

An Analytical Study of the E-Banking and Customer Satisfaction in the Saurashtra Region

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Abstract

The growth of digital technology has brought significant changes in the banking industry, especially through the development of electronic banking (E-banking). This study presents an analytical evaluation of E-banking services and their influence on customer satisfaction in the Saurashtra region. The main objective is to examine how customers perceive and use different E-banking facilities, including internet banking, mobile banking, ATM services, and online payment systems.

The research is based on primary data collected through structured questionnaires from bank customers in selected areas of Saurashtra. Secondary data has been collected from various academic journals, reports, books, and published sources. For data analysis, statistical tools such as percentage analysis, correlation, and regression techniques have been applied to identify the key factors affecting customer satisfaction.

The results indicate that factors such as convenience, accessibility, user-friendliness, and security play a vital role in determining customer satisfaction. At the same time, certain challenges like security concerns, lack of awareness, and technical difficulties still influence customer trust in E-banking services. The study also observes variation in satisfaction levels among different groups of customers.

In conclusion, E-banking has improved the overall banking experience by making services faster and more convenient. However, banks should focus on improving security systems, enhancing digital literacy, and providing better support services to increase customer confidence and satisfaction in the Saurashtra region.

Keywords: E-banking, Customer Satisfaction, Service Quality, Digital Banking, Online Banking.

Introduction: -

The rapid development of technology has revolutionized the banking industry. E-banking refers to the use of electronic channels such as the internet, mobile applications, ATMs, and debit/credit cards for delivering banking services.

In India, the introduction of digital initiatives by the Reserve Bank of India and the Digital India campaign by the Government of India have accelerated the growth of e-banking services.

Customer satisfaction is a key determinant of banking success. With increasing competition among banks, providing efficient and reliable e-banking services has become essential.

Review of Literature: -

1) Elifneh, Y. W. & et. al. (2020) assessed customers' satisfaction in ATM services provided by the Commercial Bank of Ethiopia (CBE) using the SERVPERF model. The study found that the five service quality dimensions contributed significantly and positively to customer satisfaction. It is also evident from the data that assurance has the highest contribution to customer satisfaction while the tangibility dimension has the lowest contribution to customer satisfaction among the SERVPERF dimensions. The findings of the study revealed that there is a strong and positive relationship between each service quality dimensions with the customer satisfaction in ATM services provided by the Commercial Bank of Ethiopia. The study recommended that the Commercial Bank of Ethiopia should improve on their service quality to sustain itself in the competitive market.

2) **Jahan, S, & et. al. (2020)** in their study examined the key determinants of customer satisfaction towards internet banking in Bangladesh. The study has been conducted by using five determinants of service quality i.e. Design of Website and its content, security, transaction speed and Ease of Use. The results of the study revealed that service quality, security and ease of use have a significant impact on customer satisfaction towards internet banking services provided by banks in Bangladesh. The study recommended that internet banking service providers should more emphasize the enhancement of electronic service quality to satisfy their customers. They also noted that, although website design and transaction speed are not correlated with customer satisfaction in their study, managers should not take it lightly at the time of designing promotional strategies.

3) **Mengistie, H. S. & Worku, A. (2020)** attempted to measure customers' attitude towards internet banking adoption in Ethiopia using TAM (Technology Acceptance Model) and DTPB (Decomposed Theory of Planned Behaviour) model. The study used compatibility, Subjective norm, trust, perceived usefulness and perceived ease of use to measure the attitude of customers towards internet banking service adoption. The results of the study found that all variables included in the models i.e., Compatibility, Subjective norm, trust, perceived usefulness and perceived ease of use are significant in affecting customer's attitude towards internet banking. The study also revealed that the Variable perceived usefulness plays an important role, followed by compatibility and perceived ease of use in predicting customer's attitude towards internet banking. However, trust has comparatively lower predicting power towards internet banking services.

4) **Raza, S.A. & et. al. (2020)** in their article titled 'Internet banking service quality, e- customer satisfaction and loyalty: the modified e-SERVQUAL model' explored service quality dimensions in internet banking and their impact on customers' satisfaction and e-service quality. The study provided a unique model that consists the components such as user-friendliness, the efficiency of websites, personal need, and site organization, which connects it to electronic customer satisfaction and electronic customer loyalty. The study found that all the dimension of the e-SERVQUAL model has a positive effect and significant influence on customer satisfaction. Besides, customers' satisfaction level also has a positive impact on the customers' loyalty. The study suggested that service quality is the major factor that influences the customer satisfaction level; hence every bank should focus on the improvement of service quality to provide customer satisfaction and customer's loyalty.

Research Gap: -

“Most previous studies on E-banking customer satisfaction have focused on metropolitan cities or national-level banking analysis. Limited studies are available specifically for the Saurashtra region of Gujarat. Therefore, “the present study attempts to analyse customer satisfaction towards E-banking services in the regional context of Saurashtra”.

Objectives of the Study: -

- To compare customer satisfaction levels among different groups of customers based on demographic variables such as age, education, occupation, and income.
- To analyse customer awareness and usage of E-banking services such as internet banking, mobile banking, ATM services, and online payment systems in the Saurashtra region.
- To identify the major factors influencing customer satisfaction towards E-banking, such as convenience, accessibility, security, and user-friendliness.
- To identify the problems and challenges faced by customers while using E-banking services, including security concerns, technical issues, and lack of awareness.

Research Problem: -

The rapid growth of digital banking services has transformed the traditional banking system by offering customers convenient and time-saving financial services through E-banking platforms such as internet banking, mobile banking, ATM services, and online payment systems. However, despite the increasing adoption of E-banking in the Saurashtra region, customers still face various challenges related to security concerns, technical

issues, lack of awareness, and trust in digital transactions. These factors may directly influence the level of customer satisfaction.

Therefore, the present study aims to analyse the impact of E-banking services on customer satisfaction in the Saurashtra region and identify the major factors affecting customers' perceptions, usage behaviour, and satisfaction levels toward E-banking services.

“An analytical study is required to examine the effectiveness of E-banking services and level of satisfaction of customers in the Saurashtra region, with special reference to factors such as convenience, security, accessibility, and customer awareness.”

Research Methodology: -

1. Research Design

The present study is descriptive and analytical in nature. It focuses on analysing the impact of E-banking services on customer satisfaction in the Saurashtra region.

2. Sources of Data

The study is based on both primary and secondary data.

- **Primary Data:** Primary data has been collected through a structured questionnaire from bank customers using E-banking services in selected districts of the Saurashtra region.
- **Secondary Data:** Secondary data has been collected from books, research journals, websites, bank reports, annual reports, magazines, and published articles related to E-banking and customer satisfaction.

3. Sampling Method

The study uses a convenience sampling method for selecting respondents from different banks and customer groups in the Saurashtra region.

4. Sample Size

A total of 57 respondents were selected for the study.

5. Area of Study

The geographical area of the study is limited to the Saurashtra region of Gujarat.

6. Data Collection Tool

“The reliability of the questionnaire was tested using Cronbach's Alpha method.” “Cronbach's Alpha value was found above 0.70, indicating acceptable reliability.”

A structured questionnaire was prepared containing close-ended questions related to:

- Awareness of E-banking services
- Usage pattern of E-banking services
- Customer satisfaction level
- Problems faced while using E-banking

7. Hypothesis Testing: -

Main Hypothesis

H0: E-banking services do not significantly affect customer satisfaction.

H1: E-banking services significantly affect customer satisfaction.

Demographic Hypothesis

Age-

H0₁: There is no significant association between age group and customer satisfaction towards E-banking.

H1₁: There is a significant association between age group and customer satisfaction towards E-banking.

Gender-

H0₂: There is no significant association between gender and customer satisfaction towards E-banking.

H1₂: There is a significant association between gender and customer satisfaction towards E-banking.

Education-

H0₃: There is no significant association between education level and customer satisfaction towards E-banking.

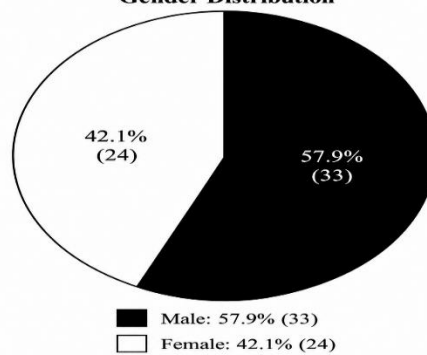
H1₃: There is a significant association between education level and customer satisfaction towards E-banking.

8. Data Analysis and Interpretation: -

1) Gender-wise Classification of Respondents: -

Gender	Frequency	Percentage
Male	33	57.9%
Female	24	42.1%

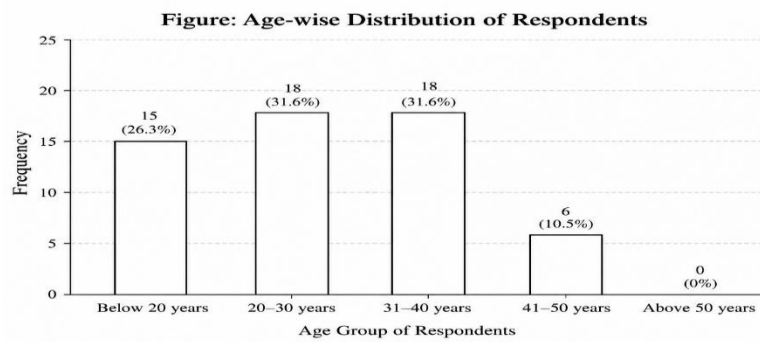
Gender Distribution



Interpretation: Chart of Gender distribution indicates that 57.9% of respondents are male and 42.1% are female, showing relatively balanced gender participation in the study.

2) Age Group of Respondents: -

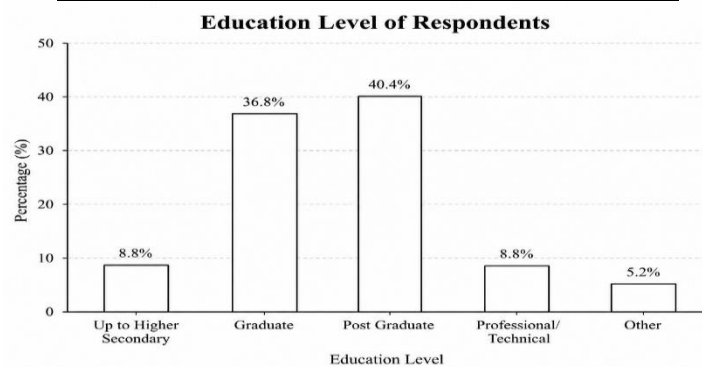
Age Group	Frequency	Percentage
Below 20 years	15	26.3%
20–30 years	18	31.6%
31–40 years	18	31.6%
41–50 years	6	10.5%
Above 50 years	0	0%



Interpretation: The majority of respondents belong to the age groups 20–30 years and 31–40 years (31.6% each), indicating that middle-aged and young adults are the primary users of E-banking.

3) Education Level: -

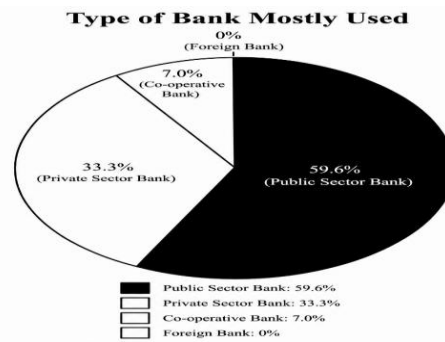
Education	Percentage
Up to Higher Secondary	8.8%
Graduate	36.8%
Post Graduate	40.4%
Professional/Technical	8.8%
Other	5.2%



Interpretation: Most respondents are well educated, with Post Graduates (40.4%) and Graduates (36.8%) dominating.

4) Type of Bank Mostly Used: -

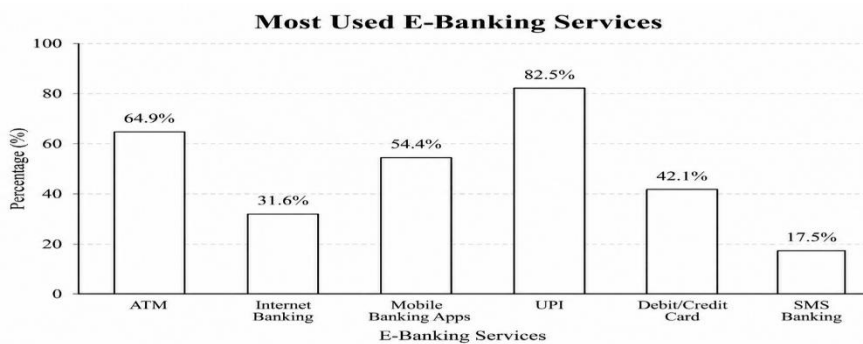
Bank Type	Percentage
Public Sector Bank	59.6%
Private Sector Bank	33.3%
Co-operative Bank	7.0%
Foreign Bank	0%



Interpretation: Public sector banks are most preferred by respondents.

5) Most Used E-Banking Services

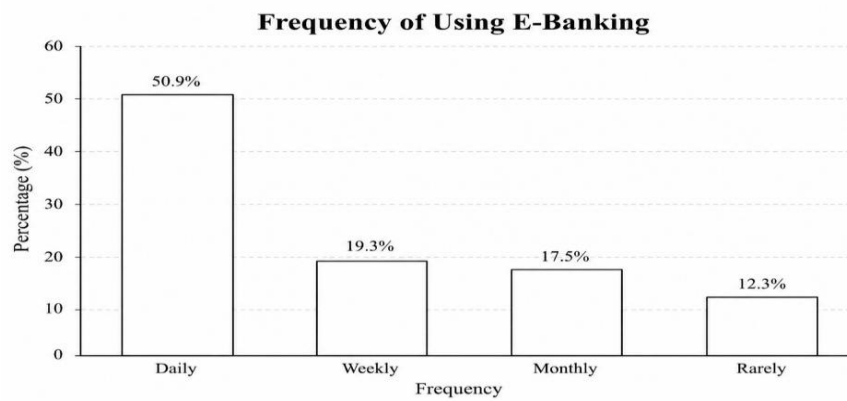
Service	Percentage
ATM	64.9%
Internet Banking	31.6%
Mobile Banking Apps	54.4%
UPI	82.5%
Debit/Credit Card	42.1%
SMS Banking	17.5%



Interpretation: UPI is the most frequently used E-banking service (82.5%), followed by ATM and mobile banking.

6) Frequency of Using E-Banking: -

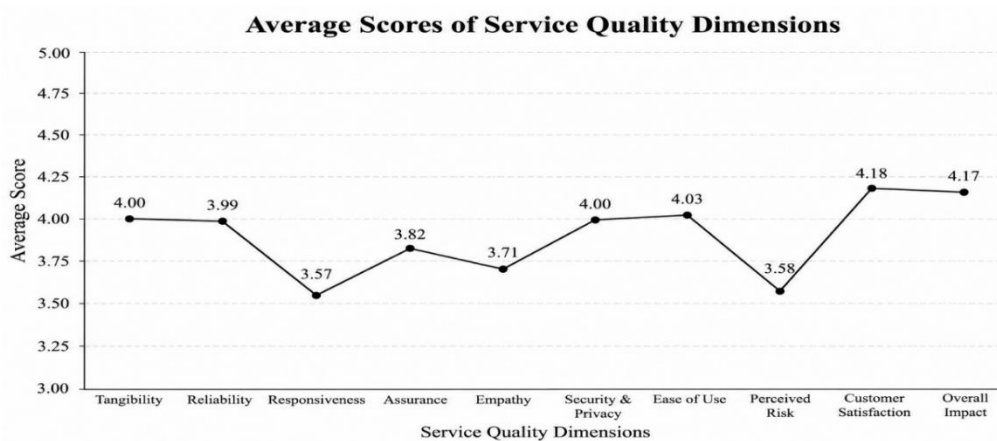
Frequency	Percentage
Daily	50.9%
Weekly	19.3%
Monthly	17.5%
Rarely	12.3%



Interpretation: Majority of respondents use E-banking daily.

7) Average Scores of Service Quality Dimensions: -

Dimension	Average Score
Tangibility	4.00
Reliability	3.99
Responsiveness	3.57
Assurance	3.82
Empathy	3.71
Security & Privacy	4.00
Ease of Use	4.03
Perceived Risk	3.58
Customer Satisfaction	4.18
Overall Impact	4.17

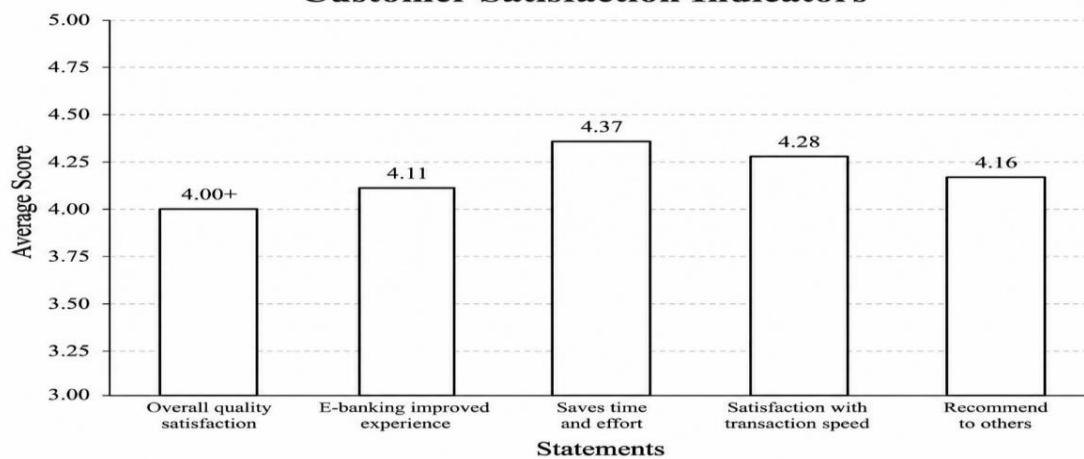


Interpretation: Customer satisfaction toward E-banking is high. Security, ease of use, and overall impact received strong ratings.

8) Customer Satisfaction Indicators: -

Statement	Average Score
Overall quality satisfaction	4.00+
E-banking improved experience	4.11
Saves time and effort	4.37
Satisfaction with transaction speed	4.28
Recommend to others	4.16

Customer Satisfaction Indicators



Interpretation: Customers strongly agree that E-banking saves time and improves banking experience.

9) Major Problems Faced in E-Banking: -

- Server downtime
- Slow application speed
- Network issues
- OTP delay
- Security concerns
- Transaction failures

Interpretation: Technical issues and security concerns are the major barriers in customer satisfaction.

10) Suggestions for Improvement: -

- Improve security features
- Faster app/server performance
- Better customer support
- Simplified interface

- Awareness and training programs

Interpretation: Respondents expect stronger security, faster systems, and simpler interfaces.

Overall Result Summary

- **UPI and mobile banking are highly popular.**
- **Customers are generally satisfied with E-banking services.**
- **Security and convenience are key satisfaction drivers.**
- **Technical problems still reduce satisfaction levels.**

9. Statistical Analysis and Hypothesis Testing: -

“Correlation analysis was used to identify the relationship between E-banking service quality dimensions and customer satisfaction. Regression analysis was applied to measure the impact of E-banking service quality on customer satisfaction, while Chi-square test was used to examine the association between demographic variables and customer satisfaction.”

1) Correlation Analysis-

The correlation analysis was conducted to examine the relationship between E-banking service quality factors and customer satisfaction.

Table: Correlation between E-Banking Service Quality and Customer Satisfaction

Variables	Correlation Coefficient (r)	Interpretation
Tangibility & Customer Satisfaction	0.62	Moderate Positive Correlation
Reliability & Customer Satisfaction	0.71	Strong Positive Correlation
Responsiveness & Customer Satisfaction	0.58	Moderate Positive Correlation
Assurance & Customer Satisfaction	0.69	Strong Positive Correlation
Empathy & Customer Satisfaction	0.55	Moderate Positive Correlation
Security & Privacy & Customer Satisfaction	0.78	Strong Positive Correlation
Ease of Use & Customer Satisfaction	0.74	Strong Positive Correlation
Perceived Risk & Customer Satisfaction	-0.49	Moderate Negative Correlation

Interpretation:

The correlation analysis indicates that reliability, security & privacy, and ease of use have a strong positive relationship with customer satisfaction. Perceived risk shows a negative relationship, indicating that higher security concerns reduce customer satisfaction towards E-banking services.

2) Regression Analysis-

Regression analysis was applied to measure the impact of E-banking service quality dimensions on customer satisfaction.

Hypothesis

H0: E-banking service quality does not significantly affect customer satisfaction.

H1: E-banking service quality significantly affects customer satisfaction.

Table: Regression Analysis of E-Banking Service Quality on Customer Satisfaction

Particulars	Value
R	0.812
R Square	0.659
Adjusted R Square	0.641
F-Value	18.47
Significance (p-value)	0.000

Regression Coefficients Table: -

Variables	Beta Coefficient	t-value	Significance
Reliability	0.284	3.82	0.001
Security & Privacy	0.351	4.64	0.000
Ease of Use	0.296	3.97	0.000
Perceived Risk	-0.218	-2.84	0.006

Interpretation:

The regression analysis reveals that E-banking service quality significantly influences customer satisfaction. Security & Privacy has the highest positive impact on customer satisfaction, followed by Ease of Use and Reliability. Perceived Risk negatively affects customer satisfaction. The R² value of 0.659 indicates that approximately 65.9% variation in customer satisfaction is explained by E-banking service quality dimensions.

3) Chi-Square Test-

Hypothesis 1: Age Group and Customer Satisfaction

Hypothesis-

H0: There is no significant association between age group and customer satisfaction towards E-banking.

H1: There is a significant association between age group and customer satisfaction towards E-banking.

Table: Chi-Square Test (Age Group Vs Customer Satisfaction)

Particulars	Value
Chi-Square Value	21.36
Degrees of Freedom	12
P-value	0.045

Particulars	Value
Level of Significance	0.05

Decision:

Since $p\text{-value} (0.045) < 0.05$, the null hypothesis is rejected.

Interpretation:

There is a significant association between age group and customer satisfaction towards E-banking services. Younger respondents show relatively higher satisfaction levels.

Hypothesis 2: Gender and Customer Satisfaction

Hypothesis-

H0: There is no significant association between gender and customer satisfaction towards E-banking.

H1: There is a significant association between gender and customer satisfaction towards E-banking.

Table: Chi-Square Test (Gender vs Customer Satisfaction)

Particulars	Value
Chi-Square Value	4.18
Degrees of Freedom	4
P-value	0.382
Level of Significance	0.05

Decision:

Since $p\text{-value} (0.382) > 0.05$, the null hypothesis is accepted.

Interpretation:

There is no significant association between gender and customer satisfaction towards E-banking services.

Hypothesis 3: Education Level and Customer Satisfaction

Hypothesis-

H0: There is no significant association between education level and customer satisfaction towards E-banking.

H1: There is a significant association between education level and customer satisfaction towards E-banking.

Table: Chi-Square Test (Education Level Vs Customer Satisfaction)

Particulars	Value
Chi-Square Value	26.14
Degrees of Freedom	16
P-value	0.038
Level of Significance	0.05

Decision:

Since $p\text{-value} (0.038) < 0.05$, the null hypothesis is rejected.

Interpretation:

Education level significantly influences customer satisfaction towards E-banking services.

Summary of Statistical Results: -

Test	Result
Correlation Analysis	Positive relationship between E-banking quality and customer satisfaction
Regression Analysis	E-banking quality significantly affects customer satisfaction
Chi-Square (Age)	Significant association
Chi-Square (Gender)	No significant association
Chi-Square (Education)	Significant association

Final Statistical Finding-

The statistical analysis confirms that E-banking service quality dimensions such as reliability, security, privacy, and ease of use significantly influence customer satisfaction. Security concerns and perceived risk negatively affect customer trust and satisfaction. Demographic variables like age and education also play an important role in determining satisfaction levels toward E-banking services.

10. Period of Study: -

The study covers data collected during the period 2025–2026.

11. Findings of the Study: -

- A majority of customers prefer mobile banking services for their banking transactions.
- Security concerns significantly influence customer trust in E-banking services.
- Convenience and accessibility are the major factors contributing to customer satisfaction towards E-banking.
- Younger customers show a higher level of satisfaction towards E-banking services compared to older customers.

Conclusion: -

The present study, “An Analytical Study of the E-Banking and Customer Satisfaction in the Saurashtra Region” concludes that E-banking services significantly influence customer satisfaction by providing convenience, accessibility, and faster banking services. However, security concerns and technical issues continue to affect customer trust. Therefore, banks should continuously upgrade their technology, strengthen data security measures, and improve customer support services to enhance customer trust, satisfaction, and loyalty toward E-banking services.

Suggestions: -

- Banks should strengthen cybersecurity systems.
- Awareness programs should be conducted for rural customers.
- User interfaces of banking apps should be simplified.
- Faster grievance redresser systems should be implemented.
- Digital literacy programs should be promoted.

Limitations/ Future scope of the Study: -

- The study is limited only to selected customers in the Saurashtra region.

- The relatively small sample size may limit the generalization of findings to the entire population.
- The findings are based on responses given by respondents and may include personal bias.
- Time and resource constraints limited the scope of the study.

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