

## A STUDY ON CHALLENGES FACED BY E-BANKING USERS

Author	Co-Author
Dr. Kirti Virendra Varma Assistant Professor, Department of Commerce, Changu Kana Thakur Arts, Commerce & Science College, New Panvel (Autonomous),	Varma Sakshi Virendra Assistant Professor, Department of Commerce, B.K. Birla College Kalyan of Arts, Commerce & Science Kalyan (Empowered Autonomous)

### Abstract:

E-banking is a major advancement in modern banking that provides customers with unparalleled efficiency, accessibility, and convenience. People may now do many types of banking transactions at any time and from any location, which greatly lessens the need for physical banks. This paper aims to evaluate the challenges faced by e-banking users. The findings of the study indicated that Security concern, Data breaches, Device security, Transaction errors, Poor user experience, Hidden fees, Biometric authentication issues, Dependency on mobile network, Multiple deduction in transaction and Multiple currency and payment method are major challenges faced by the e-banking users.

**Keywords:** *Wilcoxon one-sample signed rank test, e-banking, online banking*

### Introduction:

Electronic banking is referred to as e-banking. E-banking is the term used to describe and encompass the whole range of technological advancements made in the banking industry. The word "e-banking" refers to the practice of remitting money or receiving banking services and goods electronically via the internet, mobile devices, landline phones, etc. The idea and use of online banking are still in their infancy. The barriers to branch banking have been destroyed by e-banking. It is entirely electronic and doesn't involve any actual money transfers. With one major exception, e-banking is exactly like traditional banking. For financial transactions, you are not required to visit the bank. As an alternative, you may access your account whenever you want, from anywhere in the world, and use it whenever it's convenient for you rather than during bank business hours. E-banking, sometimes referred to as Electronic Fund Transfer (EFT), is the practice of transferring money directly between accounts electronically as opposed to using cash or checks. (Pooja 2018).

Traditional banking experiences are being transformed by the abundance of convenient features that online banking offers. It makes bill payments easier, streamlines financial transfers, and makes account balances and statements easily accessible because to its user-friendly design. Its capacity to provide doorstep services, which guarantee smooth transactions from the comfort of home, is what makes it unique. Through state-of-the-art financial services, it fosters better client interactions beyond simple transactions. With the help of this contemporary banking solution, mobile banking is made possible, making it simple to look for balances and transaction histories. Additionally, it enables users to export transaction histories, removing restrictions based on location and facilitating online transactions. The finest aspect? It is open 24/7, guarantees accessibility without time limits, and provides affordable services for better money management. (Pooja 2018).

According to Nasri and Charfeddine (2012), internet banking (IB) services are becoming more widely available and are seen as a crucial banking option for consumers. The growth of IB has also been aided by the 1990s

openness of the Indian economy to globalisation. The Indian government has also emphasised the significance of adopting IB in the banking sector in order to carry out the numerous committee recommendations (Srivastava 2007). Information technology plays a major part in the information-intensive banking industry, according to Shih and Fang (2004). According to Compeau and Higgins (1995) and Banu et al. (2019), the term "interbank banking" (IB) refers to any client-performed banking operations that are completed electronically or online without requiring them to contact physical banks. According to Daniel (1999), it includes the provision of financial services over a variety of platforms, including managed networks, personal computers, and the Internet. Furthermore, Shih and Fang (2006) state that it allows users to conduct financial transactions in a virtual environment through the usage of the Internet and the World Wide Web. "A new type of information system that uses emerging techniques such as the Internet and the world wide web and has changed how customers perform various financial activities in a virtual space," according to Shih and Fang (2006), is what ISB stands for. According to Liao et al. (1999), a virtual bank can also be defined as a "non-branch bank" that offers banking services online.

Banking services delivered online increase the worth and power of the customer (Barrutia and Echebarria 2005). The growth of e-banking is still in its infancy in India. The banking sector has changed as a result of technology improvements and competitiveness (Smriti and Kumar 2021). India's rate of Internet penetration has risen dramatically in the last several years. It rose from 4% to 50% between 2007 and 2021, a 50% increase. India is rated second in the world for the number of active Internet users, with 1.37 billion people having access to the internet (Basuroy 2022). However, over half of the population (685,591,071) is still not online, making India the nation with the highest percentage of disconnected people (Ang 2020). A different Statista report from 2021 indicates that while nearly 68% of households had smartphones, just 14% utilise them for banking. India is a fascinating case study in the context of Internet banking because of this split.

The purpose of this exploratory research is to better understand the difficulties that users of e-banking systems encounter. Gaining an understanding of these obstacles is essential to improving the usability and functioning of digital banking services. The study is to improve e-banking services by recognising and resolving these issues, guaranteeing more seamless operations, boosting user confidence, and eventually encouraging a larger uptake of digital banking among consumers.

## Review of Literature:

1. **Dr. S. Kamalasaravanan and Akhil Fairooze A M (2023).** The purpose of the study was to examine how e-banking, which has the ability to provide banking services to underserved and unbanked communities, might act as a catalyst for financial inclusion in rural India. An analysis of the e-banking environment in rural India exposed a number of issues preventing its broad uptake, such as poor internet access, low literacy, inadequate infrastructure, and security concerns. Notwithstanding these obstacles, the research revealed an abundance of prospects linked to electronic banking in advancing economic growth and financial inclusivity. E-banking has become a powerful instrument that may reach the unbanked population, decreasing poverty and promoting financial inclusion. It was also acknowledged as an economical substitute, doing away with the need for expensive physical infrastructure including bank branches and ATMs.
2. **Parveen, S., Saghir, V., & Beg, S. (2023).** The purpose of the study was to assess consumer opinions of online banking services in the context of the changing digital environment, particularly in the aftermath of the pandemic. The study aimed to comprehend consumer perceptions of a range of factors, including "user interface, content, communication, responsiveness, customer support services, data security, and referrals of banks to third parties." The study's key results underscored how important it is for the banking sector to provide safe solutions top priority to reduce online crimes and e-banking fraud. The study emphasized the requirement for improved tools and systems to strengthen online banking services. The findings led to many recommendations, such as creating specialized user interfaces for e-

banking apps, strengthening cyber laws and regulations to prevent e-banking scams, and setting up internal cyber redressal cells to support clients.

3. **Leandre, Gomes, et al. (2022).** The goal of the study was to examine the state of cyber security concerns in Indian internet banking, with a particular emphasis on the changing nature of online financial transactions. The research emphasised the discrepancy between the security measures that banks have implemented as of late and the dynamic nature of cyberattacks, which exposes private financial data to unwanted access. It also showed that, despite the fact that many security measures were in place, these systems had intrinsic weaknesses that made them ineffective against advanced cyberattacks. Further illuminating the need for increased knowledge and proactive efforts to secure online financial transactions, the research also highlighted disparities in consumer understanding of cyber security risks in internet banking and the adoption of preventative measures.
4. **Balijinder, Kaur. et al. (2021).** The study recognised the change in customer routines and potential dangers involved with sustaining satisfaction levels and set out to evaluate the influence of digital transformation in the banking sector on customer happiness. First of all, it was clear that Northern Indian digital banking clients were genuinely happy with the calibre of services provided by digital banking platforms. 'Reliability' was shown to be the SERVQUAL model dimension that has the greatest influence on customer satisfaction. 'Tangibility' and 'responsiveness' came a close second and third, respectively, suggesting that these factors have a big influence on how clients see digital banking services. The study emphasised the significance of these factors in determining satisfaction levels, stressing the necessity of prompt customer care, tangible service elements, and dependability in the world of digitalized banking to guarantee client retention and competitive advantage.
5. **Dhanya, B, K. (2021).** The purpose of the survey was to evaluate how customers felt about the quality of services provided by government-owned banks, including both transaction-based services and upcoming technology developments. The study used purposive sampling to choose respondents and used Cronbach's Alpha to evaluate questionnaire variables and guarantee internal consistency of the obtained data (a total of 100 questions). The analysis provided particular insights into the attitudes of customers towards financial institutions: although customers showed discontent with the conduct, accessibility, and communication of workers, they were satisfied with e-banking services. While noting the favourable acceptance of e-banking services, this mismatch revealed a divergence in client experiences, pointing out areas where conventional service delivery should be enhanced to meet consumer expectations, particularly in staff conduct and communication.
6. **Mansi, & Heena, (2020).** The purpose of the study was to shed light on the difficulties faced by Indian banking software development companies in the face of the banking sector's rapid expansion. It mainly aimed to highlight the difficulties encountered, especially about technological improvements. The study brought to light important difficulties that Indian banking software developers were facing as the industry grew. While technology has been crucial in facilitating quicker transactions, improving cost effectiveness, and encouraging a greater use of online banking software, it was found to be a significant barrier. It also identified the main companies in the Indian banking software development market and outlined the obstacles preventing them from progressing. In the end, the research highlighted some remedies meant to lessen these difficulties and promote advancement in the industry.
7. **C, B, Shahabas, Ahmed., V, V, Sreeju. (2020).** The goal of the paper was to provide a thorough analysis of the state of digital banking in India, with a particular emphasis on current developments, trends, and the use of technology in the banking industry. The digital banking study conducted in India revealed a rapidly evolving technology landscape, mostly driven by rising internet adoption and mobile phone usage. A society empowered by technology has been fostered by the government's 'Digital India' effort, which has accelerated the transition to a 'Faceless, Paperless, and Cashless' economy. In the face

of increased rivalry amongst banks, the industry has gone through transitional stages to improve accessibility and efficiency. Important conclusions emphasized the significant influence of technology on banking procedures, stressing user ease while recognizing ongoing issues with security, technology infrastructure, and user accessibility, requiring concentrated attention for the smooth adoption and integration of digital banking solutions.

8. **Kanupriya & Aaryana (2019).** The purpose of the study was to investigate how, throughout the previous ten years, E-banking has revolutionised the Indian banking sector. The study aimed to examine the wide range of online banking services that banks and other financial organisations offer. It also sought to analyse the difficulties and dangers that these services entailed. The introduction of E-banking has resulted in a notable evolution in the efficiency of the country's financial system, as per the report. Customers may now conduct transactions nationwide without having to engage with bank staff thanks to technological advancements. The study also outlined the variety of E-banking services provided by banks and other financial organisations, demonstrating the extensive range of financial operations that clients may access via this platform.
9. **Preethika & Madhumathi (2019).** The purpose of the research was to investigate the critical role of digitization, with particular emphasis on its impact on the Indian banking industry. It emphasised how important digitization is to improving customer experiences and services in this area. The study showed how e-banking significantly affects consumer loyalty and satisfaction in the banking industry. Through a variety of online features and distribution methods, it emphasised the range of services provided by e-banking channels and their importance in giving consumers ease and accessibility. Furthermore, the survey found that although e-banking has improved consumer satisfaction, there are new dangers and problems that banks need to be aware of. It argued that, in the ever-changing world of e-banking, creative solutions are essential for effectively grabbing opportunities and overcoming obstacles.
10. **Rajesh, et al. (2019).** The study examined customer expectations, trends, and behaviours in addition to the viewpoints of top banks to analyse the state of internet banking in India. It aimed to close the divide between customers' wary attitudes towards online financial platforms and banks' technology perspectives. Several significant conclusions were drawn from an extensive industry case study that included participants from four large banks. Given their tradition of prioritising savings and their relatively recent embrace of internet-based services, Indian customers were hesitant when it came to using online banking. While customers valued security and dependability over convenience, banks saw it largely as a technological solution. The study emphasised how important it is to create online banking systems that simplify technological complexity, cater to customers' cautious approach, and provide safe, task-centric, and service-oriented solutions.

### Objectives of the Study:

1. To evaluate the challenges faced by e-banking users
2. To give appropriate suggestions to eradicate the challenges faced by the users of e-banking.

### Hypothesis:

**H<sub>0</sub>:** The challenges faced by e-banking users are insignificant (Median = 3)

**H<sub>1</sub>:** The challenges faced by e-banking users are significant (Median  $\neq$  3)

### Research Methodology:

**Data collection:** Both Primary and secondary data

**Sample size:** 175 E-banking users

**Sampling Technique:** Non-probability purposive sampling

**Statistical Technique:** Non-parametric One Sample Wilcoxon Sign Rank Test. (The Non-parametric One Sample Wilcoxon Sign Rank Test is a statistical method employed to assess if a sample's median significantly differs from a hypothesized population median.)

**Statistical tool:** SPSS 26

**Data Analysis and Interpretation:**

**Table No: 1 Demographic Profile of the Respondents**

Variables	Category	Frequency	Percentage
Gender	Male	92	52.57
	Female	83	47.43
Age	Below 20 years	28	16.00
	21 – 30 years	65	37.14
	31 – 40 years	48	27.43
	41 – 50 years	24	13.71
	51 and above	10	5.71
Educational Background	HSC	35	20.00
	Graduate	80	45.71
	Post-Graduate	45	25.71
	PhD/Doctorate	15	8.57
Years of since using e-banking applications	Less than 3 months	15	8.57
	3 – 6 months	25	14.29
	6 months – 1 year	30	17.14
	1 Year – 2 years	40	22.86
	More than 2 years	65	37.14

Data was collected from 175 e-banking users to gain insights into their demographics and e-banking usage patterns in an Indian context. 92 (52.57%) were male and 83 (47.43%) were female. The age breakdown shows that 28 users are below the age of 20 years covering 16 percent of the total respondents, 113 users, or 64.57% of the total, are primarily between the ages of 21 and 40, as only 34 between the age of 41 – 51 and above covering 19.42% . There is a wide range of educational backgrounds among the users: 35 (20.00%) have a High School Certificate (HSC), 80 (45.71%) are Graduates, 45 (25.71%) have finished post-Graduation, and 15 (8.57%) have a PhD or Doctorate. 15 users (8.57%) have used e-banking apps for less than three months, 25 users (14.29%) for three to six months, 30 users (17.14%) for six months to a year, 40 users (22.86%) for one to two years, and a substantial majority of 65 users (37.14%) have been using e-banking for a significant amount of time.

**Table No: 2 One Sample Wilcoxon signed ranked test**

Challenges faced by E -banking user	Observed Median	P – value
Security concern	4	0.008
Data breaches	4	0.000
Device security	4	0.000
Transaction errors	4	0.000
Poor user experience	5	0.000
Hidden fees	4	0.000
Biometric authentication issues	5	0.000
Dependency on mobile network	5	0.000
Multiple deduction in transaction	4	0.000
Multiple currency and payment method	4	0.000

Non-parametric one-sample Wilcoxon signed ranked test is applied to evaluate Challenges faced by E -banking user It is seen that  $p\text{-value} < 0.05$ , Security concern, Data breaches, Device security, Transaction errors, Poor user experience, Hidden fees, Biometric authentication issues, Dependency on mobile network, Multiple deduction in transaction and Multiple currency and payment method are major challenges faced by the e-banking users

**Table No: 3 Summary of Hypothesis**

Alternate Hypothesis	Results
The median of Security concern not equals 3	Supported
The median Data breaches not equals 3	Supported
The median of Device security not equals 3	Supported
The median of Transaction errors not equals 3	Supported
The median of Poor user experience not equals 3	Supported
The median of Hidden fees not equals 3	Supported
The median of Biometric authentication issues not equals 3	Supported
The median of Dependency on mobile network not equals 3	Supported
The median of Inadequate customer care not equals 3	Supported
The median of Insufficient monitoring not equals 3	Supported



## Conclusion:

The study's conclusions highlight a variety of important difficulties that consumers using e-banking face. Security issues, such as device security and data breaches, are among the main obstacles because of the widespread worries about the protection of personal data and transactions. Moreover, transaction mistakes, a bad user experience, hidden costs, and problems with biometric authentication all add to consumer discontent and make it difficult for users to engage with e-banking smoothly. Users have additional challenges while accessing these digital platforms due to their reliance on mobile networks, instances of numerous deductions in transactions, and complexity stemming from different currencies and payment methods. Joint efforts are necessary to solve these issues and improve the e-banking experience. It is advised to take a holistic strategy, beginning with strengthening security protocols. This entails putting strong encryption techniques into place to prevent data breaches, strengthening device security, and enforcing strict standards to protect user data. Transparent cost structures, simplified procedures, and user-friendly interface designs should be given top priority for improving user experience. In the end, a proactive strategy focused on strong security, seamless functioning, and user-centred design will open the door to an environment for online banking that is safer, more effective, and easier to use.

## Recommendations:

- Put a strong authentication and encryption procedures in place to prevent data breaches and improve device security.
- Address new threats and vulnerabilities, regular security audits and upgrades are necessary.
- Redesign user interfaces to make them more straightforward and intuitive, guaranteeing charge structure transparency and enhancing navigation in general.
- Pay attention to user input and ongoing development in response to their requirements and preferences.
- Implement strict internal controls and safeguards to reduce transaction mistakes.
- Mechanisms for quickly fixing incorrect transactions and proactive user communication.
- Invest in improving biometric authentication techniques to guarantee dependability and user-friendliness.
- Perform routine updates and testing to quickly resolve authentication problems.
- Reduce interruptions caused by network dependence, upgrade the infrastructure for resilience and redundancy.
- Create backup plans to guarantee ongoing service availability.
- Put strong controls in place inside the system to stop transactions from having duplicate deductions made.
- Reduce uncertainty, improve communication and clarity about payment options.
- Simplify a variety of currencies and payment options to make things easier for users.
- Offer unambiguous direction and assistance to users as they navigate various payment alternatives.
- Organise frequent awareness efforts to inform consumers about secure online banking procedures.

- Provide users with information about security precautions and recommended practices for transactions.

## References:

1. Mansi, Kukreja., Heena, Upadhyay. (2020). Challenges Faced by Banking Software Developing Companies in India. *International journal of scientific research in science, engineering and technology*, 7(3):547-552. doi: 10.32628/IJSRSET2073114
2. Kanupriya, Tatiwala., Aaryana, Anand. (2019). An overview of e- banking in india- implementation and challenges. *Journal of emerging technologies and innovative research*, 6(5):1-8-1-8.
3. Preethika, Dharmapal., Madhumathi, J, Raja. (2019). E-banking - Challenges and opportunities in India. *International Journal of Social and Economic Research*, 9(3):453-459. doi: 10.5958/2249-6270.2019.00053.9
4. Rajesh, Kumar., Sunil, Kumar, Yadav., O, P, Pathak. (2019). Online Banking in India. *Journal for Studies in Management and Planning*, 5(01):84-90.
5. Dr. S. Kamalasaravanan and Akhil Fairooze A M (2023). The Impact of E-Banking in Rural Areas of Malappuram District. *International Journal of Advanced Research in Science, Communication and Technology*, 258-264. doi: 10.48175/ijarsct-11442
6. Leandre, Gomes., Abhinav, Deshmukh., Nilesh, Anute. (2022). Cyber Security and Internet Banking: Issues and Preventive Measures. *Journal of Information Technology and Sciences*, 8(2):31-42. doi: 10.46610/joits.2022.v08i02.005
7. Balijinder, Kaur., Sood, Kiran., Simon, Grima., Ramona, Rupeika-Apoga. (2021). Digital Banking in Northern India: The Risks on Customer Satisfaction. 9(11):209-. doi: 10.3390/RISKS9110209
8. Dhanya, B, K. (2021). Comparative Study on Customer Fulfillment Of E-Banking Facilities. 12(10):3739-3747. doi: 10.17762/TURCOMAT.V12I10.5063
9. Parveen, S., Saghir, V., & Beg, S. (2023). AN EMPIRICAL STUDY OF CUSTOMER SATISFACTION TOWARDS E-BANKING SERVICES IN DELHI. *Indian Journal of Finance and Banking*, 13(1), 54-62. <https://doi.org/10.46281/ijfb.v13i1.1974>
10. C, B, Shahabas, Ahmed., V, V, Sreeju. (2020). The digital banking in india-recent trends, opportunities and challenges. *Global journal for research analysis*, 1-4. doi: 10.36106/GJRA/5605392
11. Nasri, Wadie, and Lanouar Charfeddine. 2012. Factors affecting the adoption of Internet banking in Tunisia: An integration theory of acceptance model and theory of planned behaviour. *The Journal of High Technology Management Research* 23: 1–14
12. Shih, Ya-Yueh, and Kwoting Fang. 2004. The use of a decomposed theory of planned behaviour to study Internet banking in Taiwan. *Internet Research-Electronic Networking Applications And Policy* 14: 213–23
13. Srivastava, Rajesh Kumar. 2007. Customer's perception on usage of internet banking. *Innovative Marketing* 3: 67–77.
14. Banu, A. Meharaj, N. Shaik Mohamed, and Satyanarayana Parayitam. 2019. Online Banking and Customer Satisfaction: Evidence from India. *Asia-Pacific Journal of Management Research and Innovation* 15: 68–80
15. Compeau, Deborah R., and Christopher A. Higgins. 1995. Computer self-efficacy: Development of a measure and initial test. *MIS Quarterly* 19: 189–211



16. Daniel, Elizabeth. 1999. Provision of electronic banking in the U.K. and the Republic of Ireland. *International Journal of Bank Marketing* 17: 72–83
17. Shih, Ya-Yueh, and Kwoting Fang. 2006. Effects of network quality attribute on customer adoption intentions of Internet banking. *Total Quality Management* 17: 61–77
18. Barrutia, José M., and Carmen Echebarria. 2005. The Internet and consumer power: The case of Spanish retail banking. *Journal of Retailing and Consumer Services* 12: 255–71.
19. Barrutia, José M., and Carmen Echebarria. 2005. The Internet and consumer power: The case of Spanish retail banking. *Journal of Retailing and Consumer Services* 12: 255–71.
20. Basuroy, Tanushree. 2022. Internet Penetration across India 2019, by State. Statista. Available online: <https://www.statista.com/statistics/1115129/india-internet-penetration-by-state/>
21. Smriti, Ani, and Rajesh Kumar. 2021. Present status of e-banking in India: Challenges and opportunities. *International Journal of Creative Research Thoughts (IJCRT)*. 9. Available online: [www.ijcrt.org](http://www.ijcrt.org).
22. Pooja. (2018). E-banking in india. *International Journal of Research in Commerce and Management*.
23. Statistical Modeling and Analysis for Complex Data Problems. (2005). *Netherlands: Springer US*.
24. Weaver, K. F., Morales, V. C., Dunn, S. L., Godde, K., Weaver, P. F. (2017). An Introduction to Statistical Analysis in Research: With Applications in the Biological and Life Sciences. *Germany: Wiley*.
25. PANNEERSELVAM, R. (2014). RESEARCH METHODOLOGY. India: PHI Learning.
26. Holcomb, Z. C. (2016). Fundamentals of Descriptive Statistics. United Kingdom: Taylor & Francis.
27. Jones, J. S. (2022). Exploratory and Descriptive Statistics. United Kingdom: SAGE Publications.
28. Heiberger, R. M., Holland, B. (2013). Statistical Analysis and Data Display: An Intermediate Course with Examples in S-Plus, R, and SAS. Switzerland: Springer New York.

### **Designing Of A Borewell Rescue Machine**

Ms. Priyanka G. Londhe, Ms. Vasudharaje P. Salunkhe, Mr. Likhith A. Raut, Prof. Pooja U. Shinde

Department of Electrical Engineering

Jspm's Bhivarabai Sawant Institute of Technology &

Research Wagholi, Pune, India