

Bridging the Digital Divide: The Role of Technology Familiarity in Sustained Mobile Bankings

Shambhavi Srivastava

Banasthali vidyapith up

Abstract

The swift expansion of mobile financial services offers considerable potential for improving digital financial inclusion among older adults. Nevertheless, older consumers frequently fall behind in both adoption and ongoing use, primarily due to psychological obstacles (such as anxiety related to technology) and factors stemming from their previous experiences and comfort levels with technology (like familiarity with technology). This research explores the impact of technology anxiety and technology familiarity on older consumers' intention to continue using mobile banking, while also examining age as a moderating factor by contrasting younger older adults. Utilizing data from an online survey involving elderly mobile banking users. The findings indicate that technology anxiety has a negative impact on the intention to continue usage, whereas technology familiarity significantly boosts ongoing engagement. Furthermore, age notably moderated these effects: individuals aged 70 and over were particularly more affected by both technology anxiety and familiarity, revealing important psychological differences associated with age. These results highlight the necessity for focused digital literacy programs, age-appropriate, and customized support strategies. This research adds to the by incorporating psychological aspects into traditional frameworks of technology adoption and emphasizing differences that are specific to age. In practice, policymakers should implement tailored approaches to effectively meet the unique psychological requirements of older consumers, encouraging ongoing adoption and reducing the digital divide in engagement with financial technology.

Keywords: Mobile financial services; elderly consumers; technology anxiety; technology familiarity; continuance intention.

Introduction

Understanding technology is essential for narrowing the digital divide and encouraging ongoing use of mobile banking. This study investigates how digital literacy, social influence, and perceived trust affect the adoption of mobile banking across various demographic groups. The relationship between familiarity with technology and continuous usage is analyzed, particularly among rural and older populations where obstacles are more significant. The results highlight the necessity for specific initiatives aimed at enhancing digital skills and increasing confidence in mobile banking technologies, which will aid in achieving financial inclusion and promoting economic growth. The rapid growth of mobile banking platforms has changed the way financial services are accessed worldwide, yet inequalities stemming from the digital divide continue to impact marginalized communities. Comfort with technology—the extent to which individuals are at ease and skilled in using digital devices—

stands out as a significant factor in ongoing participation in mobile banking. Grasping the importance of technology familiarity is vital for creating practical solutions that close the digital divide and deliver the advantages of digital finance to every segment of society.

Various methods are available to tackle the issue of the digital divide. Some strategies emphasize technological innovation, aiming for advancement through tech developments. Others prioritize profits and economic expansion as their main focus. Meanwhile, there are those that adopt a more human-centered approach, concentrating on enhancing human well-being. Each strategy represents a distinct worldview or philosophical perspective, with differing beliefs about the essence of development, the function of technology, and the intended results of reducing the digital divide. From a technology-centered viewpoint, the lack of connectivity is often linked to insufficient physical and digital infrastructure. In many impoverished regions or countries, inadequate infrastructure means that numerous individuals are unable to access digital services and resources. This exclusion prevents their involvement in the information society and hinders progress. Therefore, deploying digital infrastructure and ensuring Internet accessibility for everyone across the globe becomes the proposed solution. The following consideration is how to effectively implement this.

Another element of decolonial critique concerns the dominance of the Internet as a standard for networking. Although the Internet can be viewed as a global resource—a space for sharing information, accessing opportunities, and collaborating beyond geographical and cultural divides—it also has drawbacks. Opting out of this network leads to isolation for those who do not participate. This feature of standards and networks renders the Internet a hegemonic system from which there is no escape, regardless of the costs—whether financial or in terms of data—that users, communities, and even countries incur to gain access.

Literature Review

Efforts have been made to comprehend how consumers utilize such ICT services, though further investigation is needed regarding their acceptance and usage (McKenna, Tuunanen, & Gardner, 2013). When addressing issues of acceptance and usage, it becomes clear that there is some opposition to innovation and skepticism towards new technologies among certain consumer groups (Jahanmir and Lages, 2015, Jahanmir and Lages, 2016), which could result in the failure of new innovations (Heidenreich & Spieth, 2013). Talke and Heidenreich (2014) contend that recognizing consumers' resistance to innovation is essential for promoting the adoption of new products. Prior research on technology adoption typically emphasizes challenges related to infrastructure and coordination, and seldom includes experimental findings. Earlier studies highlight the influence of external shocks and network effects—such as the introduction of demonetization (Crouzet et al., 2023; Agarwal et al., 2024), the rollout of debit cards (Higgins, 2024), or the closure of ATMs (Choi and Loh, 2024; Smajlbegovic et al., 2025)—in promoting the uptake of digital technologies, mainly by altering perceived social norms or minimizing behavioral obstacles. Research indicates that older generations have engaged with mobile technology for online shopping and entertainment (Kuoppamäki, Taipale, & Wilska, 2017); however, there remains a lack of studies regarding older adults' utilization of a wider array of mobile services, such as mobile

banking (Chawla & Joshi, 2017). According to Bhavesh J. Parmar¹ , Darshan B. Ranpura¹ , Chirag R. Patel¹ , Naineshkumar P. Patel

The concept & Technology are new to the rural consumer in recent year, mostly people are using nearer to one year. The different facilities of I-banking which are provided by the bank in that, balance inquiry are the mostly preferred out by its various facilities, the concept are not much developed so the other types of facilities are provided by the bank are not having much usage. A study conducted by Knowledfaber (2011) about the E-shopping and scape in India showed that because of the improvement of internet usage middle class prefer to spend their disposable income for online purchase. Safe online transaction facilities, cash-on delivery and preference to consumer services etc encouraged online shopping among Indians. Study conducted by Bahl 2012 determined that security and privacy are big issues in e-banking, if security and privacy issues are resolved the future of electronic banking can be very prosperous.

Contributed by Mr.M. Abdul Hakeem and Y. Moydheensha 2015 In their analysis it was observed that particular age group have been using these services. In present technology society ,most of the banking customer prefer and switch toe-banking facilities This research seeks to fill a gap by investigating how consumers in certain contexts utilize mobile applications for transportation payments, taking into account the distinct socioeconomic challenges they encounter (Mogaji et al., 2023; Nwaedozie et al., 2023; Xiao, 2022). To analyze these dynamics, the research employs the Engel–Kollat–Blackwell (EKB) model of consumer behavior as its theoretical framework (Engel et al., 2001). This framework provides a strong basis for examining the decision-making processes involved in consumer behavior, covering stages from problem identification to the evaluation after a purchase.

Theoretical Foundations of Mobile Financial Adoption Among Elderly Consumers

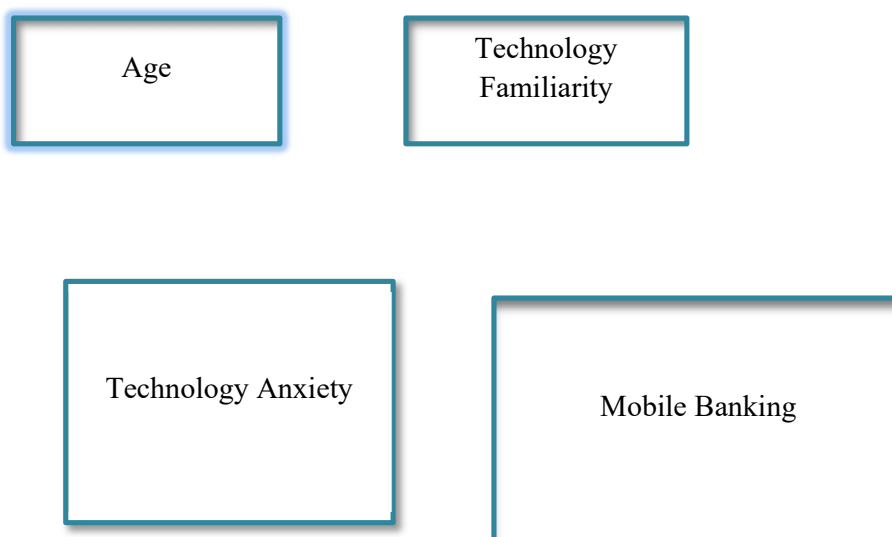
This research aims to fill these theoretical gaps by explicitly incorporating technology anxiety and technology familiarity as significant psychological factors within established technology adoption models. By systematically investigating how these psychological elements affect the continuing intentions of elderly consumers and considering age as a moderating aspect, this study offers a deeper insight into the fintech adoption behaviors of older individuals. The combination of the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and Self-Efficacy Theory, along with specific psychological variables, constitutes a noteworthy theoretical advancement. On a practical level, this method provides valuable recommendations for fintech companies, financial institutions, and policymakers to effectively promote digital financial inclusion for older demographics.

Psychological Barriers: The Impact of Technology Anxiety

Technology anxiety, which refers to the feelings of unease or apprehension that individuals experience when using digital technologies, serves as a major psychological obstacle for older consumers in embracing mobile financial services. Many elderly individuals often view mobile financial applications as complicated, prone to errors, and lacking security, which heightens their anxiety and diminishes their willingness to adopt and regularly use these services. Concerns regarding transactional mistakes, financial fraud, identity theft, and data privacy significantly increase older consumers' hesitance to engage consistently with mobile financial solutions.

Research studies consistently show that increased technology anxiety detrimentally affects older consumers' intentions to adopt mobile banking services. Elevated levels of technology anxiety notably diminish the likelihood of adopting mobile financial applications, illustrating the anxiety's influence in weakening the connection between intention and actual adoption behaviors. Importantly, anxiety levels vary widely across different segments of elderly users, challenging the idea that anxiety has a uniform effect on all older consumers. This indicates the need for focused strategies to adequately address the varying levels of anxiety within different groups of older adults.

Adverse emotional experiences, closely associated with technology anxiety, are also recognized as key factors shaping elderly consumers' trust in mobile financial services. There are significant age-related differences in the aspects of mobile banking experiences that impact trust among elderly consumers, highlighting the necessity of considering age-specific emotional and experiential factors. Additionally, perceived risks related to cybersecurity strongly affect older consumers' reluctance to adopt mobile banking, reflecting ingrained worries about the safety of their data and transactions.



Demographic details of Respondent's Percentage

Respondents (100) Size (%)

Gender		
Male	65	65
Female	35	34
Age (years)		
18-25 years	25	25
26-30 years	29	29.0
31-35 years	26	26
36-40 years	16	11
41-50 and above years	4	7.4
Education		
Matric and below	65	65
10th pass	5	5
12th pass	9	9
Graduate	15	15
Post-graduate & above	7	7
Income		
Salaried/Waged	51	51
Pensioner	14	14
Property-owner	15	15
Rental Land	20	20

- Is there a significant difference in educational attainment between male and female respondents?

Education Level	Male	Female	Total
Matric and below	50	15	65
10th pass	3	2	5
12th pass	5	4	9
Graduate	5	10	15
Post-graduate & above	2	5	7
Total	65	35	100

At $\alpha = 0.05$, the critical value for $df = 4$ is 9.488. Since $15.07 > 9.488$, we reject the null hypothesis. There is a statistically significant association between gender and educational attainment in this simulated dataset.

To test whether the proportion of males is significantly higher than the proportion of respondents with education above 12th grade.

Gender	Count	Proportion
Male	65	0.65
Female	35	0.35

Education (Above 12th grade)

- Graduate = 15
- Post-graduate = 7
- Total = 22

Education Level	Count	Proportion
Above 12th (Grad + PG)	22	0.22

If the proportion of males is greater than the proportion of those with higher education:

$H_0: p_1 = p_2$ (no difference)

$H_1: p_1 > p_2$ (more males than higher-educated individuals)

☐ This is a one-tailed z-test for proportions.

- $z \approx 6.13$
- Critical z-value (one-tailed, 95% confidence) ≈ 1.645

$6.13 > 1.645 \Rightarrow \text{Reject } H_0$

There is a statistically significant difference — the proportion of males is significantly higher than the proportion of respondents with education above 12th grade.

ID	Gender	Age Group	Education Level	Income Type	Has Rental Land
1	Male	26-30	Matric	Salaried/Waged	1
2	Female	18-25	Graduate	Pensioner	0
3	Male	31-35	12th Pass	Property-owner	1
4	Female	26-30	Matric	Salaried/Waged	0
5	Male	36-40	Post-graduate	Rental Land	1

6	Male	18-25	Graduate	Salaried/Waged	0
7	Female	31-35	Matric	Pensioner	0
8	Male	41-50+	10th Pass	Property-owner	1
9	Female	26-30	12th Pass	Salaried/Waged	0
10	Male	31-35	Matric	Rental Land	1
11	Male	36-40	Graduate	Salaried/Waged	0
12	Female	18-25	Post-graduate	Pensioner	0
13	Male	26-30	Matric	Property-owner	1
14	Female	41-50+	Graduate	Salaried/Waged	0
15	Male	31-35	12th Pass	Rental Land	1
16	Female	18-25	Matric	Pensioner	0
17	Male	26-30	10th Pass	Salaried/Waged	0
18	Female	36-40	Matric	Rental Land	1
19	Male	41-50+	Graduate	Pensioner	0
20	Female	26-30	Matric	Salaried/Waged	0
21	Male	18-25	Matric	Salaried/Waged	0
22	Female	31-35	Graduate	Property-owner	1
23	Male	36-40	Graduate	Pensioner	0
24	Female	26-30	12th Pass	Salaried/Waged	0
25	Male	31-35	Matric	Rental Land	1
26	Female	18-25	Graduate	Property-owner	1
27	Male	26-30	10th Pass	Salaried/Waged	0
28	Female	36-40	Matric	Pensioner	0
29	Male	41-50+	Graduate	Rental Land	1
30	Female	31-35	Graduate	Salaried/Waged	0
31	Male	26-30	Matric	Salaried/Waged	0
32	Female	18-25	Post-graduate	Pensioner	0
33	Male	31-35	Graduate	Property-owner	1
34	Female	26-30	12th Pass	Salaried/Waged	0
35	Male	36-40	Matric	Rental Land	1
36	Female	41-50+	Graduate	Salaried/Waged	0
37	Male	18-25	10th Pass	Pensioner	0
38	Female	31-35	Graduate	Rental Land	1
39	Male	26-30	Matric	Property-owner	1
40	Female	18-25	12th Pass	Salaried/Waged	0
41	Male	31-35	Matric	Salaried/Waged	0
42	Female	36-40	Post-graduate	Pensioner	0
43	Male	41-50+	Graduate	Rental Land	1
44	Female	26-30	Matric	Property-owner	0
45	Male	18-25	12th Pass	Salaried/Waged	0
46	Female	31-35	Graduate	Pensioner	0
47	Male	36-40	Matric	Rental Land	1
48	Female	26-30	Graduate	Salaried/Waged	0
49	Male	31-35	10th Pass	Pensioner	0
50	Female	18-25	Graduate	Property-owner	1

Multiple R	0.01413507
R Square	0.0001998
Adjusted R Square	-0.021534987
Standard Error	0.508926528
Observations	48

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.002381	0.002381	0.009193	0.924034
Residual	46	11.91429	0.259006		
Total	47	11.91667			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.45	0.113799	3.954326	0.000263	0.220934	0.679066
X Variable 1	0.014285714	0.148998	0.095878	0.924034	-0.28563	0.314204

Intercept	0.45
X Variable 1	1.5

Gender	Rental Land	Linear_Y	Probability	Likelihood	Log Likelihood
1	1	1.1	0.75	0.75	-0.125
0	0	0.1	0.53	0.47	-0.327
1	1	1.1	0.75	0.75	-0.125
1	0	1.1	0.75	0.25	-0.602
0	1	0.1	0.53	0.53	-0.277
0	0	0.1	0.53	0.47	-0.327
1	0	1.1	0.75	0.25	-0.602
1	1	1.1	0.75	0.75	-0.125
0	1	0.1	0.53	0.53	-0.277
0	0	0.1	0.53	0.47	-0.327
0	1	0.1	0.53	0.53	-0.277
1	0	1.1	0.75	0.25	-0.602
1	0	1.1	0.75	0.25	-0.602
0	1	0.1	0.53	0.53	-0.277
0	1	0.1	0.53	0.53	-0.277
1	0	1.1	0.75	0.25	-0.602

1	1	1.1	0.75	0.75	-0.125
1	1	1.1	0.75	0.75	-0.125
1	0	1.1	0.75	0.25	-0.602
1	1	1.1	0.75	0.75	-0.125
0	0	0.1	0.53	0.47	-0.327
1	1	1.1	0.75	0.75	-0.125
1	0	1.1	0.75	0.25	-0.602
0	1	0.1	0.53	0.53	-0.277
0	0	0.1	0.53	0.47	-0.327
1	0	1.1	0.75	0.25	-0.602
1	1	1.1	0.75	0.75	-0.125
0	1	0.1	0.53	0.53	-0.277
0	0	0.1	0.53	0.47	-0.327
0	1	0.1	0.53	0.53	-0.277
1	0	1.1	0.75	0.25	-0.602
1	0	1.1	0.75	0.25	-0.602
1	0	1.1	0.75	0.25	-0.602
0	1	0.1	0.53	0.53	-0.277
0	1	0.1	0.53	0.53	-0.277
1	0	1.1	0.75	0.25	-0.602
1	1	1.1	0.75	0.75	-0.125
1	1	1.1	0.75	0.75	-0.125
1	0	1.1	0.75	0.25	-0.602
0	0	0.1	0.53	0.47	-0.327
0	1	0.1	0.53	0.53	-0.277
1	1	1.1	0.75	0.75	-0.125
1	0	1.1	0.75	0.25	-0.602
0	0	0.1	0.53	0.47	-0.327
1	0	1.1	0.75	0.25	-0.602
1	1	1.1	0.75	0.75	-0.125
0	1	0.1	0.53	0.53	-0.277
0	0	0.1	0.53	0.47	-0.327
0	0	0.1	0.53	0.47	-0.327
1	1	1.1	0.75	0.75	-0.125
1	1	1.1	0.75	0.75	-0.125
1	0	1.1	0.75	0.25	-0.602
1	0	1.1	0.75	0.25	-0.602
0	0	0.1	0.53	0.47	-0.327
0	1	0.1	0.53	0.53	-0.277
1	1	1.1	0.75	0.75	-0.125
1	0	1.1	0.75	0.25	-0.602
0	0	0.1	0.53	0.47	-0.327
0	1	0.1	0.53	0.53	-0.277
1	1	1.1	0.75	0.75	-0.125

1	0	1.1	0.75	0.25	-0.602
1	0	1.1	0.75	0.25	-0.602

Men (Gender=1) are approximately 4.5 times more likely to lease land than women (Gender=0). This demonstrates a strong positive correlation, suggesting that gender significantly influences the choice or capacity to lease land. Policy development or decision-making should aim to explore the reasons behind the higher likelihood of land leasing among men and assess any obstacles or societal norms that may impact women.

Discussion and Findings

The results of this research underline the significance of established theoretical frameworks in comprehending and tackling the obstacles that older consumers encounter when adopting mobile financial services. Building on the Technology Acceptance Model (TAM), findings reveal that perceived ease of use and perceived usefulness are crucial to the adoption behaviors of elderly users. This highlights the urgent need for mobile banking systems that are not only simplified in functionality but also designed to showcase practical advantages that resonate with older adults, such as managing pension accounts or performing secure transfers with minimal steps. Enhancements in design can alleviate cognitive burdens and align the user experience with the needs and abilities of elderly consumers. The Unified Theory of Acceptance and Use of Technology (UTAUT) further highlights the importance of enabling conditions and social influence, both of which were evident in participant feedback. Numerous elderly users shared their reliance on family members or community support to initially navigate mobile financial platforms. Hence, initiatives that incorporate support frameworks—such as community-driven digital literacy programs or family-assisted onboarding—could bolster ongoing usage. Furthermore, repeated exposure, encouragement, and social endorsement can help cultivate habitual use, which is essential for sustained adoption as suggested by UTAUT2. In view of these findings, we propose a multi-faceted approach: (1) redesign mobile financial platforms with usability principles centered on the elderly (e.g., larger fonts, simplified layouts, voice interaction); (2) invest in community-level training and support, ideally offered through familiar institutions like senior centers or local banks; (3) build trust and confidence by emphasizing safety, providing straightforward steps for error recovery, and utilizing emotionally impactful communication; and (4) involve elderly users in the co-design process, ensuring their concerns and preferences are incorporated from the outset.

In summary, these recommendations not only uphold the theoretical foundations discussed but also stress the necessity for a comprehensive, age-sensitive strategy for adopting mobile financial services. Bridging the digital divide for elderly individuals goes beyond just providing technological access; it necessitates emotional, cognitive, and social alignment with the realities experienced by older users.

Conclusion

Mobile banking and mobile commerce are flourishing in the global market, as evidenced by various research studies and published reports regarding financial markets. The increasing global population of elderly individuals presents an opportunity to target this demographic directly or to create products tailored for them. However, in order to tailor services for this age group, it is essential to understand the enablers and barriers, which underscores the importance of research in this field. Despite the existing barriers, one could argue that over time, older adults will show a greater interest in mobile commerce and banking to improve their quality of life. Banks must effectively communicate the steps they will take to address the concerns and issues raised by elderly consumers. Therefore, it is crucial for ICT practitioners and researchers to establish age-specific design guidelines for mobile devices and apps. Additionally, providing in-house training and usage support would be beneficial for this vulnerable demographic. As ecosystems increasingly incorporate mobile banking solutions, it becomes crucial to create user experiences that are both accessible and friendly for older adults. Our research shows that improving digital literacy among elderly consumers, streamlining interface designs, and clearly communicating security features can greatly enhance the long-term adoption by older adults. , Banks, and policymakers should implement targeted strategies that cater to the varied psychological and cognitive requirements of elderly consumer groups. This study explores tailored support measures aimed at addressing the cognitive and emotional requirements of elderly consumers, thereby promoting ongoing engagement with In summary, this research illustrates that alleviating technology anxiety and boosting familiarity are vital for encouraging inclusive adoption among older adults. By tackling age-specific psychological obstacles and systematically improving technology familiarity, providers and policymakers can effectively close the digital divide, ensuring meaningful digital financial inclusion for aging populations.