DIGITAL LITERACY, SENIOR CITIZENS

Digital Literacy among Senior Citizens in Navi Mumbai: A Need Assessment of Smartphone Skills, Digital Payment Confidence, Online Safety Awareness and Learning Preferences

Gopika Nambiar, Ashika Verma, Bhojraj Y. Shewale

Amity Business School, Amity University Mumbai, Mumbai, India

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Abstract

India's older population is growing quickly, and everyday services such as payments, communication and navigation are moving onto smartphones. This study examines the digital literacy of senior citizens through a structured need assessment. A 19-question printed questionnaire was administered face to face to 40 senior citizens in Navi Mumbai, covering four areas: basic digital skills, digital payments and online safety, learning needs and preferences, and overall digital confidence. Findings are descriptive. All 40 respondents used a smartphone at least once or twice a day (31 several times a day), and 34 (85%) described themselves as confident or very confident. Confidence was lower for specific tasks. Twelve respondents (30%) reported difficulty with UPI, and only 6 (15%) were very confident in identifying fake messages, suspicious links or scams, while 26 (65%) were only somewhat confident. Eighteen respondents (45%) found the steps in digital tasks confusing, and 35 (87.5%) preferred individual guidance over a step-by-step practical session. The results suggest that regular smartphone use does not guarantee task-level skill or safety awareness, and that training for older adults should be personal, hands-on and written in simple language, with strong emphasis on scam recognition. Because the sample is small and non-random, the findings describe this group and should not be generalised to all senior citizens.

Keywords: digital literacy; senior citizens; UPI; digital payments; online safety; community outreach; India

1 Introduction

Smartphones, messaging apps, navigation tools and digital payments have become part of ordinary daily life in India. Older people are expected to use them like everyone else, but many learned to manage money, communication and travel in an offline world. Unfamiliar interfaces, fear of making mistakes and worry about fraud can leave senior citizens dependent on others for simple tasks, or can lead them to avoid digital services altogether.

This matters for two reasons. First, the older population is large and growing. Second, digital payments are now the default way to pay for many things, so being uncomfortable with them has real everyday costs. At the same time, using digital services without knowing how to spot a scam exposes people to financial loss.

This paper reports a community outreach project that combined a need assessment with brief practical guidance for senior citizens. Its purpose is to describe what the respondents can do, what they find difficult, how safe they feel online, and how they would like to be taught.

2 Background and review of literature

2.1 An ageing population

The India Ageing Report 2023, published by UNFPA India with the International Institute for Population Sciences, estimates that India had about 149 million people aged 60 and above in 2022, around 10.5% of the population. The same report projects that this share will reach 20.8% (about 347 million people) by 2050, and that the older population will grow by 134% between 2022 and 2050 while the total population grows by only 18% (UNFPA & IIPS, 2023). The group that digital services must serve is therefore expanding much faster than the population as a whole.

2.2 The shift to digital payments

UPI illustrates how quickly everyday transactions have moved online. According to NPCI data reported in early November 2026, UPI processed a record 25.47 billion transactions worth ₹31.53 lakh crore in October 2026, up 23% in volume and 16% in value compared with October 2025 (NPCI, 2026). As payment habits shift this way, people who are not comfortable with UPI risk being left out of routine transactions.

2.3 Older adults and cyber fraud

Research on older people and cybercrime in Mumbai suggests that unfamiliarity with security precautions, living alone or away from family support, and the savings older people may hold can make them attractive targets. The same research reports that victims often felt shame, that losses were rarely fully recovered, and that some victims withdrew from online banking afterwards, which could leave older people behind in India's digital push (Cooper et al., n.d.). That study was qualitative and small, involving six victims, five family members and seven professionals, so it offers insight rather than prevalence estimates.

Industry reporting points in the same direction. A report by the cybersecurity company Quick Heal states that cybercrimes against senior citizens in India rose by 86% between 2020 and 2022, and that 45% of seniors admit difficulty spotting scams (Quick Heal, 2025). Because this is a company report with a commercial interest in security products, it is best read as supporting context rather than as an official statistic.

2.4 Why skills alone may not be enough

The Technology Acceptance Model proposes that people adopt technology mainly when they find it useful and easy to use (Davis, 1989). This is relevant to the present study, because several difficulties reported by respondents, such as confusing steps and fear of mistakes, concern ease of use and confidence rather than access to a device.

2.5 Gap addressed

Much of the available discussion on older adults and technology concerns national trends, victims of fraud, or technology design. Few small, local studies directly ask older people what they can do, what they find hard and how they want to be taught. This project provides a small, locally grounded set of observations of that kind.

3 Objectives

1. To assess basic digital skills and smartphone confidence among senior citizens.
2. To assess awareness of digital payments and online safety.
3. To understand learning needs and preferred learning methods, and to provide suitable practical guidance.

4 Methodology

4.1 Research design

The study is a descriptive, cross-sectional need assessment using primary data collected through a structured questionnaire.

4.2 Sample

The sample consisted of 40 senior citizens in Navi Mumbai who use or have access to smartphones. Respondents were approached in person by the two student researchers, in residential and public settings, and no random selection was used. This is a convenience sample. The survey fieldwork was documented with geo-tagged photographs dated 24 September 2026.

4.3 Instrument

A printed questionnaire with 19 questions in four sections was used:

- **Section A, Basic digital skills (Q1–Q6):** frequency of smartphone use, confidence without help, activities done independently, activities found difficult, need for help, and the service respondents most want to learn.
- **Section B, Digital payments and online safety (Q7–Q12):** UPI use, payment confidence, difficult parts of payments, confidence in spotting scams, safety topics of interest, and usual reaction to a message asking for an OTP, password or bank details.
- **Section C, Learning needs and preferences (Q13–Q17):** skills to learn, what makes learning easier, biggest difficulty, preferred learning format and preferred session length.
- **Section D, Overall confidence (Q18–Q19):** overall digital confidence and interest in a practical session.

The questionnaire also recorded name, age and gender.

4.4 Procedure and analysis

The researchers explained the purpose of the project to each respondent, recorded responses on the printed form, and also gave brief practical guidance on common smartphone features and on caution with payments and personal information. Responses were tallied into counts and converted to percentages of the 40 respondents. No inferential statistics were applied, since the aim was description.

4.5 Ethical considerations

Participation was voluntary, the purpose was explained in advance, and the project did not ask for passwords, OTPs or bank details. Respondent names should be kept confidential in any shared version of the data.

5 Results

All percentages are calculated out of n = 40 (Tables 1–4).

5.1 Basic digital skills (Objective 1)

Table 1. Basic digital skills and smartphone confidence (n = 40)

Indicator	Responses	Share
Uses smartphone several times a day	31	77.5%
Uses smartphone once or twice a day	9	22.5%
Very confident using smartphone	23	57.5%
Confident	11	27.5%
Not confident	6	15.0%
Difficulty with Google Maps	6	15.0%
Difficulty with UPI	12	30.0%

Every respondent used a smartphone at least daily, and 34 of 40 (85%) described themselves as confident or very confident. Even so, 30% reported difficulty with UPI and 15% with Google Maps, and 6 respondents (15%) said they were not confident with their smartphones at all.

5.2 Digital payments and online safety (Objective 2)

Table 2. Digital payments and online safety (n = 40)

Indicator	Responses	Share
Uses UPI regularly	7	17.5%
Uses UPI sometimes	19	47.5%
Uses UPI rarely	8	20.0%
Never uses UPI	6	15.0%
Very confident in identifying scams	6	15.0%
Somewhat confident	26	65.0%
Not confident	5	12.5%
Not sure	3	7.5%

Thirty-four respondents (85%) had used UPI at least rarely, but only 7 (17.5%) used it regularly. On scam recognition, 34 of 40 (85%) were less than fully confident, with most in the “somewhat confident” category.

5.3 Learning needs and preferences (Objective 3)

The report’s third chart combines two different survey questions, which are shown separately here for clarity.

Table 3. Biggest difficulty when learning or using new technology (n = 40)

Difficulty	Responses	Share
Steps are confusing	18	45.0%
Afraid of making mistakes	9	22.5%
Concerned about online safety	7	17.5%
Need someone to guide them	6	15.0%

Table 4. Preferred way of learning (n = 40)

Preference	Responses	Share
Individual guidance	35	87.5%
Step-by-step practical session	5	12.5%

The most common difficulty was confusing steps, followed by fear of mistakes, and nearly nine in ten respondents preferred individual guidance.

6 Discussion

Regular use is not the same as confident, safe use. All respondents used a smartphone daily and 85% described themselves as confident, yet 30% found UPI difficult and only 15% were very confident in recognising scams. Confidence in general appears higher than confidence in specific, higher-stakes tasks. This pattern fits the view that skills for everyday tasks such as calling or messaging do not automatically carry over to payments or fraud detection.

Payments and safety are the weakest areas. Only about one in six respondents used UPI regularly, and most were only somewhat confident about scams. Given how heavily India now relies on UPI (NPCI, 2026) and the fraud risks described in the literature (Cooper et al., n.d.; Quick Heal, 2025), this gap is the most practically important finding. Respondents who feel "somewhat confident" may still be vulnerable to a convincing fake message, because self-rated confidence does not measure actual ability to detect fraud.

Ease of use and fear matter more than access. The leading difficulties were confusing steps (45%) and fear of mistakes (22.5%), with a further 17.5% concerned about safety. These are issues of usability and confidence, which is consistent with the Technology Acceptance Model's emphasis on perceived ease of use (Davis, 1989). Simple, repeatable steps and a safe place to practise are therefore likely to help.

Personal guidance is strongly preferred. With 87.5% choosing individual guidance, one-to-one teaching appears to suit this group better than group sessions. The researchers' own field experience agreed with this: people differed widely in familiarity, and explanations had to be adjusted to each person's pace.

7 Recommendations

1. **Offer one-to-one or very small-group support.** Community groups, residential societies and colleges can pair volunteers with individual senior citizens.

2. **Teach UPI through practice on the person's own phone.** Cover making a payment, confirming that it succeeded, and understanding payment requests.
3. **Make scam awareness a core topic.** Focus on never sharing OTPs, passwords or bank details, treating unexpected links and calls with suspicion, and checking with a trusted person before acting.
4. **Use simple language and printed step-by-step cards** that participants can keep and refer to later.
5. **Reduce fear of mistakes.** Explain what is safe to try and what to avoid, and encourage regular practice.
6. **Follow up.** A short second session after a few weeks would help skills stick.

8 Limitations

- **Small, non-random sample.** With 40 respondents chosen by convenience, results describe this group only and cannot be generalised to all senior citizens in Navi Mumbai or India.
- **Sample composition.** Respondents were people who use smartphones and who were willing to take part, which probably overstates general digital comfort. Age and gender were collected but are not analysed here, so differences between groups cannot be assessed.
- **Self-reported data.** Confidence and ability were reported by respondents and not tested, and the presence of student interviewers may have influenced answers.
- **Instrument design.** Some items offer unbalanced scales. For example, the scam-confidence question has no plain "confident" option, which may push answers towards "somewhat confident".
- **No measurement of impact.** The practical guidance was brief and no before-and-after comparison was made, so no claim is made about its effect.
- **Descriptive analysis only.** No cross-tabulations or significance tests were used.

Future work could use a larger and more varied sample, report results by age and gender, test actual skills such as recognising a fake message, and measure change after training.

9 Conclusion

This need assessment of 40 senior citizens in Navi Mumbai found that smartphone use is already routine, but that confidence falls when tasks involve payments and fraud awareness. Confusing steps and fear of mistakes were the main barriers, and respondents overwhelmingly preferred individual guidance. For senior citizens, digital literacy training is most useful when it is patient, hands-on, personal and focused on safety. The study is small and descriptive, but it points to practical directions for community outreach and for larger research.

References

[1] Cooper, et al. (n.d.). A brief report on older people's experience of cybercrime victimisation in Mumbai, India.

[2] Davis FD (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.

[3] Nambiar G, Verma A (2026). Primary survey data: digital literacy for senior citizens (N = 40; Navi Mumbai). *Unpublished community outreach project data*, Amity University Mumbai.

[4] National Payments Corporation of India (NPCI) (2026). UPI product statistics, October 2026. https://www.npci.org.in/ (figures as reported in: UPI hits record 25.47 Bn transactions in October. Entrepreneur India, 3 November 2026.)