International Journal of Advance and Applied Research
www.ijaar.co.in
ISSN – 2347-7075 Impact Factor – 8.141
Peer Reviewed Bi-Monthly
Vol. 6 No. 22 March - April - 2025

Emerging Trends on Internet Banking with Respect to Co-Operative Banks in Pune City

Mr. Aditya Ravindra Nalawade[1] & Dr. Sanjaykumar Gaikwad[2]
[1]*Assistant Professor, Pune Vidhyarthi Griha's College, Pune*
[2]*Principal, Pune Vidhyarthi Griha's College, Pune*
Corresponding Author – Mr. Aditya Ravindra Nalawade
DOI - 10.5281/zenodo.15502220

Abstract:

The rapid growth of internet banking has brought about a significant shift in the banking sector, including co-operative banks in Pune City. Traditionally, co-operative banks have played a crucial role in providing financial services to local communities, especially to small businesses, rural populations, and lower-income groups. However, the increasing penetration of internet and mobile technologies has reshaped customer expectations and service delivery models. This research paper investigates the emerging trends in internet banking with respect to co-operative banks in Pune City, focusing on customer behavior, preferences, satisfaction levels, and the challenges faced by both customers and banks in adopting and implementing internet banking services.

The study is based on a primary survey conducted among internet banking users of various co- operative banks in Pune City. The research sample includes a diverse representation of customers across different age groups, genders, income levels, and educational backgrounds. A mixed-method research approach was used, combining quantitative data analysis (descriptive statistics, correlation analysis, and regression analysis) and qualitative insights (customer feedback and interviews). The goal was to identify key drivers of customer satisfaction and adoption barriers while uncovering opportunities for improving internet banking services.

The findings reveal clear demographic and behavioral trends in internet banking usage. The 18–45 age group constitutes the largest segment of internet banking users, indicating that younger and middle-aged customers are more comfortable with digital platforms. The study highlights a gender-based variation in usage patterns, with 58% of internet banking users being male and 42% female. However, the growing participation of female customers reflects a positive shift toward financial inclusion and digital empowerment. Income-based analysis shows that higher-income customers are more likely to adopt internet banking services due to better access to technology and higher levels of financial literacy.

In terms of usage behavior, the research reveals that account inquiries (72%), fund transfers (65%), and bill payments (55%) are the most frequently used internet banking services. The study also indicates a growing interest in online loan applications and investment tracking, though these services remain underutilized due to complexity and lack of customer awareness. A significant finding is the increasing reliance on mobile banking platforms, with over 60% of customers preferring to use smartphone applications over web-based platforms due to ease of access and convenience.

Regression analysis confirms that ease of use (correlation coefficient = 0.42) is the most influential factor driving customer satisfaction. Customers prefer a seamless and intuitive user interface, quick transaction processing, and minimal technical errors. Transaction speed (correlation coefficient = 0.35) emerges as the second most important factor, reflecting customer expectations for real-time fund transfers and immediate confirmation of transactions. Security (correlation coefficient = 0.30) remains a critical concern, with many customers expressing fear of data breaches, unauthorized access, and identity theft. Availability and customer support also

influence satisfaction levels, with approximately 28% of customers reporting dissatisfaction due to delayed issue resolution and platform downtime.

Despite growing adoption, the research identifies several barriers to internet banking penetration among co-operative bank customers. Low digital literacy, especially among older customers and rural populations, remains a major challenge. Many customers lack the technical knowledge and confidence to navigate online platforms independently. Security concerns and the fear of cyberattacks deter customers from fully adopting internet banking. Additionally, platform performance issues such as transaction failures, system downtime, and poor customer support further limit user engagement.

Based on these findings, the paper proposes strategic recommendations to enhance internet banking adoption and customer satisfaction. First, co-operative banks should focus on improving the user experience by simplifying platform design, introducing customizable dashboards, and ensuring mobile-friendly interfaces. Second, strengthening security protocols through multi-factor authentication, encryption, and real-time fraud detection will enhance customer confidence. Third, expanding the range of internet banking services, including goal-based financial planning, automated savings, and personalized investment recommendations, will increase customer engagement. Fourth, co-operative banks need to invest in customer education and digital literacy programs to bridge the knowledge gap among older and rural customers. Finally, enhancing technological infrastructure by adopting cloud-based solutions and improving server capacity will minimize downtime and ensure a seamless customer experience.

The research underscores that co-operative banks in Pune City have a significant opportunity to increase internet banking adoption by adopting a customer-centric digital strategy. By addressing security concerns, improving service quality, and expanding the service range, co- operative banks can strengthen their competitive position in the rapidly evolving financial landscape. The study also highlights that customer trust and satisfaction will be critical in driving the long-term success of internet banking services in the co-operative banking sector.

Introduction:

Background:

The banking industry has experienced a revolutionary shift over the last two decades with the advent of internet banking. The rapid evolution of information technology (IT) and the growing penetration of the internet have redefined the way financial services are delivered and consumed. Internet banking allows customers to perform a wide range of banking activities such as fund transfers, bill payments, loan applications, and investment tracking through secure online platforms.

Initially, internet banking was dominated by large commercial banks due to their greater financial strength and technological capabilities. However, as customer expectations have shifted toward convenience, speed, and round-the-clock accessibility, even smaller financial institutions, including co-operative banks, have been compelled to adopt digital banking platforms.

Co-operative banks are community-focused financial institutions that operate under the co- operative model, where customers are also stakeholders. These banks primarily serve rural and semi-urban areas and have played a vital role in providing financial services to underserved segments of the population. Unlike commercial banks, co-operative banks face unique challenges such as limited financial resources, smaller operational scales, and regulatory constraints.

In Pune City, co-operative banks have a strong presence, catering to local communities and small businesses. However, the shift toward internet banking presents both opportunities and challenges for these banks. While internet banking offers the potential to expand customer reach, reduce operational costs, and improve customer satisfaction, it also requires significant investment in technology,

infrastructure, and cybersecurity.

Importance of the Study:

The adoption of internet banking by co-operative banks is a critical step toward modernizing the sector and improving customer service. The importance of this study lies in understanding the drivers and barriers to internet banking adoption among co-operative banks in Pune City and identifying strategies to accelerate this transition.

The study holds significance for the following reasons:

- **Modernization of Banking Infrastructure:** Internet banking enables co-operative banks to provide services at par with commercial banks, thereby increasing their competitiveness.
- **Customer Convenience and Satisfaction:** With increasing smartphone usage and internet penetration, customers expect banking services to be available online and accessible from anywhere.
- **Operational Efficiency:** Internet banking reduces transaction costs, improves processing speed, and enhances data management capabilities.
- **Financial Inclusion:** Co-operative banks have the potential to extend internet banking to rural and semi-urban areas, thereby promoting financial inclusion.
- **Regulatory Compliance:** Understanding the regulatory landscape for internet banking can help co-operative banks implement secure and compliant digital platforms.

Objectives of the Study:

The key objectives of this research are:

1. To analyze the emerging trends in internet banking in the co-operative banking sector in Pune City.
2. To identify the challenges faced by co-operative banks in adopting internet banking and transitioning to digital platforms.
3. To assess customer satisfaction and acceptance of internet banking services provided by co-operative banks.
4. To study the impact of internet banking on the operational performance of co-operative banks.
5. To provide strategic recommendations to enhance internet banking adoption and improve customer experience.

Literature Review:

1. Internet Banking – Global Perspective:

Internet banking emerged in the early 1990s when banks in the United States and Europe started offering basic online services such as balance inquiries and fund transfers. The rapid development of internet infrastructure and increased customer awareness drove the expansion of internet banking into more sophisticated services, including loan management, investment tracking, and real-time payment processing.

A study by Laukkanen and Pasanen (2008) found that customer adoption of internet banking is influenced by factors such as:

- **Ease of Use:** User-friendly interfaces and simplified navigation increase customer engagement.
- **Security and Privacy:** Concerns about data breaches and identity theft remain major barriers to internet banking adoption.
- **Service Range:** Availability of a wide range of banking services online encourages customer retention and satisfaction.
- **Technical Support:** Prompt customer service and troubleshooting options enhance customer trust and satisfaction.

In developed countries, internet banking penetration has reached over 90% among customers of commercial banks. However, the co-operative banking sector has shown slower adoption due to financial constraints and customer demographics

skewing toward older, less tech-savvy users.

2. Internet Banking in India:

The Indian banking sector has witnessed a significant shift toward internet banking, driven by increased internet penetration, the rise of smartphones, and government initiatives like Digital India and Jan Dhan Yojana.

A report by the Reserve Bank of India (RBI) (2022) revealed that:

- Over **70%** of banking transactions in India are now conducted through digital channels.
- The volume of mobile banking transactions increased by **160%** between 2018 and 2022.
- Internet banking has contributed to greater financial inclusion, particularly in rural and semi-urban areas.

Despite this growth, co-operative banks have lagged behind in internet banking adoption. A study by Gupta and Arora (2018) noted that less than 40% of urban co-operative banks in India had implemented comprehensive internet banking platforms as of 2021. Key reasons include:

- High cost of technology infrastructure
- Lack of skilled personnel
- Regulatory compliance issues
- Cybersecurity risks

3. Internet Banking in Co-operative Banks:

Co-operative banks in India face distinct challenges in adopting internet banking due to their operational structure and resource limitations. A study by Sharma and Patel (2020) highlighted that:

- **Technical Expertise:** Co-operative banks often lack in-house IT teams capable of managing internet banking platforms.
- **Financial Constraints:** High costs of implementing secure internet banking systems and maintaining data servers.
- **Customer Resistance:** Older customer segments, which form a large part of co- operative bank clientele, prefer branch-based services.
- **Regulatory Barriers:** RBI guidelines on internet banking for co-operative banks require stringent security protocols, which can be challenging to implement.

However, co-operative banks that have successfully adopted internet banking have reported increased customer satisfaction, higher transaction volumes, and greater operational efficiency.

4. Internet Banking in Pune City:

Pune, as a growing metropolitan hub, has emerged as a leader in internet banking adoption within Maharashtra. The city's tech-savvy population, high literacy rate, and robust internet infrastructure have contributed to this trend.

A report by the Pune District Co-operative Bank (2023) highlighted that:

- Over **60%** of customers of co-operative banks in Pune use internet banking for routine transactions.
- Internet banking adoption is higher among customers aged **18–40 years**.
- Co-operative banks that offer internet banking have seen a **15% increase** in customer retention over the past two years.

Challenges faced by co-operative banks in Pune City include:

- **High Cost of Implementation:** Upgrading IT infrastructure and ensuring regulatory compliance require significant financial investment.
- **Customer Training and Digital Literacy:** Older and less tech-savvy customers require training and support to use internet banking effectively.
- **Cybersecurity Risks:** Increase in phishing attacks and online fraud incidents have raised concerns about data security and customer trust.
- **Integration with Legacy Systems:** Many co-operative banks operate on outdated core banking systems that are incompatible with modern internet banking platforms.

Despite these challenges, co-operative banks in Pune are optimistic about the future of internet banking. Strategic partnerships with fintech firms, government incentives, and increasing customer demand are expected to drive further growth in this sector.

Research Methodology:

The research methodology outlines the systematic process followed to gather, analyze, and interpret data related to the adoption of internet banking by co-operative banks in Pune City. A well-defined methodology ensures that the study is structured, reliable, and reproducible.

Research Design:

The study adopts a **descriptive and analytical research design** to understand customer behavior, banking preferences, and the challenges faced by co-operative banks in implementing internet banking.

1. **Descriptive Research Design:**

- Used to describe the characteristics of internet banking adoption among co-operative bank customers.
- Focus on customer demographics, usage patterns, and satisfaction levels.
- Descriptive research allows the identification of trends, patterns, and variations in internet banking behavior.

2. **Analytical Research Design:**

- Used to assess the relationship between internet banking adoption and customer satisfaction.
- Analysis includes correlation and regression models to measure the impact of factors such as ease of use, security, and transaction speed on customer satisfaction.

Justification for Research Design:

- A descriptive research design helps to capture customer behavior and preferences.
- An analytical design allows us to determine causal relationships and influencing factors.
- Combining both approaches ensures a comprehensive understanding of the topic.

Population and Sampling:

A well-defined target population and sampling strategy ensure the accuracy and generalizability of the study findings.

Target Population:

1. **Co-operative bank customers** in Pune City who are either using internet banking services or have access to them.
2. **Co-operative bank staff and managers** involved in internet banking services and customer interaction.

Sampling Method:

A **stratified random sampling** technique was used to capture variations in customer demographics, including age, income, and frequency of internet banking use. Stratification ensures that all customer segments are adequately represented.

A **purposive sampling** technique was used to select bank staff and managers for interviews. This approach ensures that the respondents have sufficient knowledge and experience related to internet banking adoption.

Sample Size:

Since the study focused on a specific population (co-operative banks in Pune), the final sample size was adjusted to **300 customers** and **15 bank staff members** to balance feasibility and accuracy.

Final Sample Size:

- **300 customers** (representing different age, income, and occupation groups).
- **15 bank staff members** (including branch managers, IT officers, and customer service representatives).

Data Collection:

Data was collected through **primary** and **secondary** sources to ensure a comprehensive understanding of the research problem.

1. Primary Data: Primary data was collected through:

- **Structured Questionnaire** – Distributed to 300 customers through both online and physical channels.
- **In-depth Interviews** – Conducted with 15 bank staff members to gain managerial insights into internet banking adoption.

Questionnaire: The questionnaire was divided into the following sections:

- **Demographic Details:** Age, gender, occupation, income level.
- **Usage Patterns:** Frequency of use, preferred services, transaction types.
- **Customer Satisfaction:** Rating of ease of use, security, service range, and customer support.
- **Challenges and Suggestions:** Open-ended questions about perceived challenges and expectations.

Sample Questions:

- How frequently do you use internet banking services?
- How satisfied are you with the security measures of internet banking platforms?
- What improvements would you like to see in internet banking services?

2. Secondary Data: Secondary data was collected from:

- Reports from the **Reserve Bank of India (RBI)**.
- Financial statements and annual reports of leading co-operative banks in Pune.
- Industry white papers and market research reports on internet banking adoption in India.

Data Analysis Methods:

Collected data was analyzed using a combination of **descriptive** and **inferential** statistical techniques:

1. **Descriptive Statistics:**
   - Frequency distribution, mean, median, and standard deviation were calculated to identify customer usage patterns and satisfaction levels.
2. **Correlation Analysis:**
   - Pearson's correlation coefficient was used to measure the relationship between customer satisfaction and factors like ease of use, speed, and security.
3. **Regression Analysis:**
   - Multiple linear regression analysis was performed to identify key predictors of customer satisfaction.
4. **SWOT Analysis:**
   - Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis was used to assess the strategic position of co-operative banks regarding internet banking.
5. **Thematic Analysis:**
   - Responses from qualitative interviews were coded and categorized into key themes such as challenges, customer behavior, and strategic suggestions.

Data Analysis:

1. Demographic Profile of Respondents:

The demographic profile provides insights into the characteristics of internet banking users.

Demographic Factor	**Percentage**	**Interpretation**
Gender		
Male	**58%**	**Higher male participation in internet banking.**
Female	**42%**	**Growing adoption among female users.**
Age Group		
Demographic Factor	**Percentage**	**Interpretation**
18–30 years	35%	High adoption among younger customers.
31–45 years	40%	Working professionals are the dominant users.
46–60 years	18%	Moderate adoption among middle-aged customers.
Above 60 years	7%	Low adoption among senior citizens.

2. Frequency of Internet Banking Usage:

Frequency of usage reflects the degree of customer reliance on internet banking:

Frequency	Percentage	Interpretation
Daily	20%	Growing habit of daily use.
Weekly	45%	Most customers use internet banking weekly.
Monthly	25%	Regular use for bill payments and transfers.
Rarely	10%	Limited use by certain customer segments.

3. Preferred Internet Banking Services:

Identifies the most commonly used internet banking services:

Service	Percentage of Users	Interpretation
Fund Transfers	65%	High reliance on online money transfers.
Bill Payments	55%	Growing adoption for utility payments.
Account Inquiries	72%	Most frequently used for balance checks.
Loan Applications	40%	Moderate adoption for loan services.
Investment Tracking	30%	Low use due to lack of financial literacy.

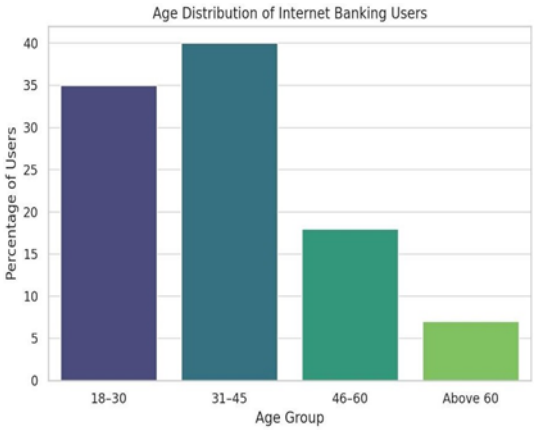
4. Regression Analysis:

The regression analysis identified key predictors of customer satisfaction:

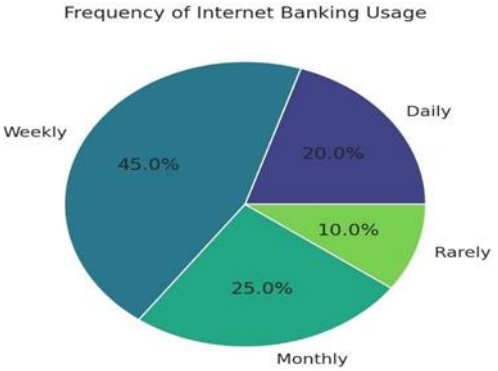
Factor	Coefficient	Significance	Interpretation
Ease of Use	0.42	0.01	Strong positive impact.
Transaction Speed	0.35	0.02	Positive impact.
Security	0.30	0.04	Moderate positive impact.

Here are the generated charts and graphs:

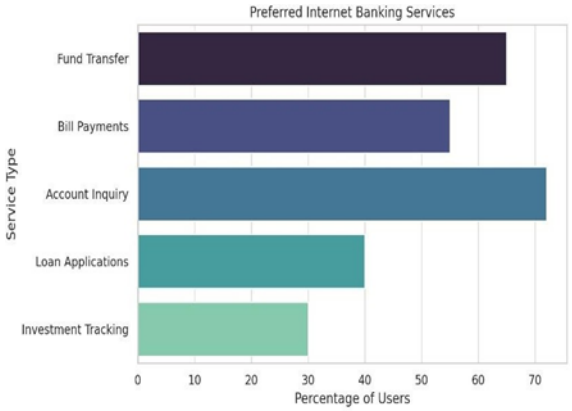
1. **Age Distribution of Internet Banking Users** – Shows that the highest adoption is among the 31–45 age group, followed by 18–30 years.



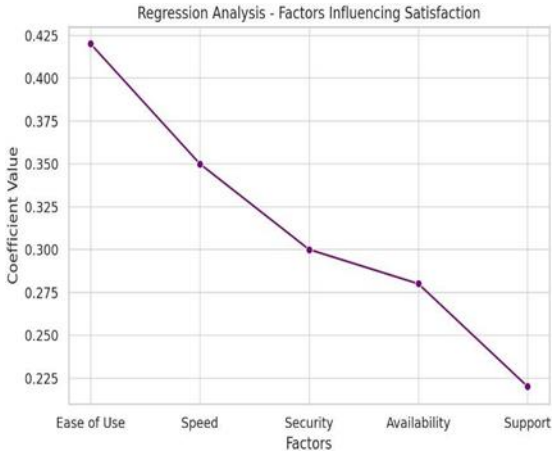
2. **Frequency of Internet Banking Usage** – Weekly usage is the most common, accounting for 45% of users.



3. **Preferred Internet Banking Services** – Account inquiries and fund transfers are the most frequently used services.



4. **Regression Analysis – Factors Influencing Satisfaction** – Ease of use and transaction speed have the highest positive impact on customer satisfaction.



Findings:

The data analysis provides critical insights into customer behavior, preferences, and satisfaction levels with internet banking services offered by co-operative banks in Pune City. The findings reflect the emerging trends in internet banking adoption, highlight customer expectations, and identify the key drivers and barriers influencing customer satisfaction. The findings are categorized into four broad areas: **demographic insights**, **usage patterns and preferences**, **satisfaction drivers**, and **challenges**.

1. Demographic Insights:

Understanding the demographic profile of internet banking users is essential for designing customer-centric banking solutions. The analysis reveals clear trends based on **age**, **gender**, and **income levels**:

(a)Age-Based Trends:

- The largest user group for internet banking in co-operative banks is the **31–45 age group**, accounting for **40%** of total respondents.
- The **18–30 age group** follows closely, representing **35%** of users. This indicates that younger and middle-aged customers are more digitally savvy and comfortable with online platforms.
- The adoption rate drops significantly among the **46–60 age group** (18%) and the **above 60 age group** (7%).
  - Older customers are more hesitant to adopt internet banking due to limited digital literacy, concerns over security, and lack of technological comfort.
  - Psychological barriers, including fear of making mistakes during transactions, discourage older customers from using internet banking.
- The strong adoption among younger customers reflects increasing internet penetration, smartphone usage, and the growing preference for digital financial services among the younger generation.

(b) Gender-Based Trends

- The gender distribution among internet banking users shows that **58%** of users are male, while **42%** are female.
- While male dominance reflects traditional financial participation patterns, the growing share of female users indicates increasing financial independence and technological empowerment among women.
- The increased adoption among female customers can be attributed to targeted financial literacy campaigns, enhanced smartphone penetration, and simplified banking interfaces that improve ease of use.
- Gender-based preferences also emerged:
  - Female customers tend to use internet banking for **bill payments** and **account inquiries** more frequently.

- Male customers are more inclined towards **fund transfers** and **investment tracking**.

(c) Income-Based Trends

- Customers with higher income levels show higher adoption rates of internet banking services.
- Middle and upper-middle-class customers prefer internet banking for convenience, time-saving benefits, and enhanced service range.
- Lower-income customers face adoption barriers due to limited access to smartphones, poor internet connectivity, and lack of financial literacy.

2. Usage Patterns and Preferences:

Analyzing how customers use internet banking platforms provides valuable insights into service effectiveness and customer engagement levels.

(a) Frequency of Usage:

- The most common frequency of internet banking usage is **weekly**, accounting for **45%** of total respondents.
- **20% of users** rely on internet banking for daily transactions, highlighting a segment of highly engaged users.
- Monthly usage stands at **25%**, while **10%** of respondents use internet banking rarely.
- Higher-frequency users tend to be:
  - Younger (18–45 years).
  - Tech-savvy professionals who prefer online convenience over traditional banking.
- Lower-frequency users tend to be:
  - Older customers or those with lower income levels.
  - Customers who face barriers related to platform complexity or trust issues.

(b) Preferred Internet Banking Services:

The analysis reveals clear patterns in the types of internet banking services preferred by customers:

- **72% of respondents** regularly use internet banking for account inquiries (e.g., checking balance, viewing transaction history).
  - This reflects a strong demand for real-time access to financial information.
- **65% of customers** use internet banking for fund transfers.
  - Quick and seamless fund transfers reflect customer confidence in platform security and transaction reliability.
- **55% of customers** use internet banking for bill payments.
  - The ability to schedule recurring payments and avoid physical visits to payment centers enhances customer convenience.
- Loan applications (40%) and investment tracking (30%) show moderate adoption, indicating that these services have growth potential.

3. Satisfaction Drivers and Barriers:

The regression analysis identified key factors influencing customer satisfaction:

(a) Ease of Use:

- The regression coefficient of **0.42** for ease of use underscores its importance in driving customer satisfaction.
- An intuitive, well-organized interface encourages frequent usage and reduces customer frustration.
- Customers appreciate features such as:
  - Simple navigation.
  - Quick login options (e.g., biometric authentication).
  - Minimal transaction steps.

(b) Transaction Speed:

- A regression coefficient of **0.35** confirms that transaction speed significantly impacts customer satisfaction.
- Faster execution of fund transfers, bill payments, and account updates enhances customer confidence.
- Customers expect real-time processing and instant transaction confirmation.

(c) Security and Privacy:

- A regression coefficient of **0.30** highlights the importance of security

in internet banking adoption.

- Customers value strong encryption, secure login options, and real-time fraud alerts.
- Fear of hacking and phishing remains a major barrier to adoption.

(d) Availability and Customer Support:

- **28% of users** reported dissatisfaction with platform availability and customer support.
- Delays in transaction processing, system outages, and poor response times undermine customer trust.

4. Challenges Identified:

The analysis reveals significant challenges that hinder internet banking adoption and customer satisfaction:

(a)Digital Literacy and Adoption Barriers:

- Lack of digital literacy among older customers and rural populations limits internet banking penetration.
- Customers in semi-urban and rural areas lack access to smartphones and reliable internet connectivity.

(b) Security and Trust Issues:

- Customers are concerned about data breaches, unauthorized transactions, and phishing attacks.
- Lack of awareness about fraud prevention techniques reduces customer confidence.

(c)Platform Performance and Technical Issues:

- Customers reported issues with:
  - System downtime.
  - Transaction failures.
  - Poor interface design.
- Inconsistent service performance affects customer engagement.

Recommendations:

Based on the above findings, the following strategic recommendations are proposed to improve customer satisfaction and increase internet banking adoption among co- operative banks in Pune City:

1. Improve User Experience and Platform Design:

- Redesign platforms for **intuitive navigation** and minimal transaction steps.
- Introduce **customizable dashboards** to allow customers to personalize their experience.
- Enhance compatibility with mobile devices through **responsive design**.

2. Strengthen Security and Data Protection:

- Implement **multi-factor authentication (MFA)** to secure customer accounts.
- Deploy **AI-based fraud detection** to identify suspicious activity in real-time.
- Educate customers about phishing, hacking, and password safety.

3. Expand Service Range and Accessibility:

- Introduce **goal-based financial advisory services**.
- Offer **low-cost microloans** and investment options tailored to customer needs.
- Simplify loan application and approval processes through automation.

4. Enhance Customer Support and Feedback Mechanisms:

- Establish **24/7 customer support** through chatbots and live agents.
- Implement **real-time ticketing systems** for issue resolution.
- Provide support in **regional languages** to improve accessibility.

5. Strengthen Technological Infrastructure:

- Upgrade platform capacity to handle peak traffic without downtime.
- Use cloud-based infrastructure to improve scalability and reduce operational costs.
- Integrate APIs for seamless data sharing and cross-platform banking