper intends to put forward the current governance dilemma in China, and give suggestions from the perspectives of the elderly themselves, enterprises and the government, so as to provide certain reference value for the governance of the digital divide for the elderly in China.

2. Policy Analysis Theories of Digital Divide Governance for the Elderly

2.1. Incrementalism Theory

In 1959, Charles E. Lindblom put forward the incrementalism decision-making model in his article "The Science of "Muddling Through". Charles E. Lindblom believed that policy making is a process of improvement on the basis of the original policy. Different from rational decision-making model, incrementalism decision-making model emphasizes "gradual change" and pays attention to existing policies to maintain policy stability [4]. The governance of the digital divide for the elderly cannot be accomplished in an action, and it needs to be continuously adapted to the development of the times. In this context, the theory of incrementalism can meet the needs of governance in this area.

2.2. Holistic Governance Theory

The Holistic Governance theory was first proposed by Andrew Dunsire in his article "Holistic Governance" in 1900, and systematically demonstrated by Perry Hicks in 1997 [5]. The holistic governance theory aims to strengthen the integrity within the government to solve the problems of partial and fragmented, but it has a high dependence on digital development [6]. In general, the holistic governance theory advocates multi-subject cooperative governance and emphasizes the importance of the development of digital information technology, which is highly relevant to solving the digital divide problem. There are four reasons why the holistic governance theory fits the governance of China's digital divide for the elderly. First, at the governance orientation level, the ultimate goal of managing the digital divide for the elderly is to meet the needs of the elderly. Second, at the governance tool level, the governance of the digital divide for the elderly also emphasizes the use of digital technology support. Third, at the governance structure level, the governance emphasizes multi-subject cooperation. Finally, at the governance mechanism level, coordination and integration mechanism is the core element of governance [7].

3. The Governance Dilemma of Digital Divide for the Elderly

3.1. The Elderly: Negative Self-perception

The negative self-perception of smart technology among the elderly is one of the important factors hindering the bridging of the digital divide among the elderly. Through interviews with the elderly, scholars such as Tang Yong and others analyzed the influencing factors of the elderly's willingness to use mobile payment, including the elderly's negative perception of Internet products and self-labeling [8]. Studies have shown that the elderly's lack of mastery of digital information technology leads to a decline in their "sense of control", resulting in their fear of new technologies. Meanwhile, the elderly's excessive self-negation of "labelism" has also greatly affected their willingness to use mobile payment [8]. The old people's negative perception of new technology partly comes from their own distrust of smart technology, and partly from their own distrust of whether they can master smart technology. The elderly's negative perception of smart technology is a major obstacle to bridging the digital divide. As the subject of digital divide, the elderly must start from the elderly themselves, pay attention to the psychology of the elderly, and solve this sense of fear and powerlessness from the root. The elderly's negative perception of smart technology is a major obstacle to bridging this divide. As the subject of this divide problem, bridging this divide must start with the elderly themselves, pay attention to the psychology of the elderly, and solve this sense of fear and powerlessness from the root.

3.2. Enterprise: Neglect the Elder-oriented Design of Products

At present, the process of elder- oriented design of Internet applications in China is in its initial stage, and enterprises often ignore the elder-oriented transformation. Scholars have found that the reasons why enterprises do not respond positively to the elder-oriented transformation mainly include the small number of elderly users, which leads to the failure of age-appropriate transformation to generate profits; the majority of early users are young people, which leads to the lack of age-appropriate consideration in the product development stage; the high cost of elder-oriented design research and development; and age-appropriate design may lead to a longer product development cycle, the rate of replacement will be reduced [9]. Due to the above reasons, enterprises lack attention to the elder-oriented design of products, and few enterprises will carry out truly perfect elder-oriented transformation out of their own social responsibility and corporate value. The lack of elder-oriented transformation of Internet applications has become a major obstacle on the way to bridging the digital divide among the elderly.

3.3. Government: Policy Absence

Governments have an important role to play in helping the elderly bridge the digital divide. At present, the existing problems in China's digital inclusion policy are as follows: the operability of the policy is not strong, the structure of policy tools is not balanced. The government focuses on infrastructure construction while ignoring talent training and science and technology, which will eventually lead to the deepening of the digital divide among the elderly [10]. In 2021, China issued a policy - the "Action Plan for the Development of the Smart and Healthy Elderly Care Industry (2021-2025)", which was jointly formulated by the Ministry of Industry and Information Technology, the Ministry of Civil Affairs and the National Health Commission [11]. Most of the policies still support for improving infrastructure construction, while policies on improving the elderly's ability to use smart technology are rarely mentioned, and these policies lack specific implementation rules and implementation plans, and the policy operability is insufficient, which cannot really effectively solve the problems of the elderly's use of smart technology. The digital divide governance policies for the elderly lack a sound policy and institutional framework. First, China currently lacks laws, regulations and institutional guarantees related to the digital divide for the elderly, which hinders the implementation of digital divide governance. Second, policies lack incentives and subsidies for the elderly to actively bridge the digital divide and learn smart technologies. The willingness of older people to actively learn smart technologies cannot be improved. Effectively solving the troubles of the elderly in using smart technology is the basis for the implementation of smart elderly care, and it is also an important goal to bridge the digital divide of the elderly. There are also some policy absences in promoting the elder-oriented design of products. When most enterprises respond to the policy of elder-oriented transformation, they often only adopt a single form of font enlargement. The elder-oriented design is unreasonable, one of the reasons for this situation is the absence of policies. Some scholars have found that China's elder-oriented transformation policies lack corresponding industry standards, and the policies are difficult to provide effective incentives for enterprises. Elder-oriented transformation often become mere formalities [9]. To sum up, there are still many deficiencies in the current policy governance in China.

4. Suggestions for Optimizing the Governance of the Digital Divide for the Elderly

4.1. Eliminate Negative Perception and Advocate Family Digital Feedback

With the growth of age and the impact of the digital age, the "sense of obsoleteness" of the elderly in the modern society is becoming more and more intense, and under the influence of many factors such

as fewer channels to learn intelligent technology, the decline of the elderly's learning ability and memory degradation, the digital divide of the elderly is deepening. Cracking the fear and powerlessness of the elderly for smart technology is the key to promote the elderly to actively learn smart technology. Family members and society should actively guide the elderly to learn to master smart technology. In the face of the elderly's fear and distrust of smart technology, family members should give the elderly more patience and guidance, so that the elderly can understand the importance and convenience of smart technology. It is important to give more encouragement to help older people overcome negative perceptions. In the family, due to the elderly have limited access to learning smart technology, and the family as a natural learning channel, need to shoulder the responsibility of digital education. Government and community should help clarify the important role of families in digital feedback. Young family members should guide the elderly to accept and learn smart technologies for digital feedback [12]. The pattern of digital education for the elderly by family members can also increase the elderly's trust in smart technology to a certain extent, because the teaching subject is the object that the elderly are familiar with and trust.

4.2. Enhance Social Responsibility and Deepen the Elder-oriented Transformation

Smart devices and smart applications are a very important part of governing the digital divide for the elderly. Currently, China's policy on bridging the digital divide for the elderly encourages enterprises to enhance elder-oriented transformation of product, but there is no corresponding elder-oriented transformation standard. In this context, it is necessary for enterprises to enhance their social responsibility. Enterprises should start from the corporate values and social responsibility, actively respond to the policy call, and truly facilitate the aging transformation of the elderly. The elder-oriented design and transformation of Internet products is a powerful measure to help the elderly cross the digital divide. At present, many Internet applications have undergone elder-oriented transformation, but the transformation effect is not satisfactory. It is only to cope with the policy of "superficial" elder-oriented transformation, and the process is not really streamlined and easy to understand. Many Internet applications are not friendly and inclusive to the elderly [9]. For Internet applications that have not yet been published, the elder-oriented design should be included in the scope of development. Products should start from the needs of the elderly, develop a streamlined, simple operation of the "elder pattern". For the Internet applications that have been released, the in-depth elder-oriented transformation should be carried out, and the subsequent update speed of the application elder-oriented transformation should be ensured.

4.3. Formulate Relevant Laws and Improve the Rules for Implementing Policies

The government and relevant departments should improve the digital divide governance policies and formulate relevant laws on the basis of following the principle that the needs of the elderly are oriented. The government should formulate policies from many aspects, such as enterprises, communities and families, and combine the role of multi-agents to bridge the digital divide of the elderly. China's policies on digital divide governance for the elderly have the problems of policy absence, lack implementation rules, and lack operability and pertinence. The government should improve the implementation rules of policies and formulate corresponding policy rules for multi-entities. From large communities and enterprises to small families and businesses, policies should be formulated to clarify the obligations and responsibilities of various entities in the digital divide governance. In addition, the government should also develop relevant legislation and regulations to legally protect the rights and interests of seniors as part of the process of bridging the digital divide [7].

The government should also play its due role in elder-oriented design and transformation. The government can provide certain policy support and financial subsidies to enterprises for elder-oriented transformation and promote enterprises to actively participate in elder-oriented transformation. The government should also formulate corresponding industry standards for elder-oriented design and renovation to prevent enterprises from becoming mere formality. The government, as the "leader" in supporting enterprises to adapt to aging, should also ensure the sustainability of Internet applications to adapt to aging. The government can issue policies to make normative requirements for the follow-up update and improvement of enterprises' elder-oriented transformation and encourage enterprises to develop continuously in elder-oriented transformation.

5. Conclusion

At present, the improvement of medical and health standards has extended people's life expectancy to a large extent. Population aging has become an urgent issue for the world to pay attention to. Although China has introduced some policies on this governance, there are still many shortcomings. Based on the research results of previous scholars, this paper analyzes the current difficulties in the governance of digital divide for the elderly in China and puts forward suggestions for it. The governance should not only be concerned by the state or the government, but also should be paid attention to by enterprises, the elderly themselves, communities, families and other entities. From the perspective of the elderly themselves, the elderly should actively learn smart technology and break the fear of smart technology. From the perspective of enterprises, enterprises should enhance their sense of social responsibility, actively respond to policies, and carry out in-depth elder-oriented transformation. From the government's point of view, the government should make relevant laws and regulations, make policy requirements for enterprises, communities and other subjects to help bridge the digital divide. The government should also develop industry standards for aging transformation.

Bridging the digital divide among the elderly is conducive to the implementation of the smart elderly care policy and the improvement of the quality of life of the elderly. This research provides a certain reference value for the governance of the digital divide for the elderly in China. From the perspectives of the negative perception of the elderly themselves, the design of enterprises suitable for aging, and the formulation of government policies, it aims to make a modest contribution to accelerating the bridging the digital divide in China. Although this research has certain reference value for the digital divide governance of the elderly in China, it also has certain limitations due to subjective and objective factors. In the future, the research on this aspect can conduct in-depth research on a single subject, so as to govern digital divide more comprehensively and effectively.

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