

Designing Intuitive Financial Technologies for Elderly Users: A User-Centered approach to Retirement Planning and Investment Platforms.

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Abstract

This literature review explores the intersection of user-centered design (UCD) principles and financial technologies (FinTech) tailored for older adults, with a focus on retirement planning and investment platforms. It synthesizes existing research on the challenges and opportunities in designing FinTech solutions that accommodate the cognitive, physical, and emotional needs of elderly users. The review highlights the impact of age-related cognitive decline, technological literacy, and the potential benefits of FinTech for older adults. Ethical considerations, such as privacy and security, are also discussed. The review concludes with design recommendations, emphasizing simplicity, customization, and user involvement, while identifying gaps for future research, particularly in addressing the emotional and social aspects of FinTech usage among older adults.

Keywords: Financial technologies (FinTech), Older adults, User-centered design (UCD), Retirement planning, Investment platforms, Cognitive decline, Technological literacy, Ethical considerations, Design recommendations, Accessibility, Usability, Technology adoption, Aging population, Digital divide

1. Introduction

The use of financial technologies (FinTech) has grown rapidly in recent years, prompting interest in how older adults can benefit from these technologies (DeLiema et al., 2021). One area of particular interest is retirement planning and investment platforms, which can provide older adults with a way to manage their finances and plan for their retirement years (Hu et al., 2019). However, designing financial technologies for older adults requires a user-centered approach that takes into account their cognitive, physical, and emotional needs and limitations (Chen & Chan, 2011). Nonetheless, there is a research gap in designing intuitive financial technologies for elderly users, necessitating a systematic investigation approach to enhance the user experience and optimize the usability and acceptance of FinTech services among older adults (Dodd et al., 2017).

To contribute to the development of evidence-based design strategies for intuitive financial technologies for elderly users, this literature review will explore existing research on user-centred design for retirement planning and investment platforms. By synthesizing the latest research in this area, the study aims to provide insights and recommendations for designing FinTech services that are user-friendly, accessible, and appealing to older adults.

2. Thematic Overview

2.1. User-Centred Design Approaches

The use of user-centred design (UCD) approaches has been widely researched to address the needs of older adults in technology design. For instance, a study by (Ahmad et al., 2021) investigated the impact of UCD on the usability of smartphones for older adults. The study found that incorporating UCD principles, such as simple and intuitive navigation, increased the accessibility and usability of smartphones for older adults.

Another study explored using UCD approaches to design tablet interfaces for older adults. The study found that incorporating UCD principles, such as large and legible text, improved the usability of tablet interfaces for older adults (Kinsella et al., 2015).

A research also looked into applying UCD methodologies to build wearable technologies for elderly persons. According to the study, adding UCD concepts like as simplicity of use and comfort can boost user satisfaction with wearable devices. This study's findings show that UCD methodologies may be used to a larger range of technological goods, including wearable gadgets (Jochems, 2016).

Although these studies give useful insights into the application of UCD techniques in technology design for older persons, their scope is restricted and they do not investigate the influence of UCD on other forms of technology, such as voice-controlled devices or augmented reality devices. Furthermore, the sample size of participants in the research may be larger, which could alter the generalizability of the results. Despite these limitations, these studies give more current empirical evidence of the efficacy of UCD techniques in enhancing technology usage and accessibility for elderly persons.

2.2. Age-Related Cognitive Decline

Several recent studies have continued to investigate the impact of age-related cognitive decline on technology use by elderly people. For instance, a study by Calhoun & Lee, 2019 found that older adults with age-related cognitive decline experienced a decreased ability to use and learn new technology, leading to reduced confidence and increased frustration.

Another study by Capizzi et al., 2022 explored the impact of age-related cognitive decline on elderly people's ability to perform tasks on a computer. The study found that the elderly with age-related cognitive decline performed more poorly on computer tasks than younger adults and that the decline was particularly pronounced for tasks requiring working memory and attention.

According to a different study, fluid intelligence declines with age and is more prominent in some cognitive domains than others. This suggests that individuals are more likely to experience declines in their cognitive abilities as they age. Similarly, it was discovered that age-related reductions in memory retention, processing speed, and executive function can impair an older person's capacity to efficiently use technology (Manard et al., 2014).

All of the studies have certain limitations. They frequently rely, for example, on self-reported measurements of technology use, which may need to be more precise. One shortcoming in the research is that it focuses solely on the detrimental impact of cognitive decline on technology use. Future study might look into ways to mitigate this effect, such as developing technologies that are especially customised to the requirements and skills of older persons with cognitive impairment. Furthermore, future studies might look at the influence of cognitive training programmes on the technology usage of older persons and if these programmes can help buffer the negative consequences of cognitive decline.

2.3. Technological Literacy and Older Adults

Research on this topic investigates the technological literacy level of elderly users and how it affects their ability to use technology effectively. Ma et al. (2020) conducted a study that found that the discrepancy in technological skills and knowledge between older and younger adults can partially explain the digital divide, as elderly people may lack the proficiency and confidence to utilize technology to its full potential. More recently, a study by Hatamnezhad et al., 2021 examined the influence of computer training on elderly people's technological literacy and discovered that computer training can assist enhance their technological literacy and boost their usage of technology. Another study explored the role of motivation in older adults' adoption of technology and found that a high level of motivation can lead to an increase in technological literacy and technology use (Tyler et al., 2020).

These studies provide valuable insights into the impact of technological literacy on technology use by older adults and the role that computer training and motivation play in promoting technology adoption. They may have limitations such as a small sample size or a limited demographic, and therefore, generalizing the results to the larger population may be challenging.

2.4. Potential benefits of financial technologies for older adults

This subject investigates the positive influence of financial technologies (FinTech) on older individuals' lifestyles. According to one study (Cahill et al., 2018), FinTech can assist independent living, improve financial decision-making, and increase the overall quality of life for the elderly population.

In the context of retirement planning and investing, user-centred design (UCD) financial technology can help older persons live more independently, make better financial decisions, and improve their overall quality of life (Topa et al., 2018). Research proving the good impact of telehealth technology on the quality of life for old aged persons with chronic health illnesses, including improved health outcomes, increased access to treatment, and higher quality of life, supports the potential advantages of UCD financial technologies (Guo & Albright, 2017).

One potential limitation of the studies is that they may be subject to selection bias, as they are often based on samples of older adults already using technology. This may limit the generalizability of the findings to the broader population of older adults who are not using technology.

Moreover, the studies differ in their focus and methodology. For example, some studies focus on specific types of technology (such as smart homes or telehealth). In contrast, others take a more general approach to investigating the impact of technology on the quality of life.

2.5. Ethical considerations in designing financial technologies for older adults

Designing financial technologies for elderly people requires addressing ethical concerns related to privacy and security, the potential for exploitation or harm, and accessibility needs. Older adults are vulnerable to fraud and identity theft and therefore require additional protections to ensure their personal and financial information is secure (DeLiema et al., 2021). Another recent study by (Felzmann et al., 2019) highlights the need for designers to address ethical considerations related to transparency and fairness in the design of financial technologies for older adults. The study emphasizes that older adults may be more susceptible to biased decision-making algorithms and calls for greater transparency in the design and implementation of financial technologies to prevent potential harm.

To address these ethical considerations, designers of FinTech for older adults should consider ethical principles such as privacy, autonomy, and beneficence. By considering ethical concerns, designers can

create FinTech services that are safe, secure, and accessible for older adults.

2.6. Design recommendations for financial technologies for elderly individuals

To improve the use and acceptance of financial technology among elderly people, the design must be intuitive, efficient, and effective. Among the important design guidelines mentioned in the literature are the following:

Use of clear and simple language: Financial technologies should use plain language, with simple and clear instructions, to avoid confusion and misunderstandings (Carr et al., 2013).

Allow for customization: Allowing older adults to customize the settings and features of financial technologies can help them feel more in control and better tailor the technology to their specific needs (Carr et al., 2013).

Test designs with older adults: Designers should involve older adults in the design and testing process to ensure that the technology meets their needs and preferences.

Minimizing complexity: Complex financial technologies may be overwhelming for older adults, leading to frustration and difficulty understanding the system. Thus, it is essential to minimize complexity by breaking down complex tasks into more straightforward steps and avoiding cluttered screens (Sumner et al., 2021).

Providing adequate feedback: Feedback is an essential component of user-centred design. Financial technologies for older adults should provide immediate and clear feedback to help users understand the results of their actions.

Consistency in design: Consistency in design, such as using standardized icons and layouts, can help older adults navigate and understand financial technologies more easily (Carr et al., 2013).

The studies also draw on a variety of fields, including human-computer interaction, psychology, and design, to provide a more thorough knowledge of the issue. One potential gap in these studies is the need for more research on the emotional and social aspects of financial technology use among older adults. Future research could explore how these factors impact this population's usability and acceptance of financial technologies.

3. Conclusion

In conclusion, this literature review provides valuable insights into the design of intuitive financial technologies for elderly users. To meet the requirements of older persons in technology design, user-centred design techniques have been intensively investigated, with data suggesting that applying UCD principles may increase accessibility and usability. The study also looked at age-related cognitive decline, technology literacy, and the potential advantages of financial technologies for elderly people. The review found key design recommendations to increase the usage and acceptability of financial technology among the elderly, such as utilising clear and simple language, allowing for customisation, limiting complexity, giving enough feedback, and maintaining design consistency. Ethical issues for privacy, security, and transparency in financial technology design were also considered.

While the studies reviewed give useful insights into the design of intuitive financial technology for senior users, the extent of the study is limited. More study is needed to investigate the emotional and social components of financial technology usage among older persons, as well as a bigger sample size to increase the generalizability of the findings. Finally, this literature review lays the groundwork for future research

on building sensible financial solutions for senior users, with the objective of enhancing accessibility, usability, and general quality of life for this population.

4. References

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