

# **Impact of Demographic Factors on E-Banking Awareness and Adoption in India's Diverse Population**

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## **Abstract**

This research investigates how demographic elements—such as gender, marital status, income, and educational background—affect consumer awareness and the uptake of e-banking services in India. Despite the remarkable progress in digital banking, there are still notable gaps in its adoption, particularly within rural and economically disadvantaged communities. Through the deployment of a meticulously crafted questionnaire to a sample of 600 participants from both urban and rural settings, the research uncovers notable deficiencies in awareness, comprehension of e-banking functionalities, and acquaintance with mobile applications and their security attributes. Analytical evaluations, encompassing t-tests and regression frameworks, demonstrated that income and educational attainment exerted a more significant influence on e-banking awareness compared to gender or marital circumstances. An important discovery reveals that a significant number of participants were unaware of how to access services, transfer funds, or comprehend security protocols, highlighting the necessity for initiatives aimed at enhancing digital literacy. The study underscores the significance of focused marketing strategies, educating users, and streamlining user interfaces to improve access to digital financial services. By tackling these obstacles, financial institutions and regulatory bodies can more effectively close the digital gap and broaden the advantages of electronic banking to marginalised demographic segments, ultimately fostering greater financial empowerment across India.

**Keywords:** E-banking, digital literacy, consumer awareness, adoption, demographic factors, financial inclusion

## 1. Introduction

The emergence of electronic banking services in India has profoundly altered the financial landscape, providing ease of access and a wide variety of offerings, from utility bill payments to intricate financial dealings (Acharya, 2022). As smartphones become more prevalent, high-speed internet access expands, and digital literacy improves, online banking has risen to prominence as a favoured option for numerous consumers. Consequently, banks and financial entities are progressively channelling resources into digital platforms to meet the rising appetite for online services (Bajaj, 2020). Nonetheless, in spite of the swift progress in technology, the uptake of e-banking services varies significantly among diverse segments of the Indian populace, especially when taking into account the influence of several demographic elements like gender, marital status, income, and educational background. Although city dwellers and individuals with elevated income brackets have shown increased recognition and utilisation of electronic banking services, rural communities and low-income populations still encounter considerable obstacles (Mehta, 2020). The obstacles can be linked to numerous elements, such as restricted availability of digital devices, inadequate internet connectivity, and a lack of digital literacy (Krishnamurthy, 2018). Furthermore, numerous people are still oblivious to the extensive array of services provided by e-banking platforms, resulting in lost chances for embracing these innovations. This underscores the vital importance of consciousness in shaping consumer actions and the necessity for focused marketing strategies and educational programs to close the awareness divide. The awareness of consumers regarding e-banking services is shaped not just by their access to technology, but also by their comprehension of the benefits these services provide. Insufficient awareness regarding the advantages of digital banking, along with apprehensions surrounding security, frequently hinders individuals from embracing e-banking solutions (Bajaj, 2020). Grasping the methods to reach and effectively employ these services is an essential aspect. According to Fernandes (2021), numerous consumers encounter difficulties in manoeuvring

through the intricate functionalities of e-banking platforms, which subsequently obstructs their adoption. Consequently, enhancing consumer awareness and digital proficiency is crucial for guaranteeing that a broader segment of the populace can take advantage of the benefits offered by e-banking.

This research aims to explore how demographic elements—including gender, marital status, income level, and educational background—affect consumer awareness and the uptake of e-banking services in India. This study is designed to address the following essential enquiries:

1. How significantly do demographic elements like gender, marital status, income, and education influence consumer awareness regarding e-banking services?
2. In what ways do these elements affect the uptake of electronic banking services across various demographic segments?
3. What are the primary obstacles that hinder specific groups within the population from completely engaging with e-banking services?

Through the exploration of these enquiries, the research seeks to illuminate the obstacles hindering the adoption of e-banking and to present actionable suggestions for financial institutions and decision-makers to improve the availability of digital banking services (Anand, 2022). Furthermore, this study will enhance the wider conversation surrounding digital financial inclusion, especially within the framework of developing economies such as India, where a significant segment of the populace remains underbanked or does not have complete access to banking services (Sethi, 2020).

Considering these obstacles, the outcomes of this study will not merely underscore the differences in e-banking uptake among various demographic segments but will also propose specific strategies aimed at enhancing awareness and utilisation of digital banking services, thereby fostering the financial empowerment of India's varied populace.

## 2. Literature Review

### 2.1 Demographic Factors Affecting E-Banking Adoption

The influence of demographic elements on the uptake of e-banking services has been extensively examined in earlier research, with considerable focus directed towards factors like age, gender, income, and educational background. Numerous researchers have underscored the disparities between genders in their engagement with and understanding of e-banking services. For example, Mehta (2020) observes that males tend to be more inclined to embrace e-banking services than females, primarily attributed to their increased familiarity with technology and superior levels of digital literacy. Conversely, women, especially those residing in rural regions, often experience restricted access to digital infrastructure, thereby hindering their participation in online banking services. In a similar vein, the state of one's marriage has been recognised as a significant influencing element. As noted by Krishnamurthy (2018), individuals who are married, especially those with families, tend to utilise e-banking services more frequently, attributed to their elevated sense of financial obligation and availability of household income. Conversely, those who are unattached might not perceive the necessity for digital banking as pressing, potentially postponing their embrace of it. Financial status represents a significant demographic element influencing the uptake of e-banking services. Studies indicate that people belonging to elevated income levels are more likely to engage with digital banking solutions. This phenomenon is especially evident in metropolitan regions, where the availability of the internet, mobile devices, and digital financial systems is prevalent (Bhatia, 2022). People with reduced financial resources, particularly those living in countryside regions, encounter a variety of obstacles including inadequate internet access, insufficient availability of smartphones, and diminished digital literacy skills, all of which impede the uptake of electronic banking services (Oberoi, 2020). The influence of education is crucial in determining the adoption of e-banking services. Advanced educational levels are significantly linked to increased awareness and utilisation of e-banking services, as those with greater educational backgrounds tend to be more adept at comprehending and engaging with digital banking platforms (Chakraborty, 2018).

## **2.2 Awareness and Understanding of E-Banking Services**

Understanding is among the most vital elements affecting the acceptance of electronic banking services. A multitude of research has indicated that insufficient awareness regarding the availability of online banking services and their advantages continues to be a significant obstacle to their acceptance in India (Banerjee, 2018). For numerous consumers, especially individuals hailing from rural or economically disadvantaged backgrounds, electronic banking services might appear foreign or out of reach, thereby hindering their enthusiasm to embrace these platforms. Moreover, the intricacy of digital banking systems frequently discourages those who lack proficiency in technological usage. According to Anand (2022), a significant number of consumers lack awareness regarding the diverse array of services provided by e-banking platforms, including fund transfers, loan applications, and investment opportunities, all of which can play a vital role in enhancing financial inclusion. The absence of understanding is exacerbated by a deficit of confidence in online platforms, as apprehensions regarding privacy and security loom large in the thoughts of numerous users. An essential element in enhancing awareness regarding e-banking lies in the influence of marketing and promotional initiatives. Financial institutions and banks have progressively embraced digital marketing, television ads, and social media platforms to connect with a broader audience. Nonetheless, as highlighted by Desai (2021), these promotional initiatives frequently lack customisation for distinct demographic segments, resulting in less than ideal outreach, especially in rural regions. For example, marketing campaigns might overlook the distinct obstacles encountered by rural communities, including restricted availability of digital devices or dependable internet connectivity. Therefore, a more focused strategy for enhancing awareness, which considers demographic elements like age, income, and geographical location, is essential for the broad acceptance of e-banking services.

### **2.3 Barriers to E-Banking Adoption**

A multitude of research efforts have pinpointed obstacles to the adoption of e-banking, shaped by a combination of individual and systemic influences. A significant obstacle is the deficiency in digital literacy, especially prevalent among older adults and individuals with limited educational experiences. According to Jha (2021), a significant number of consumers struggle to manoeuvre through digital banking platforms, leading to their reluctance in utilising online banking services. This problem is intensified by apprehensions regarding security and the anxiety surrounding online fraud, which are prevalent among prospective users. As noted by Mandrekar (2020), the confidence that consumers have in the safety of digital platforms plays a vital role in their readiness to engage with e-banking services. Lacking sufficient understanding of the protective measures established to safeguard their information and transactions, numerous consumers hesitate to engage with online banking services, even though these services offer significant advantages. Moreover, variations in access to digital infrastructure across regions play a significant role in the inconsistent uptake of e-banking services. Dinesh (2021) indicates that rural regions frequently suffer from inadequate technological frameworks, including dependable internet connectivity and smartphone availability, hindering residents' ability to utilise online banking services. Although individuals in these areas might be cognisant of electronic banking, they may lack the resources to participate in it. This results in a technological gap that hinders the widespread acceptance of electronic banking services, especially within economically disadvantaged communities. Given these obstacles, it is crucial for both governmental bodies and financial organisations to prioritise enhancing digital literacy and infrastructure, particularly in marginalised areas, to guarantee that the advantages of e-banking are available to everyone.

### 3. Methodology

#### Research Design

This study adopts a quantitative research design using a survey-based approach to examine the impact of demographic factors on consumer awareness and adoption of e-banking services in India. Structured questionnaires were distributed to gather numerical data for statistical analysis.

#### Variables of the Study

- **Independent Variables:** Gender, marital status, income level, and educational qualification.
- **Dependent Variables:** Consumer awareness of e-banking services and adoption of e-banking services.

#### Study Area

The study focuses on India, covering both urban and rural areas to capture varying levels of access to digital banking. This diversity allows for a comprehensive analysis of e-banking adoption across different geographical and demographic segments.

#### Sample Size

The sample consists of 600 respondents from diverse demographic backgrounds, ensuring a representative distribution of gender, marital status, income, and education levels.

#### Data Collection

Data was collected through a structured questionnaire distributed both online and in-person. The survey included Likert scale questions to assess awareness and adoption levels, along with demographic details.

## Data Analysis Tools

Descriptive statistics were used to summarize demographic characteristics and responses. Inferential statistics, including independent samples t-tests and regression analysis, were employed to test hypotheses and determine the relationship between demographic factors and e-banking adoption. Statistical software (SPSS or R) was used for analysis.

### 4. Data Analysis

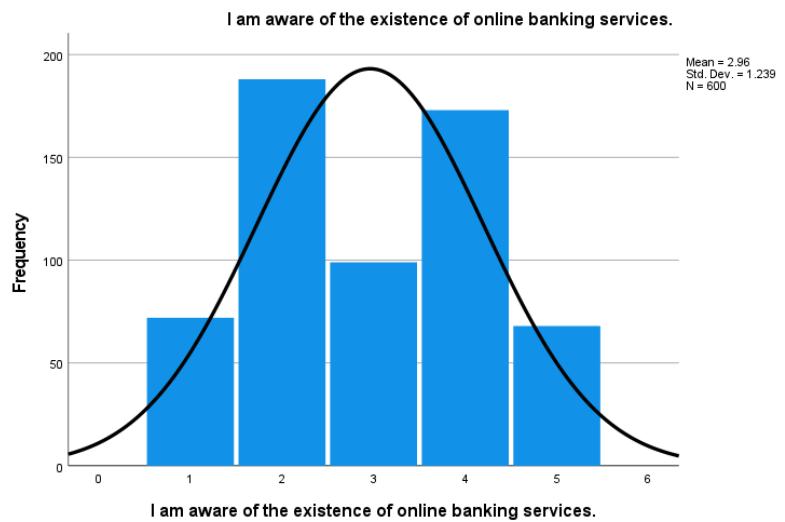
#### 4.1 Demographic Profile of the Respondents

| Demographic Variable             | Category            | Frequency (N) | Percentage (%) |
|----------------------------------|---------------------|---------------|----------------|
| <b>Gender</b>                    | Male                | 234           | 39.0%          |
|                                  | Female              | 366           | 61.0%          |
| <b>Marital Status</b>            | Single              | 143           | 23.8%          |
|                                  | Married             | 324           | 54.0%          |
|                                  | Prefer Not to Say   | 133           | 22.2%          |
| <b>Income Level</b>              | Less than ₹20,000   | 110           | 18.3%          |
|                                  | ₹20,000-50,000      | 152           | 25.3%          |
|                                  | ₹50,000-1,00,000    | 211           | 35.2%          |
|                                  | Above ₹1,00,000     | 48            | 8.0%           |
| <b>Educational Qualification</b> | High School         | 157           | 26.2%          |
|                                  | Some College        | 117           | 19.5%          |
|                                  | Bachelor's Degree   | 110           | 18.3%          |
|                                  | Postgraduate Degree | 84            | 14.0%          |

## 4.2 Descriptive Analysis

**Table 4.2: I am aware of the existence of online banking services.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 72        | 12.0    | 12.0          | 12.0               |
|       | Disagree          | 188       | 31.3    | 31.3          | 43.3               |
|       | Neutral           | 99        | 16.5    | 16.5          | 59.8               |
|       | Agree             | 173       | 28.8    | 28.8          | 88.7               |
|       | Strongly Agree    | 68        | 11.3    | 11.3          | 100.0              |
|       | Total             | 600       | 100.0   | 100.0         |                    |

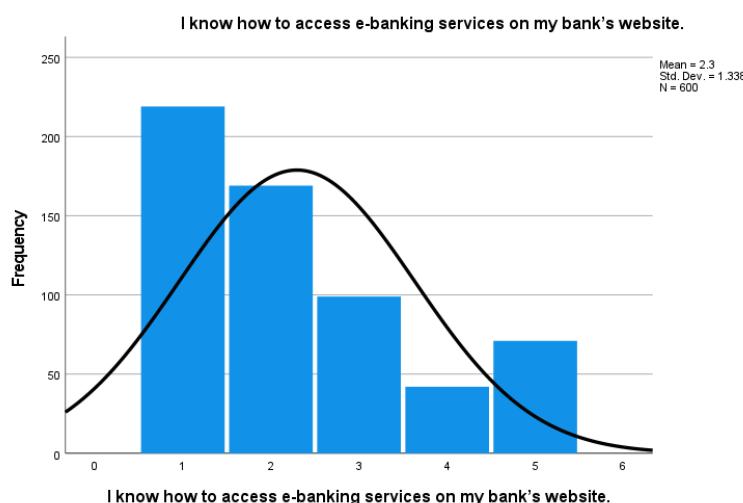


Awareness plays a crucial role in the adoption and usage of online banking services. As illustrated in Table 4.2, 28.8% of respondents agree that they are aware of the existence of online banking services, while 11.3% strongly agree, cumulatively representing 40.1% of the sample with a positive awareness level. However, a significant proportion of respondents, 31.3%,

disagree, and 12.0% strongly disagree, indicating limited awareness among 43.3% of the participants. The remaining 16.5% remain neutral. These findings suggest that although a sizable portion of the population is aware of online banking, efforts to educate and spread awareness are still needed to address the lack of knowledge among a substantial part of the population.

**Table 4.3: I know how to access e-banking services on my bank's website.**

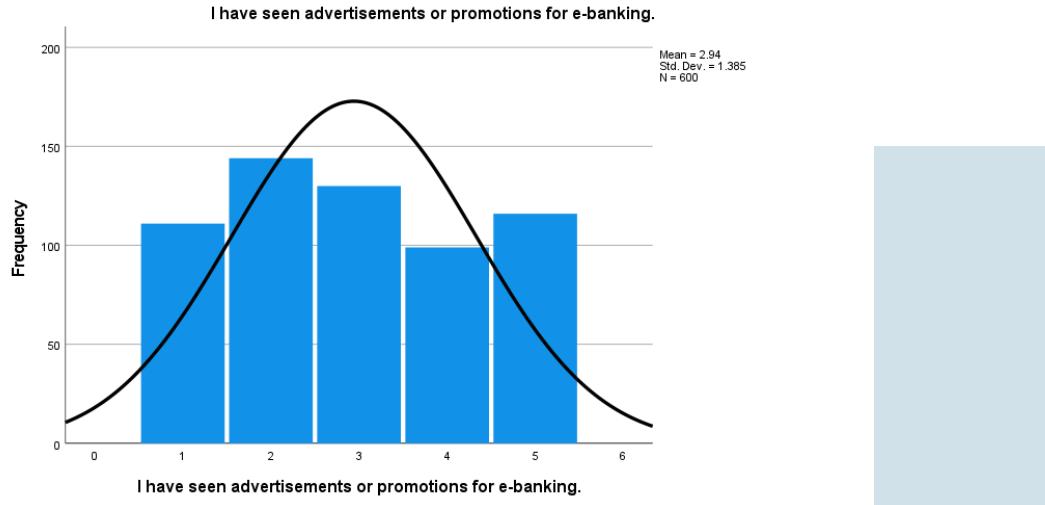
|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 219       | 36.5    | 36.5          | 36.5               |
|       | Disagree          | 169       | 28.2    | 28.2          | 64.7               |
|       | Neutral           | 99        | 16.5    | 16.5          | 81.2               |
|       | Agree             | 42        | 7.0     | 7.0           | 88.2               |
|       | Strongly Agree    | 71        | 11.8    | 11.8          | 100.0              |
|       | Total             | 600       | 100.0   | 100.0         |                    |



Understanding how to access e-banking services is another critical factor that influences their usage. Table 4.3 reveals that 36.5% of respondents strongly disagree with the statement that they know how to access e-banking services on their bank's website, and another 28.2% disagree. Combined, these figures highlight that 64.7% of respondents lack the knowledge required to access these services. On the other hand, 11.8% strongly agree and 7.0% agree, representing only 18.8% of respondents with a clear understanding. Meanwhile, 16.5% of participants remain neutral. These results emphasize the urgent need for banks and financial institutions to improve digital literacy initiatives and guide users on accessing e-banking platforms effectively.

**Table 4.4: I have seen advertisements or promotions for e-banking.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 111       | 18.5    | 18.5          | 18.5               |
|       | Disagree          | 144       | 24.0    | 24.0          | 42.5               |
|       | Neutral           | 130       | 21.7    | 21.7          | 64.2               |
|       | Agree             | 99        | 16.5    | 16.5          | 80.7               |
|       | Strongly Agree    | 116       | 19.3    | 19.3          | 100.0              |
|       | Total             | 600       | 100.0   | 100.0         |                    |

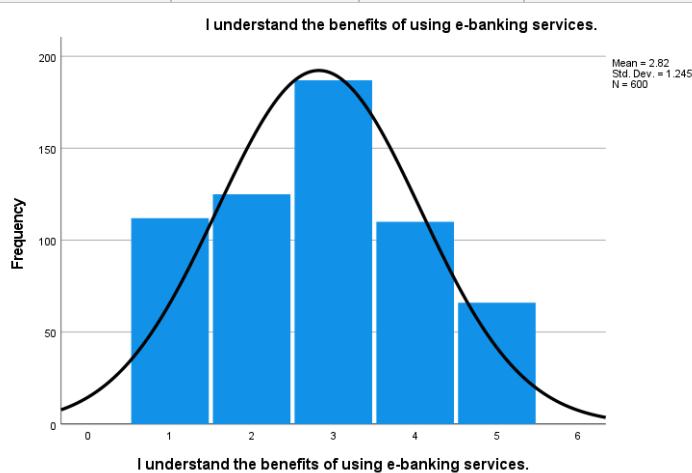


Promotions and advertisements serve as a vital tool in spreading awareness of e-banking services. As seen in Table 4.4, 19.3% of respondents strongly agree and 16.5% agree that they have seen advertisements or promotions for e-banking, together accounting for 35.8% of the sample with positive exposure. However, 24.0% of respondents disagree and 18.5% strongly disagree, totaling 42.5% of participants who have not noticed any such promotions. The remaining 21.7% of respondents are neutral. This data suggests that while promotional campaigns have reached a portion of the population, there is significant room for improvement in marketing efforts to enhance visibility and awareness.

**Table 4.5: I understand the benefits of using e-banking services.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 112       | 18.7    | 18.7          | 18.7               |
|       | Disagree          | 125       | 20.8    | 20.8          | 39.5               |
|       | Neutral           | 187       | 31.2    | 31.2          | 70.7               |

|  |                |     |       |       |       |
|--|----------------|-----|-------|-------|-------|
|  | Agree          | 110 | 18.3  | 18.3  | 89.0  |
|  | Strongly Agree | 66  | 11.0  | 11.0  | 100.0 |
|  | Total          | 600 | 100.0 | 100.0 |       |



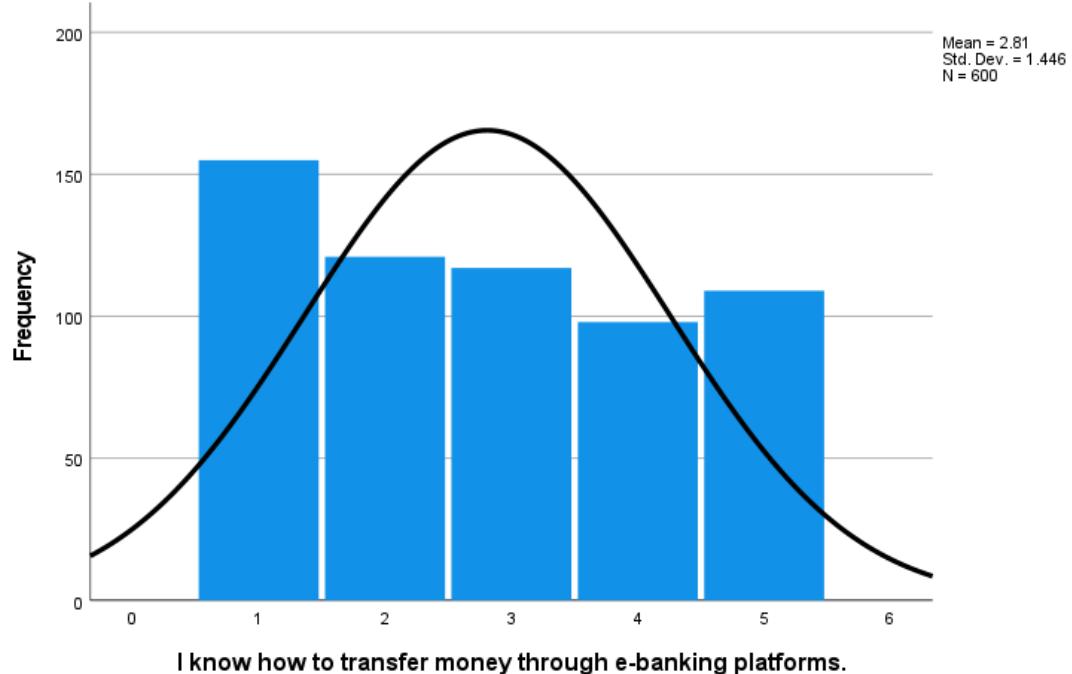
Understanding the advantages of e-banking services directly impacts user adoption rates. According to Table 4.5, 18.3% of respondents agree and 11.0% strongly agree that they understand the benefits of e-banking services, indicating that only 29.3% of participants have a positive comprehension of its advantages. Conversely, 20.8% disagree and 18.7% strongly disagree, showing that 39.5% of respondents lack an understanding of the benefits. A large segment, 31.2%, remains neutral, reflecting uncertainty or insufficient knowledge. These findings highlight the importance of clear communication and user education about the advantages of e-banking to encourage its adoption among users.

**Table 4.6: I know how to transfer money through e-banking platforms.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 155       | 25.8    | 25.8          | 25.8               |

|  |                |     |       |       |       |
|--|----------------|-----|-------|-------|-------|
|  | Disagree       | 121 | 20.2  | 20.2  | 46.0  |
|  | Neutral        | 117 | 19.5  | 19.5  | 65.5  |
|  | Agree          | 98  | 16.3  | 16.3  | 81.8  |
|  | Strongly Agree | 109 | 18.2  | 18.2  | 100.0 |
|  | Total          | 600 | 100.0 | 100.0 |       |

**I know how to transfer money through e-banking platforms.**



**I know how to transfer money through e-banking platforms.**

The ability to transfer money through e-banking platforms is an essential function that reflects users' proficiency in utilizing these services. Table 4.6 shows that 25.8% of respondents strongly disagree and 20.2% disagree with knowing how to transfer money through e-banking platforms, which totals to 46.0% of participants with limited or no knowledge of this functionality. Meanwhile, 16.3% agree and 18.2% strongly agree, cumulatively accounting for 34.5% of respondents who are confident in their ability to transfer money. The remaining 19.5% remain

neutral. This data indicates a significant knowledge gap, highlighting the need for targeted education and training on the operational features of e-banking systems.

**Table 4.7: I am aware of the security features available in e-banking.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 106       | 17.7    | 17.7          | 17.7               |
|       | Disagree          | 127       | 21.2    | 21.2          | 38.8               |
|       | Neutral           | 160       | 26.7    | 26.7          | 65.5               |
|       | Agree             | 115       | 19.2    | 19.2          | 84.7               |
|       | Strongly Agree    | 92        | 15.3    | 15.3          | 100.0              |
|       | Total             | 600       | 100.0   | 100.0         |                    |

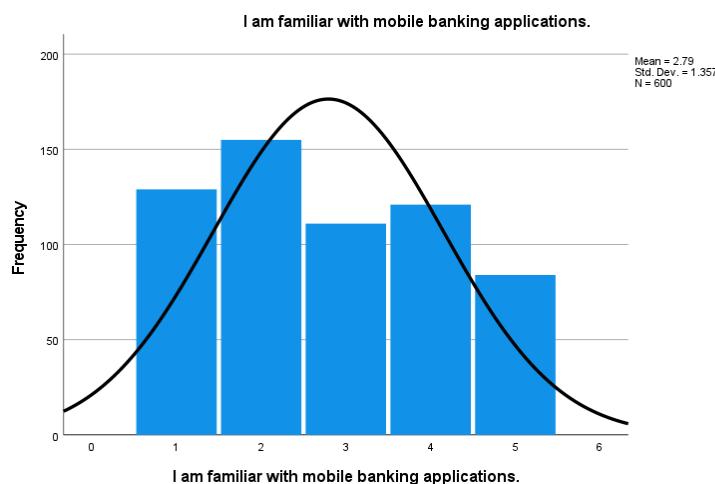


Awareness of security features is a critical factor influencing trust and adoption of e-banking services. Table 4.7 reveals that 17.7% of respondents strongly disagree and 21.2% disagree with the statement. This indicates a significant knowledge gap, highlighting the need for targeted education and training on the operational features of e-banking systems.

being aware of the security features available in e-banking, collectively making up 38.8% of participants with insufficient awareness. On the positive side, 19.2% agree and 15.3% strongly agree, totaling 34.5% who are informed about security features. The remaining 26.7% of respondents hold a neutral stance, suggesting a lack of definitive understanding. These results underscore the importance of emphasizing and communicating robust security measures to build user confidence in e-banking.

**Table 4.8: I am familiar with mobile banking applications.**

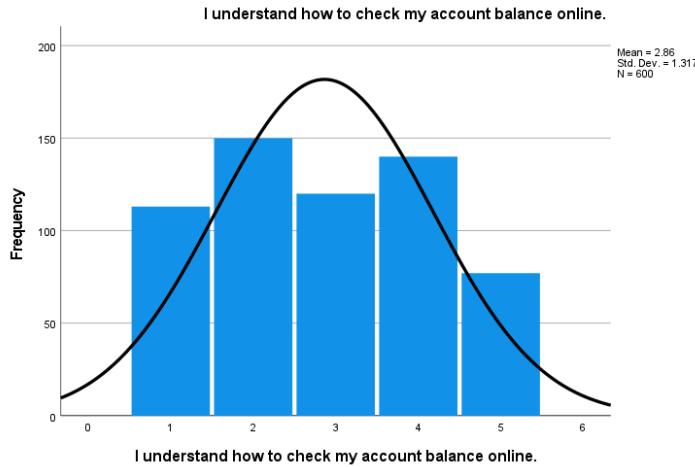
|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 129       | 21.5    | 21.5          | 21.5               |
|       | Disagree          | 155       | 25.8    | 25.8          | 47.3               |
|       | Neutral           | 111       | 18.5    | 18.5          | 65.8               |
|       | Agree             | 121       | 20.2    | 20.2          | 86.0               |
|       | Strongly Agree    | 84        | 14.0    | 14.0          | 100.0              |
|       | Total             | 600       | 100.0   | 100.0         |                    |



Mobile banking applications are increasingly becoming a popular medium for accessing e-banking services. According to Table 4.8, 25.8% of respondents disagree and 21.5% strongly disagree with being familiar with mobile banking applications, amounting to 47.3% of participants who lack familiarity. Conversely, 20.2% agree and 14.0% strongly agree, representing 34.2% of users who are familiar with these applications. Meanwhile, 18.5% remain neutral, reflecting uncertainty. These findings indicate that although mobile banking has gained traction among some users, there is a considerable segment of the population that remains unfamiliar, necessitating efforts to improve awareness and ease of use.

**Table 4.9: I understand how to check my account balance online.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 113       | 18.8    | 18.8          | 18.8               |
|       | Disagree          | 150       | 25.0    | 25.0          | 43.8               |
|       | Neutral           | 120       | 20.0    | 20.0          | 63.8               |
|       | Agree             | 140       | 23.3    | 23.3          | 87.2               |
|       | Strongly Agree    | 77        | 12.8    | 12.8          | 100.0              |
|       | Total             | 600       | 100.0   | 100.0         |                    |



Being able to check account balances online is one of the fundamental features of e-banking. Table 4.9 shows that 25.0% of respondents disagree and 18.8% strongly disagree with understanding how to check their account balance online, together representing 43.8% of participants lacking this knowledge. In contrast, 23.3% agree and 12.8% strongly agree, adding up to 36.1% of respondents who are confident in their ability to check account balances online. Additionally, 20.0% remain neutral. This data highlights the need to simplify and promote the usage of this basic feature to encourage broader adoption of e-banking services.

### 4.3 Hypothesis Testing

#### HYPOTHESIS I

- **Null Hypothesis ( $H_0$ ):** There is no significant difference in consumer awareness of e-banking services between males and females.
- **Alternative Hypothesis ( $H_1$ ):** There is a significant difference in consumer awareness of e-banking services between males and females.

**Table 4.10(a): Group Statistics for Consumer Awareness of E-Banking Services by Gender**

| Group Statistics                         |                     |     |         |                |                 |
|--|---------------------|-----|---------|----------------|-----------------|
|  | What is your gender | N   | Mean    | Std. Deviation | Std. Error Mean |
| Consumer Awareness of e-banking services | Male                | 234 | 28.3205 | 6.47244        | .42312          |
|  | Female              | 366 | 28.0738 | 5.51635        | .28834          |

The descriptive statistics show that males have a slightly higher mean score for consumer awareness of e-banking services (28.3205) compared to females (28.0738). The standard deviation for males (6.47244) is greater than that for females (5.51635), indicating slightly more variability in awareness among male respondents. The standard error for males (0.42312) and females (0.28834) suggests a smaller sampling error for females due to the larger sample size of female respondents (366) compared to males (234).

**Table 4.10(b): Levene's Test for Equality of Variances for Consumer Awareness of E-Banking Services by Gender**

| Independent Samples Test                 |                             |   |      |                              |  |
|--|-----------------------------|---|------|------------------------------|--|
|  |                             | Levene's Test for Equality of Variances |      | t-test for Equality of Means |  |
|  |                             | F                                       | Sig. | t                            |  |
| Consumer Awareness of e-banking services | Equal variances assumed     | 15.023                                  | .000 | .499                         |  |
|  | Equal variances not assumed |   |      | .482                         |  |

The Levene's Test for Equality of Variances yielded an F-value of 15.023 with a significance value of 0.000, indicating that the variances in consumer awareness of e-banking services between males and females are not equal. As a result, the assumption of equal variances is violated, and further analysis should consider this in interpreting the t-test results.

**Table 4.610(c): Independent Samples T-Test for Consumer Awareness of E-Banking Services by Gender**

|  |                             | Independent Samples Test     |                 |                 |
|--|-----------------------------|------------------------------|-----------------|-----------------|
|  |                             | t-test for Equality of Means |                 |                 |
|  |                             | df                           | Sig. (2-tailed) | Mean Difference |
| Consumer Awareness of e-banking services | Equal variances assumed     | 598                          | .618            | .24674          |
|  | Equal variances not assumed | 439.200                      | .630            | .24674          |

The t-test for equality of means shows a t-value of 0.499 with a significance value ( $p = 0.618$ ) under the assumption of equal variances and a similar result when variances are not assumed ( $t = 0.482$ ,  $p = 0.630$ ). Since the  $p$ -value is greater than 0.05, there is no statistically significant difference in consumer awareness of e-banking services between males and females. The mean difference (0.24674) is minimal, further supporting this conclusion.

**Table 4.10(d): Confidence Interval for the Difference in Consumer Awareness of E-Banking Services by Gender**

|   |                                | Independent Samples Test     |  |         |
|---|--------------------------------|------------------------------|--|---------|
|   |                                | t-test for Equality of Means |  |         |
|   |                                | Std. Error<br>Difference     | 95% Confidence Interval of<br>the Difference |         |
|   |                                |                              | Lower  | Upper   |
| Consumer Awareness<br>of e-banking services | Equal variances<br>assumed     | .49444                       | -.72431                                      | 1.21780 |
|   | Equal variances not<br>assumed | .51203                       | -.75958                                      | 1.25307 |

The confidence interval for the mean difference in consumer awareness scores between males and females ranges from -0.72431 to 1.21780 under the assumption of equal variances. Similarly, when variances are not assumed, the confidence interval is slightly wider (-0.75958 to 1.25307). Since the confidence interval includes zero in both cases, it further confirms that there is no significant difference in consumer awareness between males and females.

**Interpretation:** The **null hypothesis ( $H_0$ )** states that there is no significant difference in consumer awareness of e-banking services between males and females. Based on the results of the independent samples t-test, the p-value is 0.618, which is greater than the significance level of 0.05. This indicates that there is no statistically significant difference in consumer awareness of e-banking services between males and females. Therefore, the **null hypothesis ( $H_0$ ) is accepted**, and the alternative hypothesis ( $H_1$ ) is rejected.

## HYPOTHESIS II

- **Null Hypothesis (H<sub>0</sub>):** There is no significant difference in consumer awareness of e-banking services based on marital status.
- **Alternative Hypothesis (H<sub>1</sub>):** There is a significant difference in consumer awareness of e-banking services based on marital status.

**Table 4.11(a): Group Statistics for Consumer Awareness of E-Banking Services by Marital Status**

| Group Statistics                         |                             |     |         |                |
|--|-----------------------------|-----|---------|----------------|
|  | What is your marital status | N   | Mean    | Std. Deviation |
| Consumer Awareness of e-banking services | Single                      | 143 | 27.5315 | 6.23575        |
|  | Married                     | 324 | 28.5154 | 5.53596        |

The descriptive statistics reveal that married individuals have a higher mean score (28.5154) for consumer awareness of e-banking services compared to single individuals (27.5315). The standard deviation is slightly lower for married individuals (5.53596) than for single individuals (6.23575), indicating less variation in awareness among married respondents. The larger sample size of married respondents (N=324) compared to single respondents (N=143) may also contribute to a more stable and representative mean for this group.

**Table 4.11(b): Levene's Test for Equality of Variances for Consumer Awareness of E-Banking Services by Marital Status**

|  |                             | Levene's Test for Equality of Variances |      | t-test for Equality of Means |
|--|-----------------------------|---|------|------------------------------|
|  |                             | F                                       | Sig. | t                            |
| Consumer Awareness of e-banking services | Equal variances assumed     | 6.951                                   | .009 | -1.702                       |
|  | Equal variances not assumed |   |      | -1.625                       |

The Levene's Test for Equality of Variances results in an F-value of 6.951 with a significance level of 0.009, which is below the threshold of 0.05. This indicates that the assumption of equal variances between the groups is violated, meaning the variability in consumer awareness differs significantly between single and married respondents. Consequently, the independent samples t-test should interpret results without assuming equal variances.

**Table 4.11(c): Independent Samples T-Test for Consumer Awareness of E-Banking Services by Marital Status**

| Independent Samples Test                 |                             |                              |                 |                 |
|--|-----------------------------|------------------------------|-----------------|-----------------|
|  |                             | t-test for Equality of Means |                 |                 |
|  |                             | df                           | Sig. (2-tailed) | Mean Difference |
| Consumer Awareness of e-banking services | Equal variances assumed     | 465                          | .089            | -.98396         |
|  | Equal variances not assumed | 244.943                      | .105            | -.98396         |

The t-test for equality of means under the assumption of equal variances yields a t-value of -1.702 and a significance value ( $p = 0.089$ ). Without assuming equal variances, the results are similar, with a t-value of -1.625 and a p-value of 0.105. In both cases, the p-value exceeds the 0.05 threshold, suggesting that the difference in consumer awareness scores between single and married individuals is not statistically significant. The mean difference of -0.98396 further indicates only a minor variation in awareness between these groups.

**Table 4.11(d): Confidence Interval for the Difference in Consumer Awareness of E-Banking Services by Marital Status**

| Independent Samples Test                    |                                |                              |  |        |
|---|--------------------------------|------------------------------|--|--------|
|   |                                | t-test for Equality of Means |  |        |
|   |                                | Std. Error<br>Difference     | 95% Confidence Interval of<br>the Difference |        |
|   |                                |                              | Lower  | Upper  |
| Consumer Awareness<br>of e-banking services | Equal variances<br>assumed     | .57815                       | -2.12008                                     | .15215 |
|   | Equal variances not<br>assumed | .60540                       | -2.17642                                     | .20849 |

The confidence interval for the difference in mean consumer awareness scores between single and married respondents ranges from -2.12008 to 0.15215 under the assumption of equal variances and from -2.17642 to 0.20849 when variances are not assumed. In both cases, the confidence interval includes zero, confirming that the observed differences are not statistically significant. Therefore, we fail to reject the null hypothesis and conclude that marital status does not have a significant impact on consumer awareness of e-banking services.

**Interpretation:** The **null hypothesis ( $H_0$ )** states that there is no significant difference in consumer awareness of e-banking services based on marital status. The p-value from the independent samples t-test is 0.089, which is greater than the significance level of 0.05. This suggests that there is no significant difference in consumer awareness of e-banking services between single and married respondents. Consequently, the **null hypothesis ( $H_0$ ) is accepted**, and the alternative hypothesis ( $H_1$ ) is rejected.

## 5. Discussion

This research highlights the crucial influence of demographic elements, including gender, marital status, income, and education, in moulding consumer awareness and the uptake of e-banking services in India. Although innovations in digital banking have transformed the financial landscape, the disparity in understanding and uptake across various demographic segments continues to be a significant concern.

A significant discovery from this research is the disparity in consumer awareness across various demographic segments. Even with the growing prevalence of smartphones and internet connectivity, a significant segment of the population continues to be oblivious to the availability and advantages of e-banking services. According to the findings presented in Table 4.2, a notable portion of participants, specifically 43.3%, expressed disagreement or strong disagreement regarding their awareness of online banking services. This suggests that efforts to enhance awareness are still insufficient, particularly in rural regions. This discovery aligns with earlier studies conducted by Banerjee (2018), which emphasised the technological gap separating urban and rural regions, where numerous individuals remain unaware of the functionalities offered by e-banking platforms. In remote areas, where digital infrastructure is scarce, it is essential to amplify initiatives aimed at promoting awareness of e-banking services, especially via focused marketing strategies and educational outreach programs.

Financial status significantly influences the embrace of electronic banking services, as those belonging to elevated income brackets demonstrate a higher propensity to utilise these offerings. According to the information presented in Table 4.1, individuals belonging to elevated income categories (₹50,000-1,00,000 and exceeding ₹1,00,000) demonstrated a higher level of awareness and utilisation of e-banking services. This aligns with the observations made by Bhatia (2022), who highlighted that those with elevated income levels enjoy superior access to smartphones and high-speed internet, essential elements for participating in digital banking services. On the other hand, those with reduced financial resources, particularly in countryside

regions, encounter various obstacles, such as restricted access to technology, which greatly hinders their participation in e-banking services. Mehta (2020) further emphasised this idea, illustrating how socio-economic status serves as a vital factor in the adoption of e-banking, given that individuals from low-income backgrounds frequently do not possess the resources required to effectively utilise digital banking platforms. The realm of education plays a pivotal role in shaping consumer consciousness and the embrace of e-banking services. The findings presented in Table 4.1 emphasise that individuals possessing advanced educational credentials, including postgraduate degrees, demonstrated a greater propensity to comprehend and utilise e-banking services proficiently. This is consistent with the findings of Chakraborty (2018), who posited that increased educational attainment correlates with enhanced awareness of accessible services and a greater propensity to embrace digital banking solutions. On the other hand, people with less education often possess a restricted comprehension of the functioning of e-banking, which leads them to depend more on conventional banking practices. This results in a notable disparity in the uptake of digital services, necessitating focused educational efforts aimed at enhancing digital literacy within less educated communities.

The matter of consumer awareness goes further than merely recognising the existence of e-banking services; it encompasses comprehending the methods to access these services, the processes for transferring funds, and the security measures provided by e-banking platforms. The results presented in Table 4.3 and Table 4.6 reveal that a significant number of participants did not possess a comprehensive grasp of the methods to access and utilise e-banking services. For example, 64.7% of participants indicated that they were unaware of how to utilise e-banking services available on their bank's website, whereas 46% faced challenges in transferring funds via e-banking platforms. The existing deficiencies in comprehension underscore the necessity for financial institutions to allocate resources towards digital literacy initiatives aimed at empowering users to effectively manoeuvre through their online services. According to Fernandes (2021), the intricate nature of these platforms frequently discourages prospective users, particularly individuals who lack familiarity with technology. Enhancing the user journey and providing clear, sequential instructions on utilising e-banking services can significantly

Peer-Reviewed | Refereed | Indexed | International Journal | 2025  
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boost adoption rates. Regarding security, the findings presented in Table 4.7 indicate that a notable percentage of respondents were unaware of the security functionalities offered by e-banking services, as 38.8% of participants expressed strong disagreement or disagreement about being knowledgeable about these features. This corresponds with the insights presented by Mandrekar (2020), who highlighted that the confidence consumers have in the safety of digital platforms is essential for embracing e-banking. A considerable obstacle arises from the insufficient understanding of security features, as numerous prospective users harbour concerns about online fraud and identity theft. Consequently, it is crucial for financial organisations to not only establish strong security protocols but also convey these protocols clearly to their clientele. Establishing consumer confidence in online banking platforms by effectively conveying information regarding security measures will be crucial for enhancing adoption rates. A noteworthy discovery from this research pertains to the influence of mobile banking applications in facilitating the uptake of e-banking services. As illustrated in Table 4.8, a mere 34.2% of participants indicated familiarity with mobile banking applications, whereas 47.3% expressed either strong disagreement or disagreement regarding their familiarity with these applications. The unfamiliarity with mobile banking applications aligns with earlier research conducted by Oberoi (2020) and Dinesh (2021), which highlighted that the uptake of mobile banking continues to be limited, especially in rural regions. As mobile banking apps continue to emerge as the favoured channel for engaging with e-banking services, it is essential for financial institutions to allocate resources towards developing intuitive mobile platforms and offering sufficient training and assistance to users, particularly in rural communities.

## 6. Conclusion

The research indicates that demographic elements including gender, marital status, income level, and educational background play a crucial role in shaping consumer awareness and the uptake of e-banking services in India. Although innovations in electronic banking have transformed the financial landscape, a significant gap in digital access remains, especially between urban and rural communities, as well as among various income and educational demographics. The results

reveal that consumer awareness continues to be a significant obstacle to the adoption of e-banking. Numerous individuals, especially those in rural regions and low-income demographics, do not possess adequate understanding of the services available and how to utilise them efficiently. Moreover, the insufficient comprehension of security functionalities and apprehensions regarding online scams have led to reluctance in embracing e-banking services. This highlights the importance for financial organisations and decision-makers to emphasise the implementation of digital literacy initiatives and security training to cultivate trust and assurance in online banking systems. The research further emphasises the vital importance of tailored marketing and communication approaches in enhancing awareness levels. Financial institutions and banks must embrace a more customised strategy, focussing on the unique requirements of marginalised communities, especially in rural and economically disadvantaged regions. Providing intuitive platforms and enhancing the user journey will further assist in breaking down the obstacles to acceptance. In the end, tackling these obstacles will not only enhance the uptake of e-banking services but also aid in achieving the wider objective of financial inclusion. By guaranteeing that electronic banking services are reachable for every demographic within the population, India can progress towards realising extensive financial empowerment and inclusivity in the era of digital advancement. The results of this research can guide strategic efforts to improve the availability and utilisation of electronic banking services, especially in rural and marginalised regions.

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