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ADOPTION OF DIGITAL BANKING BY SENIORS CITIZENS IN BHUBANESWAR CITY: AN ASSESSMENT OF TRENDS AND EFFECTS

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ABSTRACT

Banks in India have quickly moved to digital platforms, allowing people to carry out transactions more safely and efficiently. Still, many senior citizens in places such as Bhubaneswar have not easily moved to digital banks, which is a concern. The study is designed to investigate how many senior citizens in Bhubaneswar, Odisha use digital banking, what difficulties they experience, and what they consider the positives and negatives of using digital banking. This research employs both numerical and qualitative methods, utilizing surveys that question 150 people, as well as in-depth interviews. While a lot of older adults hear about digital banking, relatively few use it, mainly because they lack online skills, worry about safety, resist new things, and do not get enough help. It appears that more customers choose to use ATMs and mobile banking over internet banking and apps, which implies they prefer simple interfaces and help is directly available. The pandemic also made senior citizens start using digital banking services, as they needed to find alternative ways to buy things during periods of lockdown. Still, often, it was the actions of someone else, such as a family member or caregiver, that made this change possible, hinting at possible dependence on more help to engage online independently. It further indicates that people benefit from using e-wallets, as they gain fiscal freedom, experience convenience, and save time. On the other hand, challenges like blocked transactions, attempts to steal data, and bad customer assistance cause people to trust cryptocurrency less. Based on the findings, the research proposes financial literacy classes, simple-to-use banking platforms and special support for seniors, all of which would increase the inclusiveness of digital banking. When banks and policymakers solve these problems, they help seniors in India take part in digital banking and enjoy the same privileges as others.

KEYWORDS: *Digital Banking, Senior Citizen, Bhubaneswar, Financial Inclusion, Usage Trends.*

INTRODUCTION

In India, digital banking has come out as a transformative journey in the last 20 years, particularly after the opening up of the banking sector and the introduction of internet and mobile-based technologies. Core banking solutions and services like Internet Banking, Unified Payments Interface (UPI) and mobile wallets have been introduced, the National Payments Corporation of India (NPCI) has been launched, and initiatives like this have transformed the financial environment. This momentum was further enhanced by the Digital India campaign, initiated in 2015, which aims to integrate all citizens into an interconnected digital environment. As smartphone and internet penetration rise, digital banking has become a fundamental aspect of financial transactions, bill payments, fund transfers, and other services, leading to increased financial inclusion and reduced reliance on conventional banking systems. Although the use of digital banking has become common amongst different age groups, elderly people are mostly left on the wrong side of the digital divide. Lack of digital literacy, fear of fraud, physical (e.g. poor eyesight or motor control) and psychological limitations, as well as the reluctance to use new technologies, represent factors that hinder their effective inclusion into the digital banking environment(Cnaan et al., 2023). Whereas the younger generations intuitively embrace the use of apps in their financial services, the older people might still favour visiting the banks physically, using cheques, or ATMs. Such a generational divide in the use of technology has only increased in the post-pandemic era, when the use of digital banking was forced. This gap has to be bridged, not only to ensure inclusivity but also to ensure that the seniors have more independence and safety when it comes to their finances. The need to concentrate on senior citizens is motivated by the fact that they constitute a large and increasingly large segment of the population that has special financial requirements and behavioural trends. With longer life expectancy and pension-based incomes being a necessity, older people frequently need to have access to banking on a regular basis. Nevertheless, the existing digital banking system and awareness campaigns are more skewed towards the younger population, ignoring the barriers experienced by the older adults (Laskar,2023). By learning about their behavioural patterns, hesitations, and sticking points, one

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will be able to create more inclusive digital services, empower them financially, and avoid exclusion on the most critical banking services. Furthermore, the enhancement of digitalization among the older population can also help offload the pressure on tangible bank resources and improve the effectiveness of serving the population. The capital city of Odisha, Bhubaneswar, has experienced a high rate of digitalization and urbanization in the recent past, which presents it as a good site to examine the trend of digital banks. The city has a large number of senior government retirees, professionals, and independent older residents staying with families, and provides a varied senior population. Although the level of urban infrastructure is comparatively high, the socio-cultural environment of the city, the rate of digital literacy, and the availability of access to banking support services drastically differ in various districts of the city(Ghosh,2024). An analysis of Bhubaneswar not only allows us to examine the urban digital preparedness in the elderly, but also allows us to identify context-specific factors that affect adoption, such as language barriers, the support network and local outreach programs by banks or other NGOs.Nevertheless, the national trends of digitalization and the apparent advantages of digital banking do not yet show high adoption rates and involvement in online financial services among senior citizens in India, especially in semi-urban regions, such as Bhubaneswar. This consistent divide extends to a more fundamental problem of usability, accessibility, and trust, which is regularly compounded by a lack of proper digital training and customized platforms to suit older people. Whereas past studies are more likely to fall into one of two categories (urban youth or working professionals), empirical evidence on the barriers to seniors, the enabling or constraining support structures, and the real implications, both economic and psychological, of digital banking on the lives of seniors is notably lacking. It is not only the issue of access to technology but also the matter of adaptive capacity, confidence, and inclusive design, which this research will investigate in detail(Gupta et al., 2024).

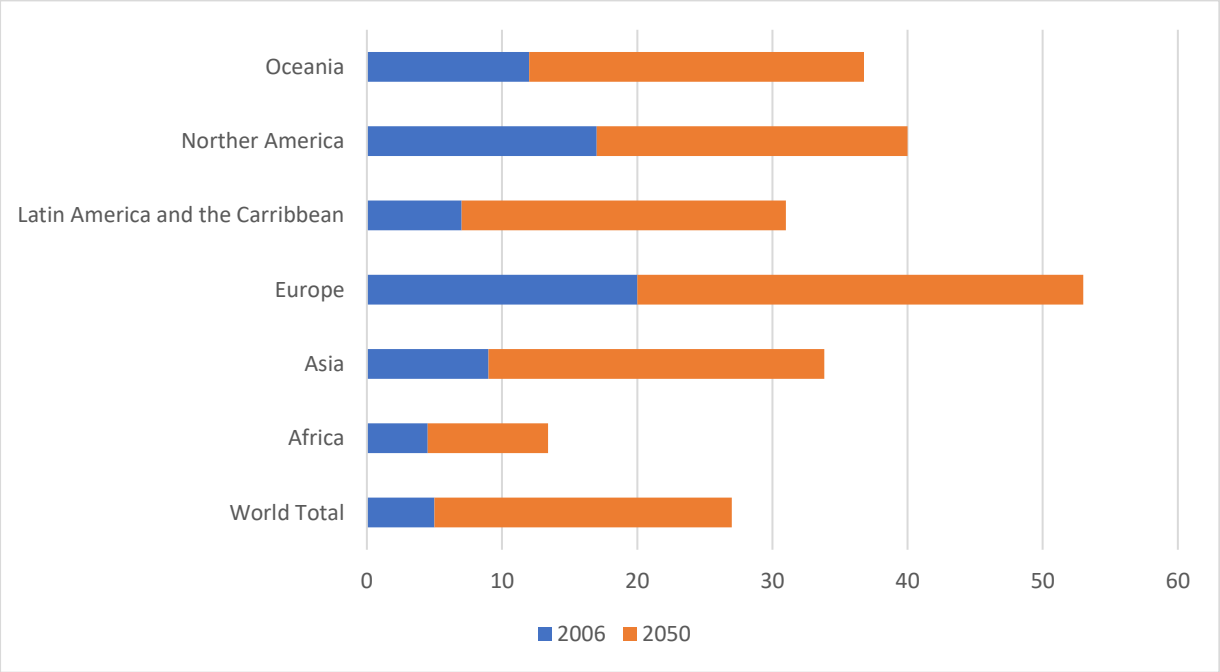


Figure 1: Senior forecasts for population (adapted from Bloom and Luca 2016)

OBJECTIVE OF THE STUDY

- The research intends to assess the level of acquaintance of senior citizens of Bhubaneswar with digital banking services such as fund transfer through net banking, bill payment, UPI, mobile applications, and customer care support tools by giving a quantitative and qualitative insight
- The research wants to know what can help or prevent the elderly population from embracing digital banking, including family support, smartphone possession, bank-conducted training, and a customer-friendly interface, to enhance access and efficiency.
- The research investigates the impact of digital banking on seniors' financial health and emotional stability, examining their independence, spending patterns, security, stress, and engagement with financial institutions, while also addressing anxiety and isolation.

Research Question

- Which are the main behavioural, cognitive and infrastructural hindrances to the adoption of digital banking among the elderly in Bhubaneswar and what are the differences across the socioeconomic groups?
- How much do family support, community education, and user-friendly interface alleviate the adoption obstacles and promote financial/emotional welfare of the seniors?
- What are the ways to combine regulatory frameworks (e.g., RBI design mandates), and technological innovations (voice banking, biometrics) to develop scalable and culturally resonant solutions to the aging population in Indian cities?

Overcoming the Digital Gap for Elderly People: An Empirical and Theoretical Look at Banking Technology

Digital banking implies the digitalization of all the conventional banking operations and programs which previously could be offered to the clients only when they were physically present in a bank branch. It involves the utilization of online platforms, mobile-based apps, and other digital platforms that enable customers to execute financial transactions, check accounts and access banking services without going to the bank physically. In India, the scene of digital banking has grown tremendously in the last 20 years due to various government policies like Digital India, Aadhaar-based payments, and the emergence of fintech innovations. Significant digital banking facilities comprise Unified Payments Interface (UPI), mobile phone banking apps, internet banking, and digital or e-wallets. It is UPI, which has been developed by the National Payments Corporation of India (NPCI) that has thrown the person-to-person and person-to-merchant(Sankararaman et al., 2021) transactions into a tizzy because now money can be transferred instantly using just a smartphone and without requiring any bank account information. Mobile banking applications, which are provided by nearly all the big banks, enable clients to examine account balances, move funds, pay bills and manage investments. Likewise, internet banking or net banking permits customers to conduct extensive variety of services like opening fixed deposits, loan applications and surveillance of the account activity by means of web portals. They are services that are meant to be more convenient, to take shorter time to transact, to be more secure, and allow 24 hours access to banking and therefore play a big role in financial inclusion as well as efficiency in operations(Lakshmi et al., 2019). Their effective adoption is, however, dependent on factors such as user literacy, access to devices, trust and digital infrastructure. Among elderly people, most of whom are new in the use of smart phones or are not conversant with digital interfaces, the theoretical knowledge and practical application of the devices may pose a challenge. Seniors might be wary of digital banking, unlike younger generations who are digital natives and need interfaces that are easy to figure out, language-sensitive, and accompanied by personalized help. Consequently, the issue of digital banking should be discussed in terms of accessibility, adaptability, and relevance of the services offered to such vulnerable groups as the elderly, in addition to the range and diversity of the services provided. The fundamental aspects of digital banking, including its scope, functionality, and delivery models, should be understood in order to evaluate the effectiveness of digital banking in serving the senior population, especially in cities, such as Bhubaneswar, where digital penetration and technologically induced generational divide co-exist (Mahesh et al., 2021).The elderly people form a population segment that is commonly associated with some distinct difficulties and a reserved attitude toward technological innovations. Several psychological, social, cognitive, and environmental factors impact technological adaptability in the elderly. Reduced memory retention, reaction time, and other age-related changes in cognitive processing can impose a barrier to learning and the proper use of new technologies. Besides, the informal introduction to working with digital tools in their early or professional life usually leads to a lack of confidence and willingness to use new mechanisms such as mobile applications or web portals. Cybersecurity, data privacy, and fraud are also the major concerns of many seniors, which adds to anxiety and opposition to digital banking. Social factors, including family member encouragement, peer adoption, and digitally literacy programs available within communities, are key in determining the behaviour of the elderly towards technology (Jena, 2023). Family support can also play a great role in exposing seniors to technology and making them more comfortable with it, especially in cities such as Bhubaneswar, where multigenerational households are prevalent. This support is however, not uniform, particularly among individuals who live alone or do not have tech-savvy family members or friends. This can also be seen in terms of the behavioural model of the senior citizens, where in-person communication, physical evidence of transaction and visiting the bank physically is preferred over other methods, as it has been that way throughout their lives. It is on this basis that most seniors are not completely allergic to technology despite these challenges (Gathongo, 2019). They can learn and adjust to the digital platform with proper guidance and through repetition and especially when these tools are easy to navigate, have visual appeal, and provide customized assistance. The main factors that will dictate the adoption of digital services among the seniors are emotional comfort, trust in the system, and perceived usefulness. Hence, more research is needed to determine the behavioural patterns and levels of adaptability among the senior citizens, in a bid to come up with inclusive digital banking solutions. It places an emphasis on the necessity of interfaces that cause a lesser cognitive load, give step-by-step guidance, and enable assisted use. To conclude, the acquaintance of senior citizens with technology is complex and characterized by reluctance, but not inability, and

can be enhanced in a positive direction through considerate design solutions, community engagement, and user-centered service provision (Qatawneh et al., 2025).One of the most prominent theoretical frameworks that are utilized in predicting as well as explaining the user behaviour in technology adoption is the Technology Acceptance Model (TAM), developed by Fred Davis in 1986. According to it, an individual intention to use a certain technology depends on two main factors which are Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). Perceived usefulness is a belief by an individual that the utilization of a certain technology will improve his or her performance at work or make his or her life more productive, whereas perceived ease of use is how easy the user thinks the technology will be to use. All these perceptions will lead to a certain attitude of an individual towards technology that will further affect behavioural intention and use. As a new technology of digital banking is being introduced to senior citizens, TAM provides a solid conceptualization of how elderly users perceive the value of online financial services. As an example, when a senior citizen has the feeling that mobile banking would allow them to save time, prevent physical difficulties, or allow them to manage their finances better, the chances of the senior citizen adopting mobile banking increase(Natasia et al.,2022). But in case they get confused looking at the interface or face problems in comprehending the procedure involved in carrying out online transactions, then their ease of use factor could be hurt, and thus their adoption of the technology could go down. The applicability of TAM to the examination of seniors is notably important considering that this section of the population commonly encounters obstacles, which can skew both the perceived usefulness and the ease of use. Their attitude towards digital banking can be negatively affected by cognitive decline, the absence of prior experience with a digital interface, and little confidence in dealing with errors or system failures. In addition, in several research works, TAM is expanded to incorporate external factors, including age, experience, training, and technical support which are highly relevant in the case of evaluating adoption in older adults(Davis et al., 2024). As an example, the ease of use can be enhanced by the presence of guidance by bank employees or family members, whereas such elements as the real-time transaction notifications and the simplified user interface/user experience can positively affect the perceived usefulness. Other works using TAM with older users have found similar results, that perception of ease of use can be raised through intuitive design, large text, and voice-assist modes, and that these measures can greatly increase the rate of technology uptake in older people. Accordingly, when employing TAM to the present research, both basic and expanded variables will be taken into consideration to have an in-depth assessment of the attitude and behavioural trend of the senior citizens in Bhubaneswar regarding digital banking. With an understanding of what drives their perceptions, it is possible to design interventions to enhance digital literacy, design elder-friendly banking apps, as well as develop mechanisms of building trust, which can foster adoption (Han et al., 2022).Unified Theory of Acceptance and Use of Technology (UTAUT) is a universal model that was proposed in 2003 by Venkatesh et al., incorporates the factors of eight earlier developed models of technology acceptance, such as TAM. UTAUT proposes four main determinants, affecting technology adoption, including Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC). Performance expectancy refers to the extent to which a person believes that the technology use would assist him or her to achieve benefits in his or her daily activities. Effort expectancy is the simplicity of the technology in use. Social influence refers to the extent to which people feel that significant others, whether it be the family, peers, or authority figures deem they ought to use the technology. Aiding conditions are the personal view of the infrastructures and assistance that a person can get in order to help herself use the technology. Moreover, UTAUT accommodates four moderating factors (gender, age, experience, and voluntariness of use) which, in the case of the older generation citizens, examines the adoption of digital banking particularly well. UTAUT can help the elderly (in an urban Indian setting, Bhubaneswar) have a multidimensional perception of how individual attitudes, social influences, and environmental pressures come into play to determine the behavior of technology adoption(Donmez-Turan,2020). Performance expectancy refers to the perceived enhancement of financial independence, convenience, or less physical mobility requirement among seniors. Effort expectancy measures how senior citizens perceive mobile banking applications' difficulty and navigation. Social influence, including support from relatives or bank employees, is crucial for older adults to explore digital services. Conditions facilitated, such as access to smartphones, internet, technical support, and training opportunities, significantly influence digital adoption among seniors. UTAUT research aims to understand the determinants influencing elderly adoption and create inclusive plans for the digital economy (Xue et al., 2024).

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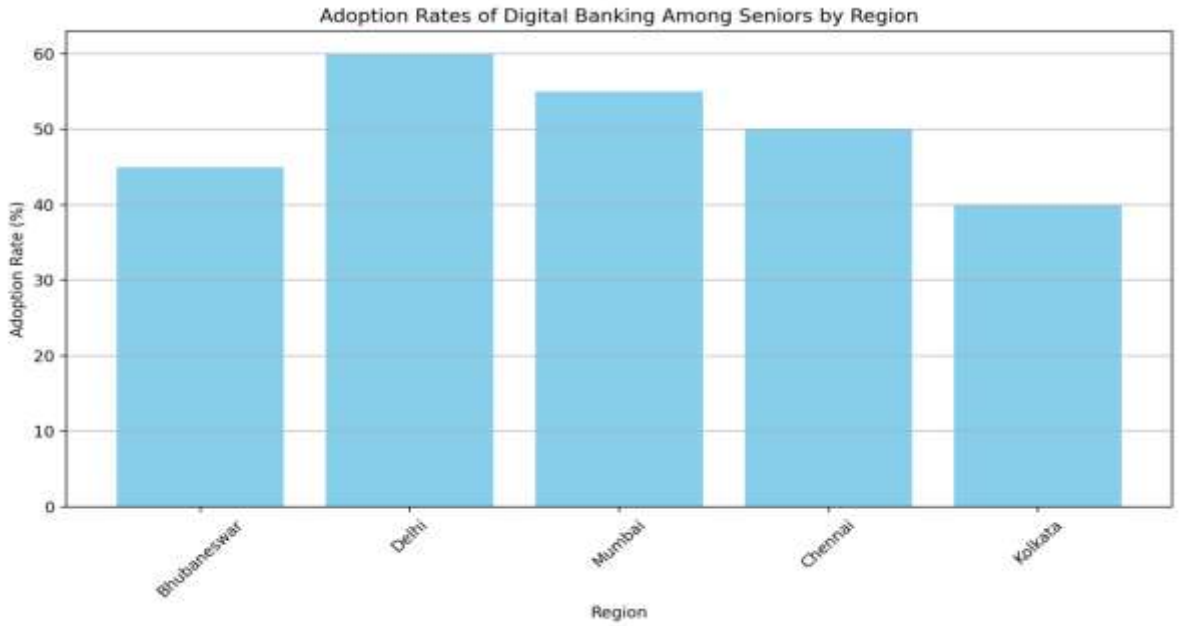


Figure 2: Adoption Rates of Digital Banking Among Seniors by Region.

Overcoming Digital Divides in Elder Banking: Social, Psychological, and Cultural Aspects

The penetration of digital banking among older adults is quite low in different regions of the world as well as in India due to cultural traditions, policy measures, infrastructural preparedness, and socioeconomic statuses. The rate of digital banking usage among seniors is comparatively high in such countries as Sweden, South Korea, or the United Kingdom because of the developed e-governance, digital literacy training, and the existence of special digital interfaces targeted at the older population. In Sweden, as an example, more than 80 percent of the elderly are said to be frequent users of internet banking, promoted by strong internet penetration and education campaigns by the banks. Conversely, adoption by the aged population is slower in nations like India, Indonesia, and some portions of Latin America because of unfamiliarity with technology, lack of infrastructure, and socio-cultural orientations towards face-to-face communications. In India, adoption is also affected by urban-rural differences and regional development. The capital cities, such as Delhi and Mumbai, record a relatively high percentage of the senior population using digital banking because of the developed infrastructure, level of education, and exposure to technology. In Delhi, some banks, in association with resident welfare associations (RWAs), are conducting digital banking workshops for the elderly (Akhtar et al., 2019). The high number of tech-savvy retired professionals in Mumbai also ensures an improved adoption rate. Despite being an up-and-coming smart city with ever-growing digitalization, Bhubaneswar continues to fall short when it comes to the digital banking adoption among the elderly population because of a combination of issues such as language-related problems, generational distrust towards online systems, and low turnout of training opportunities. Also, local case studies indicate that there is awareness but little confidence in usage, especially in peri-urban areas. Comparative analyses indicate that geographically oriented interventions, capacity building led by the community, and streamlined digital tools can go a long way to close the gap. The Indian urban policy does not directly include digital banking initiatives targeting the elderly unlike in the developed countries where policy frameworks are age-inclusive. It is this comparative prism that reveals the necessity of area-specific, culturally sensitive, and demographically oriented approaches toward improving digital inclusion rates among older adults in such cities as Bhubaneswar(Peak et al., 2025).The digital banking uptake among the senior citizens is not access-only issue but is also intricately connected with a range of socio-psychological factors, including trust, fear, self-efficacy, confidence, and perceived risk. The concept of trust is a central factor that determines the old-age interaction with online financial services. The elderly have a tendency to doubt the safety of internet transactions and worried that they will be cheated, particularly following the upsurge in internet crimes and phishing attacks on unsuspecting users. Additional to this distrust is the absence of understanding of digital processes, coupled with weak digital literacy which contributes to anxiety and cognitive overload. Real and imagined risk is perceived and avoidance behavior developed even when the services are available. The level of confidence (or the lack of it) to use apps, to provide sensitive information or to remember passwords will go a long way in influencing their desires to transact in digital banking(Priya,2023). Most older users have trouble navigating the device, using multi-step authentication, and not understanding the banking terms, which makes the frustration even bigger. Such psychological barriers can be especially intensive in cases when digital adoption is perceived as a compelled migration caused by the

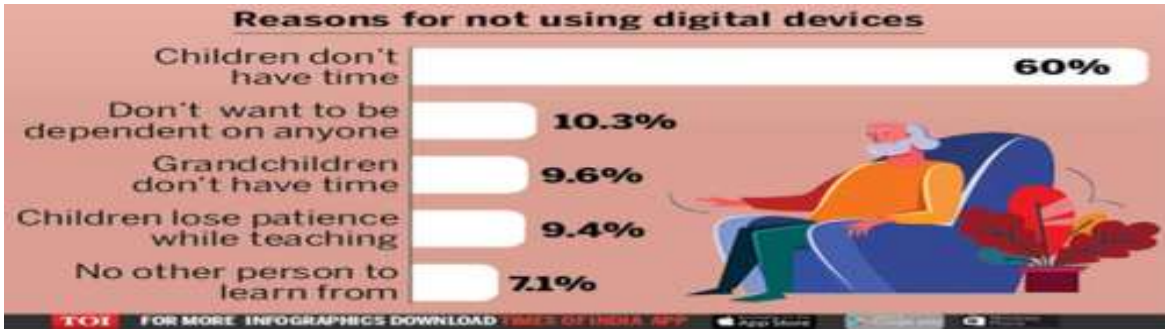
shutdown of physical branches or limitations imposed by the pandemic. Although there are seniors who feel empowered and convenient after having learned how to use digital banking, most of the elderly talk about emotional pressures, withdrawal, or vulnerability to their younger relatives. All the emotional implications of technical glitches like feeling embarrassed, helpless when an app crashes, or scared of losing track of money online add to resistance. Seniors seek human intervention, which is majorly lacking in the digital banking platforms unlike the young people who mostly find answers to their problems through troubleshooting. It is highlighted in the literature that psychological comfort and emotional strength are not less important than technical training. Anxiety and confidence can be managed through strategies, such as, design of interfaces with empathy, helpline services, human-digital hybrid services, and peer-led training. The identification and discussion of these psychological aspects are important steps towards creating a senior-friendly banking ecosystem that can encourage the concept of inclusion without compromising emotional stability (Mori, 2020).The important facilitators of digital banking adoption among the senior citizens are social capital and family support. The support of either children or grandchildren is a determining factor in enabling older people to study, orientate, and trust digitized platforms. Surveys among urban Indian families reveal that the elderly who have regular access to the tech-savvy relatives are far more prone to consider mobile-banking, initiate UPI-transfers, or track accounts online. It is a family mediated, digital learning that, removes reluctance in the first place, and creates confidence in a user by showing examples, and encouraging them again and again. Having an encouraging family also gives a psychological safety net, and one does not fear to make a mistake as much, being more motivated to give digital tools a try. When the senior citizens are living alone or belong to nuclear families with limited intergenerational communication, the level of adoption is significantly low. Also, the literature emphasizes the increased role of local learning ecosystems, including digital literacy camps, senior citizen organizations or NGO-facilitated workshops, where people can find peer support and community learning(Nwankwo et al., 2021). These social networks provide a training ground that is informal, thus helping seniors who are reluctant to share experiences, ask questions, and embrace digital practices in their own time. Trust in bank employees, customer care personnel, as well as community leaders to facilitate interactions between technology and the aging population comprise part of the social capital, too. Similar local efforts in resident welfare associations (RWAs) and self-help groups in cities such as Bhubaneswar have demonstrated potential in making the elderly citizenry familiar with the concepts of digital banking. Yet these programs are not continued on an institutionalized level and are thus sporadic. To increase the social capital, there should be a collective campaign by the families, financial institutions, and civil society organizations to establish the culture of inclusion. To be sustainable, the banks must acknowledge and institutionalize the support of caregivers and community shapers in the digital learning curve of the seniors. Social trust, support, and connectivity, therefore are not marginal aspects but core foundations of digital take-up in older people, and provide a human dignity lift to the technical solutions (Maqsoom et al., 2024).

From Empowerment to Access: Institutional and Technological Factors Influencing Senior-Friendly Online Banking

The expansion of digital infrastructure has played a major role in promoting the proliferation of digital banking services in India. The presence of smartphones, the growing internet access rates, and the spread of banking applications have created the foundation of more accessible financial services. The TRAI statistics reveal that there are more than 800 million internet subscribers in India, and the uptake is very fast even in the semi-urban and urban-rural transitional regions. The keystone infrastructure to enable digital banking among the senior population is available in places such as Bhubaneswar, where 4G coverage and Wi-Fi areas are on the rise. But availability does not necessarily mean accessibility. A significant portion of older people has trouble using mobile banking applications or web portals because of age-related disabilities, such as low vision, unsteady motor coordination, and memory problems. Such physical limitations are usually combined with inappropriate interface design, e.g., small text, crowded presentation, and technical terms, all of which render the digital banking tools unusable or frightening to older adults. In addition, the digital literacy of seniors is also very low, which means that they have even fewer opportunities to use smartphones and apps (Tashtamirov et al., 2021). According to a study by the Internet and Mobile Association of India (IAMAI), the older people are one of the least digitally engaged demographics, mostly because they feel uncomfortable learning about and using new technologies without instructions. In Bhubaneswar, the digital take-up has a possibility among a significant number of the senior population, who are retired professionals, but only when the challenge of accessibility is dealt with in a systematic manner. Language barrier is another factor that affects accessibility where the majority of the apps are set to either English or Hindi as the default language, disregarding the regional languages such as Odia, which the older generation of users feels more comfortable using. Although the digital infrastructure might be present, its proper utilization by seniors is limited due to the complexity of interfaces, the absence of individual assistance, and the low level of confidence. The solution to this digital accessibility gap would be to ensure that banks and apps designers implement older-friendly design standards and collaborate with local community centers to establish in-person training sessions and permanent digital helpdesks. Otherwise, the potential of the digital

infrastructure will be underused by one of the most vulnerable and economically active population groups(Singh et al., 2023).Indian banking institutions and government agencies have introduced several programs to support financial inclusion and digital empowerment, and many of those have the prospect of being valuable to senior citizens. Digital India mission was initiated in 2015 to make the nation a digitally empowered society and a knowledge economy with the central theme being banking. Although this drive has resulted in a sharp rise in the number of digital transaction infrastructure, such as the UPI, BHIM, and Aadhaar-based payment platforms, the modules of digital literacy specifically targeting the elderly population were not initially a part of it. Financial Literacy Week campaigns initiated by the RBI and the PM Jan Dhan Yojana (PMJDY) have contributed to the rise in the number of people owning a bank account and being aware of financial products. Nonetheless, the targeting of the senior citizens has been generally and not necessarily specifically based on their predicaments(Jayasekara, 2021). Some of the banks like SBI, HDFC, and ICICI have started some senior-friendly initiatives like simplified banking applications and priority customer service counters but these are usually only in a few branches in urban areas and are not uniform. Additionally, there are hardly any efforts aimed at making the Seniors feel emotionally satisfied and encouraged, as they might experience the entirely digital process as intimidating or fail to trust it. One of the most significant interventions still is training programs. Although government agencies and non-government organizations (NGOs) sometimes hold digital literacy camps for the elders, these are usually one-day events, instead of sustained, skill-development initiatives(Mbhele, 2021). There are awareness and awareness-cum-workshop sessions on the use of mobile banking that have been piloted by a few banks and self-help groups in Bhubaneswar, though these are sporadic and rely much upon individual motivation. Also, the COVID-19 pandemic placed remote banking front and center, forcing seniors to use digital channels out of necessity, rather than by choice, which causes anxiety and leads to transaction mistakes. There remains a gap in the institutionalization of digital literacy among the seniors with follow-ups and periodic checks, multi-lingual supports, and the instilling of trust. The future programs must be aimed at developing age-related content, use audio-visual materials, offering individual instructions, and establish a senior-specific helpline to foster sustained digital confidence. The path to institutional triumph in the digital inclusion of the senior population is not just in the good intentions of the policy but in its pinpointed delivery and sustained handholding and culturally situational support systems(Muhammed Shafi et al., 2024). The concept of inclusive design is of particular importance to narrow the digital divide among the senior citizens in banking contexts, making the technology interface usable in the face of physical, cognitive, and emotional constraints. In case of older people, the usability of traditional apps is usually inadequate because of tiny font sizes, complicated navigation systems, and unfamiliar jargon. Inclusive design focuses on such user-friendly attributes as bigger buttons, simpler designs, and easier processes to allow seniors to execute tasks more easily and quickly. Some of the international and Indian banks have begun experimenting with age-sensitive user interface (UI) innovations. Such elements as dark mode, the ability to select text size, simplified dashboards that display only required features, and reduced menu levels contribute greatly to usability. The inclusion of voice-enabled banking is another developing trend that can further eliminate the use of manual input and provide more natural user guidance due to the use of spoken commands. Google Assistant and Amazon Alexa voice assistants are already applied in fintech to allow users to balance checks or carry out simple tasks, but their adoption in banking applications by seniors remains in its infancy (Ofori-Okyere et al., 2023). Another advancement that is likely to happen is biometric authentication, which eliminates the use of passwords or PINs, a problem that most senior users face. These devices enhance the convenience of access and the sense of security. The next thing is the increasing demand in regional language support, particularly in such culturally diverse cities as Bhubaneswar, where a large number of the elderly feel more comfortable when using Odia. Senior customers can be attracted and retained to use banking apps with multi-language interfaces, which should also have audio prompts in various languages. A few institutions have tested waters with simplified forms of their apps in the older age groups, although this is yet to be adopted widely(Nadela et al., 2022). Anthropology of design and geotechnology. The literature on design anthropology and geotechnology emphasizes the need to co-design such platforms with senior users themselves to make sure that real-world issues are addressed. The idea of inclusive design goes beyond a technical necessity and is a philosophy that allows viewing seniors as independent, self-governing users, not as passive recipients. It guarantees that the digital banking tools do not only work but also make the elderly populations feel confident and lessen the fear of using these tools and keep using them. However, to really make digital banking inclusive, digital banking institutions should incorporate a design-first philosophy wherein it is not the elderly that needs to learn and adjust to technology but rather, technology learns and adjusts to the elderly(Ahmed et al.,2024).

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Source:http://timesofindia.indiatimes.com/articleshow/77515181.
cms?utm_source=contentofinterest&utm_medium=text&utm_ campaign=cppst

Figure 3: Picture showing the reasons for not using the digital devices.

Integrating Knowledge: Obstacles, Facilitators, and Strategic Consequences for Senior Digital Banking Inclusion

The literature review on senior citizens and the adoption of digital banking has seen that a few themes are interrelated which affect how senior citizens interact with digital financial services. The most dominant of the obstacles includes a trust deficit in which the elderly users show reluctance in confiding in technology when conducting sensitive financial activities. The issue of data security, online fraud, phishing, and the absence of human contact builds a psychological deterrent, which discourages the seniors against mobile applications and net banking. A low level of digital literacy that comprises little knowledge of how smartphones work, how to use apps, or what the digital prompts mean further increases this distrust. Most seniors complain of getting confused in transaction processes, password troubles, and the concerns of performing actions that cannot be reversed. The existence of complicated user interfaces (UIs) that have not been customized to suit aging users is another biggest obstacle. The banking process is tedious, with pop-up cluttered screens, small font sizes, multi-step verifications that appear to intimidate more so the users with vision impairment or those with mental challenges. The combination of these obstacles results in a cycle of avoidance, which causes digital exclusion. Nevertheless, there are also quite a few enablers that are described in the literature and that have a positive influence on the adoption rates (Indriasari et al., 2022). The support of family members, in particular, the younger generations, becomes one of the decisive factors in introducing senior people to digital tools and maintaining their activity. Intergenerational digital support can go a long way in securing victory over the technical difficulties, but also provides emotional confidence. Education drives led by the banks, such as digital literacy camps, demonstration kiosks, and customer support activity in branch, have also proved to be a crucial part in building confidence and knowledge. Furthermore, the usability issues may be resolved through the creation and rollout of more simplified banking applications, which would be largely seniors-friendly owing to their large icons, voice-activation, and user-friendly designs. The literature also observes that repetition, education of the patient, and peer support play an important role in encouraging positive behavior change in the seniors. Altogether, these themes imply that the reluctance of the elderly to digital banking has little to do with technological repellent and much to do with experience design, social support, and psychological familiarity. The main lesson that the literature has to offer is that elderly people are not too old to use digital banking, they just require ecosystems that approach their restrictions with compassion and common sense. As such, the next step of interventions must focus on transforming these observed enablers into institutionalized and scalable practices and methodically overcoming the observed barriers. Digital banking may be positioned as a liberating, as opposed to a technologically burdening, tool by changing the perspective on the senior population: instead of being a group of reluctant users, they can be learners, ready to explore new opportunities (Kaur et al., 2021). The thematic implications of the literature have profound suggestions to the financial institutions as well as the policymakers that are interested in ensuring inclusion of the elderly in the digital banking ecosystem. To begin with, banks have to redesign their service delivery models built on empathy. It is not enough to create only apps or tools but instead to build whole engagement strategies that take into account the cognitive, emotional, and social reality of senior users. Banks need to go beyond the traditional digital training modules and implement personalized help systems - i.e. have special senior counters, in-app videos, assisted kiosk areas, and digital banking ambassadors that can assist in real time. Moreover, mobile banking apps ought to include such convenient components as high-contrast themes, one-touch navigation, support of the Odia language, and face/ fingerprint logins. Banking facilities should also take care that the security measures that they have put in place are not too overwhelming and frightening to the elderly(Ghadami et al., 2022). At the policy level, regulators like the Reserve Bank of India (RBI) need to advocate the introduction of a mandatory design guide to elder-friendly digital services similar to accessibility standards in the case of public infrastructure. The urgency of the state-sponsored awareness and capacity-building initiatives,

particularly in the Tier 2 cities, such as Bhubaneswar is also evident. Such programs are supposed to be sustained, community initiated and aware of the local languages and culture. The policy makers need to encourage the banks to collaborate with local non-governmental organizations, educational organizations and resident welfare associations to conduct periodic digital literacy awareness programs to the senior citizens. Also, policies should guarantee the right to data privacy, remedy, and mental health resources in digital finance, which is otherwise underrepresented in popular fintech narratives. There is also a bigger role that government bodies, such as MeitY (Ministry of Electronics and Information Technology) can undertake by creating elder-friendly tech literacy curriculum that can be incorporated with other digital inclusion initiatives(Lumpkin et al., 2020). The regulatory measures should also aim at averting digital frauds that elderly people are disproportionately subjected to by setting up special awareness campaigns, easier complaint mechanisms, and verified service platforms. On the whole, organizations and policymakers should realize that digital empowerment of older adults is not a project; it is a long-term investment. The digital divide will keep excluding a financially active and socially important demographic without active and concerted effort throughout the banking and governance ecosystem. The intention should be to develop age-friendly digital environments that not only dispense services but also instill confidence, independence, and trust in senior citizens (Manlapaz et al., 2024)

CONCLUSION

Digital banking revolution in India has left the senior citizen elements of population living in urban centres such as Bhubaneswar far behind in terms of infrastructural readiness coupled with deep-seated adoption hesitancies owing to socio-psychological vulnerabilities (fraud fears, low self-efficacy), cognitive-physical inhibitions (complex user-interfaces, age-related impairments) and systemic discontinuities (language gaps, fragmented training). A set of key enablers, including family support, voice-assisted simplified interfaces, and hybrid services based on building trust, show that adoption is possible when solutions fit into the realities of seniors, including regional language support, thoughtful design, and institutionalized handholding. Nonetheless, the existing initiatives of banks and policymakers are still fragmented and concentrated in urban areas without focusing on the peculiarities of this population group. Multi-stakeholder solution is thus needed to close this gap: banks need to focus on elder-friendly redesigns (Odia-language UIs, biometric logins), regulators (RBI, etc.) need to introduce a mandatory accessibility policy, and communities/NGOs need to maintain peer-to-peer digital literacy. Inclusive ecosystems can change digital banking, which can become a driver of financial dignity, independence, and equal participation in the digital future of India once the seniors are no longer a passive recipient group but empowered users of digital banking services.

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