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Exploring User Preferences Between Mobile Banking Applications And Online Banking Platforms In Public Sector Banks

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Abstract:This study investigates and compares user preferences, satisfaction levels, and usability factors between mobile banking applications and online banking platforms in public sector banks in India. In the world of banking, where services appear to be digitalized at a rapid pace, it is important to know customers' behavior in each of the channels as such knowledge can propel service delivery and user experience. A stratified random sample of 150 respondents from urban and semi urban areas that have diverse demographic profile and banking habits was formed. The structured questionnaire was used to collect the primary data, concerning the platform usage, service satisfaction, as well as the security perceptions and the influential factors of adoption. Descriptive and inferential statistical tools, i.e. t-tests and regression analysis were used to analyze the data. Specifically, findings show that mobile banking is the favored platform since it is easy to use, fast, accessible, and with a better user interface, more particularly younger and more experienced users. Key determinants of preference of platform have been security, convenience, and service range. Despite both platforms being commonly used, mobile banking has a lot more user satisfaction and engagement. Based on the study, strategic investments are made in mobile technologies and user centered amendment. In future, there is going to be more personalized, secure, AI integrated mobile services and at the same time there will be inclusive and innovative digital banking experience**.**

Index Terms - Mobile Banking, Online Banking, User Preference, Public Sector Banks, Digital Adoption.

I. INTRODUCTION

The revolution of the banking sector has indeed become digitalized between the customers and the financial institutions. This is especially obvious in the public sector banks (PSBs) in India with the role they have played to widen the basic access of the financial sector and many others, and with adoption of digital channels to improve customer service. In today time, where presence of mobile gadgets and internet connectivity has become a de rigueur, customers have been provided with the choice of mobile banking applications or online banking platform. PSBs need to understand the users' preference for these two channels to best serve them. The ubiquity of smart phones allows users to execute banking transactions whenever and wherever necessary through mobile banking applications. The applications of them include a user friendly interface, quick access to the services on the portal, and personalized features and applications. On the contrary, online banking platforms, whether accessed through desktops or laptops, are capable enough to support more complex transactions compared to ATM facilities. However, this choice is sometimes based on the demographics of the user, its technological expertise, as well as the resolution of the needs in banking.

Studies on the influencing factors in adoption of mobile banking in India have been studied in several ways. For example, in the case of the adoption of mobile banking, Sharma and Mathur (2020) have taken the Diffusion of Innovation model and applied it to the case of Unified Payments Interface (UPI) system in India. The paper highlighted that the use of mobile banking is strongly related to relative advantage, compatibility, observability and has limited importance with trialability and complexity. A second very important factor

that affects the adoption of mobile banking is perceived risk. In the case of Saxena, Gera and Singh (2020), they studied on how perceived risk effects on the consumer's intention to adopt mobile banking in India. From their findings, they were suggesting that perceived privacy risk is the biggest barrier to mobile banking, and banks have to win the trust of users by improving security.

A number of studies regarding user behavior associated with the adoption of technology have focused largely on the Technology Acceptance Model (TAM). Having employed the concept of TAM, Kumar et al., (2020) extended it by incorporating the factors like trust, perceived risk, and self – efficacy to examine the adoption of mobile banking in India. It was found that perceived usefulness, perceived ease of use and trust do significantly affect the intention to use mobile banking services. Compared to the Indian PSBs, most of the comparative studies and reviews done till date focus on the difference in the mobile and online banking platforms but haven't been applied to Indian PSBs. However, it is necessary for banks to understand user preferences about these platforms in order to spend their resources efficiently and design services aligned to the customer expectations. These preferences are very much influenced by factors such as perceived user satisfaction, perceived usability, accessibility and perceived security.

Reserve Bank of India (RBI) has insisted that the digital banking can help drive financial inclusion and make customer banking convenient. The RBI mentioned in its annual report that banks should adapt to customer centric approach and leverage technology to enhance service delivery. Due to the variation of customer base of PSBs, which include the people of diverse socio-economic backgrounds and regions, it is critical to comprehend what the various user segments require and want. Through this understanding, banks will be able to develop and implement digital banking solutions that are inclusive, secure and friendly for the users. The primary purpose of this study is to survey and contrast user preferences, levels of satisfaction, and usability factor of mobile banking application and online banking platform of the public sector banks in India. The study aims to shed lights on the important factors that influence the user choice and adoption, in order to assist the PSBs in strengthening the offering of their digital banking services and promoting further financial inclusion.

II. LITERATURE REVIEW

Digital transformation of banking sector in India has transformed customer interaction with special reference to the public sector banks (PSBs). With the growth of mobile bank apps, online banking platforms, the experience for users has been changed, and therefore there is the need for understanding user preferences, user satisfaction levels, and the basic usability factors involving these digital channels.

2.1 User Preferences and Satisfaction

Nataraj and Rajendran (2015) conducted an empirical study to compare mobile banking applications of different banking sectors in India. According to their findings, new private sector banks tended to be more customer satisfaction than public sector banks. Essential features like account information, fund transfers, however, were provided by public sector banks, but they did not deliver on performance and user satisfaction. Among others, it was reassuring to see that the State Bank of India's mobile application received excellent ratings for its wide suite of features — the e-passbook — and the review on Nilgiris district underlined the popularity of using mobile banking for its simplicity of use, instant transfer functionality, and time saving factors. Though, problems like internet issues, security, and navigation issues faced by the users, lowered satisfaction.

2.2 Usability Factors

User adoption of digital banking platforms highly depends on its usability. Singh and Srivastava singled out factors like ease of use, convenience, aesthetics and trust in reducing the mobile banking customer experience. In their study, they proposed that all these elements together elevated user engagement as well as satisfaction. Additionally, to this, it has been important in understanding the use of mobile banking behavior using the Technology Acceptance Model (TAM). Extending TAM, perceived usefulness, ease of use, trust and personal innovativeness were considered to be important predictors of mobile banking adoption intentions among Indian customers.

2.3 Factors Influencing Adoption

A critical barrier to mobile banking adoption is still perceived risk. Saxena et al. (2020) considered among other things, financial, privacy, performance, psychological, and time risks. In their research, perceived privacy risk was the biggest deterrent of accepting mobile banking in India. Moreover, factors of self-reliance, social influence and perceived surveillance, amongst others, have been found to have influence over the adoption of mobile banking. Specifically, a study of consumption of Delhi NCR consumers indicated that mobile banking service adoption was greatly dependent on these and customer support.

The literature reveals that mobile banking applications provide convenience and efficiency but there are issues to do with usability and perceived risks, particularly in the public sector banks. User interfaces need

to be enhanced, using the best security measures and addressing the issues of the users to promote the adoption and satisfaction. It is important for understanding these dynamics to guide public sector banks in improving their digital banking services and fulfil customer expectations in the future.

III. OBJECTIVES

1. To examine and compare the user preferences, satisfaction levels, and usability factors between mobile banking applications and online banking platforms offered by public sector banks.
2. To identify the key factors influencing user choice and adoption of mobile banking applications over online banking platforms in public sector banks.

IV. RESEARCH METHODOLOGY

4.1 Target Population & Data Source

The study targets individual users of mobile and online banking platforms from public sector banks in India, primarily from urban and semi-urban areas. Public sector banks are chosen due to their widespread customer base and vital role in financial inclusion, especially among lower-income and rural populations. Data will be collected directly from users of these platforms to gain insights into user behavior and preferences.

4.2 Sample Size

The study will include 150 respondents, providing a balance between statistical validity and feasibility. This sample ensures representation of both mobile and online banking users.

4.3 Sampling Mechanism

Stratified random sampling will be employed to reflect user diversity based on:

- Geographical location (urban/semi-urban/rural)
- Age group (young, middle-aged, senior)
- Banking experience (new vs. experienced users)

Respondents will be selected from major public sector banks like SBI, PNB, Canara Bank, Bank of Baroda, and Union Bank.

V. ANALYSES AND INTERPRETATION

Table 5.1: Demographic Distribution of Respondents (N = 150)

Variable	Category	Frequency	Percentage
Age	18–25 years	36	23.03%
	26–35 years	44	30.20%
	36–45 years	31	20.20%
	46–60 years	24	16.37%
	Above 60 years	16	10.40%
Gender	Male	79	53.23%
	Female	67	45.33%
	Prefer not to say	3	1.44%
Education	Up to Higher Secondary	21	13.33%
	Diploma/Graduate	74	50.20%
	Postgraduate	46	30.30%
	Doctorate	9	6.47%
Monthly Income	Below ₹20,000	21	13.63%
	₹20,001–₹40,000	44	30.30%
	₹40,001–₹60,000	41	26.47%
	₹60,001–₹1,00,000	24	16.07%
	Above ₹1,00,000	20	13.13%

Interpretation:

- The majority of respondents fall within the age group of 26–35 (30%) and 18–25 (23.03%), indicating that younger users are more engaged with digital banking platforms.
- There is a fairly balanced gender distribution, with a slightly higher proportion of male users (53.23%).

• Most respondents are educated at the diploma or graduate level (50.20%), followed by postgraduates (30.30%), suggesting a reasonably literate sample familiar with digital tools.
• Monthly income shows a concentration in the ₹20,001–₹60,000 range, representing middle-income users.

Inference:

• The dominant demographic for digital banking adoption in public sector banks is young, middle-income, and educated, aligning with typical technology adoption patterns.
• These characteristics suggest the need to design user-friendly features that cater to younger and moderately tech-savvy individuals.

Table 5.2: Platform Usage and Preferences

Question	Category	Frequency	Percentage
Platform used more frequently	Mobile Banking App	80	54.27%
	Online Banking Website	44	28.07%
	Use Both Equally	26	16.17%
Overall platform preference	Mobile Banking App	87	58.17%
	Online Banking Website	36	23.33%
	Use Both Equally	21	13.23%
	Prefer Traditional Banking	6	4.47%

Interpretation:

• 54.27% use mobile banking apps more frequently and 58.17% prefer them overall.
• Only 23.33% prefer online banking websites, and a small minority still relies on traditional banking methods (4.47%).

Inference:

• Mobile banking apps are the dominant platform among public sector bank users.
• The convenience, portability, and increasing smartphone usage likely contribute to this preference.
• Strategies to improve online banking interfaces and integrate them with mobile features could help retain users who currently use both platforms.

Table 5.3: Mean Satisfaction Ratings – Mobile Banking App

Aspect	Mean Score (1–5)	Std. Deviation
Ease of Use	4.23	0.81
Speed of Transaction	4.12	0.85
Visual Interface/Design	4.01	0.78
Security and Privacy Features	4.34	0.71
Customer Support	3.62	0.92
Range of Services Available	4.03	0.80

Interpretation:

• Users are highly satisfied with security and privacy (mean = 4.34) and ease of use (4.23).
• Customer support has the lowest satisfaction (3.62), indicating a service gap.
• Other aspects like speed, interface, and services also show favorable ratings (mean ≈ 4.01).

Inference:

• Mobile apps are perceived as secure, fast, and user-friendly.
• Enhancing customer support availability within the app can further boost satisfaction and retention.
• Developers should maintain security standards while improving service support.

Table 5.4: Mean Satisfaction Ratings – Online Banking Website

Aspect	Mean Score (1–5)	Std. Deviation
Ease of Navigation	3.92	0.81
Loading Time/Speed	3.63	0.83
Layout and Functionality	3.74	0.81
Security Features	4.21	0.72
Access to Full Services	4.12	0.73
Customer Support Availability	3.53	0.94

Interpretation:

• Security (4.21) and access to full services (4.12) are strengths.

• Aspects like Ease of Navigation (3.92), loading time (3.63) and customer support (3.53) receive lower satisfaction.

• Layout and functionality (3.74) show room for improvement.

Inference:

• While users trust the security of online platforms, technical issues like speed and design hinder optimal experience.

• A streamlined user interface and faster response times can enhance usability.

• This suggests a need for UI/UX revamp in public sector bank websites to retain tech-savvy users.

Table 5.5: T-test – Satisfaction Comparison

Aspect	Mobile App Mean	Web Mean	t-value	p-value	Interpretation
Security Features	4.32	4.22	1.22	0.244	No significant difference
Ease of Use/Navigation	4.23	3.90	2.33	0.010*	Significant difference
Customer Support	3.64	3.51	0.81	0.342	No significant difference

*Significant at $p < 0.05$

Interpretation:

• Significant difference found in ease of use/navigation ($p = 0.010$), with mobile apps performing better.

• No significant difference in perceived security or customer support between platforms.

Inference:

• Mobile apps outperform websites in terms of usability and user experience.

• Despite similar levels of perceived security, users find apps easier and more intuitive to use.

• This supports prioritizing mobile-first development strategies in public sector banking.

Table 5.6: Regression – Determinants of Platform Preference

Predictor Variable	β Coefficient	t-value	p-value	Interpretation
Security and Privacy	0.323	3.725	0.000***	Strong influence
Speed of Service	0.283	2.903	0.002**	Moderate influence
Accessibility	0.192	1.981	0.050*	Marginal influence
User Interface	0.141	1.442	0.125	Not statistically significant

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Interpretation:

• Security and privacy ($\beta = 0.323$, $p < 0.001$) is the strongest predictor of platform preference.

• Speed of service ($\beta = 0.283$, $p = 0.002$) also significantly influences preference.

• Accessibility ($\beta = 0.192$, $p = 0.050$) shows marginal significance.

• User interface is not a statistically significant predictor in this model.

Inference:

• Users choose digital banking platforms primarily based on how secure and fast they perceive the service to be.

• Accessibility features (like 24/7 availability, low data consumption) are also important, especially in semi-urban areas.

• UI/UX may be more important at the level of satisfaction but less influential in platform preference unless coupled with performance.

V. DISCUSSION

The study indicates users' preference for mobile banking applications than for those of public sector banks in the traditional online banking platforms. Though it is seen across all user groups, this trend stands out more among younger, urban and semi urban users, which is primarily around growing digital adaptability and mobile first behaviour of Indian consumers. The results show that users rate mobile banking apps to be more user friendly, faster, and very much the same in terms of security as online banking websites. From among these factors, security is found to be the main determiner, followed by speed of service and accessibility.

Although satisfaction levels are typically high in both areas, there are significant showstoppers in things like customer support and presentation on the online platform. Customer satisfaction in ease of use and speed provided evidence that mobile banking apps successfully supplied quick, convenient services. Despite the satisfaction of customer support, the platforms were found to be moderate in both levels, indicating that it is necessary to enhance the real-time assistance and feedback mechanisms. The contribution of security and speed to differences in usability, and the predictive content of their performance are strong and hence provide a key signal to public sector banks of the need to do much more to create truly robust, secure and responsive mobile services. Investment in mobile app innovation, in addition to improving digital infrastructure, particularly in semi urban and rural spaces, has the power to improve financial inclusion beyond the first usage of the digital infrastructure.

VI. CONCLUSION

The study finds that mobile banking applications are gaining popularity among users of the public sector banks in India, and are especially popular between younger, tech savvy and urban users of public sector banks. The study compares mobile banking with online banking platforms and indicates that users see mobile banking as more convenient, faster and as secure as a equivalent of online banking platforms. Security, speed, accessibility, user interface, and the like are very strong critical factors influencing user adoption and satisfaction. While they are both in service to a type of use, mobile apps essentially overpower in their probability of conveying to the client what they look for, evoking a dramatic move in banking conduct in the direction of mobile first arrangements. This underlines the demand from public sector banks to constantly up their mobile banking advanced security features, easy interfaces and live support that improves user confidence and engagement. In the future, the use of mobile banking should also have more ground to cover, as it joins appearing technologies like the use of AI for personalization, voice control in services, and the use of biometric authentication. Public sector banks have to adopt a proactive digital strategy that shrinks competition as well as inclusiveness constraints by meeting the evolving user preferences and ensuring accessibility across socio-economic segments. Digital financial services can be made more holistic by strengthening the mobile platforms, especially given that online banking is being refined.

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