Evaluating Customer Perceptions of Service Quality in Traditional Banking: A Comparative Study of Public and Private Banks in India

Pooran Singh[1], Dr. Pawan Kumar[2]

[1] Research Scholar, [2,3]Assistant Professor,

[1,2]Department of Economics, NIILM University, Kaithal, Haryana, India

Corresponding Author: psingh26a@gmail.com

Abstract: This study investigates the operational dynamics and consumer experiences related with traditional banking in India, comparing it to computerized financial systems. The research focuses on the in-person support given by traditional banks and investigates important variables determining service quality, such as service reliability, technical infrastructure, customer trust, branch location, and staff response. A comparative examination of public and private banks is carried out, using statistical tools to estimate customer satisfaction with various financial services. The hypothesis being investigated proposes a considerable difference in consumer views of service quality between public and private banks. The findings imply that, while private banks frequently beat public banks in terms of service qualities and technological adoption, public banks maintain an advantage due to their broad branch locations. This research adds to our understanding of customer preferences in traditional banking.

1. Introduction

In the evolving landscape of global finance, traditional banking institutions have faced increasing pressure to adapt to the changing expectations of consumers, driven by rapid technological advancements. The banking sector in India, which plays a crucial role in the nation's economic infrastructure, presents a unique case study for understanding these dynamics. Traditional banking in India, with its reliance on physical branches, has been challenged by the growing preference for more flexible, computerized financial systems. Despite this shift, many consumers continue to engage with traditional banking services, influenced by various factors related to service quality and accessibility.

Understanding the operational dynamics of traditional banking is essential for evaluating its relevance in the digital age. Indian banks, particularly public sector banks, hold a significant portion of the country's banking clientele. The presence of public and private sector banks, each offering distinct service models, further complicates the assessment of consumer preferences. Public banks are often recognized for their vast branch network, while private banks are known for their advanced technological infrastructure and personalized service. This

study investigates the comparative performance of these two sectors, focusing on consumer experiences, service quality, and the role of technological adoption in shaping customer satisfaction.

2. Literature Review

Service quality in banking has long been a subject of research, with numerous studies examining the factors that drive customer satisfaction. Parasuraman, Zeithaml, and Berry (1985) introduced the SERVQUAL model, which highlights key dimensions of service quality: reliability, assurance, tangibility, empathy, and responsiveness. These dimensions are central to evaluating the effectiveness of both public and private banks. Rust and Zahorik (1993) further emphasized the link between service quality and customer retention, noting that perceived quality directly affects customer loyalty and overall satisfaction in the banking sector. Research on traditional banking in India has often drawn a comparison between public and private sector banks. Kumar and Sharma (2015) noted that public sector banks are generally perceived as more reliable due to their long-standing presence and government backing, but they often lag behind in customer service and technological integration. In contrast, private sector banks, according to Siddiqui and Tripathi (2016), tend to excel in customer service by utilizing more advanced digital technologies and offering greater convenience to consumers. This shift towards technology-enabled services is supported by Amin and Isa (2008), who found that computerized systems significantly improve customer satisfaction by offering faster and more accurate services. Despite the advantages of technological systems, the physical branch remains a critical element in customer engagement, particularly in developing countries like India. Pillai and Karthikeyan (2019) argue that while private banks lead in terms of digital adoption, public banks' widespread branch networks provide a unique advantage, especially in rural areas where digital literacy is lower. This observation aligns with the findings of Mishra and Dash (2018), who highlight the importance of proximity and human interaction in the banking experience, especially for older customers who may feel more comfortable with face-to-face interactions. Given the contrasting strengths of public and private banks, this study seeks to fill the gap in literature by providing a comprehensive comparison of customer satisfaction across both sectors, focusing on key factors such as service reliability, technical infrastructure, and accessibility. By using statistical tools to analyze customer feedback, this research aims to determine the extent to which these factors influence consumer perceptions and preferences in traditional banking services. Grönroos (1984) introduced an early framework for understanding service quality, differentiating between technical and functional quality. His model emphasized that while the outcome of a service (technical quality) is important, how the service is delivered (functional quality) plays an equally vital role in shaping customer perceptions. This framework underpins much of the later research in the banking sector, particularly in studies that compare public and private banks. Zeithaml, Parasuraman, and Berry (1990) proposed the SERVQUAL model, which became a dominant tool for measuring service quality across industries. In banking, this model has been widely used to assess dimensions such as reliability, assurance, responsiveness, empathy, and tangibility. Studies like Bahia and Nantel (2000) extended the SERVQUAL model by incorporating dimensions more specific to the banking industry, such as access to service points, staff professionalism, and confidentiality. Meesala and Paul (2018) applied the

SERVQUAL model to the Indian banking industry and found significant differences in customer satisfaction between public and private sector banks, with private banks scoring higher on most service quality dimensions. They argued that private banks' focus on customer convenience and technological innovation significantly enhanced customer experiences, whereas public banks' large, traditional branch networks struggled to keep up with evolving consumer demands. Goyal and Joshi (2011) found that public sector banks tend to be more bureaucratic, which can negatively affect service responsiveness and customer satisfaction. However, their widespread branch networks, particularly in rural and semi-urban areas, provide accessibility advantages that private banks may lack. Joseph, McClure, and Joseph (1999) highlighted how private banks have invested heavily in digital infrastructure to offer online and mobile banking services, reducing the need for customers to visit physical branches. This shift toward digital banking has been further explored by Sharma and Malviya (2014), who argued that technology adoption not only enhances service quality but also reduces operational costs, allowing private banks to offer more competitive rates and services. Kumar and Mahajan (2019) compared public and private sector banks in India using customer feedback and found that while private banks outperformed public banks in areas such as speed of service and technological integration, public banks retained customer trust and loyalty due to their long-standing presence and perceived stability. The study concluded that customers of public banks, especially in rural regions, valued branch accessibility and personal interaction over technological advancements.Yadav and Singh (2020) have shown that the implementation of digital services in Indian banks has significantly improved operational efficiency and customer convenience, especially in private sector banks. Gupta and Jain (2017) further demonstrated that customers now expect seamless service through multiple channels—such as mobile apps, internet banking, and ATMs—leading to heightened competition among banks to provide superior technological offerings. Choudhury (2014) explored the digital divide between public and private sector banks in India, noting that private banks have consistently been early adopters of digital innovations. Public sector banks, while improving in recent years, still face challenges related to legacy systems and slower implementation processes. Bhatt and Ghosh (2016) echoed this sentiment, pointing out that while public banks have introduced online services, they often lag behind private banks in terms of user experience, transaction speed, and ease of use. Patel and Patel (2018) examined customer preferences in India and found that older customers were more likely to prefer traditional banking due to a lack of trust in digital platforms or unfamiliarity with technology. Similarly, Chakrabarty (2012) argued that in rural India, where digital literacy is lower, the human element of banking—personal interactions with staff and access to physical branches—continues to be a critical component of customer satisfaction. Bansal and Sharma (2018) studied customer trust in Indian banks, finding that while private sector banks excel in service quality, public sector banks maintain a trust advantage due to their perceived stability and government affiliation. This trust often compensates for the perceived lower efficiency or slower service in public banks. Verma and Singh (2019) argued that private banks have increasingly built trust by offering secure and efficient digital services. The study found that customers who used digital banking services frequently had higher levels of trust in the bank's technological systems, which in turn positively affected their overall satisfaction. This literature review on banking service quality and customer satisfaction highlights a clear distinction between the operational models of

public and private sector banks in India. While private banks lead in technological innovation and personalized service, public banks maintain an edge in branch accessibility and customer trust, particularly in underserved areas. This research aims to further contribute to the understanding of these dynamics by offering a comparative analysis of customer experiences across both sectors, focusing on how factors such as service reliability, technical infrastructure, and branch location influence overall satisfaction.

3. Data Analysis and Interpretation

Accessing banking services can be done through traditional banking or electronic financial methods, each offering its own set of advantages and disadvantages based on their operations. Customers now have the flexibility to choose between these two options, depending on their specific needs. This study focuses on traditional banking, as the researcher delves into the examination and analysis of this system. Traditional banking entails the basic process of allowing a customer to deposit money in any commercial bank across India. However, it is recommended that a customer opens an account in a bank located in their vicinity due to the paperwork involved in verifying the customer's identity and address. Once the account is set up, the customer can utilize the facility to deposit funds by physically visiting the local bank branch. When requiring cash, the customer can withdraw funds using a withdrawal form or by issuing a check. Additionally, they have the option of making payments through bank drafts or checks. In case of any concerns or disputes, bank customers can seek assistance from bank staff, including branch managers. Traditional banking provides in-person assistance to carry out various financial transactions such as opening an account, placing requests for Fixed Deposits, Loans, and more, ensuring the highest level of efficiency and effectiveness in completing these activities.

3.1 The Major Conventional Banking Services

Service attributes encompass the aspects of a bank's operations that it offers. These attributes, among other things, evaluate the effectiveness and quality of the service, along with various factors associated with the service. The following are the key components of service attributes to consider:

Service Quality: Customer satisfaction is a measure of how well a customer feels while interacting with a financial institution, whether on a digital platform or at a physical branch. An additional five dimensions are utilized to assess the overall quality of the service, including tangibles, reliability, empathy, responsiveness, and assurance. Addressing customer needs as outlined in the current study, it deals with standards as they relate to the customers. Future projections may be outlined based on current trends; private banks often outperform public banks from any perspective. Known as the GAP model, this measure of service quality was developed by Parasuraman and colleagues in 1985 and is widely used to assess the gap between a customer's perception and their expectation as a determinant of performance.

Technology Infrastructure: The technological infrastructure refers to the capabilities within which the bank has implemented initiatives to advance the technology available in its branches to the maximum extent possible. ATMs, automated passbook printing machines, ATM cum Deposit machines, automated banknote counters, fingerprint scanners, and the overall automation of a branch are examples of technology commonly seen in financial institutions. In this respect, initial assessments indicate that private banks have a significant advantage over public sector banks due to their focus on detail and utilization of high-quality technology.

Trust in the Bank: The term "trust in the bank" refers to the confidence that customers have in the bank. This is largely influenced by the actual customers' experiences. However, preliminary studies, albeit inconclusive, suggest that urban residents have greater trust in private banks, while those in rural areas have more trust in public banks. This trend is due to the effective management of non-performing assets (NPAs) by several private banks, resulting in a significant increase in trust. Trust in a bank can be evaluated as an extension of the empathy and reliability demonstrated by a bank towards its customers, with private banks seemingly outperforming public ones in this regard.

Branch Location: Based on the sheer number of branches (for example, SBI has branches almost everywhere in the country), it is generally assumed that public banks have an edge over private banks. However, it has been observed that the geographic location of a branch can sometimes impact the volume of business conducted by the branch over a given period. There is a common trend that a branch situated in a prime location has a higher likelihood of conducting more business; branches located in densely populated areas are more likely to attract more customers; and other location-related preferences.

Banking Products

Banking Products encompass the various offerings provided by banks, including services such as automobile, home, education, personal, motorcycle, and other loans, credit cards, savings accounts, insurance products like auto insurance, life insurance, and home insurance, as well as other financial services such as investments and retirement planning. Based on customer preference, it can be speculated that private sector banks will continue to dominate as they offer more attractive services like credit cards, savings accounts, insurance plans, and other financial products, while public sector banks will continue to excel due to their flexible credit terms and less aggressive approach in dealing with non-performing loans (NPAs).

In avoiding loans from private banks, individuals often steer clear of them due to their high interest rates, rigid loan policies, and poor recovery methods. Thus, there exists a divided opinion among different demographics, but the fact remains that people tend to steer clear of private bank loans due to their high interest rates, rigid loan policies, and inefficient recovery processes.

3.2 Objective and Hypothesis

In this study, we used a scale to rate the services of public and private banks. We wanted to see if there was a difference in how customers feel about the services offered by these banks. The hypothesis we tested was:

H0: There is no difference in how customers rate the services of public and private banks.

H1: There is a difference in how customers rate the services of public and private banks.

3.3 Comparative Statistical Analysis of Conventional Banking Services

To compare financial services between public and private banks, three strategies were employed. Based on the central limit theorem, when the sample size is large, the data tends to be normally distributed, allowing for the use of parametric tests. However, bootstrapping was also conducted to ensure the reliability and accuracy of the results. Since the data did not completely adhere to normality, a non-parametric approach was considered. The following are the three methods used:

- Parametric approach - Independent samples t-test
- Bootstrapping with a free t-test
- Non-parametric approach - Mann Whitney U test

Approach 1: Application of Parametric Assumption: Two independent samples 't' Test

The method used by the current researcher to analyze differences between two independent groups on the same continuous, dependent variable is known as the independent t-test, or the two-sample t-test. In this particular case, the researcher chose to utilize an independent t-test to investigate whether there existed any significant variance in attitudes among customers regarding traditional financial services.

The independent t-test is a statistical method that is widely used to compare the means of two independent groups. It is employed when the data come from two separate groups that are not related or connected in any way, and the variable being measured is continuous in nature. By utilizing the independent t-test, the analyst is able to determine if there is a statistically significant difference between the means of the two groups.

The assumptions underlying the independent t-test include the normality of data distributions and the equality of variances between the two groups being compared. These assumptions are crucial for the accurate interpretation of the results obtained from the t-test. Normality refers to the requirement that the data in each group should follow a normal distribution, while equal variances entail that the variability within the groups should be similar. By adhering to these assumptions and employing the independent t-test, the researcher can effectively assess and analyze any disparities or distinctions in attitudes among customers towards traditional financial services. This statistical method provides a valuable tool for drawing meaningful conclusions and making informed decisions based on the results obtained from the analysis.

Analysis of the research variables:

The table below presents a summary of the group data for the variable associated with traditional financial services.

Table 1: Descriptive statistics of conventional banking services

Service Attributes	Bank	N	Mean	Std. Deviation	Std. Error Mean
Service attributes	Public	255	2.3312	0.49789	0.03175
	Private	255	2.4258	0.53915	0.03589
Loans	Public	255	1.5785	0.35425	0.02356
	Private	255	1.4314	0.35425	0.02358
Insurance	Public	255	1.6113	0.37258	0.02352
	Private	255	1.4257	0.37258	0.02458
Other Banking products	Public	255	1.5625	0.36125	0.02299
	Private	255	1.4528	0.36125	0.02298
Physical amenities	Public	255	2.1235	0.79925	0.05156
at bank	Private	255	2.0715	0.71558	0.04452

Peer Reviewed
Multidisciplinary
International

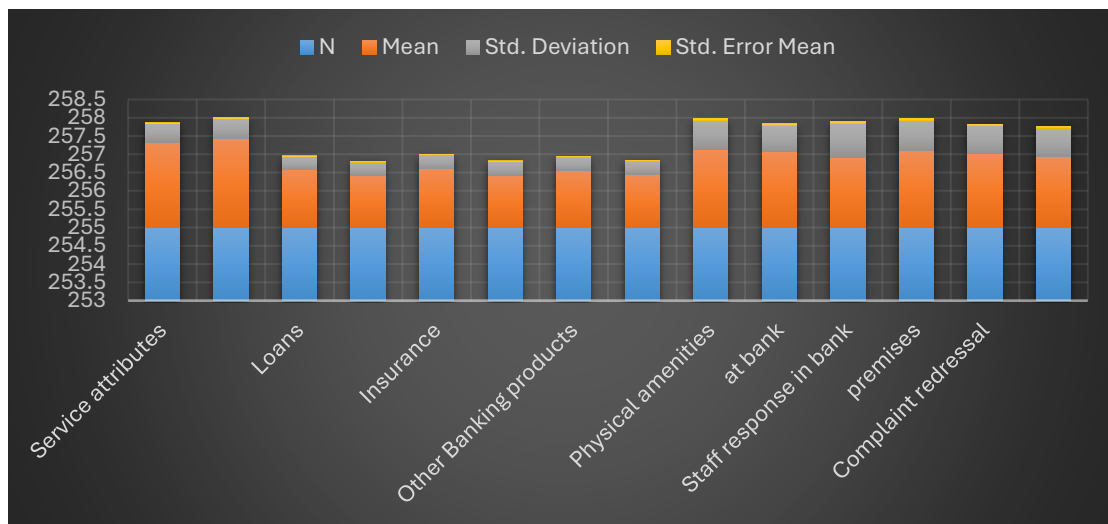| Service Attributes	Bank	N	Mean	Std. Deviation	Std. Error Mean
Staff response in bank	Public	255	1.9258	0.91125	0.05793
premises	Private	255	2.0975	0.82425	0.05315
Complaint redressal	Public	255	2.0123	0.76458	0.04925
	Private	255	1.9415	0.77256	0.048912

Figure 1: Descriptive statistics of conventional banking services

A total of 255 clients from public and private sector banks were surveyed regarding their most valued attributes, with the results presented in the table above as grouped data. It is noteworthy that the majority of respondents from both public and private banks mentioned satisfaction with the "Service attributes" category. In the case of the attribute "Loans," encompassing various types such as Home loans, Vehicle loans, Credit card loans, Education loans, Personal loans, and Two-wheeler loans, clients of Public Banks were considered satisfied, while clients of Private Banks were perceived as highly satisfied in this regard. Customer perception indicated that clients of public banks were content with the "Insurance" category, including Life insurance, Vehicle and bicycle insurance, Health insurance, and Home insurance. Similarly, clients of private banks were extremely content with this attribute, mirroring the sentiments of public bank customers. When it comes to "Other Banking Products," such as Credit cards, Safe deposit lockers, Money transfer services, Bank drafts, and Home loans, clients associated with public banks expressed satisfaction, while clients linked to private banks showed great satisfaction. In terms of "Physical amenities at bank," including stationery supplies, water facilities, security measures, cash deposit machines, waiting areas, parking, and overall infrastructure, feedback was not significantly different between the two types of banks. Satisfaction levels with "Staff response in bank premises," covering aspects like staff availability, responsiveness to queries, helpfulness, product knowledge, friendliness, and

overall service quality, varied but followed a general pattern. Lastly, for "Complaint redressal," which involves addressing queries on mobile, at the bank's office, registering complaints, and the prompt resolution of issues, clients from both public and private banks reported overall satisfaction.

Approach 2: Mann-Whitney U test

The way grades are spread out in education doesn't follow the usual patterns, non-parametric tests are better to use. These tests help us see how different the grades are and how likely it is to get the differences we see, even if the grades are from the same group of students. One common non-parametric test is the Mann-Whitney U test, which is like a t-test but works better when the data isn't normally distributed.

The U test looks at the rankings of all the grades together. It helps us decide if a hypothesis should be accepted or rejected based on the data we have. This test is used in research to figure out if there are real differences between groups, without just focusing on the averages. It helps us make sense of the information we have and make decisions based on that information.

Normality Test

Various valid tests, such as the t-test, require the data to be evenly distributed, prompting the use of the Normality Test to determine if this requirement has been violated.

Hypotheses for Normality:

H0: The data is evenly distributed

H1: The data is not normally spread.

Bank Attributes Kolmogorov-Smirnov Statistics (Df = 255), Shapiro-Wilk Statistics (Df = 255)

Table 2: Tests of Normality

Attribute	Type	Kolmogorov-Smirnov Statistic	Kolmogorov-Smirnov Df	Kolmogorov-Smirnov Sig.	Shapiro-Wilk Statistic	Shapiro-Wilk Df	Shapiro-Wilk Sig.
Service	Public	0.175	255	0	0.92	255	0
Service	Private	0.149	255	0	0.911	255	0
Loans	Public	0.172	255	0	0.887	255	0
Loans	Private	0.165	255	0	0.887	255	0
Insurance	Public	0.21	255	0	0.852	255	0
Insurance	Private	0.21	255	0	0.852	255	0
Other Banking Products	Public	0.205	255	0	0.881	255	0
Other Banking Products	Private	0.205	255	0	0.882	255	0
Physical Amenities	Public	0.142	255	0	0.942	255	0
Physical Amenities	Private	0.14	255	0	0.897	255	0
Staff Response	Public	0.165	255	0	0.861	255	0

Staff Response	Private	0.255	255	0	0.815	255	0
Complaint Redressed	Public	0.149	255	0	0.911	255	0
Complaint Redressed	Private	0.18	255	0	0.891	255	0

The p-values for all the attributes in the table are less than 0.05, indicating that the null hypothesis has been rejected. This means that the data does not follow a typical distribution or is not standard. The Ranks table, obtained from the Mann-Whitney U test, is crucial as it provides detailed information about the test results. The mean rank and the number of rankings for each group are essential for understanding the outcome of the analysis presented in this section of the report.

Table 3: Ranks (Conventional Banking Services Attributes)

Attribute	Bank	N	Mean Rank	Sum of Ranks
Service	Public	255	235.89	58625
Service	Private	255	261.82	64752
Loans	Public	255	277.32	68353
Loans	Private	255	223.82	55236
Insurance	Public	255	291.95	72536
Insurance	Private	255	215.25	51468
Other Banking Products	Public	255	271.55	67179
Other Banking Products	Private	255	228.62	56259
Physical Amenities at Bank	Public	255	250.13	61358
Physical Amenities at Bank	Private	255	250.69	62569
Staff Response in Bank Premises	Public	255	230.55	66419
Staff Response in Bank Premises	Private	255	269.49	66419
Complaint Redressal in Bank Premises	Public	255	255.56	60416
Complaint Redressal in Bank Premises	Private	255	250.72	60416

Based on the table provided, it can be observed that the region where the bank holds the most significant mean rank tends to offer higher service quality and customer satisfaction in terms of perception, as indicated by the highest mean rank. The Mann-Whitney test involves creating a ranked list of the data points identified in two sets of banking data. The data is ranked from the lowest perception rank as 1 to the next lowest rank as 2, and so on until it reaches the highest perception rank as 1. The test compares all the ranks in the two groups to determine which group is superior. All the necessary data for the test can be derived from these ranks, as shown in the table.

Test Statistics Table

The p-value (probability of significance) of the test is displayed in the table. It is determined using the Mann-Whitney test, as outlined in Table 4, which determines whether the difference in mean rankings for the average perception of customers regarding standard services is

statistically significant. The p-values for "Loans," "Insurance," "Other Banking Products," "Physical amenities at the bank," and "Staff response in bank premises" are all below 0.05, indicating a statistically significant difference in mean perception of Conventional Banking services between public and private banks. This suggests that there is a substantial variation in customer experience between the two sectors for these service attributes.

Table 4: Mann Whitney U test

Service Attributes	Loans	Insurance	Other Banking Products	Physical Amenities at Bank	Staff Response in Bank Premises	Complaint Redressal
Mann-Whitney U	27815	24219	20515	25436	30425	26135
Wilcoxon W	58625	55256	51463	56216	61356	57156
Z	-1.98	-4.219	-6.562	-3.473	-0.233	-3.044
p-value	0.063	0	0	0.001	0.93	0.002
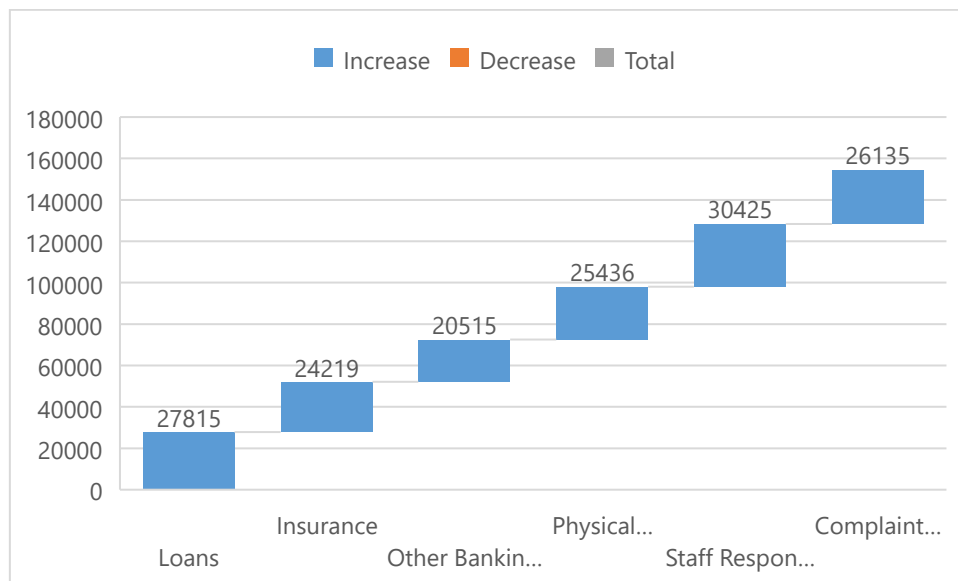
In contrast, p-values above 0.05 were found for "Service credits," "Physical amenities at the bank," and "Complaint redressal," indicating no significant difference in mean perception of standard banking services between public and private banks for these attributes.

Based on the survey results, it was observed that there is a significant difference in the quality of services provided by public and private sector banks, particularly in the areas of Loans, Insurance, Other banking products, and Staff response. However, there is no significant distinction in customer satisfaction between public and private banks in terms of Service credits, Physical amenities, and Complaint redressal.

Notably, private sector banks excel in customer satisfaction regarding lending, insurance, and other banking products, while public sector banks score higher in terms of staff responsiveness

during a bank visit. These findings are consistent across all three analytical methods used in the study, reaffirming the overall conclusions drawn from the data analysis.

4. Statistical Analysis of Effect of Demonetization

The value of a country's currency serves as a fundamental indicator of its economic development and progress, playing a crucial role in establishing a robust foundation for its prominence on the global stage. Assessing currency reserves and real exchange rates constitutes highly nuanced areas of study. Currency valuation has perennially stood as a significant factor in demonstrating financial growth and ensuring the stability of a nation's economic landscape.

The impact of currency value extends deeply into our daily routines, influencing activities such as foreign exchange trading, vacation planning, online cross-border purchases, and more. The valuation of domestic currency significantly shapes a nation's financial and economic policies, exerting a profound influence on reserve and commodity markets. Policies for monetary regulation and strategies for fostering trade and industry development are crafted by the respective government bodies of individual nations.

In many instances, when a considerable amount of unreported or "black" money permeates a country's economy, it often stems from sources of income outside the purview of government oversight. This may include funds generated through illicit business activities or corruption. Measures such as demonetization can be employed by governments to compel currency holders to either deposit their funds in banks or otherwise disclose their assets. Such tactics have proven effective in several countries thus far.

Demonetization serves as a tool for addressing issues such as inflation, black money, bribery, and other illicit activities, aiming to dismantle a cash-dependent economy while facilitating business and trade, among other objectives. The central government's decision to invalidate high-denomination currency notes, such as the '500 and '1000 notes, has steered the economy towards a downward trajectory. Its implications for the financial sector are substantial, as banks play a central role in managing legitimate currency flows to address the needs of the populace. One of the primary beneficiaries of demonetization is the banking sector. It enabled banks to gather deposits without incurring any service costs, resulting in a significant improvement in their liquidity position. The current analysis draws upon recently published material regarding the post-demonetization scenario, extensively discussing its impact on the financial sector. It examines the government's decision on demonetization and its long-term effects on the Indian economy.

4.1 Concept of Demonetization

Demonetization is, at its middle, the exhibit of killing a cash related unit from the legitimate fragile structure for its group. In the event that and when the public cash goes through a disturbance, it ends up being absolutely significant. In this action, the public money is superseded with the creative cash unit, and the cycle is repeated. Whenever a particular kind of cash is dispensed with from stream, this is suggested as demonetization. Fundamentally, it is a strategy for making a gathering of cash unusable as legal sensitive. "Demonetization" isn't new to the Indian economy; the most raised division of money to be demonetized by the Reserve Bank of India was the Rs. 10000 note. According to RBI records, these notes were not seen for the second time in 1946 and the third time in January 1978. On November 8, 2016,

Indian Prime Minister Narendra Modi announced that the INR 500 and 1000 financial declarations will at this point not be recognized as real money, to put a be careful with the country's financial system following the money related crisis. Since the 10th of November 2016, a really great series of Rs 500 and Rs 2000 banknotes has been brought into course.

Grounds for Demonetization in India

The Indian government has attempted to fight the three monetary judgments of "equivalent economy," "produced money," and "dread financing," all of which have been perceived. Coming up next are the most basic backings for demonetization:

- To deal with the issue of dull money in the economy
- It is relied upon to stop the usage of cash in the country since it is accepted to be the significant justification for contamination in our country.
- To stop the use of non-existent money related guidelines and assets by mental aggressor relationship to help unlawful terrorizing in a tricky manner.

4.2 Demonetization and Bank Operations

Demonetization has conveyed with it countless new issues, on top of various challenges that the Indian Banking Industry has been overseeing for a surprisingly long time. For the present, it separated the banks and made it trying for them to finish bank works out, yet for a really long time, it enabled the banks to pool their stores without achieving any additional costs or charges. Coming up next are a piece of the way demonetization has affected banks:

- Clients' stores are expanding at a respectable rate, which is enabling.
- cutting down the cost of resources
- Wanting for government bonds has extended, which is something to be appreciative for.
- Crediting Shows Signs of Fragility

4.3 Statistical Analysis of Effect of Demonetization on Private and Public Sector Banks

- To take apart effect of demonetization on monetary industry, the going with examination was coordinated.
- The wealthiest variables in the going with overview were picked for assessment. Coming up next is an expedient explanation of the variables being examined:
- Research factors under research:
- Recorded under are the variables that were picked and described for the organized assessment.
- POS (retail store): POS is an abbreviated structure for retail store. At the retail store (POS), it is the usage of any charge card or Visa to complete the trade or making portion right now of shopping or purchasing.
- ATM is an abbreviated structure for Automated Teller Machine. Customized store, withdrawal, and move of monies is made possible utilizing a bank's robotized store machine.
- Visa and charge card trade totals at retail store: The total amount of money paid by clients for their trade or purchase at the retail store using their card at the retail store.

- The amount of trades completed at the retail store with a Visa or charge card: The times a buyer uses their card to make their portion at the retail store.
- Client's total amount of trades paid or got at an ATM by using a credit or actually take a look at card: The total amount of trades paid or got by a client for their portion or purchase made at an ATM using their card.
- The amount of trades made at an ATM using a Mastercard or a charge card: This is the times a customer uses their card to complete their portion trade.

Statistical Analysis:

The impact of demonetization was investigated in two different ways:

- When demonetization, an examination of computerized financial administrations presented by the two kinds of banks was made. (Inside banks)
- When demonetization, an examination of computerized financial administrations given by the two kinds of banks was made. (Between two banks)

Comparison Within the banks before and after demonetization:

The accompanying exploration was done to look at the effect of demonetization on the monetary administrations given by both public and private banks. Most importantly, the information was tried for predictability, and it was demonstrated to be non-typical. Since the example size was little, non-parametric tests were performed to investigations the information.

Objective and hypothesis:

The motivation behind this study was to decide the effect of the 2016 demonetization on open and private banks by analyzing their administrations at ATMs and POS from Mastercard, check card, and web exchanges, both later and before demonetization. In conceivable to correspond these administrations, the accompanying valuable theory was created and tried for public and private banks:

- **Test Hypothesis for Public Bank**
  H0: All the factors don't vary altogether when demonetization openly bank.
  H1: All the factors vary altogether when demonetization openly bank.
- **Test Hypothesis for Private Bank**
  H0: All the factors don't contrast altogether when demonetization in Private bank.
  H1: All the factors contrast altogether when demonetization in Private bank.

Information utilized: To direct the investigation, a sum of 49 banks were chosen, with 25 being state banks and 24 being private banks. The data was assessed to test the speculation.

Tests of Normality

The discoveries of two huge trial of ordinariness, explicitly the Kolmogorov-Smirnov Test and the Shapiro-Wilk Test, are displayed in the accompanying table. The Kolmogorov-Smirnov Test is the most frequently utilized trial of ordinariness. The Shapiro-Wilk Test is better proper for little exampsle sizes (under 50 examples), however it can deal with test sizes as extensive as 2000 examples.

Table 5: Tests of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
No. of Transactions at ATM By Credit Card	0.134	82	0.010	0.944	82	0.001
No. of Transactions at POS by Credit Card	0.233	82	0.000	0.875	82	0.000

Amount of transactions at ATM by Credit Card	0.226	82	0.000	0.923	82	0.000
Amount of transactions at POS by Credit Card	0.219	82	0.000	0.895	82	0.000
No. of Transactions at ATM By Debit Card	0.318	82	0.000	0.742	82	0.000
No. of Transactions at POS by Debit Card	0.193	82	0.000	0.898	82	0.000
Amount of transactions at ATM by Debit Card	0.275	82	0.000	0.94	82	0.000
Amount of Transactions at POS by Debit Card	0.214	82	0.000	0.896	82	0.000

Since the Sig. esteem (p esteem) is more modest than the alpha of.05 (p .05) for the factors in general, the outcome is genuinely critical. Therefore, information for each of the classes of picked Independent factors is non-typical in all regards. For instance, think about the accompanying expressive measurements:

Table 6: Group Statistics - Public banks

	Time	N	Mean	Std. Deviation	Std. Error Mean
No. of Transactions at ATM By Credit Card	Before	22.00	175953.42	21539.93	5225.75
	After	24.00	222456.85	34198.85	7845.07
No. of Transactions at POS by Credit Card	Before	22.00	11531756.54	1710256.24	414782.92
	After	24.00	21068123.78	3341430.02	766582.79
Amount of transactions at ATM by Credit Card	Before	22.00	831.81	100.35	25.36
	After	24.00	961.62	161.69	38.10
Amount of transactions at POS by Credit Card	Before	22.00	30623.28	5605.90	1362.60
	After	24.00	71779.76	13351.61	3065.07
No. of Transactions at ATM By Debit Card	Before	22.00	558336775.46	43281653.42	10497439.20
	After	24.00	587635668.12	27317325.31	6267224.98
No. of Transactions at POS by Debit Card	Before	22.00	56395567.35	10560379.02	2561272.41
	After	24.00	175909745.54	24978057.69	5730460.87
Amount of transactions at ATM by Debit Card	Before	22.00	1535116.65	90970.06	22065.00
	After	24.00	1771719.37	211063.36	48419.09
Amount of Transactions at POS by Debit Card	Before	22.00	68129.85	14712.98	3565.54
	After	24.00	235812.73	31087.77	7129.67

Prior to demonetization, the quantity of exchanges at ATMs with Visa, the quantity of exchanges at POS with Visa, how much exchanges at ATMs with Mastercard, and how much exchanges at POS with Visa were all measurably altogether higher for private banks than they were for public banks, as displayed in the tables above. Conversely, the quantity of exchanges made at ATMs utilizing a check card and how much exchanges made at ATMs utilizing a charge card were a lot more prominent openly banks. Besides, there is no genuinely critical distinction among public and private banks as far as the quantity of check card exchanges at retail location and how much charge card exchanges at retail location.

Table 7: Mann – Whitney U test

Test Statistics								
	Before				After			
	Mann-Whitney U	Wilcoxon W	Z	p-value	Mann-Whitney U	Wilcoxon W	Z	p-value
No. of Transactions at ATM By Credit Card	.000	155.000	-4.985	.000	1.000	224.000	-5.253	.000
No. of Transactions at POS by Credit Card	.000	155.000	-4.985	.000	.000	188.000	-5.285	.000
Amount of transactions at ATM by Credit card	.000	155.000	-4.985	.000	13.000	215.000	-4.924	.000
Amount of transactions at POS by Credit card	.000	155.000	-4.985	.000	.000	188.000	-5.285	.000
No. of Transactions at ATM By Debit Card	.000	155.000	-4.985	.000	.000	188.000	-5.285	.000
No. of Transactions at POS by Debit Card	98.000	262.000	-1.614	.115	3.000	210.000	-5.223	.000
Amount of transactions at ATM by Debit card	.000	155.000	-4.985	.000	.000	188.000	-5.285	.000
Amount of transactions	72.000	233.000	-2.516	.015	10.000	210.000	-5.015	.000

While contrasting private banks and public banks after demonetization, the quantity of exchanges at ATMs with Visa, the quantity of exchanges at POS with Visa, how much exchanges at ATMs with Mastercard, and how much exchanges at POS with Mastercard are largely genuinely fundamentally higher for private banks. Interestingly, the quantity of exchanges made at ATMs utilizing a charge card, how much exchanges made at ATMs utilizing a check card, the quantity of exchanges made at POS utilizing a charge card, and how much exchanges made at POS utilizing a charge card were a lot more prominent openly banks.

Along these lines, the review is done in two stages: inside banks and between banks. It is found that there has been an immense expansion in both public and private area foundations inside the financial business. On the other hand, we could contend that demonetization hugely affected banks, since the quantity of exchanges and the amount of exchanges made utilizing credit and charge cards from both public and private banks flooded essentially.

In the opposition between banks, clients favored private banks for these administrations before to demonetization, and they kept on leaning toward private banks for most of these administrations after demonetization.

5. Outcomes on Customers Awareness Regarding Banking Services

This section highlights the findings pertaining to consumers' understanding of the different services offered by public and private sector banks in the United States. Further, in order to maintain the level of public knowledge in mind, the services provided by banks are classified into two categories: general services and particular services, respectively. General services are those that are available to all customers, such as the locker facility, utility bill payment services, multicity cheque book facility, demand draught facility, and so on, while specific services are those that are available only to customers who use technology, such as the use of the internet and mobile banking, the use of electronic fund transfer, the use of real-time gross settlement (RTGS), and so on. Customers' perspectives on different manifestations of banking services, which encompasses their comfort level while using services provided by their banks, recommendations for banks, and their satisfaction level with numerous factors such as the quality of services based on the timeliness factor, knowledge factor, and serendipity factor, were also discussed in the research results. The following are the most significant results of the study project:

There is a statistically significant variation in consumers' knowledge levels of general and specialised services among organisations, as demonstrated in Tables when it comes to general services and specific services, respectively. According to the findings of the study, clients of private sector banks are more knowledgeable about banking services when compared to customers of public sector banks. According to some estimates, the reason for the disparity in customer knowledge may be attributed to the fact that private sector banks arrange many seminars and conferences to provide information and educate clients on how to properly utilise their banking products and services. Additionally, private bank workers may make house calls to clients' homes to educate and inform them about the correct usage of their newly developed and innovative goods and services. All of these awareness programmes, on the other hand, are only sometimes held in public sector financial institutions. The findings of this study are consistent with the findings of a prior study conducted by Elavarasi and Surulivel, which was published in 2007

In terms of occupation category, the findings indicate that customers' awareness of general services in both sector banks is similar across occupation groups (service class, business class,

professional, and others), but that customers' awareness of specific services in both sector banks is different. As demonstrated in Tables the previous figures indicate that customers' level of knowledge of various services in both sector banks is influenced by their employment. In terms of specialised service, there is a significant difference between public sector banks and private sector banks, with private sector bank personnel educating their consumers through the organisation of seminars and conferences to raise awareness among their customers. Another factor contributing to the low level of awareness about specific services such as internet and mobile banking, SMS alert facility, electronic clearing services (RTGS), electronic fund transfer facility, and so on is that these services are comparatively much more popular and used frequently by professionals and business class people, who use these services a greater number of times in their daily transactions than people from other occupation groups and the service class. This work is supported by previous research conducted by Sharma (2013), Kumar and Ratnam (2005), and Tandon, Goel, and Bishnoi (2016).

As shown in Tables customers from lower income groups are more likely to be associated with public sector banks because they can only afford the service charges of public sector banks, whereas customers from higher income groups are more likely to be associated with private sector banks because they have the ability to afford the high service charges of private sector banks as well. Sharma (2013) conducted a research that lends credence to this findings.

6. Conclusion:

The study provides a detailed comparison between public and private banks, evaluating various service attributes such as loans, insurance, and customer satisfaction. The analysis shows that private banks outperform public banks in key areas like loans, insurance, and other banking products, as they provide higher customer satisfaction due to advanced technology and better service quality. On the other hand, public banks excel in staff responsiveness during customer interactions. While the service differences are significant in specific areas, such as loans and insurance, both sectors demonstrate similar performance in physical amenities and complaint redressal. Overall, private banks lead in customer satisfaction, but public banks still hold strengths in personal interactions and customer trust, especially in rural areas. The findings, confirmed by multiple statistical approaches, highlight significant distinctions in customer experience between the two sectors.

Reference

[1.] Amin, M., & Isa, Z. (2008). An examination of the relationship between service quality perception and customer satisfaction: A SEM approach towards Malaysian Islamic banking. *International Journal of Islamic and Middle Eastern Finance and Management*, 1(3), 191-209. https://doi.org/10.1108/17538390810901131

[2.] Kumar, R., & Sharma, R. (2015). Customer satisfaction in public sector banks in India: A comparative analysis. *Journal of Business and Management Research*, 8(4), 23-34.

[3.] Mishra, A. K., & Dash, S. B. (2018). Customer experience management in retail banking: An exploratory study of banks in India. *Journal of Services Research*, 18(2), 77-98.

[4.] Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4), 41-50. https://doi.org/10.2307/1251430

[5.] Pillai, R., & Karthikeyan, K. (2019). The role of branch network in the customer engagement process in Indian banking sector. *International Journal of Bank Marketing*, 37(5), 1301-1315. https://doi.org/10.1108/IJBM-12-2018-0364

[6.] Rust, R. T., & Zahorik, A. J. (1993). Customer satisfaction, customer retention, and market share. *Journal of Retailing*, 69(2), 193-215. https://doi.org/10.1016/0022-4359(93)90003-2

[7.] Siddiqui, A., & Tripathi, R. (2016). A comparative study of customer satisfaction in public and private sector banks in India. *Pacific Business Review International*, 8(12), 22-31.

[8.] Bansal, H. S., & Sharma, R. (2018). Determinants of customer trust in public and private sector banks in India. Journal of Financial Services Marketing, 23(2), 45-58. https://doi.org/10.1057/s41264-018-0041-3

[9.] Bhatt, R., & Ghosh, P. (2016). Technology adoption in Indian banking: A comparative study. Journal of Financial Transformation, 44(3), 100-112.

[10.] Choudhury, A. (2014). Digital banking adoption: A comparison between public and private sector banks in India. International Journal of Bank Marketing, 32(4), 329-344.https://doi.org/10.1108/IJBM-07-2013-0064

[11.] Goyal, K. A., & Joshi, V. (2011). A study of social and ethical issues in banking industry. International Journal of Economics and Research, 2(5), 49-57.

[12.] Grönroos, C. (1984). A service quality model and its marketing implications. European Journal of Marketing, 18(4), 36-44. https://doi.org/10.1108/EUM0000000004784

[13.] Gupta, P., & Jain, R. (2017). Digital transformation in Indian banking: A study of customer satisfaction in private sector banks. Journal of Internet Banking and Commerce, 22(1), 1-20.

[14.] Meesala, A., & Paul, J. (2018). Service quality, consumer satisfaction and loyalty in hospitals: Thinking for the future. Journal of Retailing and Consumer Services, 40, 261-269. https://doi.org/10.1016/j.jretconser.2016.10.011

[15.] Verma, S., & Singh, P. (2019). Customer trust and satisfaction in digital banking: A comparative study of public and private sector banks. Indian Journal of Economics and Development, 15(2), 98-106.

Author's Declaration

I as an author of the above research paper/article, here by, declare that the content of this paper is prepared by me and if any person having copyright issue or patent or anything otherwise related to the content, I shall always be legally responsible for any issue. For the reason of invisibility of my research paper on the website /amendments /updates, I have resubmitted my paper for publication on the same date. If any data or information given by me is not correct, I shall always be legally responsible. With my whole responsibility legally and formally have intimated the publisher (Publisher) that my paper has been checked by my guide (if any) or expert to make it sure that paper is technically right and there is no unaccepted plagiarism and hentriacontane is genuinely mine. If any issue arises related to Plagiarism/ Guide Name/Educational Qualification /Designation/Address of my university/college/institution/Structure or Formatting/ Resubmission/Submission /Copyright /Patent /Submission for any higher degree or Job/Primary Data/Secondary Data Issues. I will be solely/entirely responsible for any legal issues. I have been informed that the most of the data from the website is invisible or shuffled or vanished from the database due to some technical fault or hacking and therefore the process of resubmission is there for the scholars/students who finds trouble in getting their paper on the website. At the time of resubmission of my paper I take all the legal and formal responsibilities, If I hide ordo not submit the copy of my original documents (Andhra/Driving License/Any Identity Proof and Photo) in spite of demand from the publisher then my paper maybe rejected or removed from the website anytime and may not be consider for verification. I accept the fact that as the content of this paper and the resubmission legal responsibilities and reasons are only mine then the Publisher (Airo International Journal/Airo National Research Journal) is never responsible. I also declare that if publisher finds Any complication or error or anything hidden or implemented otherwise, my paper may be removed from the website or the watermark of remark/actuality maybe mentioned on my paper. Even if anything is found illegal publisher may also take legal action against me.

Pooran Singh
Dr. Pawan Kumar

******