

A Comparative Study of Digital Banking Effectiveness of Private and Public Sector Banks in India A Quantitative Study

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Abstract: Digital banking effectiveness refers to a bank's ability to provide efficient, seamless, and user-friendly online services that cater to customer needs. It involves factors such as transaction speed, accessibility, customer satisfaction, and security, which play a critical role in determining a bank's competitiveness and customer loyalty in a digital-focused market. Effective digital banking promotes financial inclusion and enables customers to manage their finances with ease. This study investigates the effectiveness of digital banking services offered by private and public sector banks in India, an area experiencing rapid growth due to technological advancements and evolving consumer expectations. The research evaluates various performance indicators, including customer satisfaction, transaction efficiency, and service accessibility. Data were gathered through surveys conducted among diverse banking customers and supplemented by interviews with banking professionals. The results show significant differences in digital banking effectiveness between the two sectors, with private banks generally excelling in user experience and innovation compared to public banks. This study offers recommendations for policymakers and banking institutions to improve digital banking strategies, ultimately fostering greater financial inclusion and customer engagement in India's varied banking sector. The survey compared the digital banking effectiveness of private and public sector banks in India, concluding that there is a noticeable difference in performance between the two.

Keywords: Digital Banking, Private Bank, Public Bank, Digitalization

Introduction

Banks in India have made significant strides in integrating technology into their daily operations. Over the past two decades, the Indian banking sector has witnessed numerous positive developments. Today, e-banking is the most widely used technology among banks. E-banking allows customers with a computer and internet access to connect to their bank's website and carry out various virtual banking activities. This shift to e-banking is a result of technological advancements and increasing competition (Manjare, 2021). Private sector banks tend to be more quality-focused compared to public sector banks, largely due to their customer-centric strategies and emphasis on efficiency. They prioritize delivering exceptional customer service, prompt responses, and tailored banking experiences. Additionally, private banks invest significantly in advanced technology, employee training, and infrastructure to ensure they provide efficient and high-quality services. Public sector banks, on the other hand, often encounter challenges such as bureaucratic procedures, outdated technology, and lower levels of customer interaction, which can impact the quality of their services. However, these banks are gradually implementing new strategies and adopting modern technology to enhance their service quality and compete with private banks. The banking sector today faces intense competition, necessitating constant improvement in

services. E-banking represents a significant shift in India's banking industry, and these services need regular updates to keep up with technological advancements. The saying, "Adapt or be left behind," seems fitting when examining the current state of the banking sector. A study on the quality of e-banking services provided by banks in India indicates that private sector banks generally deliver higher-quality services compared to their public sector counterparts.

Credibility and security are often strengths of public sector banks in India, largely due to their government ownership, which imparts a sense of trust and reliability among customers. These banks are viewed as safer, especially for deposits and savings, as the government backing provides an implicit assurance of financial

stability. This trust factor makes public sector banks particularly attractive to conservative and risk-averse

customers. However, despite their strong credibility, these banks encounter difficulties in updating their systems to meet modern security standards. In contrast, private banks frequently tackle these issues more effectively by leveraging advanced technology (Suhair and Nagasanthi, 2017). Studies show that while public sector banks benefit from their credibility, private sector banks often provide superior e-banking services in terms of quality and innovation in India.

Banks are now utilizing "electronic and telecommunication networks" to offer a wide range of "value-added products and services". As part of their digital banking initiatives, they have introduced new delivery channels for customers, such as Automated Teller Machines (ATMs) or Cash Dispensers (CDs), phone banking, internet banking, and mobile banking. Banks have adopted e-banking as a strategy to navigate the intense competition in the market and to maintain their customer base. The response from customers has been positive, aligning with the expected progression of Technology Adoption Life Cycle models. There are six key dimensions of e-banking service quality: convenience and accuracy, feedback and complaint management, efficiency, queue management, accessibility, and customization. The quality of banking services is assessed based on the virtual connection between the institution, its employees, and its clients, whether the information concerns a client's loan, card, safe deposit, money transfer, or account. As digital banking becomes the primary method of interaction for many customers, service quality is increasingly evaluated through the effectiveness of this virtual relationship. Elements such as the ease of use of mobile applications and websites, the speed and effectiveness of online transactions, the availability of 24/7 customer support, and strong security measures are essential indicators of service quality. Customers now expect smooth, convenient, and secure digital experiences, making the digital interface and technology-based services integral to a bank's image and success. Banks that excel in delivering these digital services are viewed as more efficient and customer-centric (Pavlovic et al., 2015). Online banking has become increasingly popular among customers as it simplifies money management and transactions. The customer-friendly initiatives of Indian banks have made clients' daily activities easier compared to traditional banking methods. This study assessed the perceived advantages and attitudes of online banking customers from selected public and private sector banks in Punjab.

The researcher evaluated the online banking service quality of public and private sector banks for each service benefit and found that private sector internet banking customers experienced more advantages compared to those using public sector services. The study revealed that the internet banking services provided by both sectors were efficient and satisfactory. Customers of online banking also expressed positive opinions. The dimensions of Perceived Effectiveness, Time, and Employee Performance did not show significant differences, indicating that the online banking service quality of public and private sector banks was similar in these areas. However, the remaining ten dimensions—"Perceived Usefulness, Risk, Cost, Responsiveness, Reliability, Tangibility, Communication, Value, Security and Privacy, and Accessibility"—were significant, highlighting notable differences in the internet banking service quality

between public and private banks in these aspects (Singh et al., 2019). Advancements in information technology have enabled banks not only to explore new business opportunities but also to enhance the efficiency of services provided to their existing customers. Some experts suggest that the future of banking is closely linked to technological progress, predicting that the internet-driven technological revolution will transform how financial transactions are carried out. Internet banking offers several advantages over traditional banking methods. It allows banks to expand their customer base, reduce costs, provide mass customization, innovate products, enhance marketing and communication efforts, develop non-core services, and offer banking solutions without geographical or time limitations. Customers of private sector banks are generally more informed about the various e-banking services available due to the focus these banks place on marketing, customer education, and user engagement. Private banks actively promote their digital platforms, encouraging customers to use services such as online transfers, mobile banking, and digital payment solutions. Private sector banks frequently offer tutorials, notifications, and personalized support to increase customer awareness and encourage the adoption of their e-banking services. Consequently, customers of private sector banks are generally more knowledgeable and comfortable using a variety of e-banking options compared to those at public sector banks. The study found that Perceived Usefulness, Perceived Ease of Use, and Consumer Awareness positively impact the use of internet banking. On the other hand, concerns around Consumer Security, Trust, and Privacy negatively influence its adoption. The "Ease of Use" factor is more influential among private sector bank customers than public sector ones (Hada, 2016). Private sector bank customers are also more informed about the range of e-banking services available, with the majority actively using these services. This indicates that

private sector customers are generally more satisfied with e-banking offerings compared to their public sector counterparts. Public sector banks lag behind private sector banks in terms of product and service offerings. The usage of services like insurance, loans, current accounts, recurring deposits, and mutual funds is higher among private sector bank customers than those of public sector banks (Chandna, 2016). The usage of technological services such as ATMs, debit cards, credit cards, UPS, FES, and customer support is higher among private sector bank customers compared to those of public sector banks. While customers of both sectors express satisfaction with their products and services, those holding savings accounts in private sector banks report the highest satisfaction levels. Banks need to put in additional efforts to further enhance customer satisfaction. Public sector banks, in particular, should focus on promoting their products and technological services more effectively.

Literature Review

Nath et al. (2013) examined the factors affecting IT adoption among bank employees and found that e-banking services positively influence bank performance. The integration of technology has made banks more efficient by streamlining operations, reducing costs, and enhancing customer service. Digital platforms facilitate quick transaction processing, automate services, and allow for real-time data analysis, thereby improving decision-making and responsiveness. Advanced technologies such as artificial intelligence, mobile banking applications, and online support systems enable banks to deliver personalized experiences, reduce human errors, and provide round-the-clock services. This technological integration not only boosts operational efficiency but also helps banks meet customer expectations and stay competitive in a rapidly changing market. While both employees and customers appreciate the benefits of electronic banking, concerns regarding privacy and security remain significant for customers. Despite the increasing importance of e-banking services, there is limited research focused on this area within the Indian context. E-banking services provide an alternative delivery channel for more effective service provision. To date, there has been no comprehensive study that evaluates the efficiency, productivity, and impact of e-banking services on bank performance, as well as the perceptions of customers and employees regarding electronic banking in Indian banks. The absence of thorough studies for both public and private sector banks in India has motivated the researcher to explore this

topic further.

Ramya (2021) concludes that, in the face of increasing competition and the need to reduce expenses, banks must attract and retain customers by developing, maintaining, and showcasing the appealing features of e-banking. The findings indicate a significant disparity between customer perceptions of e-banking products and services offered by public and private sector banks. Customers express dissatisfaction with the quality of services provided by public sector banks and with the costs associated with private sector banks. Clients of private sector banks generally view their e-banking services as more efficient, user-friendly, and technologically advanced, attributed to these banks' emphasis on innovation, prompt service delivery, and customer engagement. In contrast, customers of public sector banks often perceive their e-banking services as less effective and outdated, primarily due to slower technology adoption and reliance on traditional processes. This perception gap underscores the necessity for public sector banks to enhance their digital platforms and improve customer education and experiences to meet the standards set by private banks. Consequently, public sector banks must focus on adopting the latest technologies and offering a diverse range of high-quality e-banking products that align with customer expectations. At the same time, private sector banks should work on reducing their costs and proactively informing customers about product and service offerings in advance.

Ravikumar Undi (2021) reveals that private sector banks outperform their public sector counterparts, as evidenced by superior average financial ratios. Key indicators such as “return on assets (ROA), net interest margin (NIM), and capital adequacy ratio (CAR)” are typically higher in private sector banks, reflecting better profitability, effective management, and overall financial strength. These banks prioritize profitability, efficient cost management, and strategic lending practices, contributing to their robust performance. In contrast, public sector banks face challenges such as elevated non-performing assets (NPAs) and lower profitability, which negatively impact their financial ratios. This disparity highlights the efficiency and effectiveness of private banks in resource management. The researchers suggest that issues like the burden of bad debts, high wage costs, insufficient corporate governance, infrastructure investment needs, capital shortages, and the impact of social schemes are significant factors hampering the performance of public sector banks.

The study by Dhandayuthapani and Manivannan (2020) indicates that e-banking has become a vital tool for survival, significantly transforming the banking sector worldwide. Electronic banking has reshaped the banking landscape globally by offering substantial opportunities through various e-banking services. The research

concludes that private sector banks outperform nationalized banks in terms of service quality, transparency, and customer satisfaction. Private banks prioritize efficient, rapid, and personalized services, often leveraging advanced technology to streamline operations and enhance the overall customer experience. They are also more transparent in their dealings, frequently providing clear information about updates, policies, and fees to their customers. Consequently, customers of private banks generally report higher satisfaction levels. In contrast, nationalized banks often face challenges related to bureaucratic procedures, slower service delivery, and lower levels of customer engagement, which can lead to diminished perceived quality and satisfaction among their customers.

Kumar and Gupta (2020) conducted a study to explore e-banking users' perceptions of online risks associated with public, private, and foreign banks. The study assessed online risk perception through three key parameters: security, privacy, and trust, utilizing a multiple-criteria decision-making tool known as the Analytical Hierarchy Process (AHP). The findings revealed that security risk is the most significant concern among users, followed by privacy and trust issues. Public sector banks were perceived as the safest option regarding security, privacy, and trust. This perception is largely attributed to their government affiliation, which imparts a sense of security and reliability, particularly for deposits and sensitive financial information, thanks to the implicit assurance of state support. The longstanding reputation of public sector banks for stability and reliability fosters a high level of trust, making them the

preferred choice for risk-averse customers. Moreover, these banks adhere closely to regulations and privacy standards, enhancing their credibility in safeguarding customer data and maintaining confidentiality. Overall, public sector banks are viewed as the most secure by general users in terms of risk parameters, followed by private and foreign banks. The study's findings carry significant implications for both academic research and practical applications. Private and foreign banks in India may need to adopt effective marketing strategies to improve their perception among consumers.

Rajasulochana and Murthy (2022) revealed that factors such as speed, system availability, fulfillment, responsiveness, privacy, contact options, and website design all significantly shape customers' perceptions of their online banking experience. Private sector banks generally performed better in these areas, offering efficient, reliable, and user-friendly platforms that cater to customer needs effectively. They emphasize privacy, provide multiple avenues for customer contact, and invest in attractive, functional website designs. Conversely, public sector banks, while focusing on privacy and fulfillment, tend to fall short in efficiency, responsiveness, and contemporary website design, largely due to slower technology adoption, which negatively affects the overall user experience. As a result, customer satisfaction in both public and private banks is significantly impacted by these factors.

Objective

1. To compare the Digital Banking Effectiveness of Private and Public Sector Banks in India.

Methodology

A sample of 200 respondents was surveyed to compare the effectiveness of digital banking between private and public sector banks in India. Primary data for this study was gathered using random sampling and survey methods. To analyze and evaluate the data, comparative means and independent t-tests were employed to derive the final results.

Findings

Basic details of the respondent are represented by the table below in which it is found that in total 200 respondents 56.0% are male and rest survey population is contributed by 44.0% females. 26.0% are below 28 yrs of age, 41.5% are from the age group 28-38 yrs and rest 32.5% are above 38 years of age. 50% respondents are customers of private bank and 50% are of public bank.

“Table 1 Basic Details of the Respondents”

“Variable”	“Respondent”	“Total Percentage”
Gender		
Male	112	56.0
Female	88	44.0
Total	200	100
Age		
Below 28	52	26.0
28-38	83	41.5
Above 38	65	32.5
Total	200	100
Kind of bank		
Private	50	50.0
Public	50	50.0
Total	200	100

Table 2 Digital Banking Effectiveness among Private and Public Bank

Digital Banking Effectiveness	Bank		t value	Mean diff.	Sig.
	Private	Public			

User-friendly interface with intuitive navigation	4.01	3.58	1.974	0.43	0.05
Mobile wallets, AI-driven customer support, and personalized services	4.00	2.29	7.884	1.71	0.00
Frequent introduction of new features	3.91	3.48	1.930	0.43	0.05
Overall profitability linked to digital channels	3.89	3.71	0.908	0.18	0.36
Rely more on traditional customer service models	3.41	3.25	0.763	0.16	0.45
Faster transaction processing times	4.02	3.86	0.807	0.16	0.42
Modern approach to securing digital transactions	3.98	3.1	4.014	0.88	0.00
Focus on urban customers and high-net-worth individuals	3.97	3.22	3.251	0.75	0.00
More flexible to innovate	3.80	3.09	3.154	0.71	0.00
More agile in adopting new technologies	4.11	3.8	1.948	0.31	0.05

Table 2 is showing comparative mean values for Digital Banking Effectiveness of Private and Public Sector Banks. Higher mean values are shown by private banks for User-friendly interface with intuitive navigation (4.01), Mobile wallets, AI-driven customer support, and personalized services (4.00), Frequent introduction of new features (3.91), Overall profitability linked to digital channels (3.89), Rely more on traditional customer service models (3.41), Faster transaction processing times (4.02), Modern approach to securing digital transactions (3.98), Focus on urban customers and high-net-worth individuals (3.97), More flexible to innovate (3.80) and More agile in adopting new technologies (4.11). The results of the Independent Samples Test, used to compare the effectiveness of digital banking between private and public sector banks, indicate a significant difference between the two groups. This is evidenced by the significance value under the Sig. column, which is below 0.05.

Conclusion

The digital banking effectiveness of private and public sector banks in India varies significantly. Private sector banks tend to outperform public sector banks due to their agile adoption of advanced technologies, superior customer service, and focus on innovation. They often provide a seamless digital experience with faster transaction times and a wide range of online services. On the other hand, public sector banks, despite having an extensive network and larger customer base, struggle with outdated technology and infrastructure issues. However, they are gradually improving by investing in digital solutions and partnering with fintech firms to enhance their services and compete effectively in the market. The study reveals that private sector banks in India generally perform better in digital banking services compared to their public sector counterparts. Private banks have shown higher levels of customer satisfaction, technological innovation, and service efficiency due to their proactive approach in adopting advanced digital solutions. In contrast, public sector banks, despite having a wider reach and customer base, face challenges in terms of technology adoption, infrastructure, and customer service experience. However, public sector banks have the potential to enhance their digital banking effectiveness through increased investment in technology, employee training, and a customer-centric approach. Collaborative efforts between public sector banks and fintech companies may also accelerate their progress.

The study was conducted to Compare Digital Banking Effectiveness of Private and Public Sector Banks in India and concludes that significant difference is noticed in Digital Banking Effectiveness among Private and Public Sector Banks in terms of User-friendly interface with intuitive navigation, Mobile

wallets, AI-driven customer

support, and personalized services, Frequent introduction of new features, Overall profitability linked to digital channels, traditional customer service models, transaction processing times, approach to securing digital transactions, Focus on urban customers and high-net-worth individuals, flexible to innovate and agile in adopting new technologies.

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