ISSN: 2456-043X

International Journal of Engineering Science and Generic Research (IJESAR)

Available Online at www.ijesar.in

Volume 11; Issue3; 2025; Page No. 40-48

Adoption of Online Banking

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Abstract

This research examines the factors influencing consumer adoption of RuPay, an Indian electronic payment system launched by the National Payments Corporation of India (NPCI). The study uses a mixed-methods approach, focusing on demographics, transaction prices, merchant acceptance, awareness efforts, and security concerns. Results show that younger consumers and those with higher income levels are more likely to adopt RuPay due to lower transaction costs and increased merchant acceptance. The elimination of the Merchant Discount Rate has reduced transaction costs, encouraging merchants to accept the payment method. Awareness campaigns by the government and NPCI have increased consumer knowledge about RuPay's benefits, but gaps remain, especially in rural areas. Security concerns have not significantly deterred adoption, as most users feel confident in digital transactions.

Keywords: Internet, Banking, Adoption, Customers, bank branches

Introduction

The main advantages of e-commerce include lower costs, more business possibilities, easier personal service delivery to consumers, and shortened lead times. Online banking, a combination of traditional banking and digital technologies, has resulted in enhanced service quality and outstanding delivery. It has been adopted by developed nations such as the USA, Australia, Estonia, and Europe, and is also growing in developing countries.Statistics site Statista's worldwide online banking penetration data shows that 28.7% of the internet audience (424.5 million individuals) access online. This presents a chance for banks to draw in internet users, particularly from emerging and developing countries. India's banking industry has experienced exponential expansion due to a proactive and sensible regulatory system, with total banking assets reaching $1.8 trillion in 2013 and expected to reach $28.5 trillion by 2025.

The total banking sector credit is predicted to reach $2.4 trillion by 2017, and by 2020, the Indian banking sector might be the fifth biggest in the world and by 2025 the third biggest. However, data from the Internet and Mobile Association of India shows that 29% of banking consumers avoid online banking due to information privacy issues. A McKinsey survey of 2011 found that only 7% of Indian bank account holders use the internet to access banking services. These figures provide a solid justification for investigating the elements influencing and discouraging Indian banking consumers from using online banking. Online banking has changed the interface of client connection for financial institutions, allowing customers to access bank information systems anywhere and anytime to obtain needed banking services. Online banking facilities provide direct access to information and data related to accounts and transactions, facilitate instruction, requests, and applications, and enable funding transfers according to account holders' needs.

Literature Review

Agarwal, Abhishek. (2024). The fast adoption of digital payment methods has contributed to the dramatic shift in the Indian economy in recent years. The objective of this article is to provide a thorough examination of how digital payments have affected different parts of the Indian

economy. At the outset, the article surveys the state of digital payments in India, naming major participants and outlining current developments. After that, it delves into how digital payments have altered consumer habits and financial inclusion. In addition, the article delves into the pros and cons of digital payment usage in India. Lastly, the report wraps up with legislative suggestions to encourage the country's continued development and acceptance of digital payments.

A., Mahesh et.al. (2022). The Indian payments industry has seen significant changes in recent years, with digital payments becoming a significant part of the market. The Reserve Bank of India's digital India initiative aims to transition from a cash-only economy to one using less paper money. With over two billion PPIs, mobile apps, e-wallets, and cards, India has become one of the world's leading digital payment ecosystems. The Unified Payment Interface (UPI) has been a game-changer in online shopping. This article uses the PESTEL model to analyze new developments in India's digital payment ecosystem using secondary sources. The growth of the digital payment market since the introduction of UPI in 2016 is attributed to factors such as laws, regulations, public policy, consumer habits, smartphone proliferation, and falling internet prices.

Bahadur, Ajay et.al. (2017). The Agra Region as a Case Study for Consumer Readiness for Electronic Payments. The phrase "Digital Payment" has grown in importance over the last several years (Ministry of Finance, 2016), Since all digital payment transactions now take place online, the world's payment systems have undergone significant transformations between 2015 and 2017. Making a payment this way is quick and easy. New entrants in the digital payment space are shown the ropes by customer behavior, which drives the market. Companies like Airtel Money, Jio Payment, Paytm, Freecharge, etc., have broken into the payments industry despite having no ties to the banking sector. New customer expectations, such as the ability to pay anybody with a single click, regardless of location or time of day, have also been shaped by these phenomena. According to Athanassiou and Mas-Guix (2008), banks' competitive advantage and value proposition are directly affected by the aforementioned elements when taken together.

Tribhan, Akshay. (2024). The rapid adoption of digital payment methods in India is transforming the country's economic life. This research explores the impact of this phenomenon on consumer behavior, focusing on factors such as the country's tech-savvy population, technological advancements, and the Digital India project. The study examines the factors influencing the adoption of digital payment systems, including mobile wallets, UPIs, internet banking, and debit/credit card selections. It also examines how the rise of digital payments has altered Indian consumers' shopping habits, examining consumer monitoring, impulsive purchases, and the future of internet shopping. The research uses both quantitative surveying and qualitative interviewing to understand the effects of digital payments on consumers' purchasing patterns. The aim is to fill gaps in our knowledge about what drives Indian consumers to use digital payment systems and how it affects their purchasing patterns. It provides insights into the shifting consumer environment, reasons for digital payment adoption, and potential shifts in purchasing habits. This report may be useful for businesses, financial institutions, and decision-makers interested in capitalizing on the digital payment revolution.

Bahadur, Ajay et.al. (2017). The Agra Region as a Case Study for Consumer Readiness for Electronic Payments. The phrase "Digital Payment" has grown in importance over the last several years (Ministry of Finance, 2016), Since all digital payment transactions now take place online, the world's payment systems have undergone significant transformations between 2015 and 2017. Making a payment this way is quick and easy. New entrants in the digital payment space are shown the ropes by customer behavior, which drives the market. Companies

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Research Methodology

- **Research Design**

The proposed model is based on a literature review and aims to understand factors influencing customers' decision to use or not use internet banking. The study uses both descriptive and exploratory techniques, with an exploratory approach using an experience survey to investigate potential determinants. The research focuses on banks in Madhya Pradesh, India, the capital and region with the highest concentration of internet users. The scope includes the entire capital city and surrounding territories, including all banks, both public and private. The study will not expand to other cities due to limited resources. The research conducted an experience survey, focusing on measuring equipment components. The results of the survey were analyzed by eight university faculty members and ten businesspeople, who provided their opinions on the survey's content. The questionnaire and survey sheet are synonyms.

- **Sampling Design**

To get a complete list of all the commercial banks in Madhya Pradesh, we checked with the Reserve Bank of India. The list had four categories of banks: public, private, rural, and international. The poll just covered banks from the public and commercial sectors; it did not include rural or foreign banks. Of the eight scheduled commercial banks in India, the Reserve Bank of India selected two public and two private institutions as the finest. The source is published at (http://rbi.org.in). The four financial institutions were selected by a judgmental sampling procedure that considered variables including the quantity of online customers, the quantity of visitors, the location in the area, and comparable use of Internet banking. In making this recommendation, two public and two private banks worked together. Two public sector banks, SBI and PNB, and two private sector banks, HDFC and ICICI, were ultimately chosen. From each of the selected banks, we compiled a list of five branches using quota sampling.

Table 1: List of Bank Branches Used for Sampling

Region	HDFC	ICICI	SBI	PNB
Bhopal	UGF, Block B Idgah Hills Bhopal	Alankar Palace, Plot No.Ii, Zone Ii, M P Nagar, Bhopal	113, Marwari Road, Bhopal	PNB Industrial Area, Govindpura, Bhopal
Indore	HDFC Bank ATM Manorama Ganj	ICICIIndore-Vijayanagar	NEAR GPO, AB ROAD, INDORE	PNBAshok Nagar, Indore
Indore	HDFC Bank MG Road	ICICIIndore-Brilliant Conv. Center	INTOUCH ANNAPURNA ROAD, INDORE	PNBSitla Mata Bazaar
Gwalior	Achleshwar Marg Gwalior	ICICIAlaknanda Tower, 45A, Madhav Rao Scindhia Marg, City Center	SBIZonal Office Campus, City Centre, Gwalior	PNBHDFC 7 C VATSAL, MANSION ADITYA COLLEGE CITY CENTER

Ujjain	HDFC31, WN 29, Ankpat Marg	ICICI84, Madhav Club Road, Ujjain	SBIBudhwaria, Ujjain	PNBDurga Plaza, K Nehru Marg Ujjain

- **Sampling Technique**

Both current and potential customers of the bank's online banking services have been contacted at each of the chosen locations. The same has been collected using the intercept approach. All relevant data has been collected in an unbiased manner. Because customer happiness is so important to banks, this research used a survey approach to find out what makes customers happy. Data is gathered via the use of a questionnaire.

Analysis

Cybercrime is a difficult challenge for banks to detect and manage. To encourage the use of online banking, the appropriate legislation must be in place. October 2000 saw the passage of the Information Technology Bill. The obligation of keeping private records, registers, posts, and information secret is outlined in section 72 of the Information Technology Act of 2000, and it is a criminal offense to violate this provision.

To guarantee the secrecy of accessible material and to authenticate signatures, authorities are designated. Customer privacy and the prevention of illegal data entering are safeguarded by the regulations that govern EFT in industrialized nations.

The active development will be the outcome of a good atmosphere for the flourishing of online banking. The decrease in the price of bandwidth, for instance, will cause Internet use to increase. When there is an excess of bandwidth, the Department of Telecommunications (DoT) makes it accessible.

- **Demographic Profile of Internet Banking Adoption and Non-Adoption**

Table 4.1 displays the demographic profile of those who have embraced online banking. Customers' gender, age, education level, occupation, income, and income are all stored in the five bank branches' databases.

Table 2: Demographic Profile of the Sample-Internet Banking Adoption Customers

Variables	Categories	Public Sector Banks	Private Banks
Age	Less than 30 years	25.8	63.5
	Between 30 to 35 years	53.5	26.5
	Between 35 to 40 years	17.3	6.5
	40 to 45 years	3.0	2.8
	Above 45 years	.5	.8
Education Level	Below Graduate	29.8	22.0
	Graduate	54.5	64.8
	Post Graduate	15.0	13.3
	Others	.8	0.0
Occupation	Service	36.5	51.3
	Self Employed	33.5	20.5
	Businessman	26.8	28.3
	Others	3.3	0.0
Income Level	Below 5 Lacs	50.3	62.5
	5 Lacs to10 Lacs	40.3	27.0

	Above 10 Lacs	9.5	10.5
Gender	Male	86.5	80.3
	Female	13.5	19.8

Users of Internet banking, broken down by age group and whether they bank with public or private institutions, are shown in this table. In addition, we have compiled replies based on gender, income level, and employment. Customers who do not use online banking and who cite a number of reasons as reasons for their reluctance to do so are detailed in Table 4.2.

Table 3 Demographic Profile of the Sample-Internet Banking Non-Adoption Customers

Variables	Categories	Public Sector Banks(%)	Private Banks (%)
Age	Less than 30 years	32.8	31.3
	Between 30 to 35 years	39.0	53.0
	Between 35 to 40 years	27.0	12.0
	40 to 45 years	.8	2.5
	Above 45 years	.5	1.3
Education Level	Below Graduate	27.0	37.3
	Graduate	53.5	36.5
	Post Graduate	19.0	26.3
	Others	.5	0.0
Occupation	Service	41.5	49.5
	Self Employed	26.3	26.8
	Businessman	29.5	23.8
	Others	2.8	0.0
Income Level	Below 5 Lacs	43.5	65.3
	5 Lacs to10Lacs	40.8	26.0
	Above 10 Lacs	15.8	8.8
Gender	Male	84.0	82.5
	Female	16.0	17.5

Table 4.2 shows that there are non-users with accounts at both public and private sector banks, and that these non-users fall into various age groups. Information is gathered from people of varying sexes, economic levels, and levels of education. People who don't utilize the internet to bank have expressed reluctance and provided reasons for fear.

- **Factors Affecting Adoption of Internet Banking**

The aim of this literature review is to investigate what drives people to use online banking. Using data collected from online banking publications between 1995 and 2012, the researchers formulated the parameters shown in Table 4.3.

Table 4: Factors of Internet Banking Adoption from Literature Review

Factors	Source
Relative advantage, compatibility	Rogers,1995.
Perceived usefulness, perceived ease of use	Davis,1989

Convenience	Lietal.,1999;Bellmanetal.,1999; DellaertandKahn,1999;Huang, 2002; MiyazakiandFernandez,2001; Nissenbaum,2004;Pew,2005;Gefen etal.,2003;Meuteretal.,2000.
Accessibility, Awareness, Security	Hosein,2010
Reliability, Efficiency, Accuracy	Josephetal.,1999;Meuter etal.,,2000;Yang etal.,2002;Zeithaml,2002;Josephetal.,2003; Long et al., 2004
effectiveness, access, tangibles, price	Kamble,2011
Social Influence, Trust	Montazemi,2013; AbuShanabandPearson, 2007
Performance Expectancy	AbuShanabandPerson,2007
Size of Bank, Experience of bank	MalhotraandSingh,2010
Fulfillment	SahaandZhao,2005
Responsiveness	Gupta & Bansal, 2012

Separate literature research was conducted to design the instrument for this study, and the table suggests twenty-one determinants of Internet banking adoption. Every one of these elements has been painstakingly researched and culled from the relevant literature for that time frame. After conducting an extensive survey, we have settled on fifteen criteria for evaluating the success of online banking: trustworthiness, availability, precision, safety, efficiency, responsiveness, satisfaction, perceived simplicity of use, efficacy, cost, tangible assets, expected performance, social impact, bank size, and bank experience.

Table 5 displays the results of the experience survey, which was conducted between 2002 and 2014, and the 10 reasons that were identified as contributing to the non-adoption of online banking. Here are the same:

Table 5: Factors of Internet Banking Non-Adoption from Literature Review

Factors	Source
Knowledge and trust, Security	Dutta,2008; Munuswami, 2012
Physical Presence	Norris,2000
Ease of Use, Price	Ramayah,2006; Munuswami,2012
System Integration	Warrington,2008
Satisfaction	SahaandZhao,2005
Awareness	Lichtenstein,2006
Comfort	SharmaandMalviya,2013
Speed	LiaoandCheung,2002

According to the experience research, there are seven aspects of online banking that non-users tend to lack: accessibility, ease of use, contentment, awareness, comfort, and speed. This analytical chapter presents the survey's results.

- **What Makes Public and Private Banks Happy About Online Banking Adoption**

Table 6(i): Factors Influencing the Adoption of Online Banking by Public Sector Banks

Factors	PNB	SBI	Overall Public Sector Banks	p value	F Value
RELIABILITY	3.45 (.462)	3.39 (.606)	3.50 (.561)	.022	5.254
ACCESSIBILITY	3.59 (.560)	3.54 (.652)	3.61 (.607)	.460	.548
ACCURACY	3.51 (.635)	3.51 (.823)	3.58 (.683)	.946	.005
SECURITY	3.60 (.543)	3.54 (.622)	3.64 (.579)	.295	1.100
EFFICIENCY	3.56 (.434)	3.70 (.679)	3.65 (.541)	.020	5.461
RESPONSIVENESS	3.61 (.489)	3.63 (.609)	3.71 (.521)	.667	.185
FULFILLMENT	3.69 (.428)	3.67 (.642)	3.71 (.539)	.801	.063
PERCEIVEDEASEOFUSE	3.55 (.550)	3.64 (.644)	3.64 (.655)	.192	1.706
PRICE	3.49 (.426)	3.62 (.675)	3.64 (.541)	.021	5.402
TANGIBILITY	3.40 (.517)	3.60 (.628)	3.62 (.533)	.001	11.775
PERFORMANCEEXPECTANCY	3.47 (.584)	3.68 (.677)	3.65 (.581)	.001	11.021
SOCIALINFLUENCE	3.35 (.565)	3.61 (.632)	3.57 (.559)	.000	17.727
SIZEOF BANK	3.43 (.654)	3.69 (.787)	3.69 (.699)	.000	12.416
EXPERIENCEOFBANK	3.35 (.577)	3.63 (.588)	3.56 (.597)	.000	18.445
EFFECTIVENESS	3.52 (.579)	3.70 (.881)	3.71 (.666)	.015	5.984
OVERALLFACTORS	3.50 (.290)	3.61 (.471)	3.63 (.368)	.011	6.570

Note: Figures in parenthesis () are standard deviation values

Information about the participants' backgrounds was gathered using the survey questionnaire. In all, 1600 people filled out the surveys; 800 of them people used online banking services, while the other 800 were not. To illustrate the distinctions between public and private banks, Table displays the means, standard deviations, and results of tests of differences, such as one-way ANOVA. Analyzing how well these public sector banks have done in many areas related to the use of online banking is clearly shown in Table 4.13 (i). Using one-way ANOVA, we compared PNB, SBI, and all public sector banks to find any statistically significant differences.

When comparing Compared to State Bank of India, Punjab National Bank had happier clients based only on the fulfillment factor, according to the statistics in the table above. Customer satisfaction with the 'efficiency' and

'effectiveness' aspects was highest at State Bank of India. Online banking customers of public sector banks are often better happy than customers of private sector banks in every category except accuracy, accessibility, security, and responsiveness. The reasons why customers choose not to use online banking are better understood according to the study's results. Security was determined to be a major worry for Punjab National Bank clients. Problems arose at State Bank of India due to clients' lack of familiarity with online banking services. In figures 4.1 and 5.2.1(iii), the effects of these insignificant elements are further detailed.

Table 6(ii): Factors Influencing Private Sector Banks' Satisfaction with Online Banking

Factors	HDFC	ICICI	Overall Private Sector Banks	p Value	F Value
RELIABILITY	3.53 (.521)	3.69 (.583)	3.61 (.559)	.003	8.754
ACCESSIBILITY	3.66 (.583)	3.68 (.621)	3.67 (.603)	.756	.097
ACCURACY	3.48 (.526)	3.82 (.664)	3.65 (.621)	.000	31.198
SECURITY	3.63 (.614)	3.78 (.507)	3.70 (.567)	.006	7.684
EFFICIENCY	3.58 (.517)	3.76 (.501)	3.67 (.507)	.000	13.150
RESPONSIVENESS	3.72 (.517)	3.86 (.419)	3.79 (.474)	.003	8.996
FULFILLMENT	3.68 (.526)	3.80 (.534)	3.74 (.532)	.026	5.010
PERCEIVEDEASEOFUSE	3.54 (.572)	3.81 (.530)	3.68 (.565)	.000	23.736
PRICE	3.74 (.531)	.370 (.470)	3.72 (.500)	.455	.559
TANGIBILITY	3.74 (.427)	3.76 (.467)	3.75 (.446)	.676	.175
PERFORMANCEEXPECTANCY	3.66 (.527)	3.76 (.485)	3.71 (.509)	.039	4.288
SOCIALINFLUENCE	3.56 (.531)	3.78 (.408)	3.67 (.484)	.000	20.328
SIZEOF BANK	3.77 (.664)	3.88 (.607)	3.82 (.637)	.078	3.124
EXPERIENCEOFBANK	3.63 (.563)	3.65 (.504)	3.64 (.535)	.779	.079
EFFECTIVENESS	3.88 (.594)	3.73 (.501)	3.81 (.553)	.006	7.702
OVERALLFACTORS	3.65 (.281)	3.76 (.352)	3.71 (.322)	.001	12.039

Note: Figures in parenthesis () are standard deviation values

According to Table 4.13(ii), The customer satisfaction rate of private sector banks is higher than that of public sector banks. Apart from the two most obvious aspects, accessibility and tangibility,

Conclusion

This research aims to understand what makes clients happy with online banking and what hinders its adoption. It proposes a model for online banking adoption that considers factors affecting consumer use. Key factors influencing banks' adoption of online banking significantly impact consumers' acceptance of the system. To increase the adoption of internet banking in India, barriers to entry, such as slow connections, constant internet connectivity, and fear of mistakes, must be eliminated. Despite 35% of the Indian population having internet access, internet banking is not widely used or accepted in the country. The study aims to provide insights into the factors influencing consumers' adoption of online banking and improve their use of this service. The Reserve Bank of India's research identifies two main hazards in internet banking: operational and security hazards. Despite this, both public and private banks in India still lack widespread adoption of online banking. Concerns about security, usability, and overall satisfaction highlight a significant gap between public and private banks in non-adoption.

References

1. Agarwal, Abhishek. (2024). Digital Payments and Their Impact on The Indian Economy. 10.13140/RG.2.2.29093.10723.
2. Dhal, Sarat & Shree, Sudiksha & Pratap, Bhanu &Saroy, Rajas. (2021). Digital Payments and Consumer Experience in India. Journal of Banking and Financial Technology. 10.1007/s42786-020-00024-z.
3. Agarwal, Abhishek. (2024). Digital Payments and Their Impact on The Indian Economy. 10.13140/RG.2.2.29093.10723.
4. A., Mahesh & S., Ganesh. (2022). India's Digital Payment Landscape – An Analysis. International Journal of Case Studies in Business, IT, and Education. 223-236. 10.47992/IJCSBE.2581.6942.0161.
5. Bahadur, Ajay & Bhatnagar, Sanjeev. (2017). Consumer Analysis of Readiness for Digital Payment: With Reference to Agra Region.
6. Tribhan, Akshay. (2024). Adoption of Digital Payment Systems and its Influence on Consumer Behaviour in India. INTERANTIONAL JOURNAL OF SCIENTIFIC RESEARCH IN ENGINEERING AND MANAGEMENT. 08. 1-5. 10.55041/IJSREM30181.
7. Lakhaiyar, Sweta & Mani, Mukta. (2022). Factors Influencing Adoption of Digital Payment Systems During COVID-19. International Journal of Sociotechnology and Knowledge Development. 14. 1-21. 10.4018/IJSKD.315292.
8. A., Mahesh & S., Ganesh. (2022). A Systematic Review and Research Agenda of Digital Payment System with reference to Unified Payment Interface. International Journal of Management, Technology, and Social Sciences. 679-709. 10.47992/IJMTS.2581.6012.0245.