

Ageing in a Digital World: Understanding Technological Care Needs among Older Adults in Kolkata, India

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1. Introduction

The ageing population is a global phenomenon, and India is no exception. The need for effective care assistance has become more pressing with an increasing number of older adults. Technological advancements have the potential to address their health, social, emotional, transportation, and other pressing care challenges by providing innovative solutions required to the specific needs of older individuals in this digital world. The awareness of technology helps them maintain independence and a high quality of life on the ability to remain independent in various, ranging from activities of daily living to maintaining their own home (Heinz et al., 2012). Most of these technological care needs were enhanced during and after the pandemic 2020. As the social connectivity among the rural older population in India is quite high, this study focuses on understanding the technological care needs among older people who live without their children aged 60 and above in Kolkata, India. By examining their requirements, preferences, and barriers to technology use, this research aims to delve deeper into the unique demands of the older population in an urban Indian context.

2. Theoretical Focus

The study is grounded in the theoretical framework of the "Technology Acceptance Model" (TAM) and the "Theory of Planned Behaviour" (TPB), which explore how individuals adopt and use new technologies. TAM emphasizes perceived usefulness and perceived ease of use as key determinants of technology acceptance (Davis, 1989), while TPB considers attitudes, subjective norms, and perceived behavioural control as significant predictors of technology adoption (Ajzen, 1991). Integrating these models provides a comprehensive understanding of the factors influencing older adults' willingness to engage with technological care solutions.

In addition, The Unified Theory of Acceptance and Use of Technology (UTAUT) is another theory that explores the factors influencing older adults' intention to use home-based care technologies, such as perceived need, social network, self-efficacy, anxiety, and attitude towards technology (Venkatesh et al., 2003).

3. Data and Research Methods

The study employs a qualitative research approach, using data collected from 103 semi-structured household interviews conducted with older adults aged 60 and above who are only living by themselves in Kolkata. Kolkata was chosen for its growing proportion of older adults living without children due to the changing socio-demographic context. The interviews were designed to capture overall information on various aspects of technological care needs, including:

- **Types of Care Needs:** Physical, emotional, and social care requirements and how technology could potentially address these needs.
- **Technology Usage Patterns:** Current use of technology in daily life, including devices like smartphones, health monitoring systems, and assistive technologies.
- **Barriers to Technology Adoption:** Challenges faced in using technology, such as lack of digital literacy, affordability issues, and physical limitations including any assistance received from people.
- **Perceptions and Attitudes:** Older adults' views on the usefulness and ease of using technology for their care needs, including any fears or reservations they may have.

The study gathered data from middle-class and above households in Kolkata, guaranteeing a representative sample of older adults aged 60 and above who live alone or with their spouses and caregivers, without their children, encompassing individuals from diverse socioeconomic backgrounds. Because of the questionnaire's flexibility, which was semi-structured, participants were able to freely share their experiences and opinions.

4. Analytical Approach

The interviews were transcribed from Bengali to English, and the data was analyzed using both Stata and ATLAS.ti, employing Thematic analysis, a method well-suited for identifying patterns and themes within qualitative data. The analysis focused on uncovering the

technological care needs, identifying common barriers, and exploring the attitudes towards technology among the participants.

Key themes included the gadgets they use and its purpose, their desire for technology that supports health monitoring, enhances safety, facilitates communication with family members, and assists with daily living activities. Additionally, the analysis highlighted the significant role of caregivers in influencing technology adoption among older adults, especially when caregivers themselves are digitally literate.

5. Expected Findings from our study

Based on preliminary insights from the data, several expected findings are anticipated:

- **Unmet Technological Needs:** Many older adults have unmet technological needs that could enhance their quality of life, such as knowing smartphone features for banking, easy-to-use health monitoring devices, communication aids, and safety technologies like doorbell alarms, and smart lock systems.
- **Low Digital Literacy and Accessibility Issues:** Low digital literacy among the older population, which is further made worse by physical constraints such as poor vision or eye movement that make using technology difficult, is a major barrier to the adoption of new technologies.
- **Perceived Benefits vs. Fears:** While there is a recognition of the potential benefits of technology, such as increased independence and improved quality time, there are also prevalent fears, including concerns about privacy, data security, and the perceived complexity of devices.
- **Role of Social Support Systems:** The presence of supportive family members or caregivers significantly influences the willingness of older adults to engage with technology. Older adults living alone or without tech-savvy support systems are less likely to adopt new technologies.
- **Economic Constraints:** The affordability of technological solutions remains a critical issue, with many older adults expressing that cost is a prohibitive factor in accessing the latest care technologies, especially for the security of their homes.
- **Preference for Human Interaction:** Despite acknowledging the usefulness of technology, a strong preference for human interaction persists, with many older adults valuing face-to-face communication and personal care over technological substitutes.

6. Discussion

This research contributes to the broader discourse on ageing and technology by providing localized insights from Kolkata, a rapidly ageing urban centre in India.

Technological care has been a growing need among this demographic for enhancing and strengthening their independence by being capable of connecting with their children, and family members, and being updated on their health concerns. The findings of this study have important implications for the development of age-friendly technologies that cater to the specific needs and limitations of older adults in India. Policymakers and technology developers should focus on creating affordable, accessible, and user-friendly devices that address the unique challenges faced by the elderly. The usage of technology among older individuals could be greatly increased by providing support networks for caregivers and educational initiatives targeted at boosting digital literacy.

7. Conclusion

As India continues to grapple with the challenges of an ageing population, understanding the technological care needs of older adults is crucial. This study highlights the complex interplay of factors that influence technology adoption among the elderly in Kolkata, providing valuable insights aiming to enhance the quality of life for this demographic. By addressing the identified barriers and leveraging the potential of technology, there is an opportunity to significantly improve the care and well-being of older adults in urban India.