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# Human-Centered Digital Banking and Financial Management Systems for Senior Citizens (60 - 80 age group) in Semi-Urban Regions of Maharashtra

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***Abstract*— Although Digital Banking has increased operational efficiencies in India, this did not originate from a design intent, and unfortunately, it has proven to be a challenge for more than 60 per cent of all older adults (aged 60+) living in the country. In particular, this is most visible amongst the elderly population living in the 60-80 years age range within the rural and semi-rural regions of Maharashtra, along with areas where digital technology is restricted, and where access to training on continuing Digital Literacy is limited. A number of elderly adults struggle each day to properly manage their finances, and the types of issues faced by these consumers on a daily basis include: viewing their accounts; managing their pension/fixed deposit; monthly budgeting; identifying fraudulent transactions; and requiring assistance from a family member or other third party in order to pay bills and/or rent, etc. The purpose of this conference paper is to outline the extent to which current digital banking systems can assist older consumers with their daily financial management. The research methodology used in this research study consists of qualitative surveys conducted with elderly consumers and banking professionals, and a literature review of past research studies related to aging and digital financial inclusion. The findings of this research study indicate that there are large gaps in the areas of usability, trust, emotional support, and continuous human assistance within the currently available digital banking systems. Therefore, the authors recommend that the banking systems be developed based on an empathetic and human-centered approach, utilizing enhanced digital experiences and providing both informational financial guidance and human assistance at the consumers' point of need.***

***Index Terms*— Ageing, Digital Banking, Financial Inclusion, Financial Management, Human-Centered Design, Senior Citizens**

## I. INTRODUCTION

Maharashtra has one of the oldest populations (over 60 years of age) within India, with the population continuing to increase and more people likely to rely on a bank for their Pension and other savings accounts, interest income, etc., telling us about our financial status required for day-to-day expenses. While most of those living in Maharashtra's semi-urban and suburban centers have access to physical Banking Facilities, there is frequently little or no Digital Support offered to assist with these services.

Most banks are moving to Digital First, Digital Only models; however, this transition has primarily been driven by Cost and Operating Efficiency, and also by larger Government policy initiatives designed to encourage the adoption of Digital Technology and Services. Digital Banking has proven to be very effective in meeting the needs of the newer, more digitally confident consumers; however, this type of further service has not been as successful with older adults who are relatively new (within the last decade) to using Digital Technologies. For senior citizens, while transferring money and checking their bank balance are some of the primary uses for Banking Services, Banks provide them with other Forms of Bank-related Services such as monthly Budgeting and checking their Pension payments, paying Bills, tracking their financial Records, and keeping up with Medical and Health Care expenses, Work schedules, etc. If Digital Banking interfaces are unavailable or are too confusing to use, the older adult may lose not only access to Digital Banking, but control of their financial lives and Security, leading to Stress, Dependency, and Independence.

This Paper addresses the Digital Banking and Financial Management concerns experienced by Seniors aged 60+, 70+, and 80+ in Maharashtra, and describes the ways in which the Design, Technology, and Model of Service Options can be adapted so that Seniors in Maharashtra's Semi-urban areas can achieve financial independence, trust, and emotional well-being through Banking.

## II. LITERATURE REVIEW

Digital Financial Inclusion (DFI) [4] has been widely researched in India, and numerous studies demonstrate that

there continues to be a digital divide [1] [6] [9] [16] impacting older adults. Digital banking systems can be quite overwhelming and complex for older adults; in addition to there usually being many steps involved in many applications, there are unfamiliar terms, constant changes with the interface, and the information is typically available only in the English language [2]. Many older adults are afraid they will make a mistake that cannot be undone and feel anxious about online fraud, leading to a reluctance to engage with digital banking [3].

Many older adults value clear, predictable, and consistent relationships over speed or automation when conducting business with banks. Older adults would rather verify the transaction in person and use handwritten records for their financial transactions. Older adults also seek interaction with the same bank staff with whom they have developed a trusting relationship. Financial behaviour among older adults has revealed the same recurring challenges as noted in the previous paragraph: having trouble understanding digital bank statements; difficulty tracking monthly expenses; and being confused about automated deductions or standing instructions [8].

To support senior-friendly banking services, the Reserve Bank of India has put forward guidelines [22] that specify many different ways to provide services such as priority services, doorstep banking, and help with managing a pension, as well as submitting life certificates [20]. These services will create less physical stress on the older citizens who use these services and make the necessary processes much easier to complete. Banks are being encouraged to expand their services, including delivering cash and checkbooks, collecting KYC documents [21], and processing life certificates without requiring older citizens to visit the banks. Unfortunately, research and media reports suggest that not enough banks have implemented these services consistently across geographic locations and branches.

Maharashtra, India, has several public sector banks, including the Bank of Maharashtra, that promote certain types of financial products like the Senior Citizens' Savings Scheme (SCSS) to assist senior citizens with income management by offering them services through centralised pension processing centres (CPCs). Digital innovations over the last few years [7] with new features added to existing online banking systems for both banks and customers that have allowed seniors to have delegated payments with trusted contacts to help them make transactions, and can be helpful to addressing Digital Anxieties [4]. However, even with the digital innovations, there remain significant barriers. Many banks are not routinely converting all of their accounts from the general category to the senior citizen category. Most banks do not give senior customer service, prioritise senior customers during banking hours, or have the same level of support available for accessing and submitting pension information and life certificates. This disconnect between what a bank may say they will do for a senior citizen context and what senior citizens tend to experience on a day-to-day basis within banks highlights the continued need for empathy-based design [12] [15] [16] [18] [19] and approaches for implementing services that meet financial management, independence, and dignity needs of senior citizens especially in semi-urban and non-metropolitan areas.

## III. METHODOLOGY

The exploratory study was qualitative in nature. The study sample consisted of 40 seniors, aged 60-80, who lived in urban, suburban, and semi-urban locations in Maharashtra. Participants had different financial circumstances (pension dependent, salaried, small savings, and low-income with government support).

To gain insight into the institutional perspective, interviews were conducted with 2 banking officials and 1 banking frontline staff member regarding how they perceive seniors' banking service expectations, operational practices, and barriers.

Additionally, 63 survey responses were analysed to examine the patterns of caregiving, financial support, dependency on others for assistance, and shared decision-making by caregivers and family members of seniors.

The data collected were analysed thematically, with particular emphasis on financial management behaviour, emotional responses, and trust dynamics in the banking system, and reliance on human intermediaries.

## IV. KEY FINDINGS

### A. Digital Banking Challenges

Most respondents reported that the small font size, frequently updated interfaces, unfamiliar icons, and complex authentication procedures (one-time passwords) made it challenging for them to utilize mobile banking [10]. Most older adults only used digital transactions as a necessary alternative to in-person banking methods and had a noticeable fear of using smartphones for financial tasks; a majority expressed a strong preference for personal assistance with their financial needs.

### B. Managing Finances in a Digital Format

Older adults faced difficulties with digitally managing their financial assets beyond just basic transaction processing. Common problems included being unable to track their pension deposits, understand their monthly bank statements, see their automated deductions, keep track of payment schedules, and recognize unusual activity within their accounts. As a result of this disconnect between how older adults normally manage their money (by keeping track of it in handwritten notebooks) and the way in which financial software has been developed for use on a computer, older adults have continued to rely on keeping personal records on paper.

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### C. Trust and Fear of Fraud

The fear of fraud emerged as one of the most common themes that arose throughout the interviews. The respondents reported feeling anxious about losing their hard-earned savings due to scams or mistakes, as well as being embarrassed about continuously asking for financial help. Many were concerned that they would become dependent on their children for financial support and would be unable to manage their finances independently using technology. Older adults tended to establish a higher degree of trust in physical human beings (e.g., bank employees, neighbors, and postal workers) than they did in operating systems or software.

### D. Financial Inequality

The financial inequality experienced by lower-income seniors was exacerbated as a result of their inability to access technology or connectivity, and therefore lacked the training to be able to use digital banking systems correctly. Those middle-income seniors who did have access and training to use digital banking systems were frustrated because they felt as though they had been forced into a new system without having received adequate explanations or continued assistance. The level of confidence, independence, and willingness of seniors to use digital banking tools correlated greatly with their income level.

## V. DISCUSSION

The results indicate that senior citizens [5] are not simply being excluded from digital banking services because they cannot use them. For many seniors, the inability to understand or manage their finances independently causes them to have less confidence and to rely heavily on others. Digital banking services today are being built to help use automation and other methods to increase the efficiency of the financial industry. As such, today's digital banking systems do not adequately address how seniors typically track and manage their finances.

When considering humans (seniors) [11] using digital banking tools, the concepts of predictability, security, continuity of care, and reassurance are extremely important to many senior citizens. As the marketplace for financial services continues to change, it will become increasingly important to offer greater assistance and resources for seniors looking for a supportive financial ecosystem rather than just digital banking.

## VI. PROPOSED HUMAN-CENTERED SOLUTIONS FOR DIGITAL BANKING AND FINANCIAL MANAGEMENT

### A. Age-Responsive Banking Interfaces

Bank applications should use customised functionality for older adults that provides easier navigation, increased text size, and fewer menus with plain language. Banks may also consider the introduction of an "Extremely Senior" customised functionality that focuses on both assisted action confirmation before executing, and having a user interface that promotes the least number of engagements with the client.

### B. Simplified Financial Management Dashboards

Dedicated dashboards can help older adults to see their pensions, fixed assets, going out of business monthly expenses, and balance in one place, as opposed to having to look all over the place. Not only can older adults see this all in one place with visual summation, but many older adults still prefer to hear and see things and print their records.

### C. Assisted Financial Planning Support

Guided financial planning to assist older adults with budgeting and expense tracking, safe use of digital tools, etc. Banks may deliver this through bank branches, assisting kiosks, or having scheduled meetings in their local communities.

### D. Community-Based Financial Support

Trained volunteers, local banking correspondents, and post office employees are examples of local intermediaries who can help seniors understand electronic bank statements, detect possible fraudulent activities, and complete transactions in a secure manner. Building on the trust already established within the community is important.

### E. Financial Literacy for Seniors

In addition to providing training on using applications, there are many other aspects of financial literacy that should be taught to the older population. Training should include budgeting and financial planning; awareness of possible scams; monitoring of pensions; and ways to maintain financial security over time.

## VII. CONCLUSION

As banks increasingly move to digital financing for all ages, senior citizens in India are facing some of the largest challenges in managing their finances. These complications stem from both the complexity of banking technologies and the lack of consideration for seniors' mental capacity and emotional issues, which lead to the design of products that are not easily usable and prevent seniors from engaging with and managing their finances properly [13].

The article makes clear that true financial inclusion is more than just giving seniors the means to do digital transactions; it is important that the financial institutions be proactive in support of the other aspects of financial literacy, so seniors can be in control of their finances and plan for their future. By combining empathetic design methods with assisted digital tools and trusted human support mechanisms, a bank can support seniors in managing their finances with full confidence and dignity, and empower them to take ownership of their financial patterns in a manner that allows them to continue doing what they have done. Thus, the need for designing inclusive systems of financial management for older adults is essential in the pursuit of creating a digital

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banking platform that is ethical, sustainable, and equitable to all users.

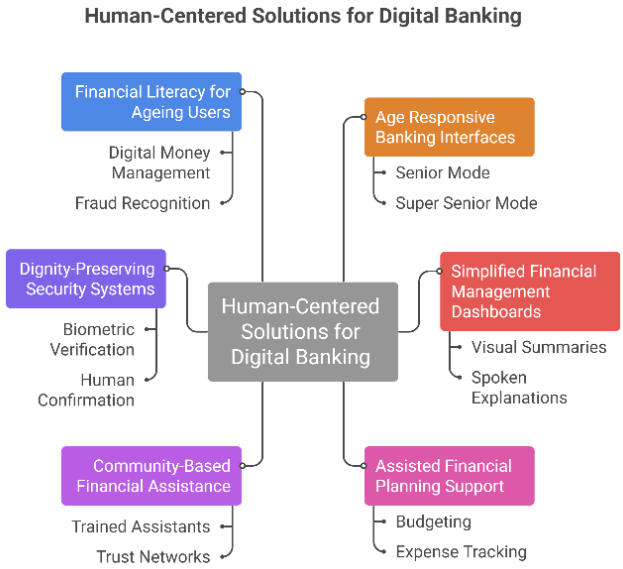



**Fig. 1** Diagram: Human-Centered Solutions [14] [17] for Digital Banking

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