

EXPLORING THE IMPACT OF DEMOGRAPHIC FACTORS ON CONSUMER AWARENESS AND ADOPTION OF E-BANKING SERVICES IN INDIA

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Abstract

The rapid growth of e-banking services has transformed the financial landscape in India, offering consumers greater convenience and access to a range of banking services, from bill payments to complex financial transactions. Despite the advancements in digital banking infrastructure, the adoption and awareness of e-banking services remain uneven across different demographic groups. This study explores the impact of demographic factors such as gender, marital status, income, and educational qualification on the awareness and adoption of e-banking services in India. The research highlights the challenges faced by rural and low-income groups, who encounter barriers such as limited access to digital infrastructure, poor internet connectivity, and insufficient digital literacy. The study also identifies key obstacles to the widespread adoption of e-banking, including the lack of awareness about the services offered, the complexity of digital platforms, and concerns over security. This research aims to fill the gap in understanding how demographic variables influence consumer engagement with e-banking and offers recommendations for improving digital literacy, targeted marketing, and user education to enhance adoption rates. The study suggests that a more inclusive approach is required to ensure that all segments of the population, particularly underserved rural and low-income groups, can benefit from the advantages of e-banking services. The findings of this research contribute to the ongoing discourse on digital financial inclusion and provide insights that could inform policy-making and strategic decisions for banks and financial institutions aiming to reach a broader customer base.

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

1. Introduction

The rise of e-banking services in India has significantly transformed the financial sector, offering convenience and a broad array of services ranging from bill payments to complex financial transactions (Acharya, 2022). With the increasing penetration of smartphones, high-speed internet, and improved digital literacy, online banking has emerged as a preferred choice for many consumers. As a result, banks and financial institutions are increasingly investing in digital platforms to cater to the growing demand for online services (Bajaj, 2020). However, despite the rapid technological advancements, the adoption of e-banking services remains uneven across different segments of the Indian population, particularly when considering the impact of various demographic factors such as gender, marital status, income, and education. While urban populations and those with higher income levels have exhibited greater awareness and adoption of e-banking services, rural and low-income groups continue to face significant barriers (Mehta, 2020). These barriers can be attributed to a variety of factors, including limited access to digital devices, poor internet connectivity, and insufficient digital literacy (Krishnamurthy, 2018). Additionally, many individuals remain unaware of the full range of services offered by e-banking platforms, leading to missed opportunities for adoption. This highlights the crucial role of awareness in influencing consumer behavior and the need for targeted marketing campaigns and educational initiatives to bridge the awareness gap. Consumer awareness of e-banking services is not only influenced by technological access but also by the understanding of the advantages these services offer. A lack of knowledge about the benefits of online banking, coupled with concerns about security, often prevents individuals from adopting e-banking platforms (Bajaj, 2020). Understanding how to access and utilize these services is another key factor. As observed by Fernandes (2021), many consumers find it challenging to navigate the complex features of e-banking platforms, which further hinders adoption. Therefore, improving consumer education and digital literacy is essential to ensuring that a wider demographic of the population can benefit from the advantages of e-banking.

The objective of this study is to investigate the impact of demographic factors—such as gender, marital status, income, and educational qualification—on consumer awareness and adoption of e-banking services in India. Specifically, this

research aims to answer the following key questions:

1. To what extent do demographic factors such as gender, marital status, income, and education affect consumer awareness of e-banking services?
2. How do these factors influence the adoption of e-banking services among different demographic groups?
3. What are the key challenges that prevent certain segments of the population from fully utilizing e-banking services?

By addressing these questions, the study aims to provide a clearer understanding of the barriers to e-banking adoption and offer practical recommendations for banks and policymakers to enhance the accessibility of digital banking services (Anand, 2022). Additionally, this research will contribute to the broader discourse on digital financial inclusion, particularly in the context of emerging economies like India, where a substantial portion of the population is still underbanked or lacks full access to banking services (Sethi, 2020).

In light of these challenges, the findings of this research will not only highlight the disparities in e-banking adoption across demographic groups but also suggest targeted interventions that can promote greater awareness and usage of digital banking services, ultimately contributing to the financial empowerment of India's diverse population.

2. Literature Review

2.1 Demographic Factors Affecting E-Banking Adoption

The impact of demographic factors on the adoption of e-banking services has been widely explored in previous studies, with significant attention given to variables such as age, gender, income, and education. Gender differences in the usage and awareness of e-banking have been highlighted by several researchers. For instance, Mehta (2020) finds that men are generally more likely to adopt e-banking services compared to women, mainly due to greater exposure to technology and higher digital literacy levels. On the other hand, women, particularly in rural areas, tend to have lower access to digital infrastructure, which limits their engagement with online banking services. Similarly, marital status has also been identified as an influencing factor. According to Krishnamurthy (2018), married individuals, particularly those with families, are more likely to engage with e-banking services due to their higher levels of financial responsibility and access to household income. In contrast, single individuals may not view the need for digital banking as urgent, which may delay their adoption. Income is another critical demographic factor affecting e-banking adoption. Research has shown that individuals from higher-income brackets are more inclined to use digital banking services. This trend is particularly pronounced in urban areas, where access to the internet, smartphones, and digital banking infrastructure is widespread (Bhatia, 2022). Individuals with lower incomes, especially those residing in rural areas, face numerous challenges such as limited internet connectivity, lack of access to smartphones, and lower levels of digital literacy, all of which hinder the adoption of e-banking services (Oberoi, 2020). Education also plays a significant role in shaping e-banking usage. Higher educational attainment is strongly correlated with higher levels of awareness and adoption of e-banking services, as individuals with more education are often better equipped to understand and use digital banking platforms (Chakraborty, 2018).

2.2 Awareness and Understanding of E-Banking Services

Awareness is one of the most critical factors influencing the adoption of e-banking services. Numerous studies have shown that a lack of awareness about the existence of online banking services and their benefits remains a major barrier to adoption in India (Banerjee, 2018). For many consumers, particularly those from rural or low-income backgrounds, e-banking services may seem unfamiliar or inaccessible, which hampers their willingness to adopt these platforms. Additionally, the complexity of digital banking platforms often deters individuals who are not well-versed in using technology. As Anand (2022) points out, many consumers are unaware of the range of services offered by e-banking platforms, such as fund transfers, loan applications, and investment options, which can contribute to greater financial inclusion. This lack of knowledge is further compounded by a lack of trust in digital platforms, with concerns over privacy and security being prevalent in many users' minds. A key aspect of raising awareness about e-banking is the role of marketing and promotional campaigns. Banks and financial institutions have increasingly turned to digital

advertising, television commercials, and social media to reach a wider audience. However, as Desai (2021) notes, these marketing efforts have often not been tailored to specific demographic groups, leading to suboptimal reach, particularly in rural areas. For instance, advertisements may fail to address the unique challenges faced by rural populations, such as limited access to digital devices or reliable internet connections. Thus, a more targeted approach to raising awareness that takes into account demographic factors, such as age, income, and location, is crucial for the widespread adoption of e-banking services.

2.3 Barriers to E-Banking Adoption

Several studies have identified barriers to e-banking adoption, which are influenced by both personal and systemic factors. One of the main barriers is the lack of digital literacy, particularly among older individuals and those with low educational backgrounds. As noted by Jha (2021), many consumers find it difficult to navigate digital banking platforms, making them hesitant to engage with online banking services. This issue is further exacerbated by concerns about security and the fear of online fraud, which are widespread among potential users. According to Mandrekar (2020), consumers' trust in the security of digital platforms is a crucial factor in their willingness to use e-banking services. Without adequate knowledge of the security features in place to protect their data and transactions, many consumers refrain from using online banking services, despite their potential benefits. Furthermore, regional disparities in access to digital infrastructure contribute to the uneven adoption of e-banking services. As Dinesh (2021) suggests, rural areas often lack the necessary technological infrastructure, such as reliable internet access and smartphone penetration, which prevents residents from accessing online banking services. Even if people in these regions are aware of e-banking, they may not have the means to engage with it. This creates a digital divide that limits the broader adoption of e-banking services, particularly among lower-income groups. In light of these barriers, it is essential for both the government and financial institutions to invest in improving digital literacy and infrastructure, especially in underserved regions, to ensure that the benefits of e-banking are accessible to all.

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

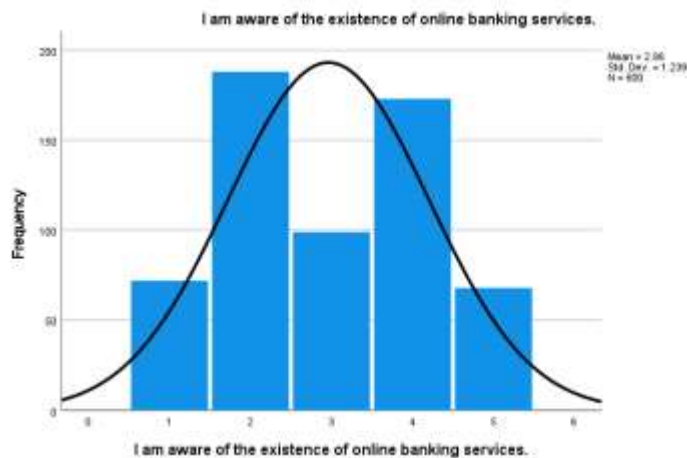
4.1 Demographic Profile of the Respondents

Demographic Variable	Category	Frequency (N)	Percentage (%)
Gender	Male	234	39.0%
	Female	366	61.0%
Marital Status	Single	143	23.8%
	Married	324	54.0%
	Prefer Not to Say	133	22.2%
Income Level	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%
Educational Qualification	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.

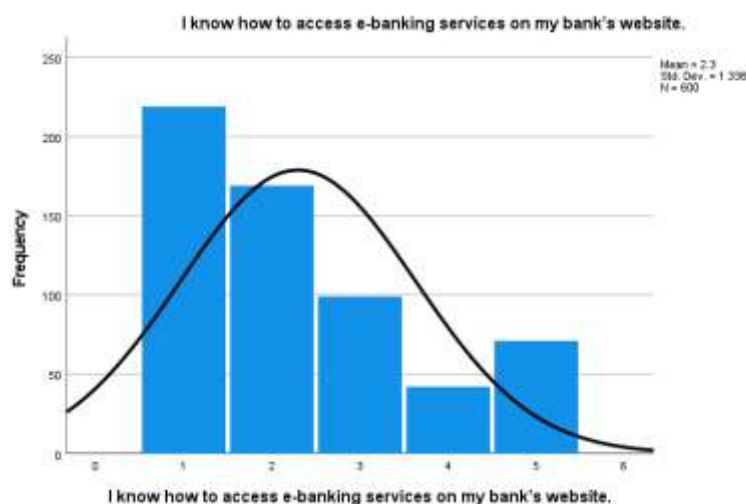
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	72	12.0	12.0	12.0
	Disagree	188	31.3	31.3	43.3
	Neutral	99	16.5	16.5	59.8
	Agree	173	28.8	28.8	88.7
	Strongly Agree	68	11.3	11.3	100.0
	Total	600	100.0	100.0	



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.

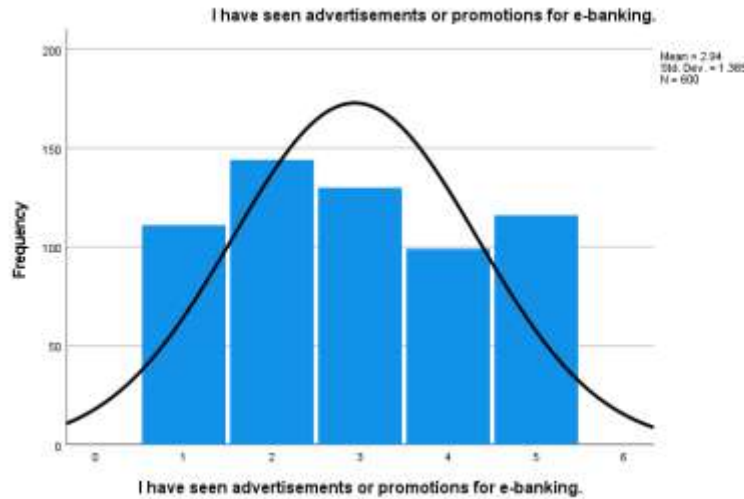
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	219	36.5	36.5	36.5
	Disagree	169	28.2	28.2	64.7
	Neutral	99	16.5	16.5	81.2
	Agree	42	7.0	7.0	88.2
	Strongly Agree	71	11.8	11.8	100.0
	Total	600	100.0	100.0	



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.

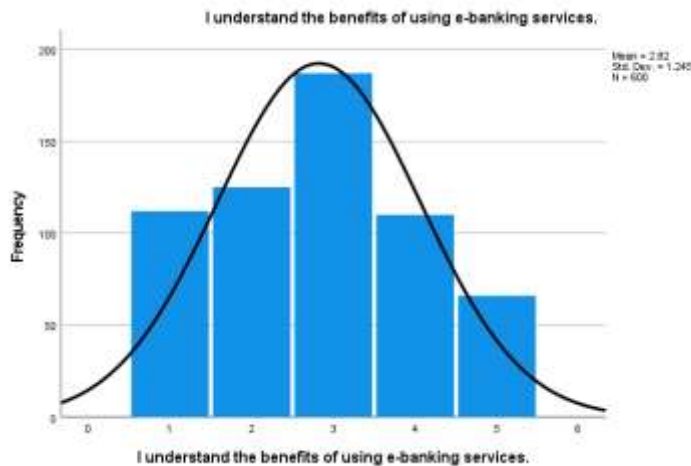
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	111	18.5	18.5	18.5
	Disagree	144	24.0	24.0	42.5
	Neutral	130	21.7	21.7	64.2
	Agree	99	16.5	16.5	80.7
	Strongly Agree	116	19.3	19.3	100.0
	Total	600	100.0	100.0	



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	



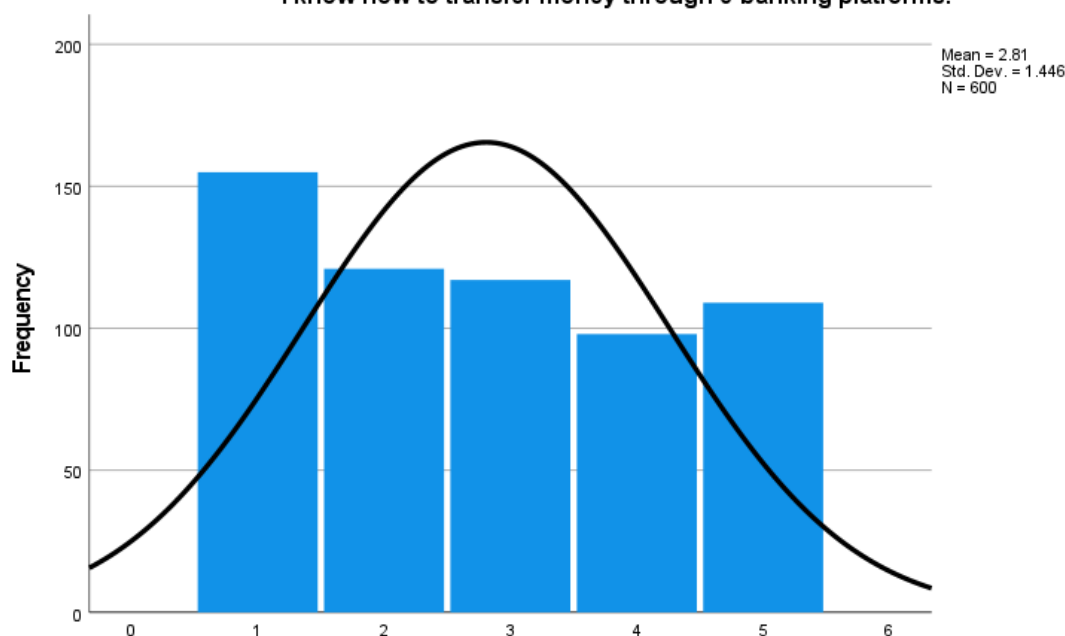
Understanding the advantages of e-banking services directly impacts user adoption rates. According to Table 4.5, 18.3% of respondents agree and 11.0% strongly agree that they understand the benefits of e-banking services, indicating that only 29.3% of participants have a positive comprehension of its 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.

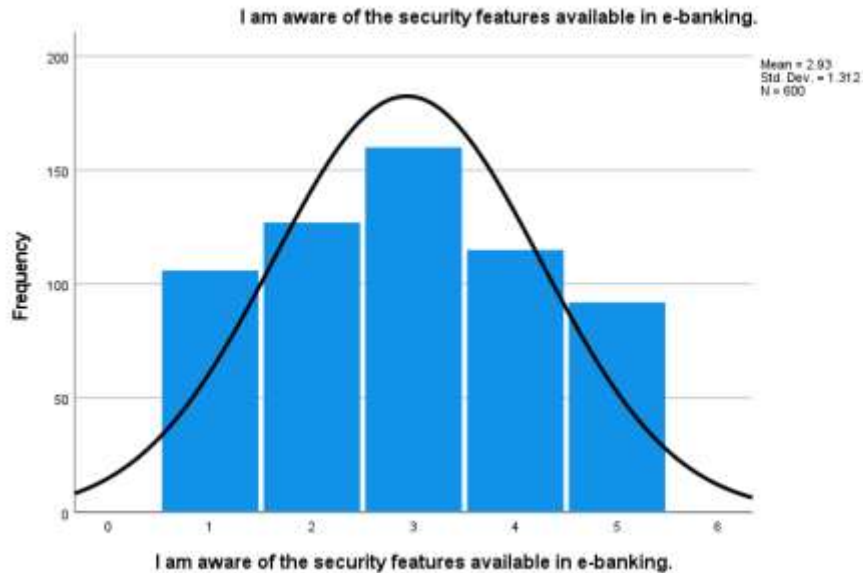


I know how to transfer money through e-banking platforms.

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.

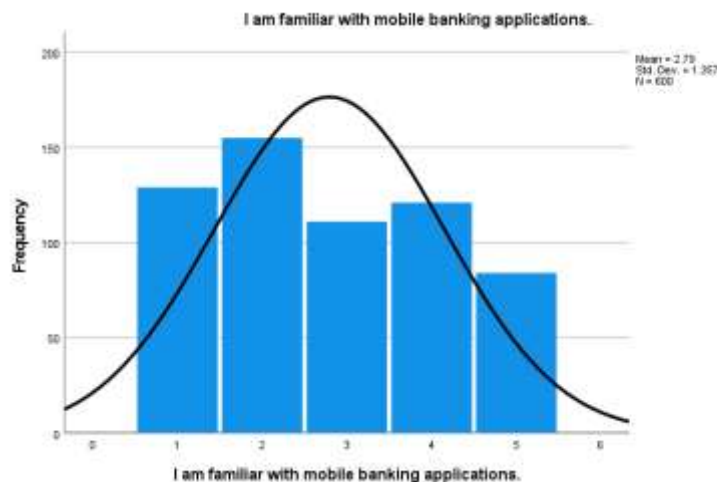
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	106	17.7	17.7	17.7
	Disagree	127	21.2	21.2	38.8
	Neutral	160	26.7	26.7	65.5
	Agree	115	19.2	19.2	84.7
	Strongly Agree	92	15.3	15.3	100.0
	Total	600	100.0	100.0	



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 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.

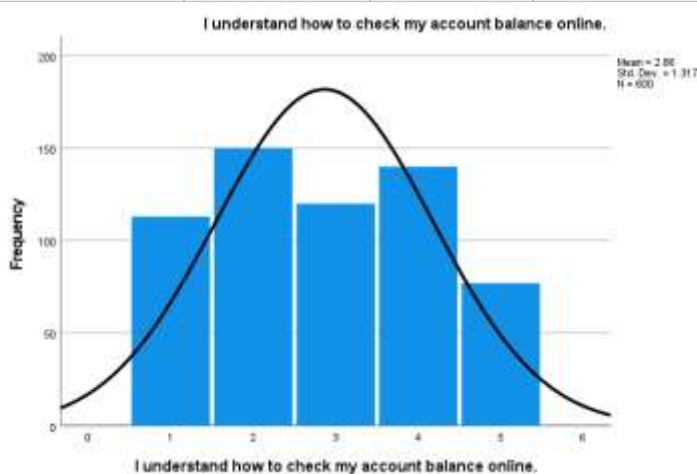
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	129	21.5	21.5	21.5
	Disagree	155	25.8	25.8	47.3
	Neutral	111	18.5	18.5	65.8
	Agree	121	20.2	20.2	86.0
	Strongly Agree	84	14.0	14.0	100.0
	Total	600	100.0	100.0	



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 (H₀):** There is no significant difference in consumer awareness of e-banking services between males and females.
- **Alternative Hypothesis (H₁):** 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 Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Consumer Awareness of e-banking services	Equal variances assumed	.49444	-.72431	1.21780
	Equal variances not 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_0):** There is no significant difference in consumer awareness of e-banking services based on marital status.
- **Alternative Hypothesis (H_1):** 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

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	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 Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Consumer Awareness of e-banking services	Equal variances assumed	.57815	-2.12008	.15215
	Equal variances not 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

The findings of this study underscore the significant role that demographic factors, such as gender, marital status, income, and education, play in shaping consumer awareness and adoption of e-banking services in India. While technological advancements in digital banking have revolutionized the financial sector, the uneven distribution of awareness and adoption rates among different demographic groups remains a critical issue.

One of the most important findings of this study is the variation in consumer awareness between different demographic groups. Despite the increasing penetration of smartphones and internet access, a substantial portion of the population remains unaware of the existence and benefits of e-banking services. As observed in Table 4.2, a significant number of respondents, 43.3%, disagreed or strongly disagreed with the statement that they were aware of online banking services, indicating that awareness initiatives are still lacking, especially in rural areas. This finding is consistent with previous research by Banerjee (2018), who highlighted the digital divide between urban and rural areas, where many individuals are still unfamiliar with the capabilities of e-banking platforms. In rural regions, where access to digital infrastructure is limited, efforts to spread awareness of e-banking services must be intensified, particularly through targeted marketing and educational campaigns.

Income plays a key role in the adoption of e-banking services, with individuals from higher-income groups showing a greater likelihood of using these services. As the data in Table 4.1 suggests, individuals from higher income brackets (₹50,000-1,00,000 and above ₹1,00,000) exhibited greater familiarity and adoption of e-banking services. This is consistent with the findings of Bhatia (2022), who noted that individuals with higher incomes have better access to smartphones and high-speed internet, which are prerequisites for engaging with digital banking platforms. Conversely, individuals with lower incomes, especially in rural areas, face multiple barriers, including limited access to technology, which significantly hampers their engagement with e-banking services. Mehta (2020) further reinforced this notion, explaining how socio-economic status is a critical determinant of e-banking adoption, as low-income groups often lack the resources necessary to engage with digital banking platforms effectively. Education is another critical factor that influences consumer awareness and adoption of e-banking services. The results in Table 4.1 highlight that respondents with higher educational qualifications, such as postgraduate degrees, were more likely to understand and use e-banking services effectively. This aligns with Chakraborty (2018), who argued that higher levels of education are associated with greater awareness of the available services and a higher likelihood of adopting digital banking platforms. Conversely, individuals with lower educational levels tend to have limited understanding of how e-banking works, making them more reliant on traditional banking methods. This creates a significant gap in the adoption of digital services, which calls for targeted educational initiatives that promote digital literacy among undereducated groups.

The issue of consumer awareness extends beyond simply knowing that e-banking services exist—it also involves understanding how to access these services, how to transfer money, and the security features offered by e-banking platforms. As the findings from Table 4.3 and Table 4.6 indicate, many respondents lacked a clear understanding of how to access and use e-banking services. For instance, 64.7% of respondents reported not knowing how to access e-banking services on their bank's website, while 46% were unable to transfer money through e-banking platforms. These gaps in understanding highlight the need for banks to invest in digital literacy campaigns that educate users on how to navigate their online platforms. As noted by Fernandes (2021), the complexity of these platforms often deters potential users, especially those who are not familiar with technology. Simplifying the user experience and offering step-by-step guidance on how to use e-banking services can go a long way in improving adoption rates. In terms of security, the results from Table 4.7 show that a significant proportion of respondents lacked awareness of the security

features available in e-banking services, with 38.8% of participants strongly disagreeing or disagreeing with being informed about these features. This aligns with findings by Mandrekar (2020), who emphasized that consumers' trust in the security of digital platforms is crucial for the adoption of e-banking. The lack of awareness of security features is a significant barrier, as many potential users fear online fraud and identity theft. Therefore, it is essential for financial institutions to not only implement robust security measures but also communicate these measures effectively to their customers. Building consumer trust in e-banking platforms through clear communication about security protocols will be key to increasing adoption rates. Another significant finding of this study relates to the role of mobile banking applications in promoting e-banking adoption. According to Table 4.8, only 34.2% of respondents were familiar with mobile banking applications, while 47.3% were either strongly disagreeing or disagreeing with the statement that they were familiar with such applications. This lack of familiarity with mobile banking applications is consistent with previous studies by Oberoi (2020) and Dinesh (2021), who pointed out that mobile banking adoption remains low, particularly in rural areas. Since mobile banking applications are increasingly becoming the preferred medium for accessing e-banking services, it is crucial for banks to invest in user-friendly mobile platforms and provide adequate training and support to users, especially in rural areas.

6. Conclusion

The study reveals that demographic factors such as gender, marital status, income, and educational qualifications significantly influence consumer awareness and adoption of e-banking services in India. While technological advancements in e-banking have revolutionized the financial sector, a substantial digital divide persists, particularly between urban and rural populations, as well as among different income and education groups. The findings indicate that consumer awareness remains a key barrier to e-banking adoption, with many individuals, particularly in rural areas and low-income groups, lacking sufficient knowledge of the services offered and how to use them effectively. Additionally, the lack of understanding of security features and concerns about online fraud have contributed to hesitation in adopting e-banking services. This underscores the need for financial institutions and policymakers to prioritize digital literacy programs and security education to foster trust and confidence in online banking platforms. The study also highlights the critical role that targeted marketing and communication strategies can play in improving awareness. Banks and financial institutions need to adopt a more tailored approach, addressing the specific needs of underserved populations, particularly in rural and low-income areas. Offering user-friendly platforms and simplifying the user experience will also help overcome the barriers to adoption. Ultimately, addressing these challenges will not only lead to increased adoption of e-banking services but also contribute to the broader goal of financial inclusion. By ensuring that e-banking services are accessible to all segments of the population, India can move closer to achieving widespread financial empowerment and inclusion in the digital age. The findings of this study can inform strategic initiatives to enhance the accessibility and usage of e-banking services, particularly in rural and underserved areas.

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