

# Analysis of the Current Situation and Strategies of Applying Ci Projects to Bridge the Digital Divide among the Elderly in the New Media Context

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**Abstract:** The digitalization process and the aging trend have further exacerbated the digital divide between the elderly and the young. In the era of new media, the elderly cannot avoid the challenge of mastering new technologies in daily shopping, travel, medical services and social communication. The application of CI projects can effectively help older people overcome their fear of technology, improve their media literacy, master their Internet skills, enrich their spiritual world, and better enjoy the convenience and services brought by the digital age. This paper analyzes the potential and shortcomings of CI projects through their current application status, and proposes suggestions and strategies for applying CI projects to effectively address the digital divide among the elderly.

## 1. Introduction

### 1.1 Digital Divide and Ci Projects

The rapid development of Information Communication Technology (ICT) has brought digital opportunities and digital dividends, but also a new social problem - the Digital Divide. Digital divide refers to the gap between the “technology haves” and the “technology have-nots” (Besser H, 2004), with the elderly being the special group most widely and profoundly affected by digital divide. Currently, digital divide between the elderly and the young goes beyond digital access, with significant differences in the extent and intensity of Internet use between the two groups, that is, the elderly use the Internet for far less purposes, to a far lesser extent, and in a far lesser geographical location than the young (Loges & Jung, 2001).

For this reason, many countries and cities have opened Community Informatics Projects (also known as CI projects) to help bridge the digital divide among older populations. Because of the highly practical and technology-dependent nature of community informatics, CI projects focus specifically on community-based assistance with ICT design and application. For example, St. Barnabas Senior Services (USA) offers not only tablet learning for seniors, but also face-to-face hands-on classes in computer basics, email, online transactions and safety judgments. The Hong Kong government invited non-profit organizations to participate in a tender to promote new media devices suitable for use by the elderly to the community. At the same time, some 170 senior citizen colleges have been set up in universities, secondary schools and elementary school in Hong Kong to help improve the media literacy and Internet usage of the elderly. In addition to organizing internal training, the Wuhan community also organizes inter-community communication and mutual assistance, contacting older people in other communities who are more capable of using new media and have higher media literacy for lectures or one-on-one support, so as to realize the mutual assistance mechanism between groups of older people.

### 1.2 The Elderly and Digital Equality

Most CI projects were initially limited to applications in brick-and-mortar communities. With the emergence and development of virtual communities, CI projects connect local brick-and-mortar communities, virtual communities, and stakeholders involved in practice, structuring and facilitating collaborative relationships between researchers, practitioners, and the economic sphere [6]. The key to bridging digital divide lies in ICT empowerment for older people. For example,

ensuring that older people have equal access to and distribution of ICT infrastructure. The degree of ICT empowerment of older people reflects the degree of digital inclusion in society. Digital inclusion aims to bridge digital divide among disadvantaged groups, ensure access to social resources for those who need them most, and reduce inequality between disadvantaged groups and the rest of society (Yan Hui, 2018). If the digital equality of older groups is not addressed, digital divide will continue to profoundly affect the distribution and redistribution of social resources, further exacerbating the “access gap” and “use gap” between the “information rich” and the “information poor”. The digital divide will continue to profoundly affect the distribution and redistribution of social resources, further exacerbating the “access gap”, “usage gap” and “knowledge gap” between the “information rich” and the “information poor”, thus causing economic and social class differentiation and forming a new structural inequality problem. Thus, CI projects are not just an application of a discipline, but a social movement that promotes social inclusion and cooperation [7]. This paper explores the potential and shortcomings through the current application of CI projects, and proposes suggestions and strategies for applying CI projects to effectively address the digital divide in older populations.

## **2. The Significance of Bridging the Digital Divide in the Group of the Elderly**

First, digital access can help the elderly groups expand their social relationships, enhance social interactions and access social resources. For example, through the use of new media social software such as We Chat, it helps broaden the social scope of the elderly group and meet their information needs. Second, ICT empowerment can help older people enjoy rights fairly in a digital society. Older people can participate in discussions on public affairs by sending emails, voting online, etc. They can also enjoy the government's online business or remote services. In addition, ICT empowerment has great potential to inspire the elderly to actively participate in life in new ways (Swindell & Mayhew, 1996). The use of new media can improve the health status of the elderly and is an important way to promote active aging and improve the quality of life of the elderly. Nowadays, the international community is also paying more and more attention to the improvement of media skills and media literacy among the elderly. For example, the World Health Organization (WHO), in its active aging policy report, specifically states that older people should learn new technologies, including new media and electronic information technologies, just as younger people do. In addition, many studies have shown that the use of new media can help older adults reduce loneliness, enhance their social participation and social interaction, improve life satisfaction and well-being, and also prevent cognitive decline and reduce depression and geriatric diseases [3]. Digital access and ICT empowerment enable older adults to enjoy more digital dividends (Zhao, Na, and Tan, T., 2021), which will continue to expand with the rapid development of ICT. Therefore, in the context of new media, it is significant to apply CI programs to bridge the digital divide among the elderly.

## **3. Advantages and Hidden Danger of Ci Projects**

### **3.1 Advantages of Applying Ci Projects**

As public welfare projects led by the government, CI projects have great potential and advantages in terms of human resources, educational resources, venue resources and social resources, which can effectively help older people solve the problem of “digital divide” and provide high-quality digital education and services for older people, thus promoting their physical and mental health.

#### **3.1.1 Policy Advantage**

With the support of government policies, CI projects can give full play to the functions and mobilize the community to provide diversified new media practice teaching and quality services for the senior citizens, to awaken their vitality and enthusiasm for digital life, and to improve the application of media technology so that they can finally enjoy digital life.

### **3.1.2 Education Advantage**

CI projects rely on the community to have its unique advantages in the teaching mode and teaching place of senior education. In terms of teaching mode, community-based senior education adopts a diversified open and happy education model, including centralized teaching, online teaching and activity teaching. The teaching content is based on the theme of enriching the spiritual and cultural life of the elderly, and CI programs in many regions offer courses to improve the ability of the elderly to use new media. In terms of on-site instruction, CI projects can provide multimedia classrooms, online classrooms, senior activity centers and senior health centers that are conveniently located within the community for the participation and use of the elderly. These teaching venues not only meet the needs of teaching and activities, but also provide a variety of other convenient services for the elderly community.

### **3.1.3 Resource Potential**

CI projects can fully mobilize various resources to help older people bridge the digital divide, combining government agencies, schools, libraries, museums, stadiums, various public welfare organizations and enterprises, etc. with abundant human resources, teaching resources and facilities to effectively assist communities to improve media literacy and skills of the elderly.

## **3.2 Hidden Danger of Applying Ci Projects**

With the popularity of CI projects, older people have great enthusiasm and demand for the use of new media. However, as a “vulnerable group” in the digital society, they still face certain risks and challenges in the process of using new media.

### **3.2.1 False Information**

The amount of information on new media is mixed, the quality varies, and the fragmentation of information dissemination makes it difficult for the elderly to follow. Usually, the elderly are willing to share and forward information that they think is valuable to their friends and relatives as an important way to socialize, but there is a lot of false information in these contents forwarded by the elderly. Related surveys show that nearly 30% of elderly WeChat users in China have been scammed by online marketing. For example, according to the Internet Survey Report on the Internet Situation and Risks of Middle-aged and Older People, middle-aged and older Internet users believe they have little ability to avoid online risks. One-third of them said they could not identify false medical information (Qingyu Wang, 2020). It is not difficult to find that older people have experienced the era when traditional media had gatekeepers, and it is difficult to discern false information in the use of new media.

### **3.2.2 Internet Addiction**

For the elderly who have just come into contact with the Internet and new media, its fresh content, rich variety and large amount of information can greatly satisfy their curiosity. However, the long-time use of new media devices is more likely to be addictive, especially when older people master entertainment functions such as games and short videos, which can even cause more serious health problems. At the same time, the large amount of information spread on new media can easily cause information overload, which increases the psychological pressure of the elderly to access and use information, and even causes them information anxiety.

### **3.2.3 Network Security**

Compared with the young, the elderly lack awareness of network security and personal information protection. In the new media social media platforms, various activities under the banner of “free” are often launched to take advantage of the weak awareness of network security and personal information protection of senior citizens to cheat them of their money or personal information. In addition, older people do not know enough about online fraud, so they are more likely to be threatened by false information, online fraud, malware infection, etc. In addition to economic losses, the physical and mental health of older people will also be affected.

## **4. Enhancement Strategies for Ci Projects Application**

### **4.1 Government Provides Legal and Institutional Safeguards**

As the steward of society, the government has the responsibility and ability to provide a more reliable environment for the construction of CI projects, which can stimulate their human resources, tap their potential, and provide a platform for them to play a role in bridging the digital divide among the older population. In addition, the government should continuously innovate the concept of digital divide governance for the elderly groups, formulate and improve relevant laws and regulations and regulatory system with the characteristics of the times, and provide the necessary policy support and institutional guarantee for the application of CI projects. Secondly, we should pay attention to the continuing education of the elderly groups, improve the ability of the elderly groups to use new media, advocate and encourage the elderly groups to use new media devices moderately. The reasonable and correct use of new media is crucial for the elderly to improve their lives and integrate into society. Finally, industry and enterprises under the leadership of the government should jointly develop a convention and collective action guidelines for the protection of the digital rights of the elderly, eliminate explicit or implicit digital bias and algorithmic discrimination against the elderly group [5]. They also increase publicity in this area, combat telecommunication and online fraud, protect the legitimate rights and interests of the elderly group. They should ensure that the elderly group can participate in digital life and integrate into the digital society with peace of mind and safety.

### **4.2 Market Development of “the Elderly-Appropriate” Products**

According to technology acceptance theory, the elderly must perceive the ease of use and practicality of new media before they can actively use them. Therefore, new media producers and content makers need to increase technical investment and R&D efforts to strengthen the optimal design of new media. The products fully consider and adapt to the physical and cognitive functions of the elderly group, and design simple and easy-to-use functions that can simplify the operation process, increase font size, develop voice input and recognition, spam and keyword recognition, one-click operation, and elderly-friendly functions.

### **4.3 Mutual Support and Communication among the Elderly Groups**

CI projects promote mutual support and communication among the elderly groups. Since members of the elderly groups are of similar age and have similar life patterns, they in the same community may know each other and have certain connections. Conducting senior group interaction programs can not only promote communication and mutual help among senior groups, but also gain mutual encouragement and a greater sense of belonging in the process of overcoming the digital divide. In addition, CI programs can provide richer social activities for the elderly groups, such as setting up competitions or awards for Internet and new media use, which can increase the motivation of the elderly groups to use new media and overcome their indifference and fear of new technologies.

### **4.4 Intergenerational Family “Digital Feedbacks”**

CI projects encourages children and younger generations to provide “digital feedbacks” to the old in the family by proactively helping them use the Internet and new media devices. Digital feedbacks within the family are an important way to bridge the digital divide among older adults and play a fundamental, direct and effective role in improving their digital skills and media literacy. Children can communicate and interact with their elderly parents face to face, constantly transferring digital thinking and digital skills to them, and fully promoting them to better adapt to digital life through accumulation and feedback. Through establishing effective new media communication channels between the younger generation and the elderly in the family unit, CI projects can not only provide technical support and material security for the elderly to use information technology, but also effectively prevent and avoid false information and network fraud encountered by the elderly in the use of new media.

## 5. Conclusion

In conclusion, the development of ICT and demographic changes have led to the increasing integration of new media into all aspects of older adults' lives. Whether it is daily travel, medical services, or social interactions, the elderly are relying more on new media. However, academia and industry often focus on making ICT development more youthful to cater to the preferences of young “digital natives” and move forward on the road of development and innovation, often ignoring the digital adaptability and survival status of older people. Therefore, the application of CI projects is crucial to bridging the digital divide between the young and the elderly. Although the development of CI projects is still immature and there is hidden danger, with the advancement of digital “new infrastructure” and the advent of the 5G era, CI projects will be supported and improved by multiple parties, offering great potential and opportunities for digital access and ICT empowerment for the elderly.

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