Digital communities for older adults deploying human-centric technologies for super-smart society

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Purpose In today's super-smart society, it is expected that everyone can easily use new devices, functions and services, and benefit from advanced Information Technology (Japan Cabinet Office,n.d.). However, the information gap among Older Adults in the Internet society is becoming more pronounced as face-to-face communication is severely restricted in the COVID-19 pandemic. One of the reasons why it is difficult for older adults to access information utilizing Information Technology is because it is too complicated for them to create a mental model. A mental model is an "image of behavior" in a person's mind, such as "this will happen if that happens". People's behavior is greatly influenced by their mental models. When using digital devices, users need to create a mental model not only of the inputs and outputs of the device in front of them, but also of the applications that run inside the device and the data on the Internet that lies beyond it. Fear and anxiety caused by the inability to create a mental model will act as a disincentive to the use of digital devices. Therefore it is naturally assumed that those older adults can utilize smart devices as a means to access to the Internet and to be connected with others if an appropriate mental model can be created. Ambient Computing (Loi, 2019) as a part of human-centric technology may simplify a mental model and solve the problem. **Method** We conducted survey interviews with older adults to investigate how the difficulty of creating a mental model affected the use of digital devices (Nameki et al., 2022). The results showed that family and community support is effective in facilitating older adults to create mental models and become accustomed to the use digital devices. However, it is sometimes difficult to provide continuous support to older adults, and how to ensure continuity is a challenge to solve the digital divide among older adults. Our case studies conducted with several older adults confirmed that simplifying their mental model can promote digital device usage and encourage their participation into the digital community. We propose human-centric technology, specifically Ambient Computing, to help older adults use digital devices and realize digital community where older adults can utilize information technologies without stress, access necessary information, and communicate with each other. If local community activities are digitized and expanded into a virtual space, the way older adults interact with their local community will change dramatically. **Result and discussion** Older Adults who have difficulty using digital devices due to a lack of mental model can use Information Technology and participate in the digital community by creating proper mental model with help of human-centric technology. Within the digital community, they will not only be able to reduce restrictions due to declining physical capabilities but also receive continuous support and have opportunities to join community activities themselves. For example, older adults who are unable to go out have been on the receiving end of nursing care and related supports. However, in a virtual community, they can become providers of support by utilizing their knowledge. They can share their knowledge and experiences in specialized fields they have cultivated during their working years, impart their know-how in various industries, train young engineers, and so on. We are convinced that the realization and activation of digital communities utilizing human-centric technology will be the cornerstone for realizing a truly super-smart society. Older adults can improve their quality of life by utilizing their own abilities as providers of support. In addition, it is expected that these findings will be diffused and feedback through the community, motivating the elderly as service providers and forming an ecosystem that leads to better services.

References:

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