International Journal of Finance and Commerce
www.commercejournals.com
Online ISSN: 2664-715X
Received: 21-07-2026, Accepted: 20-08-2026, Published: 04-09-2026
Volume 8, Issue 3, 2026, Page No. 91-94

Influence of customers' demographic factors on usage of digital banking services in public sector banks

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DOI: https://doi.org/10.66856/ijfc.2026.8.3.8061

Abstract
This study aims to investigate how demographic factors, including age, gender, education level, income, and occupation, influence the adoption and use of digital banking services provided by public sector banks. The growing digital transformation in banking necessitates a deeper understanding of customer behavior across demographic segments to improve service delivery and enhance customer satisfaction. Customers value the convenience and efficiency provided by digital platforms but express concerns over data security and the lack of personalized interaction compared to traditional banking. Additionally, the study highlights the importance of the demographical factors of customers' impact on digital banking services. The research concludes that while digital banking offers numerous benefits, banks must balance technological advancements with customer-centric strategies to maintain strong, loyal customer relationships. The findings reveal that key factors such as including age, gender, education level, income, occupation, influence the adoption and use of digital banking services significantly influence customer satisfaction in digital banking. Recommendations include investing in robust cybersecurity measures, enhancing user experience design, and providing tailored financial advice through digital channels to meet the diverse needs of customers effectively.

Keywords: Digital banking, demographic factors, security and privacy, personalized services, customer relationships

Introduction

From necessities to desires and passions, customers are increasingly incorporating digital services into their daily lives. Through a system known as "digital banking," individuals and business persons can access their accounts to obtain services and information. With the rise of digitalization, it is becoming increasingly difficult for banks to maintain customer satisfaction. The goal of the survey is to find out how satisfied customers in Telangana state are with the digital banking services offered by public and private banks. The study aims to assess the justification for using digital banking, the factors that influence customers of public and private banks to choose digital banking services, as well as the risks and benefits faced by online banking customers. Additionally, a customer's demographics have some bearing on their level of interest.

Digital Banking is online banking backed by an internet connection. Traditional banks are getting a breather, as a large part of customer traffic is being managed by digital banking apps and net banking. Customers can easily access their accounts and payments through digital devices like smartphones, tablets, laptops, desktops, and ATMs. The benefits of digital banking became more conspicuous during the COVID pandemic period when physical branches could not be approached due to social distancing that confined people to their homes. The popularity of digital wallets, bank apps, and contactless and cashless payments gained traction as more and more people realised the advantages of digital banking.

Statement of the problem

The fast growth of digital banking in India has changed the financial services landscape, but customer acceptance still depends on perceived risks like security breaches, fraud, privacy issues, and transaction errors. While technology provides convenience, many customers hesitate due to their backgrounds, which shape how they see risk. Previous studies have mostly looked at digital banking adoption in a general way, but there is little evidence on how specific demographic factors, such as age, gender, education, occupation, and income, influence perceived risks at different public sector banks. Understanding these differences is key for banks to create effective strategies that lower risk perception and build trust in digital platforms. This research aims to fill that gap by examining how demographic factors affect perceived risks in digital banking, offering useful insights for policymakers and banks.

Need for the study

Despite the growth of digital banking in India, there is still a significant portion of the population that remains hesitant to adopt digital banking services due to perceived risks such as security and privacy concerns. Understanding these risk perceptions and addressing them can help to increase usage rates and improve the overall growth of the digital banking sector.

Review literature

1. **Raman Kumar, Akshita & Sonu Mandal (2023) [1]:** explored the impact of online banking services and its behaviour on e-bank users. With the proliferation of e banking users how these banking platforms, it is essential to understand how these services influence customer behaviour, including adoption rates transaction pattern and customer satisfaction. To

investigate these effects empirical research approach was employed, including questionnaire and data analysis

2. **Sivakumar, A., Pentapati, R.P. & Srinivasan, S. (2022) [2]:** aimed to recognize the perceived challenges and benefits of adopting digital banking in Karaikal. The empirical study used primary data for collecting data through a questionnaire with 385 respondents. The results found that a significant usage of digital banking services is e-commerce transactions, fund transfer, checking bank statements, requesting cards and check-books. The study identified that customers feel insecure with digital banking service as there is no physical contact with the banker, which means that digital banking opted for minor transactions and not prime transactions

3. **Khan Shebazbano & Soni Rashmi (2022) [3]:** investigated the trust and risk on a multi-dimensional basis to understand and prioritise digital banking services decision choices. A mixed methodology was employed for data analysis, which included structural equation modelling (SEM) and two multiple criteria decisionmaking (MCDM) methodologies

4. Multi-dimensional basis to understand and prioritise digital banking services decision choices. A mixed methodology was employed for data analysis, which included structural equation modelling (SEM) and two multiple criteria decisionmaking (MCDM) methodologies. For this study a sample size of 200 was collected using simple random sampling. This study used the variables like dependent, independent, mediating and moderating variable

5. **Kumar, et.al (2023) [4]:** investigated the role of perceived financial cost, perceived risk and trust in the adoption of mobile banking services by users. The data from 253 users of age between 18–30 years were collected through a survey questionnaire and were analyzed using structural equation modelling with Amos 22.0. The results revealed that performance expectancy, effort expectancy, social influence, and perceived financial cost exhibited a significant positive influence on behavioral intentions.

6. **Masoome Abikari (2024) [5]:** examined the association between consumers' emotions towards emerging e-banking technology, perceived risk and subsequent intention to adopt emerging e-banking technology. An online questionnaire was used to collect data, which were analysed in a quantitative study. The final sample of 224 consumers familiar with emerging e-banking technology allowed testing of the research hypotheses by applying confirmatory factor analysis and structural equation modelling (SEM). The empirical results indicate that deterrent emotions and hedonic motivation are associated with consumers' perceived risk and, subsequently, their intention to adopt emerging e-banking technology.

Research Gap

The reviews of the literature on the effects of digital banking are extensively researched from a variety of perspectives. The research has examined customers' impressions of digital banking services in public and private sector banks using a variety of concepts. Upon reviewing the literature research, several innovative concepts for defining the viewpoint of digital banking service on demographic factors of customers. While some research focused on features including service quality, impact, and customer satisfaction, the majority of studies examined the adoption rate of digital banking. Therefore, it is necessary to determine the factors that are most crucial in encouraging clients to adopt digital banking on safety and security in India's digital economy. A thorough evaluation of the literature indicated that there is need to study the A thorough evaluation of the literature indicated that there is a need to study the influence of customers' demographic factors on usage of digital banking services in public sector banks.

Research Question.

How are demographic factors influencing the usage of Digital banking by customers?

Objectives of the study

The Following are the objectives of the study.

1. To examine the impact of customers' demographic factors on the usage of digital banking services in public sector banks.

Hypotheses of the study

The hypotheses designed to meet the objectives are presented below:

H_0: There is no significant impact of customers' demographic factors on using digital banking services in public sector banks.

H_1: There is a significant impact of customers' demographic factors on using digital banking services in public sector banks.

Research Methodology

Design/Methodology/Approach: The study is empirical, based on the analysis of primary data collected from respondents in the public sector banking sector. A total of 250 responses were selected as a sample comprising respondents from the users of Public sector banks. The data for the study is collected through a structured questionnaire, which contains questions about demographic factors (age, gender, income, education, marital status,). The collected data is presented in the form of figures and tables to provide an enhanced understanding of the results.

Period of the study

The Study covers the period from 2016-2024

Scope of the study

The study is confined to four Public sector banks only. The geographical region is confined to the Twin cities of Telangana only.

Data Analysis

Table 1: Impact of Customers' Demographic Variables on Usage of Digital Banking Services of select Public Sector Banks

Sl. No.	Perceived Risks		Impact of Demographic Variables				
			Gender	Age group	Education	Occupation	Income level
1.	SBI	Higher Mean	Male=15.62	51-60 yrs.=25.00	Ph.D.=16.04	Govt. Emp.=15.12	Rs.50001 Rs.75000-=16.84
		t/F-value	1.372	3.430	0.726	2.817	1.706
		p-value	.188	.011*	.486	.020*	.140
		Hypothesis	Accepted	Rejected	Accepted	Rejected	Accepted
2.	CANARA	Higher Mean	Female=13.57	51-60 yrs.=20.00	Ph.D.=14.20	Others=15.00	Rs.100001-Rs.150000-=13.88
		t/F-value	1.097	3.456	2.102	1.395	0.723
		p-value	.275	.011**	.128	.095	.608
		Hypothesis	Accepted	Rejected	Accepted	Accepted	Accepted
3.	PNB	Higher Mean	Female=10.78	51-60 yrs.=20.00	Graduation=12.55	Govt. Emp.=11.76	Rs.25001 Rs.50000-=11.50
		t/F-value	0.363	6.624	9.766	1.742	1.042
		p-value	.717	.000**	.000**	.132	.397
		Hypothesis	Accepted	Rejected	Rejected	Accepted	Accepted
4.	CBI	Higher Mean	Male=10.45	51-60 yrs.=19.00	Graduation=13.33	Business=13.00	Upto Rs.25000-=10.86
		t/F-value	.397	7.592	19.433	2.266	0.629
		p-value	.692	.000**	.000**	.054	.678
		Hypothesis	Accepted	Rejected	Rejected	Accepted	Accepted
5.	BOB	Higher Mean	Female=9.10	51-60 yrs.=14.00	Graduation=9.77	Business=11.15	Upto Rs.25000=10.13
		t/F-value	.065	2.718	1.365	2.027	3.088
		p-value	.949	.034*	.260	.081	.012*
		Hypothesis	Accepted	Rejected	Accepted	Accepted	Rejected
6.	IOB	Higher Mean	Female=15.89	21-30 yrs.=15.79	Post-graduation=15.86	Govt. Emp.=17.08	Above Rs.150000=17.16
		t/F-value	0.717	2.735	0.139	2.144	2.570
		p-value	.706	.033*	.871	.066	.031*
		Hypothesis	Accepted	Rejected	Accepted	Accepted	Rejected
7.	UNION Bank of India	Higher Mean	Female=5.63	51-60 yrs.=10.00	Graduation=6.55	Business=7.33	Upto Rs.25000=6.00
		t/F-value	0.255	3.886	4.565	3.764	0.983
		p-value	.800	.006**	.013*	.004**	.432
		Hypothesis	Accepted	Rejected	Rejected	Rejected	Accepted

Source: Primary data

Findings

From the analysis, it can be concluded that a greater number of male members are using digital banking services in the public sector, and more female members are using them in the private sector banks. Further, it is also observed that three-fourths of respondents who are making use of digital banking services are less than 50 years of age. It is also observed that the higher the level of education, the higher the level of usage of e-banking services by the customers of both the public and private sector banks. The maximum number of respondents using digital services in both public and private sector banks are from urban areas and are married.

Conclusion

The present study examined how demographic factors affect customers' perceived risks of digital banking in selected public sector banks. The findings show that age is the main demographic factor influencing perceived risks across all banks. Customers in the 51 to 60 age group consistently report higher levels of concern. This suggests that middle-aged and older customers are more cautious and less confident in using digital channels. They may have limited familiarity with technology and greater awareness of risks.

Education also plays a significant role in certain banks, like PNB, CBI, and Union Bank of India. Respondents with higher qualifications, such as Graduation and Ph.D., tend to perceive greater risks. This could be due to their deeper understanding of cyber fraud, privacy issues, and technical weaknesses. Income level is significant in BOB and IOB. Customers with higher incomes are more sensitive to financial risks linked to digital transactions. Occupation had limited influence overall but was relevant in Union Bank, where businesspersons and government employees indicated higher perceived risks. Gender differences did not show any statistical significance across all banks, indicating that risk perception in digital banking is not influenced by gender. Overall, the study reveals that perceived risks are not the same across customer segments; they vary by age, education, and income, with some occupational groups being more cautious. These findings stress the need for banks to use targeted risk management strategies instead of a one-size-fits-all approach.

Suggestions

1. Targeted Awareness Programs: Banks should create training modules and awareness campaigns tailored for middle-aged and senior customers. This will help them feel more confident about using digital banking services. Simplified user interfaces, tutorials, and helpline support can ease their worries.
2. Enhanced Cybersecurity Communication: Customers with higher education tend to see more risks because they are aware of security issues. Therefore, banks need to clearly explain safety protocols, multi-factor authentication, and fraud prevention measures to reassure this group.
3. Income-Based Segmentation: High-income groups are often more sensitive to risks. Banks can offer premium digital banking services that include extra security, personalized support, and insurance coverage against cyber fraud.

4. Occupation-Specific Interventions: For government employees and business professionals, banks can provide targeted financial literacy workshops. These workshops should focus on digital payment safety, regulatory protections, and fraud detection.
5. Inclusive Design of Services: While gender differences are not significant, banks must ensure their digital platforms are user-friendly, accessible, and fair for all demographic groups.

Policy and Regulatory Support: Banks, in collaboration with regulators, should promote standard security frameworks and effective customer complaint systems to build trust among diverse demographic groups.

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