

E-Banking Adoption among Different Age Groups: An Empirical Study of Ajmer City

Dr. Garima Meena¹, Mukesh Kumar Meena²

¹Assistant Professor, Department of EAFM, Samrat Prithviraj Chauhan Government College, Ajmer, Rajasthan

²Assistant Professor, Department of Business Administration, Maharani Shri Jaya Govt PG College, Bharatpur, Rajasthan

ABSTRACT

The increasing availability of digital banking services has changed how customers conduct routine financial transactions. However, the adoption of these services may vary across age groups. This study examined differences in the adoption of e-banking services among bank customers belonging to different age groups in Ajmer City. A quantitative approach and descriptive and empirical research design were adopted. Primary data were collected through a structured questionnaire from 212 respondents selected using disproportionate stratified sampling. E-banking adoption was measured through 12 statements on a five-point Likert scale. The instrument demonstrated good internal consistency, with a Cronbach's alpha value of 0.873. Descriptive statistics and one-way analysis of variance were used to analyse the data. The overall construct mean of 3.55 (SD = 0.56) indicated a moderately favourable level of e-banking adoption. Respondents reported comparatively greater adoption for fund transfers, payments and routine banking activities. The mean adoption score was highest among respondents aged 18–30 years (M = 3.85, SD = 0.44) and declined progressively across the older age groups, reaching its lowest level among respondents aged above 60 years (M = 2.73, SD = 0.50). The one-way ANOVA revealed a statistically significant overall difference in e-banking adoption among the five age groups, $F(4, 207) = 28.07, p < .001$. The findings demonstrate that e-banking adoption differs significantly across age groups, with younger customers showing comparatively greater adoption. Banks should therefore provide age-sensitive digital guidance, accessible interfaces and practical assistance to strengthen the independent use of e-banking services among less confident customers.

Keywords: E-banking adoption; age groups; digital banking; customer behaviour; Ajmer City

INTRODUCTION

E-banking has changed how customers carry out routine financial transactions by offering services such as mobile banking, internet banking, UPI and digital payments. However, customers of different ages may not use these facilities in the same way. Differences in digital familiarity, confidence and ability to complete transactions independently can influence adoption. Therefore, this study examines e-banking adoption among customers from five age groups in Ajmer City and identifies whether adoption differs significantly according to age.

REVIEW OF LITERATURE

(Han & Ko, 2025) examined how technology anxiety and familiarity with technology influence the continued use of mobile financial services among elderly consumers. The researchers analysed online survey responses from 488 South Korean mobile-banking users aged 60 years and above through hierarchical regression analysis, with age considered by comparing respondents aged 60–69 years and those aged 70 years or above. Technology anxiety reduced continuance intention, whereas familiarity with technology encouraged sustained mobile-banking use. The influence of these factors also varied between the two age categories. The findings demonstrate that differences exist even within the elderly population and reinforce the importance of examining e-banking adoption across clearly defined age groups.

(Choi et al., 2024) explored the demographic, personal, social and digital-experience factors associated with fintech adoption among elderly consumers. The analysis used South Korean panel data collected from 3,465 individuals during 2019 and 2020. Respondents aged 50–64 years were more inclined to use fintech services than those aged 65 years or above. Regular interaction with digital media and residence in multigenerational households also supported greater fintech participation. The results establish that older consumers do not form a uniform category and that adoption varies according to age and everyday exposure to technology. This evidence directly supports an age-wise investigation of electronic financial-service adoption.

(Touchaei & Hashim, 2024) investigated the factors affecting mobile-banking adoption among senior citizens in Malaysia. A questionnaire survey was conducted among 384 non-users of mobile banking aged above 50 years in Kuala Lumpur, and the proposed relationships were assessed through structural equation modelling. Performance expectancy, effort expectancy, social influence, facilitating conditions and hedonic motivation positively influenced adoption intention, while dispositional resistance to change exerted a negative effect. The analysis indicates that older customers may recognise the usefulness of mobile banking but still require accessible systems, favourable social support and assistance in overcoming resistance to unfamiliar technology. These observations are relevant to understanding comparatively lower adoption among older banking customers.

(Jena, 2023) examined senior citizens' intention to use e-banking services in India after the COVID-19 pandemic. The study extended the Unified Theory of Acceptance and Use of Technology and analysed responses from 456 senior citizens in central India using partial least squares structural equation modelling. Performance expectancy, effort expectancy, social influence, facilitating conditions, trust and self-efficacy emerged as important considerations in older customers' acceptance of e-banking, while perceived risk remained an important barrier. The research establishes that senior citizens' participation in digital banking depends upon both the usefulness of the service and their confidence in operating it safely. Its Indian setting makes it particularly relevant to the assessment of e-banking adoption among older customers in Ajmer City.

(Sharma, 2023) identified the principal factors influencing customers' intention to adopt mobile-banking services in India and examined whether adoption differed between male and female users. Data were collected from 143 respondents through a structured questionnaire, while principal component analysis and confirmatory factor analysis were used to assess the proposed dimensions. Perceived usefulness, perceived ease of use, compatibility and perceived risk significantly explained customers' intention to adopt mobile banking. The gender-based comparison revealed only a negligible difference in mobile-banking usage. Although the study concentrated mainly on behavioural determinants and gender, it confirmed that Indian customers' adoption of digital banking is shaped by their assessment of usefulness,

usability and risk. It consequently provides a foundation for extending demographic examination to age-based differences.

(Chauhan et al., 2022) assessed consumers' intentions to adopt different electronic banking services in India by extending the UTAUT2 model. Questionnaire responses obtained from 721 consumers were analysed through covariance-based structural equation modelling. In addition to the original UTAUT2 dimensions, the model incorporated consumer innovativeness, perceived risk and the availability of security information. The expanded framework explained customers' adoption intentions and showed that personal readiness, perceived uncertainty and access to adequate security information contribute to the acceptance of e-banking services. The research offers broad evidence concerning the drivers of e-banking adoption in India, although it does not provide a focused comparison of the actual level of adoption across multiple age groups.

(Msweli & Mawela, 2021) investigated the enablers and barriers affecting mobile-banking adoption among elderly people in a developing-country setting. Interviews and focus-group discussions were conducted with elderly respondents in KwaZulu-Natal Province, South Africa, and the evidence was interpreted through Actor-Network Theory. Mobile-banking adoption was found to be low among elderly participants. Lack of information, limited understanding, security and trust concerns, language barriers, application complexity and resistance to change discouraged adoption, whereas convenience, unrestricted access and cost effectiveness encouraged use. The findings explain why older customers may engage less extensively with digital banking and show the need for age-sensitive guidance and simpler service interfaces.

RESEARCH METHODOLOGY

Research objective

To examine differences in the adoption of e-banking services among customers belonging to different age groups.

Research Design

The study adopted a descriptive and empirical research design to examine differences in the adoption of e-banking services among customers belonging to different age groups in Ajmer City. The descriptive design enabled the study to assess respondents' existing e-banking usage, while the empirical component facilitated the statistical comparison of adoption scores across the selected age groups. This design was appropriate because the study focused on measuring and comparing an observed phenomenon without manipulating the research variables.

Research Approach

A quantitative research approach was followed because the study relied on numerical responses collected through a structured questionnaire. This approach supported the measurement of e-banking adoption and the statistical examination of differences among five independent age groups. Unlike the research design, which defined the overall structure of the investigation, the quantitative approach specified the form of data collected and the analytical procedures employed.

Sample

The target population comprised bank customers aged 18 years and above residing in Ajmer City. A sample of 212 respondents was selected through disproportionate stratified sampling, with age group serving as the basis of stratification.

Data Collection Procedure

The questionnaire was administered through Google Forms to eligible bank customers residing in Ajmer City. Participation was restricted to individuals aged 18 years or above. The online mode enabled responses to be collected from different age categories, although relatively fewer responses were obtained from the older groups because of their lower accessibility through the digital collection method.

Reliability of the Instrument

The internal consistency of the 12-item e-banking adoption scale was assessed using Cronbach's alpha. The scale produced an alpha coefficient of 0.873, indicating good internal consistency among the retained statements. The result supported the use of the combined item mean as a measure of overall e-banking adoption.

DATA ANALYSIS AND INTERPRETATION

Age Group

Table 1: Age Group

Age_Group	Frequency	%
18–30 years	71	33.49%
31–40 years	67	31.6%
41–50 years	34	16.04%
51–60 years	26	12.26%
Above 60 years	14	6.6%
Total	212	100%

The age profile shows that 71 respondents, representing 33.49% of the sample, belonged to the 18–30 years category. This was followed by 67 respondents aged 31–40 years, accounting for 31.60%. Respondents aged 41–50 years constituted 16.04%, while those aged 51–60 years represented 12.26%. The above 60 years category had the smallest representation, comprising 6.60% of the sample. Thus, although every specified age group was represented, respondents aged up to 40 years formed the largest proportion of the sample.

E banking Experience

Table 2: E-Banking Experience

E_Banking_Experience	Frequency	%
Less than 1 year	18	8.49%
1–3 years	63	29.72%
4–6 years	62	29.25%
More than 6 years	69	32.55%
Total	212	100%

The findings indicate that 32.55% of respondents had been using e-banking services for more than six years. A further 29.72% reported an experience of one to three years, while 29.25% had used these services for four to six years. Only 8.49% had less than one year of experience. Overall, most respondents had prior and sustained exposure to e-banking, with more than 60% reporting at least four years of experience.

Primary E Banking Service

Table 3: Primary E-Banking Service

Primary_E_Banking_Service	Frequency	%
Internet banking	47	22.17%
UPI	60	28.3%
Other	10	4.72%
Mobile banking	37	17.45%
Debit/credit card services	36	16.98%
Digital wallets	22	10.38%
Total	212	100%

UPI emerged as the most frequently reported primary e-banking service, selected by 28.30% of respondents. Internet banking ranked second at 22.17%, followed by mobile banking at 17.45% and debit or credit card services at 16.98%. Digital wallets were primarily used by 10.38%, whereas only 4.72% selected other services. The distribution indicates a clear preference for UPI, although respondents' primary usage was spread across several forms of e-banking.

USage Frequency

Table 4: Usage Frequency

Usage_Frequency	Frequency	%
Rarely	18	8.49%
Once a week	43	20.28%
Several times a week	65	30.66%
Several times a month	41	19.34%
Daily	45	21.23%
Total	212	100%

The results show that 30.66% of respondents used e-banking services several times a week, making this the most common usage pattern. Daily users accounted for 21.23%, while 20.28% used these services once a week. Another 19.34% reported using e-banking several times a month. Only 8.49% used such services rarely. Taken together, 51.89% of respondents used e-banking either daily or several times a week, indicating regular engagement with digital banking services among a majority of the sample.

Likert Scale Statement Analysis

Table 5: Likert Scale Analysis

S. No	Likert statement	SD	D	N	A	SA	$\bar{X}$	σ
1	I regularly use e-banking services for my banking transactions.	4	27	71	84	26	3.47	0.93

S. No	Likert statement	SD	D	N	A	SA	$\bar{X}$	σ
2	I use e-banking services frequently during a typical month.	4	18	76	87	27	3.54	0.88
3	I use more than one type of e-banking service.	4	19	74	95	20	3.50	0.85
4	I use e-banking services for different banking purposes.	3	27	82	85	15	3.38	0.85
5	I use e-banking services to transfer funds.	1	14	69	93	35	3.69	0.84
6	I use e-banking services to make payments for goods, services or bills.	1	22	58	95	36	3.67	0.89
7	I prefer using e-banking services instead of visiting a bank branch for routine transactions.	1	15	75	82	39	3.67	0.87
8	I choose e-banking whenever both digital and branch-based options are available.	4	19	77	80	32	3.55	0.92
9	E-banking services have become part of my regular banking activities.	3	17	71	83	38	3.64	0.91
10	I rely on e-banking services for managing my day-to-day financial transactions.	2	21	86	78	25	3.48	0.86
11	I can use e-banking services without assistance from others.	1	10	82	94	25	3.62	0.77
12	I can independently complete different transactions through e-banking services.	1	25	90	83	13	3.38	0.79

The Likert-scale analysis indicates that respondents in Ajmer City had a moderately favourable level of e-banking adoption. E-banking was used most strongly for transferring funds and making payments for goods, services and bills. Respondents also displayed a positive preference for digital services over branch visits for routine banking activities, and many had incorporated e-banking into their regular financial practices.

However, adoption was not equally strong across every aspect of usage. Respondents showed comparatively lower agreement regarding the use of e-banking for different purposes, reliance on it for day-to-day financial management and the independent completion of varied transactions. The relatively high neutral responses for these statements suggest that some customers used basic e-banking facilities

but had not adopted a wider range of functions with equal confidence. Overall, e-banking had achieved meaningful acceptance among the respondents, although scope remained for strengthening the breadth, consistency and independent use of digital banking services.

HYPOTHESIS TESTING

H₀₁: There is no significant difference in the adoption of e-banking services among customers belonging to different age groups.

For testing H₀, the age group was used as the independent grouping variable, while the e-banking adoption score was used as the dependent variable.

One-way ANOVA was applied to examine whether the mean adoption of e-banking services differed significantly among customers belonging to five age groups.

Table 6: Descriptive Statistics

	n	Mean	Std. Deviation
18–30 years	71	3.85	0.44
31–40 years	67	3.65	0.41
41–50 years	34	3.45	0.43
51–60 years	26	3.06	0.60
Above 60 years	14	2.73	0.50
Total	212	3.55	0.56

The mean e-banking adoption score was highest among respondents aged 18–30 years (M = 3.85, SD = 0.44), followed by those aged 31–40 years (M = 3.65, SD = 0.41), 41–50 years (M = 3.45, SD = 0.43), 51–60 years (M = 3.06, SD = 0.60) and above 60 years (M = 2.73, SD = 0.50).

Table 7: ANOVA

	Sum of Squares	df	Mean Square	F	p
Age_Group	23.28	4	5.82	28.07	<.001
Residual	42.91	207	0.21		
Total	66.19	211			

The mean scores show a consistent decline in e-banking adoption across the successively older age groups. The one-way ANOVA revealed a statistically significant overall difference in e-banking adoption among the five age groups, $F(4, 207) = 28.07, p < .001$.

Decision

For H₀₁, one-way ANOVA showed a statistically significant overall difference in e-banking adoption among the different age groups. Therefore, the null hypothesis is rejected.

Finding

E-banking adoption was comparatively higher among younger respondents and declined progressively across the older age groups. This suggests that customers' level of e-banking adoption varies according to their age group within the study context.

Conclusion

Since the null hypothesis is rejected, the researcher concludes that there is a significant difference in the adoption of e-banking services among customers belonging to different age groups.

SUGGESTIONS

1. Banks should organise practical e-banking awareness programmes to familiarise customers with services beyond basic fund transfers and payments.
2. Branches should provide short demonstrations explaining how customers can independently complete different types of digital transactions.
3. Banks should establish digital assistance counters where first-time or less-confident users can receive guidance in using e-banking applications.
4. Banks should conduct targeted digital literacy programmes for customers who remain dependent on assistance while performing e-banking transactions.
5. Special training sessions should be arranged for older customers because the study found that e-banking adoption declined across the older age groups.
6. Banks should introduce guided or simplified interface modes for users who require additional support in completing digital transactions.
7. Security instructions should be communicated in simple language so that customers can use e-banking services independently while remaining alert to fraud.
8. Banks should provide responsive customer-support facilities for users who encounter difficulties during online transactions.
9. Failed transactions and related complaints should be resolved promptly to strengthen customers' willingness to use e-banking regularly.
10. Notifications concerning transaction status, service interruptions and security alerts should be timely, clear and easy to understand.

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