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- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

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- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

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- Garg, Bhavet (2011): Towards a New Gas Policy, Political Weekly, Viewed on January 01, 2012 <http://epw.in/user/viewabstract.jsp>

ANALYSING CUSTOMER SATISFACTION TOWARDS RETAIL BANKING SERVICES OF SBI IN LUDHIANA

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ABSTRACT

Maintaining good customer relations has become a major challenge for retail bankers in the new era. The most prerequisite for maintaining relationship is the satisfaction of customers. The main aim of this paper is to study the satisfaction level of customers towards these services on the basis of various parameters like A/C enquiry, exchange rate enquiry, time deposit service, draft purchasing, cash order/demand, collection A/C enquiry etc. The primary data has been collected from 100 customers of SBI of Ludhiana by filling up well-structured questionnaire & through personal meetings also. The convenience sampling has been used as one of the sampling techniques and for analysis & interpretation of data, five-point Likert scale, T-test & percentage method has been used at five percent level of significance. It has been initiated from the study that the Customers of SBI are highly contented with its services.

KEYWORDS

SBI, Ludhiana, customer satisfaction, retail banking.

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INTRODUCTION

Retail Banking has been the new focus of banking Industry across the whole world. It has emerged as one of the major drivers of overall banking industry (Singh, 2014) The change in lifestyle, fast improvement in information technology & other service sectors & increasing level of Income have led to the growth of retail banking in India. The retail-banking scenario has seen the market changing from a seller's market to a buyer's market. Banks have also realized today that their business depends on client service & satisfaction of the customer as the banks today have got clear cut indications from the government either to perform or perish. Customers in urban India do not want to stand in long queues & spend hours for their transactions. This change in customer attitude has happened due to the development of ATMS, phone & net banking along with availability of service right at the customer's doorstep. Banks these days are providing all banking products & services under one roof & their Endeavour is to be customer centric. Maintaining good customer relations has become a major challenge for retail bankers in the new era. The most prerequisite for maintaining relationship is the satisfaction of customers.

Customer's satisfaction is the feeling or attitude of a customer towards a product or service after it has been used & is generally described as the full meeting of one's expectations. In Today's world, the entire focus of banking sector is moving towards profits & profitability. So, the satisfaction of customer has become imperative for the banking fraternity these days. If the customer is motivated & served well, he does more business with bank leading to profitability of bank.

RETAIL BANKING

Retail banking is a typical mass-market banking where individual customers use local branches of larger commercial banks. It refers to the dealing of commercial banks with individual customers. Retail banking means "Financial service or group of services offered through an institution to personal customers." The objective of retail banking is to provide a full range of financial products and services and giving the customer a one-stop window for all his banking requirements. Services offered include Fixed, current/savings accounts, mortgages, loans (e.g. personal, housing, auto and educational) debit cards, credit cards and so forth.

NEED OF STUDY

State Bank of India offers a wide range of services in Personal Banking, Personal Finance, Deposit Schemes, Corporate Banking, Working Capital Financing, term loans & deferred payment guarantees, short-term financing, collection of clean & documentary credits & remittances keeping in view the huge portfolio of services of SBI. This topic has been selected to study the customer satisfaction towards these services which in turn can help SBI to improve & provide best services to customers.

REVIEW OF LITERATURE

There is a lot of literature available on this issue but few researches highlighting this issue has been discussed here. Flango Regasamy and Kumar Vijaya (2005) compared the service quality & customer satisfaction among private public & foreign banks in India with the help of a well-structured questionnaire. The study included various parameters pertaining to quality of customer services in terms of banking personnel, convenient working hours, web-based services, error free value-added services & efficient grievance redressal mechanism etc. Factor analysis & one-way ANOVA were used as statistical tools. It was observed that foreign & new generation Private Sector banks are serving the customers better as compared to public sector commercial banks. Suneja Ajay and Devi, Suman (2013) examined the various aspects of job satisfaction in selected public and private sector banks to examine the impact of various aspects of job satisfaction among bank employees. It also highlighted that there was a significant difference between employees of these banks on various parameters.

Jham Vimi and Khan Mohd. (2008) investigated relationship dimensions & studied the differences in perception of customers with respect to services provided by five Indian Banks. Factor Analysis was used to study the relationship dimensions leading to customer satisfaction. It was observed that customers had maximum satisfaction towards the multi-channel banking facilities of ICICI bank & least satisfaction with PNB. Madan, Rupali, Agrawal, Rachna and Matta, G. Mitu (2015) highlighted the significance of relationship marketing strategies in banking sector to attract new customers and reduce cost. The banks should maintain a loyal customer base. Bhayani J. Sanjay (2005) compared the services provided by private sector banks in Rajkot city. The 200 respondents were surveyed to know their awareness level about retail banking services & their satisfaction level also. The structured questionnaire was used as the main research instrument. It was observed that customer's preference towards private banks is due to their services & inter connectivity.

OBJECTIVES OF THE STUDY

1. To study the different kinds of services of SBI being used by customers & for how long they are using it.
2. To study the satisfaction level of customers towards these services on the basis of various parameters like A/C enquiry, exchange rate enquiry, time deposit service, draft purchasing, cashier's order/demand, collection A/C enquiry etc.
3. To study the causes of dissatisfaction of customers towards these services.
4. To know about the quality of services provided by SBI.

RESEARCH METHODOLOGY

Population

The population of study comprises of customers of all branches of SBI Bank. But sample size of study has been 100 customers of a selected branch of SBI.

Sources of Data Collection

The study has been based on both primary & secondary data. Primary data has been collected from customers having bank account with a branch of SBI of Ludhiana by filling up well-structured questionnaire & through personal meeting with customers. Secondary data has been collected from different books, magazines, journals & Internet also.

Sampling Technique

Convenience sampling has been used as one of the sampling techniques. For analysis & Interpretation of data, five-point Likert scale, T-test & percentage method has been used at 0.05percent level of significance.

ANALYSIS & INTERPRETATION OF DATA

TABLE I: DEMOGRAPHIC PROFILE OF CUSTOMERS

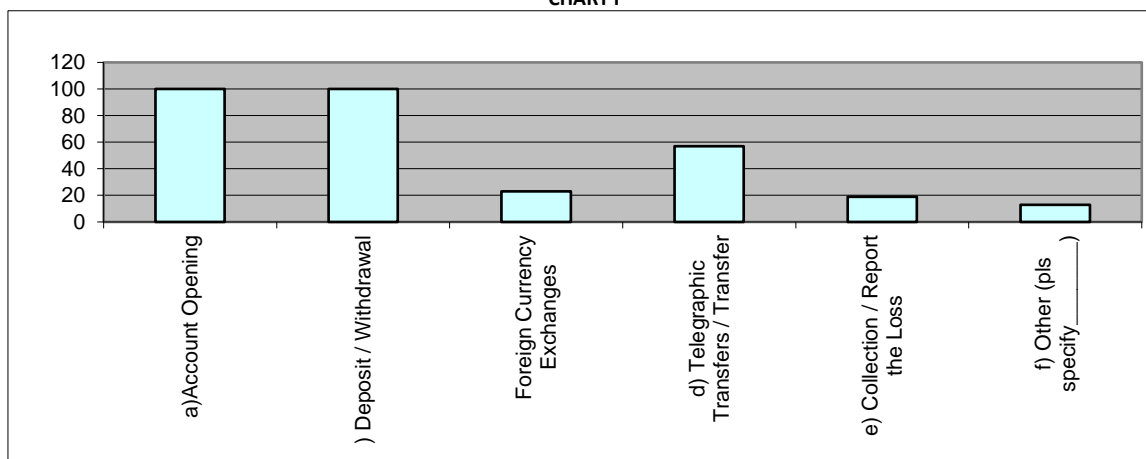
Gender	% of Respondents
Male	63
Female	37
AGE (years)	
10-20	0
20-30	37
30-40	40
40-50	13
50-60	10
60 or above	0
Monthly Family Income	
Less than 50,000	6
50,000-150,000	47
150,000-300,000	43
More than 300,000	4

The above table depicts that 63% of respondents are male whereas 37% are female. 40% of the respondents are in the age group of 30-40. 37% are within age group of 20-30.13% are within age group of 40-50 & 10% are within age group of 50-60. It is also clear from table that 47% of respondents are in Income level of 50,000-300,000 of Income group. Whereas only 6% have less than 50,000 Family Income & 4% are having Family Income more than 300,000.

TABLE II: SERVICES OFFERED BY BANK & USED BY CUSTOMERS

Services offered By Bank	Services Used by Customers (% of Respondents)
Account Opening	100
Deposit/ Withdrawal	100
Foreign Currency Exchanges	23
Telegraphic Transfers/Transfer	57
Collection/Report the Loss	19
Others	13

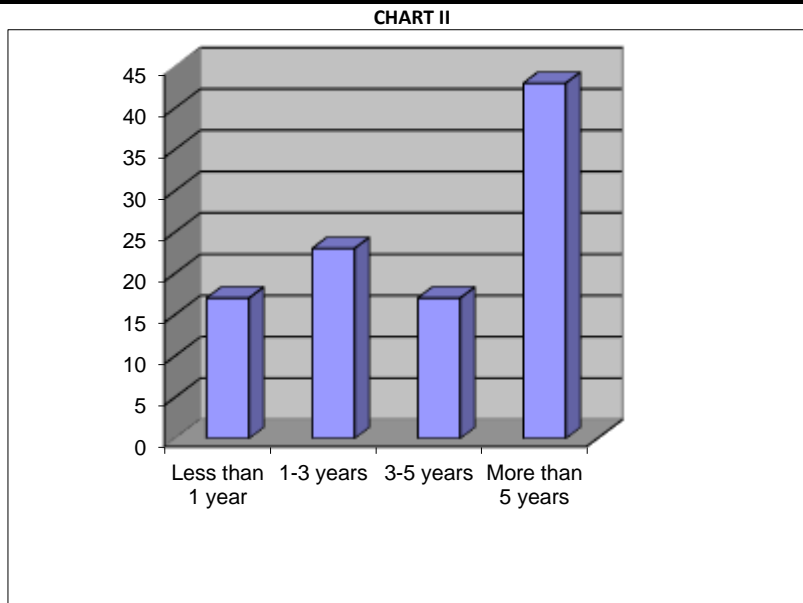
CHART I



It is clear from the table that 100% are using Account Opening & Deposit/Withdrawal service only.23% & 57% are using Foreign Currency exchanges & Telegraphic Transfers.

TABLE III: TENURE OF USING THE SERVICES

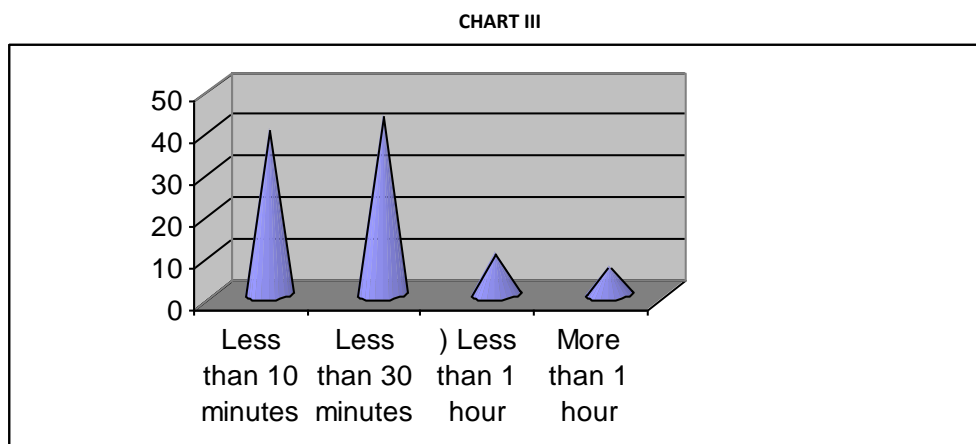
Period of Time	% of Respondents
Less than 1 year	17
1-3 years	23
3-5 years	17
More than 5 years	43



It is clear from the table that most of the customers of SBI are old and using services more than 3 years. 43% of the respondents are using services for more than 5 years. Only 17% of the respondents are using for less than 1 year.

TABLE IV: TIME TAKEN TO PROCESS THE SERVICE

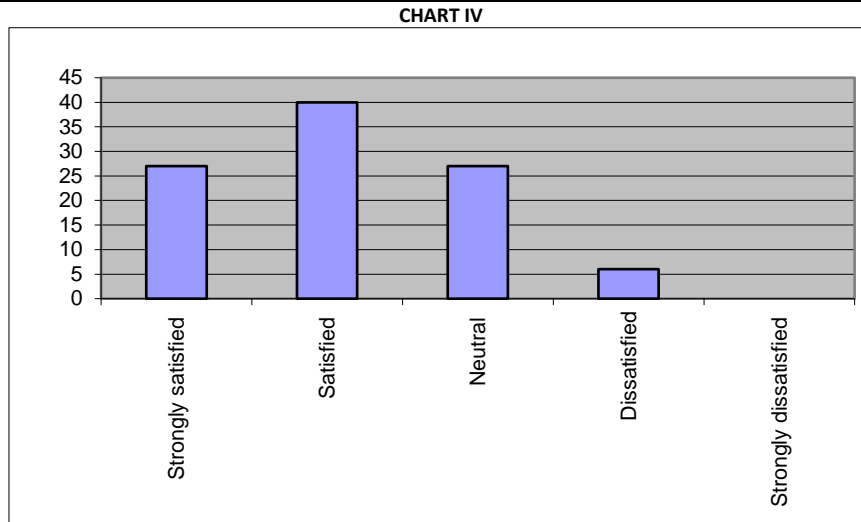
Time	% of Respondents
Less than 10 minutes	40
Less than 30 minutes	43
Less than 1 hour	10
More than 1 hour	7



It is clear from the table that transaction processing service efficient in SBI and customers are satisfied with it. 40% of the respondent said that transaction processing time taken by the bank is less than 10 minutes, 43% of the respondent said that it is less than 30 minutes. Only 7% said that it is more than 1 hour.

TABLE V: CUSTOMER SATISFACTION TOWARDS THE EFFICIENCY OF STAFF IN TRANSACTION PROCESSING

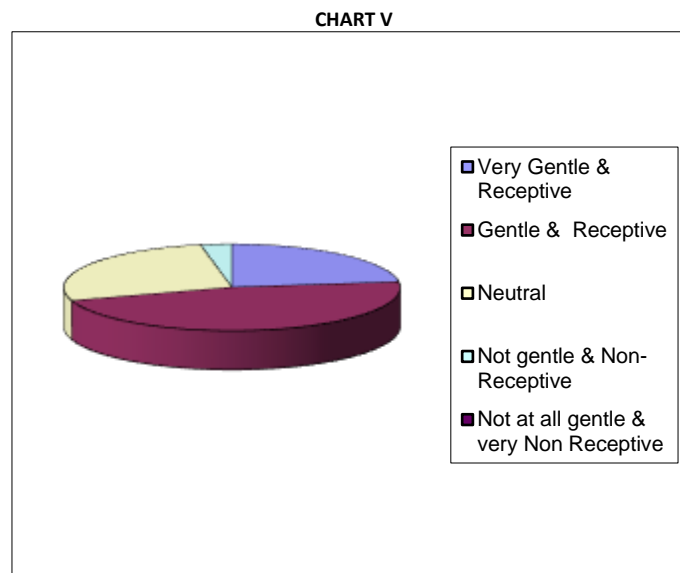
Customer Satisfaction towards services	% of Respondents
Strongly Satisfied	27%
Satisfied	40%
Neutral	27%
Dissatisfied	6%
Strongly Dissatisfied	0%



27% of the respondents are strongly satisfied with the staff efficiency of the SBI bank, 40% are satisfied with it and 27% are neutral about it. Only 6% of the respondents are dissatisfied with the efficiency of the staff. In nutshell it has been concluded that SBI staff is efficient in rendering services.

TABLE VI: BEHAVIOR OF EMPLOYEES OF SBI BANK

Behavior of employees	% of Respondents
Very Gentle & Receptive	23
Gentle & Receptive	47
Neutral & very Non-Receptive	27
Not gentle & Non-Receptive	3
Not at all gentle & non-receptive	0

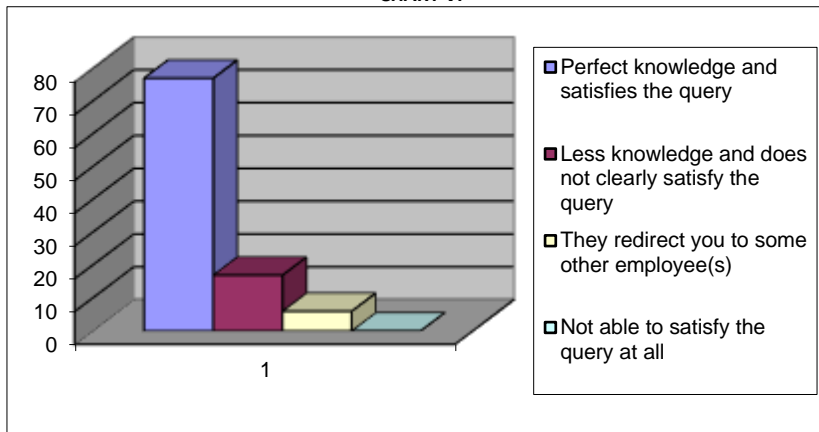


From the above analysis it has been found out that SBI staff is gentle & receptive in their behavior while dealing with the customers. 47% of the respondent said that they are gentle & receptive, 23% of the respondents said that they are very gentle & receptive. Only 3% of the respondent said that they are not at all gentle & receptive.

TABLE VII: RESPONSE REGARDING QUERIES OF CUSTOMERS TO THE BANK OFFICIAL

Response Regarding Queries	% of Respondents
Perfect knowledge and satisfies the query	77
Less knowledge and does not clearly satisfy the query	17
They redirect you to some other employee(s)	6
Not able to satisfy the query at all	0

CHART VI

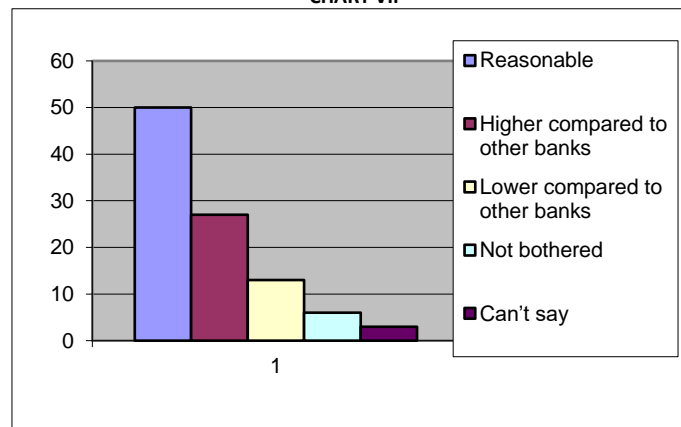


77% of the respondent said that SBI staff is having perfect knowledge and satisfy queries very well, 17% said that they have less knowledge. To conclude it has been found that they have perfect knowledge base.

TABLE VIII: LEVEL OF CHARGES CHARGED BY BANK

Level of charges	% of Respondents
Reasonable	50
Higher compared to other banks	27
Lower compared to other banks	13
Not bothered	6
Can't say	3

CHART VII



From the above analysis it has been found out that the charges taken by the bank are reasonable and customers are satisfied with it. According to 50% of the respondent the charges taken by the bank are reasonable, 13% of the respondents said that they are lower compared to other banks. Whereas 27% of the respondents said that SBI charged higher than other banks.

TABLE IX: CUSTOMER SATISFACTION TOWARDS DIFFERENT SERVICES (In Percentage)

Services	1*	2*	3*	4*	5*
Account Opening	20	73	3	4	0
Cash Deposit	23	67	0	10	0
Cheque Deposit	27	67	0	6	0
Withdrawal	30	67	0	3	0
Account Transfer	13	37	47	3	0
Exchange Rate Enquiry	10	13	73	0	3
Time Deposit Service	10	50	37	0	3
Draft Purchasing	30	67	0	3	0
Cashier's Order/Demand	20	67	10	3	0
Collection	47	30	17	6	0
Account Enquiry	53	40	0	7	0

1*: Strongly Satisfied 2*: Satisfied 3*: No Knowledge 4*: Dissatisfied 5*: Strongly Dissatisfied

It has been inferred from table that customers are more satisfied with cash deposit, cheque deposit, withdrawal, Draft purchasing & Cashier's order/demand.

T-TEST

Bank services	N Male-20 Female-10	Mean	S.D	Calculated t- value Level of significance 0.05	Remarks
A/C opening	Male	3.0	1.6	2.216	Rejected
	Female	4.0	1.165		
Cash deposits	Male	4.0	.940	1.373	Accepted
	Female	3.5	.754		
Cheque deposits	Male	4.0	1.008	1.280	Accepted
	Female	3.5	1.075		
Withdrawal system	Male	3.65	1.00	0.903	Accepted
	Female	4.0	.946		
A/C enquiry	Male	4.0	1.006	0	Accepted
	Female	4.0	1.069		

H 1; stating that there is no significant difference in the mean score of males and female customers of SBI in the dimensions of a/c opening, cash deposits, cheque deposits, withdrawal system and account enquiry. There was found no difference in the mean scores of male and female employees of SBI. Hence the hypothesis is rejected with respect to certain parameters and selected with respect to other parameters.

TABLE X: REASONS OF DISSATISFACTION OF CUSTOMERS TOWARDS THESE SERVICES (In Percentage)

Reasons of Dissatisfaction	1*	2*	3*	4*	5*
Employee Behavior	0	3	53	6	37
ATM & VAS	0	3	53	6	37
Bank Timing	0	6	33	24	33
Waiting Time	9	9	27	27	23
Processing Time	9	6	37	10	37
Promptness in dealing with Loans	6	3	47	6	37
Paper Work	23	23	27	10	17

1*: Maximum Problem 2*: Moderate Problem 3*: Neutral 4*: Problematic 5*: Min. Prob.

- Customers are Facing Minimum Problem in case of employee’s behavior & they are satisfied about it.
- Customers do not have any problem regarding ATM & VAS systems of SBI.
- Most of the customers are satisfied with the Loan system of the bank.
- Most of the customers are satisfied with the Timings of the bank.
- Approximately all the customers are facing problems regarding paper work in bank.

T-TEST

Bank services	N Male-20 Female-10	Mean	S.D	Calculated t- value Level of significance 0.05	Remarks
Employee behavior	Male	3.8	1.062	0.486	Rejected
	Female	4.0	1.165		
ATM/VAS system	Male	3.5	1.069	0.724	Accepted
	Female	3.20	.985		
Bank timings	Male	2.7	1.039	1.739	Rejected
	Female	2.0	1.075		
Paper work	Male	2.0	1.166	0.442	Accepted
	Female	1.80	.946		

H 2; there is no significant difference in the mean score of males and female customers regarding problems faced by them while using services of the bank. The hypothesis is accepted regarding parameters like ATM @ VAS system, paper work; whereas hypothesis is rejected regarding parameters like employee behavior and paper work.

FINDINGS

1. It is clear from the analysis that satisfied customers would also like to recommend SBI to their friends, colleagues, relatives & Family members.
2. It is clear from the study that the Customers of SBI are satisfied with its services.
3. SBI provides very useful services to the customers as per their requirements.
4. The Customers prefer safety, security, speed, accuracy of services provided by banks while choosing them.
5. SBI staff is very efficient & knowledgeable & Customers are satisfied with it.
6. Some Customers have problems regarding bank timings.
7. Paper Work in SBI is also problematic.
8. Some Customers have problems regarding waiting time while transaction processing.

SUGGESTIONS

On the basis of analysis, observation and findings of the study, the following suggestions have been made:

- SBI should increase their working hours to satisfy customer’s requirements.
- Paper work in SBI should be minimized.
- Waiting time while transaction processing should be minimized.
- Many of the customers of SBI are not much aware about the services provided by SBI. Some proper media should be used to reach the customers.

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A STUDY ON PERFORMANCE OF SELECTED PUBLIC SECTOR AND PRIVATE SECTOR BANKS WITH SPECIAL REFERENCE TO A CAMEL MODEL

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ABSTRACT

Banking industry is one of the most important economic wing and fastest growing industry in India and assessing the performance of such industry is always vital for the economy and its stake holder. Banking industry aids in improving capital formation, smoothing of trade and commerce functions, generate an employment opportunity, supporting agriculture development and monetization along with facilitation of monetary policies of government. This study analyses the performance of top five public sector as well as private sector banks working in India using CAMEL model. Public sector banks namely State Bank of India, Bank of Baroda, Bank of India, Central Bank of India, Indian bank and Private sector banks are namely Axis Bank, HDFC Bank, ICICI Bank, IDBI Bank and Kotak Mahindra Bank are selected for the study. Five years data of all banks has taken into consideration from 2014-15 to 2018-19 for the CAMEL model. CAMEL model is an effective and accurate tool to evaluate and analyse the performance of banks. CAMEL stands for Capital Adequacy, Assets Quality, Management, Earning and Liquidity. To study every important variable, the different ratios have been calculated to analyse the performance according to CAMEL model.

KEYWORDS

public sector banks, private sector banks, capital adequacy, assets quality, earning and liquidity.

JEL CODE

G20

INTRODUCTION

Banking system of any country plays an important role in development of particular country. It brings revolutionary changes in economic situation of country and its stake holders. As like in human body flow of blood is control by heart, same like that in the economy of country bank works as hearts which smoothen the all transaction in country. In many ways the performance of banking system of country work as a mirror of performance of economy of the country.

After the independence of India in the year 1947, the Reserve Bank of India was nationalized and given more powers. The Indian banking industry in 1960 became an important tool to facilitate the financial development of Indian economy. Simultaneously it emerged as a large employer and debate prevailed that ensured about the possibility of nationalization of banking industry. Later on, 14 largest commercial banks are nationalized from July 19, 1969 and 6 more banks were nationalized in 1980. With this government of India controlled around 91% of banking business in India. Later in 1990s, the government formulated the policy of liberalization and gave a license to a small number of private banks, which are known as new generation tech-savvy bank. Liberalization along with the rapid growth in the economy of India boosted the banking sector in India, which has seen strong contribution from all three sector banks namely government banks or public banks, private banks and foreign banks. At present in the year of 2020 after a number of mergers and amalgamations the public sector banks are reduced to 12 from 27 with effect from 1st of April, 2020 and number of private sector banks present in India are 22.

The performances of such banking industry can be assessed and evaluate by some well-defined regulatory framework. CAMEL rating system is on of such most reliable framework to analyse the performance of these banks. CAMEL is a recognized international rating system that bank supervisory authorities use in order to rate financial institution according to six factors represented by its acronym. CAMEL model of rating was first developed in the 1970s by the three federal banking supervisors of U.S. in this the ratings are given from 1 (best) to 5 (worst). In India, in 1996 on the recommendation of Padmanabham working committee, RBI the CAMEL rating system. It is suggested by the committee to determine the financial strength of the banks and to suggest relevant measures to improve shortcomings of banking system in India.

In this study, five categories of ratio as per CAMEL rating system are applied and summarised in relative model of those categories to well define CAMEL rating system in a group of ratios. Those ratios are:

(C) Capital Adequacy shows the financial well-being of the bank. It shows the financial position of bank that whether it is in position to meet the uncertainty or not or it is in position to meet additional capital requirement or not. This ratio shows the financial strength of bank. Following ratios are measures under capital adequacy:

- Capital Adequacy Ratio
- Debt Equity Ratio
- Advance to Total Assets Ratio
- Government Securities to Total Investment Ratio
- Coverage Ratio

(A) Asset Quality shows the risk prevailing in the bank. It assesses the soundness of bank against loss in the value of assets. As the loan has the highest default risk, an increasing number of NPA loan indicates weakening of assets quality. The ratios calculated under asset quality are:

- Gross NPA Ratio
- Net NPA Ratio
- Total Investment to Total Assets Ratio

(M) Management Efficiency shows the ability of banks apex management to take correct decision. The ratios in this segment involves subjective analysis to measure the ability, soundness and effectiveness of management. The management efficiency can be measured by help of some important ratios; those are:

- Total Advance to Total Deposit Ratio
- Business per Employee Ratio
- Profit per Employee Ratio
- Business per Branch Ratio

- Profit per Branch Ratio

(E) Earning shows the bank's ability to earn with consistency. Stability in earning and growth in future earnings defines the quality of earnings. The following ratios are used to evaluate the quality of earnings:

- Dividend Pay-out Ratio
- Return on Assets Ratio
- Interest Income to Total Income Ratio
- Other Income to Total Income Ratio

(L) Liquidity that the bank has enough liquid assets to meet its day to day operation. It also measures bank's ability to encounter unforeseen funds that are claimed by depositors. Lower the liquidity shows that banks are unable to meet their obligation and much higher liquidity shows that the banks are not utilise their liquid assets in proper way. Following ratios are calculated to find the position of liquidity:

- Liquid Assets to Total Assets ration
- Government Securities to Total Assets Ratio
- Liquid Assets to Demand Deposit Ratio
- Liquid Assets to Total Deposit Ratio
- Approved Securities to Total Assets Ratio

REVIEW OF LITERATURE

Majumder, M., Hossain, T., & Rahman, M. M. (2017) studied "A CAMEL Model Analysis of Selected Banks in Bangladesh" This study attempts mainly to measure the financial performance of the fifteen (15) selected banks in Bangladesh and to identify whether any significant difference exists in the performance of the selected banks for the period 2009-2013. CAMEL Model has been used to examine the financial strength of the selected banks. Composite Rankings, Average, and ANOVA-test by using SPSS are applied here to reach conclusion through the comparative and significant analysis of different parameters of CAMEL. It is found that under the capital adequacy ratio parameter IBBL is the top position, while IFICBL got lowest rank. Under the asset quality parameter, AIBL held the top rank while RBL held the lowest rank. Under management efficiency parameter, it is observed that top rank taken by EBL and lowest rank taken by RBL. In terms of earning quality parameter the capability of EBL got the top rank while TBL was at the lowest position. Under the liquidity parameter DBBL stood on the top position and NCCBL & BAL both are on the lowest position. By considering all of the parameters of CAMEL, it is seen that EBL is the top position assessed by the CAMEL Model compared to other banks under the study because of its strong performance on the Capital Adequacy, Asset Quality, Management and Earnings Ability. EIBBL is the second position, followed by DBBL, AIBL, IBBL and other banks respectively. On the other hand, RBL is the lowest position compared to other banks under the study because of its poor performance on the Capital Adequacy, Asset Quality, Management Efficiency and Earnings Ability. Therefore, RBL should improve the weaknesses of the mentioned ratios of the CAMEL. The ANOVA test signifies that there is a significant difference in the performance of the selected banks in Bangladesh assessed by the CAMEL model. Therefore, the policy maker of the related lowest ranking banks should take necessary steps to improve their weaknesses from the findings under the study.

Narayanrao, C. S. (2017) examined "Critical Analysis of Saraswat Co-operative Bank Limited (Scheduled Bank) by CAMEL Model". Urban Co-operative Bank is one of the vital segments in Indian banking system. They essentially cater to the credit needs of persons of small means. It is imperative to carefully evaluate and analysis the financial soundness of urban bank. Financial soundness of a bank is the guarantee not only for its depositors but equal important for shareholders, employees and whole financial system also. In this paper, an effort has been made to critical analysis of Saraswat Co-operative Bank Ltd. using CAMEL Model for five years period from 2011-12 to 2015-16. Management of Saraswat Co-operative Bank Ltd. succeeds to maintain Capital to Risk-weighted Assets Ratio (CRAR) and Credit Deposit Ratio (CD Ratio) as per prescribed norms of RBI. Net Interest Margin Ratio of SCB limited was not as per standard, so it is need to improvement in Net Interest Margin Ratio. On the basis of the study, it can conclude that, financial soundness & overall performance of The Saraswat Co-operative Bank Ltd. was satisfactory during the study period.

Zedan, K. A., & Daas, G. (2017) focused on "Palestinian Banks Analysis Using CAMEL Model". This study attempts to evaluate the performance and financial soundness of Palestinian Commercial Banks for the year 2015 using CAMEL rating model. The CAMEL model provides a means to categorized bank based on the overall health, financial status, and managerial operation. Banks were sustained rating based on the performance in five areas: Capital adequacy, asset quality, management efficiency, earning quality, and liquidity. They applied capital adequacy ratio to analyze capital adequacy parameter, non-performing loans to total loans to analyze of assets quality parameter, non-expense ratio for analyzing management quality parameter, return on assets and return on equity to analyze earnings ability and total loans to total deposits ratio to analyze liquidity management.

Sharma, S., & Chopra, I. P. (2018) investigated "A Comparative Study of Public and Private Banks In India Using Camel Model. Research methodology" The main objective of the study is to evaluate and compare the financial performance of selected public and private sector banks. 30 banks in total i.e. top 15 public and private sector banks each according to financial rating agency Money Control have been selected for the study. Data related to CAMEL Model indicators has been collected from Indian banking association website and the bank's websites for the period of 4 years i.e. 2014-2017. Ranking, t-test and Mann-Whitney U test have been used to meet the objectives. The result of present study indicated that private sector banks perform better than the public sector banks in India on all parameters of CAMEL Model. Public sector banks display low soundness as compared to private sector banks.

KS, M. N., Thomas, A., & Abraham, C. M. (2018) examined the "Performance Evaluation of Public Sector Banks based on Camel Methodology". Financial service sector has been playing a very vital role in the development of our economy. Banks are the most vital players in this sector. The performance of banks will trigger the spark of developments in all sectors. There has to be a standard methodology to evaluate the performance of banks which is entirely different from manufacturing sector. Analysts have come out with a comprehensive methodology- CAMEL model for the same. The performance of five top banks have been evaluated based on CAMEL methodology and a comparison has been made. The present study has been conducted to examine the economic sustainability of the biggest public sector banks in India using CAMEL model during the period 2013-14 to 2015-16. Through the analysis of CAMEL parameters, the State Bank of India is at the top position among Public Sector banks and IDBI is at the bottom position.

OBJECTIVES

1. To compare financial performance of public and private sector banks on the basis of ratios covered under CAMEL model.
2. To evaluate the profitability and efficiency of management of public sector and private sector banks.
3. To evaluate the difference of the liquidity position and availability of liquid fund of private sector and public sector banks.

RESEARCH METHODOLOGY

The performance is analysed on CAMEL framework model. 10 banks have been selected for the study, five banks from public sector and five banks from private sector. Banks are analysed on various performance criteria of CAMEL rating model. For the study secondary data has been analysed for the time period of five years from 2014-15 to 2018-19. Secondary data has been collected through bank reports, articles and research journals.

DATA ANALYSIS AND INTERPRETATION

TABLE 1.1: CAPITAL ADEQUACY RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	12.79	13.94	13.56	12.74	12.85	13.18	5
2	Bank of Baroda	12.6	13.17	12.24	12.13	13.42	12.71	7
3	Bank of India	10.73	12.01	12.14	12.94	14.19	12.40	8
4	Central Bank of India	10.9	10.41	10.95	9.04	9.61	10.18	10
5	Indian Bank	12.86	13.2	13.64	12.55	13.21	13.09	6
6	Axis Bank	15.09	15.29	14.95	16.57	15.84	15.55	4
7	HDFC bank	16.79	15.53	14.55	14.82	17.11	15.76	3
8	ICICI Bank	17.02	16.64	17.39	18.42	16.89	17.27	1
9	IDBI Bank	11.76	11.67	10.7	10.41	11.58	11.22	9
10	Kotak Mahindra Bank	17.17	16.34	16.77	18.22	17.45	17.19	2

Table 1 shows the details of Capital Adequacy ratio as per Basel III of the selected banks of the period 2014-15 to 2018-19. CAR measures the ability of bank in absorbing the losses arising from the risk weighted assets. The higher the ratio, better financial health of bank and lower the ratio, weaker the financial health of the bank. The minimum percentage of Capital Adequacy Ratio as per RBI guidelines is 9% but it is clear from the Table 1 that all the banks has higher CAR than the limit set by RBI. With the 17.27% CAR, ICICI bank ranked first and Central Bank of India ranked last with the lowest CAR of 10.88%. Kotak Mahindra Bank ranked second with the 17.19% CAR and shows 0.08% difference between first and second position. It can also be concluded that the private banks are leading in CAR.

TABLE 1.2: DEBT EQUITY RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	14.95	14.65	13.37	14.77	15.66	14.68	4
2	Bank of Baroda	16.95	15.70	16.24	15.59	15.89	16.07	3
3	Bank of India	18.67	18.62	19.30	16.15	13.89	17.33	1
4	Central Bank of India	16.87	15.38	18.27	17.14	16.45	16.82	2
5	Indian Bank	12.00	11.53	11.72	12.70	13.44	12.28	6
6	Axis Bank	9.34	9.15	9.79	9.90	11.01	9.84	7
7	HDFC bank	8.52	9.45	8.93	7.97	7.34	8.44	8
8	ICICI Bank	7.03	7.03	6.72	7.36	7.90	7.21	9
9	IDBI Bank	13.64	12.54	15.03	15.51	7.52	12.85	5
10	Kotak Mahindra Bank	6.50	7.02	6.77	6.07	6.28	6.53	10

Table 2 shows the details of Debt Equity Ratio of the selected banks of the period 2014-15 to 2018-19. The Debt Equity Ratio indicates the bank's financial leverage, lower ratio indicates that bank has less debt or no debt and their recoveries are speedy while and higher ratio indicated that bank is under the heavy debt and their recoveries are also slow. With 17.33% Bank of India ranked first in the Debt Equity Ratio, shows the weaker position and Kotak Mahindra Bank ranked last with 6.53%, indicates good position.

TABLE 1.3: ADVANCE TO TOTAL ASSETS RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	63.48	62.08	58.06	56.01	59.38	59.80	6
2	Bank of Baroda	59.87	57.16	55.16	59.37	60.03	58.32	8
3	Bank of India	64.98	58.89	58.51	56.00	54.54	58.59	7
4	Central Bank of India	60.42	58.93	41.81	47.99	44.31	50.69	10
5	Indian Bank	65.27	63.35	58.52	61.95	64.72	62.76	3
6	Axis Bank	60.85	62.76	62.03	63.59	61.77	62.20	4
7	HDFC bank	61.90	62.72	64.20	61.88	65.84	63.31	2
8	ICICI Bank	59.98	60.40	60.15	58.28	60.83	59.93	5
9	IDBI Bank	58.53	57.51	52.75	49.06	45.83	52.74	9
10	Kotak Mahindra Bank	62.41	61.72	63.41	64.06	65.89	63.50	1

Table 3 shows the details of Total Advance to Total Assets Ratio of the selected banks of the period 2014-15 to 2018-19. Total Advance to Total Assets Ratio indicates the banks aggressiveness towards lending the advance, higher ratio is preferable. With the 63.50%, Kotak Mahindra Bank ranked first shows the higher aggressiveness and HDFC bank ranked second with the 63.31, shows the minor difference of 0.19% while Central Bank of India ranked last in Total Advance to Total Assets Ratio with 50.69%.

TABLE 1.4: GOVERNMENT SECURITIES TO TOTAL INVESTMENT RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	76.29	79.83	75.10	79.96	78.79	77.99	5
2	Bank of Baroda	79.22	83.38	85.62	86.27	87.17	84.33	3
3	Bank of India	85.14	87.16	87.19	86.33	87.08	86.58	1
4	Central Bank of India	84.03	74.87	80.43	67.41	76.78	76.70	7
5	Indian Bank	84.12	74.43	83.77	84.65	79.88	81.37	4
6	Axis Bank	61.39	71.90	70.34	66.23	67.12	67.40	8
7	HDFC bank	72.32	80.51	75.73	77.77	82.47	77.76	6
8	ICICI Bank	56.60	68.98	68.36	68.91	71.21	66.81	9
9	IDBI Bank	69.02	87.23	90.24	89.89	88.70	85.02	2
10	Kotak Mahindra Bank	58.86	67.97	63.02	68.49	66.89	65.04	10

Table 4 shows the details of Government Securities to Total Investment Ratio of the selected banks of the period 2014-15 to 2018-19. Government Securities to Total Investment Ratio indicates the bank's strategy of high profit - high risk or low profit - low risk, higher the ratio indicates more safety. With 86.58%, Bank of India ranked first and safer than the other selected bank and it shows that out of total investment, Bank of India invested 86.58% in Government securities. While Kotak Mahindra ranked last with 65.04% and shows less safety in compare to other banks.

TABLE 1.5: COVERAGE RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	87.01	82.92	87.31	88.82	90.04	87.22	6
2	Bank of Baroda	91.31	90.49	90.99	90.82	90.38	90.80	3
3	Bank of India	92.45	92.49	92.52	92.60	90.38	92.09	1
4	Central Bank of India	90.26	90.15	91.77	92.13	92.25	91.31	2
5	Indian Bank	89.13	89.24	89.42	90.24	90.77	89.76	4
6	Axis Bank	87.07	86.43	86.36	87.03	87.55	86.89	7
7	HDFC bank	84.00	87.76	85.90	75.29	83.58	83.31	9
8	ICICI Bank	82.64	82.73	82.61	84.60	84.84	83.49	8
9	IDBI Bank	90.35	89.59	89.81	88.87	85.13	88.75	5
10	Kotak Mahindra Bank	82.08	83.02	83.19	82.21	82.69	82.64	10

Table 5 shows the details of Government Securities to Total Investment Ratio of the selected banks of the period 2014-15 to 2018-19. Coverage Ratio indicates the availability of capital to meet any incidental loss of assets in NPA, higher the coverage ratio indicated more availability of capital so the higher ratio is preferable. With 92.09%, Bank of India ranked first and shows the higher availability of capital while Kotak Mahindra Bank ranked last with 82.64% and shows the lower availability of capital.

TABLE 1.6: COMPOSITE AVERAGE AND RANKING OF CAPITAL ADEQUACY (YEAR WISE)

No.	Name of Banks	2014-15		2015-16		2016-17		2017-18		2018-19	
		AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK
1	State Bank of India	50.90	5	50.69	5	49.48	6	50.46	5	51.35	4
2	Bank of Baroda	51.99	4	51.98	2	52.05	2	52.83	1	53.38	1
3	Bank of India	54.39	1	53.83	1	53.93	1	52.80	2	52.02	3
4	Central Bank of India	52.50	3	49.95	7	48.64	8	46.74	10	47.88	8
5	Indian Bank	52.68	2	50.35	6	51.41	4	52.42	3	52.41	2
6	Axis Bank	46.75	8	49.10	8	48.69	7	48.66	6	48.66	6
7	HDFC bank	48.71	6	51.19	4	49.86	5	47.55	8	51.27	5
8	ICICI Bank	44.66	10	47.16	10	47.05	9	47.51	9	48.33	7
9	IDBI Bank	48.66	7	51.71	3	51.71	3	50.75	4	47.75	10
10	Kotak Mahindra Bank	45.40	9	47.22	9	46.63	10	47.81	7	47.84	9

Table shows the year wise composite average and rankings of Capital Adequacy Ratio. In the year 2014-15 Bank of India ranked first and shows highest Capital Adequacy and Indian Bank ranked second for the same year. In the year 2015-16, again Bank of India ranked first but this time on second position there is Bank of Baroda. In year 2016-17, situation remains same as the year 2015-16. But in the year 2017-18, Bank of Baroda ranked first and Bank of India got second. In the year 2018-19, Bank of Baroda ranked first but on second position there is Indian Bank while Bank of India is on third position. In the prior three years the Bank of India ranked on first position while in next two year it dragged to 2nd and 3rd position respectively. It shows that in the first three-year Bank of India's financial position and loss bearing capacity was the best but in next two years it declines. The reason behind this is, its debt equity ratio and coverage ratio are got declined so that affect the risk level and due to that it affects the Capital Adequacy of bank.

TABLE 1.7: COMPOSITE AVERAGE AND RANKING OF CAPITAL ADEQUACY (RATIO WISE)

No.	Name of Banks	Capital Adequacy Ratio	Debt Equity Ratio	Advance to Total Assets Ratio	Government securities to total investment Ratio	Coverage Ratio	AVERAGE	RANK
1	State Bank of India	13.18	14.68	59.80	77.99	87.22	50.57	4
2	Bank of Baroda	12.71	16.07	58.32	84.33	90.80	52.45	2
3	Bank of India	12.40	17.33	58.59	86.58	92.09	53.40	1
4	Central Bank of India	10.18	16.82	50.69	76.70	91.31	49.14	7
5	Indian Bank	13.09	12.28	62.76	81.37	89.76	51.85	3
6	Axis Bank	15.55	9.84	62.20	67.40	86.89	48.37	8
7	HDFC bank	15.76	8.44	63.31	77.76	83.31	49.72	6
8	ICICI Bank	17.27	7.21	59.93	66.81	83.49	46.94	10
9	IDBI Bank	11.22	12.85	52.74	85.02	88.75	50.11	5
10	Kotak Mahindra Bank	17.19	6.53	63.50	65.04	82.64	46.98	9

Table shows the ratio wise composite average and rankings of Capital Adequacy Ratio. In the ratio wise average, Bank of India stood first and followed by Bank of Baroda for the second position. We have seen in the year wise composite average and rankings of Capital Adequacy Ratio table that there is tough competition between these two banks for the 1st and 2nd position. So, in ratio wise also these banks are leading in the top. It indicates the good financial position of banks in compare to other banks.

TABLE 2.1: GROSS NPA RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	4.25	6.50	6.90	10.91	7.53	7.22	5
2	Bank of Baroda	3.72	9.99	10.46	12.26	9.61	9.21	4
3	Bank of India	5.39	13.07	13.22	16.58	15.84	12.82	3
4	Central Bank of India	6.09	11.95	17.81	21.48	19.29	15.33	2
5	Indian Bank	4.40	6.66	7.47	7.37	7.11	6.60	7
6	Axis Bank	1.45	1.78	5.53	7.53	5.83	4.42	8
7	HDFC bank	0.93	0.94	1.05	1.30	1.36	1.12	10
8	ICICI Bank	3.78	5.82	8.74	9.90	7.38	7.12	6
9	IDBI Bank	5.88	12.50	24.14	27.95	27.47	19.59	1
10	Kotak Mahindra Bank	1.85	2.36	2.59	2.22	2.14	2.23	9

Table 6 shows the details of Gross NPA Ratio of the selected banks of the period 2014-15 to 2018-19. This ratio indicates the level of Gross Non-performing Assets in Gross Advance, low Gross NPA is more preferable. With 19.59%, IDBI Bank ranked first and indicated the worst situation because of higher Gross NPA ratio while with 1.12%, HDFC Bank ranked last with the lowest Gross NPA ratio and shows better situation also Kotak Mahindra Bank ranked second last with 2.23% Gross NPA and shows the better situation.

TABLE 2.2: NET NPA RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	2.12	3.81	3.71	5.73	3.01	3.68	6
2	Bank of Baroda	1.89	5.06	4.72	5.49	3.33	4.10	4
3	Bank of India	3.36	7.79	6.90	8.26	5.61	6.39	3
4	Central Bank of India	3.61	7.36	10.20	11.10	7.73	8.00	2
5	Indian Bank	2.50	4.20	4.39	3.81	3.75	3.73	5
6	Axis Bank	0.47	0.74	2.31	3.77	2.28	1.92	8
7	HDFC bank	0.25	0.28	0.33	0.40	0.39	0.33	10
8	ICICI Bank	1.61	2.98	5.43	5.43	2.29	3.55	7
9	IDBI Bank	2.88	6.78	13.21	16.69	10.11	9.93	1
10	Kotak Mahindra Bank	0.92	1.06	1.26	0.98	0.75	1.00	9

Table 7 shows the details of Net NPA Ratio of the selected banks of the period 2014-15 to 2018-19. This ratio indicates the level of Net Non-performing Assets in Net Advance, low Net NPA is more preferable. With 9.93%, IDBI Bank ranked first and indicated the worst situation because of higher Net NPA ratio while HDFC Bank ranked last with 0.33% of Net NPA ratio and shows better situation also, Kotak Mahindra Bank ranked second last with 1% Net NPA and shows the better situation.

TABLE 2.3: TOTAL INVESTMENT TO TOTAL ASSETS RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	24.17	24.42	28.31	30.71	26.27	26.78	4
2	Bank of Baroda	17.11	17.94	18.66	22.66	23.34	19.94	10
3	Bank of India	19.36	19.49	20.41	22.49	23.61	21.07	9
4	Central Bank of India	28.77	29.09	27.62	36.98	37.89	32.07	2
5	Indian Bank	23.80	26.06	30.95	28.25	23.21	26.46	5
6	Axis Bank	28.65	24.36	21.41	22.14	21.73	23.66	7
7	HDFC bank	28.19	26.44	24.83	22.76	23.35	25.11	6
8	ICICI Bank	28.88	22.26	20.93	22.98	21.54	23.31	8
9	IDBI Bank	33.98	24.77	25.69	26.17	29.06	27.93	3
10	Kotak Mahindra Bank	44.67	36.55	31.90	34.34	33.15	36.12	1

Table 8 shows the details of Total Investment to Total Assets Ratio of the selected banks of the period 2014-15 to 2018-19. The ratio indicates the extent of deployment of total assets in investment against total assets. A high ratio put negative impact to profitability while lower ratio indicated that the bank is more focused on its core activities. With 19.94% Bank of Baroda leading with lowest average and Kotak Mahindra Bank highest in average with 36.12%.

TABLE 2.4: COMPOSITE AVERAGE AND RANKING OF ASSET QUALITY (YEAR WISE)

No.	Name of Banks	2014-15		2015-16		2016-17		2017-18		2018-19	
		AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK
1	State Bank of India	10.18	7	11.58	6	12.97	5	15.78	3	12.27	4
2	Bank of Baroda	7.57	10	11.00	7	11.28	8	13.47	5	12.10	5
3	Bank of India	9.37	9	13.45	3	13.51	4	15.78	4	15.02	3
4	Central Bank of India	12.82	3	16.13	1	18.54	2	23.19	2	21.64	2
5	Indian Bank	10.23	5	12.31	5	14.27	3	13.14	6	11.35	7
6	Axis Bank	10.19	6	8.96	10	9.75	9	11.15	9	9.95	9
7	HDFC bank	9.79	8	9.22	9	8.74	10	8.15	10	8.37	10
8	ICICI Bank	11.42	4	10.35	8	11.70	7	12.77	7	10.40	8
9	IDBI Bank	14.24	2	14.69	2	21.01	1	23.60	1	22.21	1
10	Kotak Mahindra Bank	15.81	1	13.32	4	11.92	6	12.52	8	12.01	6

Table shows the year wise composite average and rankings of Assets Quality Ratio. In the year 2014-15, Kotak Mahindra bank ranked first while bank of Baroda ranked last that indicates that the Bank of Baroda has the lower NPA than the others in the year. In the year 2015-16 Central Bank of India leads the position. In the year 2016-17 IDBI ranked first and HDFC Bank ranked last that shows that HDFC Bank is superior in context of recovering NPA in compare to IDBI. In the years 2017-18 and 2018-19, IDBI Bank ranked first and HDFC Bank ranked last in the list so HDFC Bank continuously shows their ability to recover the credit while IDBI shows their inefficiency.

TABLE 2.5: COMPOSITE AVERAGE AND RANKING OF ASSET QUALITY (RATIO WISE)

No.	Name of Banks	Gross NPA Ratio	Net NPA Ratio	Total Investment to Total Assets Ratio	AVERAGE	RANK
1	State Bank of India	7.22	3.68	26.78	12.56	5
2	Bank of Baroda	9.21	4.10	19.94	11.08	8
3	Bank of India	12.82	6.39	21.07	13.43	3
4	Central Bank of India	15.33	8.00	32.07	18.47	2
5	Indian Bank	6.60	3.73	26.46	12.26	6
6	Axis Bank	4.42	1.92	23.66	10.00	9
7	HDFC bank	1.12	0.33	25.11	8.85	10
8	ICICI Bank	7.12	3.55	23.31	11.33	7
9	IDBI Bank	19.59	9.93	27.93	19.15	1
10	Kotak Mahindra Bank	2.23	1.00	36.12	13.12	4

Table shows the ratio wise composite average and rankings of Assets Quality Ratio. In this IDBI Bank ranked first and shows worst recovering of their credit while HDFC Bank ranked last and indicated their higher ability to recover the credit.

TABLE 3.1: TOTAL ADVANCE TO TOTAL DEPOSIT RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	82.45	84.57	76.83	71.49	75.08	78.09	5
2	Bank of Baroda	69.32	66.85	63.70	72.28	73.40	69.11	8
3	Bank of India	75.58	70.02	67.86	65.54	65.47	68.89	9
4	Central Bank of India	73.75	67.63	46.99	53.09	48.87	58.06	10
5	Indian Bank	74.38	72.38	69.97	75.17	74.88	73.35	6
6	Axis Bank	87.17	94.64	90.03	96.92	90.21	91.80	2
7	HDFC bank	81.08	85.02	86.16	83.46	88.76	84.90	4
8	ICICI Bank	107.18	103.28	94.73	91.34	89.85	97.28	1
9	IDBI Bank	80.20	81.25	71.06	69.27	64.56	73.27	7
10	Kotak Mahindra Bank	88.38	85.59	86.44	88.10	91.06	87.91	3

Table 9 shows the details of Total Advance to Total Deposit Ratio of the selected banks of the period 2014-15 to 2018-19. This ratio defines the bank's ability to convert their deposits into higher earning advance to the customer, so higher the ratio indicates the much ability. With the average of 97.28%, ICICI bank stood first and indicated their higher ability in converting their deposits into higher earning advance and it is followed by Axis Bank with 91.80%, while Central Bank of India stood last with 58.06%. it can also be concluded that the private banks have higher capability of converting their deposits into advances because all the top three ranked banks are private.

TABLE 3.2: BUSINESS PER EMPLOYEE RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	134.91	153.77	172.54	175.78	198.14	167.03	5
2	Bank of Baroda	211.76	184.12	187.89	183.02	198.64	193.09	2
3	Bank of India	206.17	187.94	189.85	177.12	176.59	187.53	3
4	Central Bank of India	113.75	118.40	117.72	122.51	125.12	119.50	9
5	Indian Bank	145.41	152.60	148.25	183.87	215.94	169.22	4
6	Axis Bank	142.91	138.97	139.08	149.84	168.43	147.85	6
7	HDFC bank	107.00	115.47	142.09	163.97	177.70	141.25	7
8	ICICI Bank	112.94	118.70	117.62	131.62	145.97	125.37	8
9	IDBI Bank	282.82	274.11	252.58	240.16	218.59	253.65	1
10	Kotak Mahindra Bank	78.35	83.00	88.91	101.45	103.37	91.02	10

Table 10 shows the details of Business per Employee of the selected banks of the period 2014-15 to 2018-19. With the Rs. 253.65 Million per employee, IDBI ranked first which followed by Bank of Baroda with Rs. 193.09 Million per employee on second position. While with Rs. 91.02 Million, Kotak Mahindra Bank ranked last. In top 5 ranks there are 4 public sector banks.

TABLE 3.3: PROFIT PER EMPLOYEE RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	0.61	0.48	0.50	-0.25	0.03	0.28	6
2	Bank of Baroda	0.69	-1.04	0.26	-0.44	0.08	-0.09	7
3	Bank of India	0.38	-1.31	-0.33	-1.24	-1.14	-0.73	8
4	Central Bank of India	0.16	-0.30	-0.66	-1.39	-1.58	-0.75	9
5	Indian Bank	0.50	0.35	0.67	0.63	0.16	0.46	5
6	Axis Bank	1.74	1.64	0.65	0.05	0.76	0.97	4
7	HDFC bank	1.34	1.40	1.73	1.98	2.15	1.72	1
8	ICICI Bank	1.68	1.35	1.21	0.83	0.40	1.09	2
9	IDBI Bank	0.53	-2.09	2.84	-4.71	-8.83	-2.45	10
10	Kotak Mahindra Bank	1.04	0.67	1.03	1.14	1.17	1.01	3

Table 11 shows the details of Profit per Employee of the selected banks of the period 2014-15 to 2018-19. With the Rs. 1.72 Million per employee, HDFC ranked first which followed by ICICI Bank with Rs. 1.09 Million per selected employee on second position. While with loss of Rs. 2.45 Million per employee, IDBI Bank ranked last. In top 5 ranks there are 1 public sector banks and 4 private sector banks

TABLE 3.4: BUSINESS PER BRANCH RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	1740.99	1881.06	2082.25	2051.82	2294.20	2010.07	6
2	Bank of Baroda	1991.67	1777.01	1797.00	1843.55	1978.40	1877.52	7
3	Bank of India	1885.97	1717.93	1748.68	1663.58	1673.21	1737.87	8
4	Central Bank of India	947.00	943.73	925.05	963.46	958.10	947.47	10
5	Indian Bank	1223.42	1198.19	1156.63	1292.47	1472.48	1268.64	9
6	Axis Bank	2331.11	2399.25	2383.32	2412.30	2575.97	2420.39	2
7	HDFC bank	2033.61	2236.77	2541.27	3022.99	3414.74	2649.87	1
8	ICICI Bank	1849.59	1925.15	1967.57	2205.40	2543.22	2098.19	5
9	IDBI Bank	2726.92	2608.96	2422.81	2190.35	1977.60	2385.33	3
10	Kotak Mahindra Bank	2061.71	1930.29	2143.96	2610.67	2877.17	2324.76	4

Table 12 shows the details of Business per Branch of the selected banks of the period 2014-15 to 2018-19. Business per Branch indicates the productivity of the branch, higher the average higher the productivity. With average Rs. 2,649.87 Million per branch, HDFC bank ranked first and indicates the higher branch productivity while Central Bank of India indicates lower branch productivity and stood last with Rs. 947.47 Million per branch. In context of Business per Branch all top 5 ranked banks are private sector banks.

TABLE 3.5: PROFIT PER BRANCH RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	7.93	5.86	6.04	-2.89	0.39	3.46	6
2	Bank of Baroda	6.47	-10.01	2.52	-4.40	0.77	-0.93	7
3	Bank of India	3.45	-11.99	-3.01	-11.66	-10.77	-6.80	9
4	Central Bank of India	1.29	-2.36	-5.17	-10.90	-12.11	-5.85	8
5	Indian Bank	4.17	2.77	5.24	4.46	1.12	3.55	5
6	Axis Bank	28.42	28.32	11.14	0.74	11.55	16.03	4
7	HDFC bank	25.45	27.20	30.86	36.53	41.31	32.27	1
8	ICICI Bank	27.59	21.86	20.21	13.93	6.90	18.10	3
9	IDBI Bank	5.09	-19.85	27.21	-43.00	-79.90	-22.09	10
10	Kotak Mahindra Bank	27.28	15.68	24.92	29.43	32.44	25.95	2

Table 13 shows the details of Profit per Branch of the selected banks of the period 2014-15 to 2018-19. Profit per Branch indicates the Management's efficiency, higher the average higher the Efficiency. With average Rs. 32.27 Million Profit per branch, HDFC bank ranked first and indicates the higher Management Efficiency while IDBI Bank indicates lower Management Efficiency and stood last with Negative Rs. 22.09 Million per branch. In context of Profit per Branch amongst the top 5 banks, there is only one public sector bank and remaining 4 are private sector banks. It indicates the higher management efficiency of private sector bank.

TABLE 3.6: COMPOSITE AVERAGE AND RANKING OF MANAGEMENT SOUNDNESS (YEAR WISE)

No.	Name of Banks	2014-15		2015-16		2016-17		2017-18		2018-19	
		AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK
1	State Bank of India	393.38	8	425.15	5	467.63	5	459.19	6	513.57	5
2	Bank of Baroda	455.98	3	403.39	7	410.28	7	418.80	7	450.26	6
3	Bank of India	434.31	6	392.52	8	400.61	8	378.67	8	380.67	8
4	Central Bank of India	227.19	10	225.42	10	216.78	10	225.36	10	223.68	10
5	Indian Bank	289.57	9	285.26	9	276.15	9	311.32	9	352.92	9
6	Axis Bank	518.27	2	532.56	2	524.84	3	531.97	3	569.38	3
7	HDFC bank	449.70	5	493.17	3	560.42	1	661.79	1	744.93	1
8	ICICI Bank	419.80	7	434.07	4	440.27	6	488.63	5	557.27	4
9	IDBI Bank	619.11	1	588.48	1	555.30	2	490.41	4	434.40	7
10	Kotak Mahindra Bank	451.35	4	423.05	6	469.05	4	566.16	2	621.04	2

Table shows the year wise composite average and rankings of Management Efficiency Ratio. In the year 2014-15 and 2015-16, IDBI bank ranked first and followed by Axis Bank and proves the efficiency of management. In the year 2016-17, IDBI Bank declined to 2nd position and HDFC Bank take place to first. In the year 2017-18 and 2018-19, HDFC Bank remains on the first position and Kotak Mahindra Bank take over the second position. But Central Bank of India and Indian Bank are on 10th and 9th position respectively which indicates the lack of management efficiency. In the last three years, private sector banks perform well in context of management efficiency.

TABLE 3.7: COMPOSITE AVERAGE AND RANKING OF MANAGEMENT SOUNDNESS (RATIO WISE)

No.	Name of Banks	Total Advance to Total Deposit Ratio	Business per Employee Ratio	Profit per Employee Ratio	Business per Branch Ratio	Profit per Branch Ratio	AVERAGE	RANK
1	State Bank of India	78.09	167.03	0.28	2010.07	3.46	451.78	6
2	Bank of Baroda	69.11	193.09	-0.09	1877.52	-0.93	427.74	7
3	Bank of India	68.89	187.53	-0.73	1737.87	-6.80	397.36	8
4	Central Bank of India	58.06	119.50	-0.75	947.47	-5.85	223.69	10
5	Indian Bank	73.35	169.22	0.46	1268.64	3.55	303.04	9
6	Axis Bank	91.80	147.85	0.97	2420.39	16.03	535.41	3
7	HDFC bank	84.90	141.25	1.72	2649.87	32.27	582.00	1
8	ICICI Bank	97.28	125.37	1.09	2098.19	18.10	468.00	5
9	IDBI Bank	73.27	253.65	-2.45	2385.33	-22.09	537.54	2
10	Kotak Mahindra Bank	87.91	91.02	1.01	2324.76	25.95	506.13	4

Table shows the ratio wise composite average and rankings of Management Efficiency Ratio. On the first rank there is HDFC Bank because it has the high total advance to total deposit, highest profit per branch and also the highest business per branch. On 2nd and 3rd position there is IDBI Bank and Axis Bank respectively. There is also one thing is highlighted that all the top five banks are private sector banks

TABLE 4.1: DIVIDEND PAY-OUT RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	20.21	20.28	20.11	0.00	0.00	12.12	4
2	Bank of Baroda	25.06	0.00	24.06	0.00	0.00	9.82	6
3	Bank of India	23.39	0.00	0.00	0.00	0.00	4.68	7
4	Central Bank of India	13.67	0.00	0.00	0.00	0.00	2.73	10
5	Indian Bank	20.07	10.13	20.50	0.00	0.00	10.14	5
6	Axis Bank	14.78	14.48	38.25	509.75	0.00	115.45	1
7	HDFC bank	23.61	23.51	23.30	23.26	23.36	23.41	2
8	ICICI Bank	25.94	29.89	0.00	21.50	28.70	21.21	3
9	IDBI Bank	13.77	0.00	0.00	0.00	0.00	2.75	9
10	Kotak Mahindra Bank	4.40	4.39	0.00	2.80	3.29	2.98	8

Table 14 shows the details of Dividend Pay-out Ratio of the selected banks of the period 2014-15 to 2018-19. Dividend Pay-out ratio indicates the bank's capacity of paying to their shareholders and also indicates their earning capacity, higher the dividend pay-out ratio shows he better earning and sharing capacity of banks. With the highest Dividend Pay-out of 115.45%, Axis Bank ranked first, axis banks have paid average 508.75% dividend in the year 2017-18. While Central Bank of India ranked last and paid only average 2.73% dividend and in last four-year Central Bank of India not paid dividend to its shareholders.

TABLE 4.2: RETURN ON ASSETS RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	0.64	0.42	0.39	-0.19	0.02	0.26	6
2	Bank of Baroda	0.48	-0.80	0.20	-0.34	0.06	-0.08	7
3	Bank of India	0.28	-1.00	-0.25	-0.99	-0.89	-0.57	8
4	Central Bank of India	0.19	-0.37	-0.73	-1.56	-1.71	-0.83	9
5	Indian Bank	0.52	0.35	0.64	0.50	0.11	0.43	5
6	Axis Bank	1.59	1.52	0.61	0.04	0.58	0.87	4
7	HDFC bank	1.73	1.66	1.68	1.64	1.69	1.68	1
8	ICICI Bank	1.73	1.35	1.27	0.77	0.35	1.09	3
9	IDBI Bank	0.25	-0.98	1.43	-2.35	-4.72	-1.28	10
10	Kotak Mahindra Bank	1.76	1.09	1.59	1.54	1.56	1.51	2

Table 15 shows the details of Return on Assets Ratio of the selected banks of the period 2014-15 to 2018-19. Return on Assets Ratio indicates the returns gained on assets deployed by banks. Higher the return on assets ratio indicates the higher earning on assets. HDFC Bank is on the top with 1.68% return on assets and with the very nominal decline Kotak Mahindra Bank is on second while IDBI Bank ranked last in the list with -1.28% which shows that IDBI inefficiency.

TABLE 4.3: INTEREST INCOME TO TOTAL INCOME RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	87.10	85.49	83.19	83.18	86.85	85.16	6
2	Bank of Baroda	90.71	89.81	86.20	86.77	89.14	88.52	4
3	Bank of India	91.12	91.96	85.30	86.91	88.82	88.82	3
4	Central Bank of India	93.31	93.03	89.56	90.16	90.37	91.29	1
5	Indian Bank	92.08	90.12	87.88	87.67	91.06	89.76	2
6	Axis Bank	80.92	81.39	79.21	80.67	80.72	80.58	9
7	HDFC bank	84.34	84.85	84.93	84.06	84.88	84.61	7
8	ICICI Bank	80.13	77.49	73.52	75.93	81.37	77.69	10
9	IDBI Bank	87.54	89.16	87.51	76.65	86.99	85.57	5
10	Kotak Mahindra Bank	82.73	86.25	83.58	82.97	83.87	83.88	8

Table 16 shows the details of Interest Income to Total Income Ratio of the selected banks of the period 2014-15 to 2018-19. Interest Income to Total Income Ratio indicates bank's ability to earn from their landings. Higher the ratio indicates the higher interest income from landed money. In the list Central Bank of India ranked first because in their total income 91.29% income is an income from interest while ICICI Bank ranked last with average 77.69% interest income in their total income. This table 16 also shows that among the top 5 highest interest income bank, top 4 are public sector banks that indicates their ability to earn from their landed money.

TABLE 4.4: OTHER INCOME TO TOTAL INCOME RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	12.90	14.51	16.81	16.82	13.15	14.84	5
2	Bank of Baroda	9.29	10.19	13.80	13.23	10.86	11.48	7
3	Bank of India	8.88	8.04	14.70	13.09	11.18	11.18	8
4	Central Bank of India	6.69	6.97	10.44	9.84	9.63	8.71	10
5	Indian Bank	7.92	9.88	12.12	12.33	8.94	10.24	9
6	Axis Bank	19.08	18.61	20.79	19.33	19.28	19.42	2
7	HDFC bank	15.66	15.15	15.07	15.94	15.12	15.39	4
8	ICICI Bank	19.87	22.51	26.48	24.07	18.63	22.31	1
9	IDBI Bank	12.46	10.84	12.49	23.35	13.01	14.43	6
10	Kotak Mahindra Bank	17.27	13.75	16.42	17.03	16.13	16.12	3

Table 17 shows the details of Other Income to Total Income Ratio of the selected banks of the period 2014-15 to 2018-19. Other Income to Total Income Ratio indicates bank's earnings from their other products and core activities except income earning. In the list ICICI Bank ranked first because in their total income 22.31% income is generated from other products and core activities while Central Bank of India ranked last with average 8.71% other income in their total income.

TABLE 4.5: COMPOSITE AVERAGE AND RANKING OF EARNING QUALITY (YEAR WISE)

No.	Name of Banks	2014-15		2015-16		2016-17		2017-18		2018-19	
		AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK
1	State Bank of India	30.21	5	30.18	3	30.12	5	24.95	6	25.01	7
2	Bank of Baroda	31.38	2	24.80	8	31.06	3	24.92	7	25.01	6
3	Bank of India	30.92	4	24.75	10	24.94	9	24.75	8	24.78	8
4	Central Bank of India	28.47	9	24.91	7	24.82	10	24.61	9	24.57	9
5	Indian Bank	30.15	6	27.62	5	30.29	4	25.12	5	25.03	5
6	Axis Bank	29.09	7	29.00	4	34.72	1	152.45	1	25.15	4
7	HDFC bank	31.34	3	31.29	2	31.25	2	31.23	2	31.26	2
8	ICICI Bank	31.92	1	32.81	1	25.32	8	30.57	3	32.26	1
9	IDBI Bank	28.50	8	24.76	9	25.36	7	24.41	10	23.82	10
10	Kotak Mahindra Bank	26.54	10	26.37	6	25.40	6	26.08	4	26.21	3

Table shows the year wise composite average and rankings of Earning Quality Ratio. In the year 2014-15, ICICI Bank ranked first in the highest capacity of quality earning and on second position there is Bank of Baroda with just the difference of 0.54%. In the year 2015-16, again ICICI Bank maintains its position to first but on second position there is HDFC Bank and Bank of Baroda is down to 8th position this year. In the year 2016-17 and 2017-18, Axis Bank and HDFC Bank hold 1st and 2nd position. In the year 2018-19, again ICICI bank hold 1st position and HDFC Bank on second position. It can be said that except HDFC Bank, no other bank has shown steady growth.

TABLE 4.6: COMPOSITE AVERAGE AND RANKING OF EARNING QUALITY (RATIO WISE)

No.	Name of Banks	Dividend Payout Ratio	Return on Assets ratio	Interest income to Total Income Ratio	Other Income to Total Income Ratio	AVERAGE	RANK
1	State Bank of India	12.12	0.26	85.16	14.84	28.09	4
2	Bank of Baroda	9.82	-0.08	88.52	11.48	27.44	6
3	Bank of India	4.68	-0.57	88.82	11.18	26.03	8
4	Central Bank of India	2.73	-0.83	91.29	8.71	25.47	9
5	Indian Bank	10.14	0.43	89.76	10.24	27.64	5
6	Axis Bank	115.45	0.87	80.58	19.42	54.08	1
7	HDFC bank	23.41	1.68	84.61	15.39	31.27	2
8	ICICI Bank	21.21	1.09	77.69	22.31	30.58	3
9	IDBI Bank	2.75	-1.28	85.57	14.43	25.37	10
10	Kotak Mahindra Bank	2.98	1.51	83.88	16.12	26.12	7

Table shows the ratio wise composite average and rankings of Earning Quality Ratio. Here Axis Bank holds 1st position, HDGC Bank holds second position and ICICI Bank holds third. The reason behind this is that these all top three banks has higher dividend pay-out, higher return on assets and higher other income to total income. It is also noted that top three banks are private banks.

TABLE 5.1: LIQUID ASSETS TO TOTAL ASSETS RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	8.54	7.10	6.36	5.57	6.04	6.72	9
2	Bank of Baroda	20.75	19.94	21.65	12.90	11.43	17.34	1
3	Bank of India	12.35	16.25	15.31	15.73	15.16	14.96	2
4	Central Bank of India	4.75	4.69	23.63	12.02	9.43	10.91	3
5	Indian Bank	6.78	5.89	4.60	5.51	7.15	5.99	10
6	Axis Bank	7.81	6.17	8.36	6.29	8.39	7.40	6
7	HDFC bank	6.15	5.25	5.67	11.55	6.54	7.03	8
8	ICICI Bank	6.55	8.31	9.81	9.57	8.33	8.51	4
9	IDBI Bank	4.08	6.29	9.03	9.62	6.63	7.13	7
10	Kotak Mahindra Bank	5.91	5.66	10.52	7.41	7.90	7.48	5

Table 18 shows the details of Liquid Assets to Total Assets Ratio of the selected banks of the period 2014-15 to 2018-19. This ratio indicated that which bank has the highest liquidity and safety assets as proportion of total assets. Higher ratio indicates better position of bank. With 17.34% liquidity, Bank of Baroda ranked first and Bank of India is on second position while with only 5.99% liquidity ranked last in the table. Table 17 also shows that only three banks have liquidity above 10% while remaining seven banks liquidity are below 10%.

TABLE 5.2: GOVERNMENT SECURITIES TO TOTAL ASSETS RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	18.44	19.49	21.26	24.56	20.70	20.89	5
2	Bank of Baroda	13.55	14.96	15.97	19.55	20.35	16.88	8
3	Bank of India	16.49	16.98	17.79	19.42	20.56	18.25	7
4	Central Bank of India	24.17	21.78	22.22	24.93	29.09	24.44	1
5	Indian Bank	20.02	19.40	25.93	23.92	18.54	21.56	4
6	Axis Bank	17.59	17.52	15.06	14.66	14.58	15.88	9
7	HDFC bank	20.39	21.28	18.80	17.70	19.26	19.49	6
8	ICICI Bank	16.35	15.35	14.31	15.83	15.34	15.43	10
9	IDBI Bank	23.45	21.61	23.18	23.52	25.78	23.51	2
10	Kotak Mahindra Bank	26.29	24.84	20.11	23.52	22.17	23.39	3

Table 19 shows the details of Government Securities to Total Assets Ratio of the selected banks of the period 2014-15 to 2018-19. As we know government securities are more liquid and safer investment, so this ratio indicates the proportion of government securities in total assets. Higher the ratio indicates more safety and liquidity. With average 24.44% Central Bank of India ranked first among all the banks while ICICI Bank ranked on 10th with 15.43%

TABLE 5.3: LIQUID ASSETS TO DEMAND DEPOSIT RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	140.37	119.78	112.83	101.19	108.07	116.45	5
2	Bank of Baroda	280.99	386.67	353.89	201.68	190.25	282.70	2
3	Bank of India	355.77	419.26	335.81	324.56	344.49	355.98	1
4	Central Bank of India	112.18	119.80	596.39	267.11	190.05	257.11	3
5	Indian Bank	154.49	129.34	97.08	107.93	151.03	127.97	4
6	Axis Bank	64.34	52.36	57.76	45.43	75.29	59.04	10
7	HDFC bank	49.39	44.01	42.36	103.05	57.09	59.18	9
8	ICICI Bank	85.43	101.70	100.97	94.62	83.41	93.22	6
9	IDBI Bank	47.76	80.95	95.89	96.31	60.12	76.21	7
10	Kotak Mahindra Bank	47.51	46.73	81.31	60.85	63.43	59.97	8

Table 20 shows the details of Liquid Assets to Demand Deposit Ratio of the selected banks of the period 2014-15 to 2018-19. This ratio indicates that is the bank has invested enough in the liquid investment or not, so that they can meet the demand of depositors quickly. Higher ratio indicates that bank can easily meet the demand of money of their depositors. Bank of India shows the highest liquidity with average 355.98% and on second position there is Bank of Baroda with 282.70% while Axis Bank ranked last with only 59.04% liquidity against demand deposits. According to table 20, it can be noted that all the top 5 banks are public sector banks, so it indicates that public sector banks are more reliable in context of liquidity of demand deposits. It is also noted that all the public bank has liquidity above 100% and some of them has above 200% while all the private bank has below 100%.

TABLE 5.4: LIQUID ASSETS TO TOTAL DEPOSIT RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	11.09	9.68	8.41	7.11	7.64	8.79	9
2	Bank of Baroda	24.02	23.33	25.01	15.71	13.97	20.41	1
3	Bank of India	14.36	19.33	17.76	18.41	18.20	17.61	2
4	Central Bank of India	5.79	5.39	26.55	13.31	10.40	12.29	4
5	Indian Bank	7.73	6.73	5.50	6.69	8.27	6.98	10
6	Axis Bank	11.20	9.31	12.13	9.58	12.25	10.89	5
7	HDFC bank	8.06	7.12	7.61	15.58	8.81	9.44	8
8	ICICI Bank	11.70	14.21	15.45	15.00	12.30	13.73	3
9	IDBI Bank	5.59	8.88	12.17	13.59	9.34	9.91	7
10	Kotak Mahindra Bank	8.37	7.85	14.34	10.18	10.92	10.33	6

Table 21 shows the details of Liquid Assets to Total Deposit Ratio of the selected banks of the period 2014-15 to 2018-19. This ratio indicates banks capacity to meet their depositor’s obligation with available liquid funds. Higher ratio indicates the better liquidity of bank. Bank of Baroda ranked first with average 20.41% and which is followed by Bank of India with 17.61% while Indian Bank stood last with 6.98%.

TABLE 5.5: APPROVED SECURITIES TO TOTAL ASSETS RATIO

No.	Name of Banks	2014-15	2015-16	2016-17	2017-18	2018-19	AVERAGE	RANK
1	State Bank of India	0.17	0.16	0.27	0.27	0.37	0.25	2
2	Bank of Baroda	0.19	0.24	0.37	0.40	0.45	0.33	1
3	Bank of India	0.03	0.03	0.02	0.02	0.05	0.03	3
4	Central Bank of India	0.00	0.00	0.00	0.00	0.00	0.00	7.5
5	Indian Bank	0.02	0.02	0.02	0.01	0.00	0.01	4
6	Axis Bank	0.00	0.00	0.00	0.00	0.00	0.00	7.5
7	HDFC bank	0.00	0.00	0.00	0.00	0.00	0.00	7.5
8	ICICI Bank	0.00	0.00	0.00	0.00	0.00	0.00	7.5
9	IDBI Bank	0.00	0.00	0.00	0.00	0.00	0.00	7.5
10	Kotak Mahindra Bank	0.00	0.00	0.00	0.00	0.00	0.00	7.5

Table 22 shows the details of Approved Securities to Total Assets Ratio of the selected banks of the period 2014-15 to 2018-19. This ratio measures the risk involved in the assets. Approved securities are termed as much safest and liquid. Higher ratio indicates more liquidity. With average 0.33% Bank of Baroda ranked first and following this on second is State Bank of India with average 0.25, third is bank of India with 0.03% and fourth is Indian Bank with 0.01%, while remaining all bank has 0% liquidity of approved securities.

TABLE 5.6: COMPOSITE AVERAGE AND RANKING OF LIQUIDITY (YEAR WISE)

No.	Name of Banks	2014-15		2015-16		2016-17		2017-18		2018-19	
		AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK
1	State Bank of India	35.72	4	31.24	4	29.82	4	27.74	7	28.57	5
2	Bank of Baroda	67.90	2	89.03	2	83.38	2	50.05	3	47.29	3
3	Bank of India	79.80	1	94.37	1	77.34	3	75.63	1	79.69	1
4	Central Bank of India	29.38	5	30.33	5	133.76	1	63.47	2	47.80	2
5	Indian Bank	37.81	3	32.27	3	26.63	7	28.81	5	37.00	4
6	Axis Bank	20.19	7	17.07	8	18.66	9	15.19	10	22.10	7
7	HDFC bank	16.80	9	15.53	10	14.89	10	29.58	4	18.34	10
8	ICICI Bank	24.00	6	27.91	6	28.11	5	27.01	8	23.87	6
9	IDBI Bank	16.18	10	23.55	7	28.06	6	28.61	6	20.37	9
10	Kotak Mahindra Bank	17.61	8	17.02	9	25.25	8	20.39	9	20.89	8

Table shows the year wise composite average and rankings of Liquidity Ratio. In the year 2014-15 and 2015-16, Bank of India, Bank of Baroda, Indian Bank, State Bank of India and Central Bank of India are on 1st, 2nd, 3rd, 4th and 5th rank respectively while all public sector banks are in bottom five. In the year 2016-17, Central Bank of India jump to first from fifth position in last two years. In the year 2017-18 and 2018-19, again Bank of Baroda back to the first position, while Central Bank of India on second and Bank of Baroda stays on third position. It is clear that the public sector banks have the highest capacity to meet the demand of depositors and shows much higher liquidity and availability of liquid fund in hand in compare to private sector banks.

TABLE 5.7: COMPOSITE AVERAGE AND RANKING OF LIQUIDITY (RATIO WISE)

No.	Name of Banks	Liquid Assets to Total Assets Ratio	Government Securities to Total Assets Ratio	Liquid Assets to Demand Deposit Ratio	Liquid Assets to Total Deposit Ratio	Approved Securities to total Assets Ratio	AVERAGE	RANK
1	State Bank of India	6.72	20.89	116.45	8.79	0.25	30.62	5
2	Bank of Baroda	17.34	16.88	282.70	20.41	0.33	67.53	2
3	Bank of India	14.96	18.25	355.98	17.61	0.03	81.37	1
4	Central Bank of India	10.91	24.44	257.11	12.29	0.00	60.95	3
5	Indian Bank	5.99	21.56	127.97	6.98	0.01	32.50	4
6	Axis Bank	7.40	15.88	59.04	10.89	0.00	18.64	10
7	HDFC bank	7.03	19.49	59.18	9.44	0.00	19.03	9
8	ICICI Bank	8.51	15.43	93.22	13.73	0.00	26.18	6
9	IDBI Bank	7.13	23.51	76.21	9.91	0.00	23.35	7
10	Kotak Mahindra Bank	7.48	23.39	59.97	10.33	0.00	20.23	8

Table shows the year wise composite average and rankings of Liquidity Ratio. Bank of India holds the first position and shows highest availability of liquid funds and can easily meet the demand of their depositors. Bank of Baroda, Central Bank of India, Indian Bank and State Bank of India are on second, third, fourth and fifth position respectively. From the average of all ratios, again the top five banks are public sector banks who have the highest liquidity while all public sector banks are at bottom and indicates that these banks are not that much efficient to hold liquidity fund.

TABLE 6

		COMPOSITE RANKING OF CAMEL																													
No.	Name of Banks	C					A					M					E					L					COMPOSITE				
		2014-15	2015-16	2016-17	2017-18	2018-19	2014-15	2015-16	2016-17	2017-18	2018-19	2014-15	2015-16	2016-17	2017-18	2018-19	2014-15	2015-16	2016-17	2017-18	2018-19	2014-15	2015-16	2016-17	2017-18	2018-19	2014-15	2015-16	2016-17	2017-18	2018-19
1	State Bank of India	5	5	6	5	4	7	6	5	3	4	8	5	5	6	5	5	3	5	6	7	4	4	4	7	5	8	7	4	6	5
2	Bank of Baroda	4	2	2	1	1	10	7	8	5	5	3	7	7	7	6	2	8	3	7	6	2	2	2	3	3	3	4	5	7	6
3	Bank of India	1	1	1	2	3	9	3	4	4	3	6	8	8	8	8	4	10	9	8	8	1	1	3	1	1	4	5	7	8	7
4	Central Bank of India	3	7	8	10	8	3	1	2	2	2	10	10	10	10	10	9	7	10	9	9	5	5	1	2	2	10	10	9	10	10
5	Indian Bank	2	6	4	3	2	5	5	3	6	7	9	9	9	9	9	6	5	4	5	5	3	3	7	5	4	9	9	10	9	9
6	Axis Bank	8	8	7	6	6	6	10	9	9	9	2	2	3	3	3	7	4	1	1	4	7	8	9	10	7	2	2	3	2	3
7	HDFC bank	6	4	5	8	5	8	9	10	10	10	5	3	1	1	1	3	2	2	2	2	9	10	10	4	10	6	3	2	1	1
8	ICICI Bank	10	10	9	9	7	4	8	7	7	8	7	4	6	5	4	1	1	8	3	1	6	6	5	8	6	7	6	8	5	4
9	IDBI Bank	7	3	3	4	10	2	2	1	1	1	1	1	2	4	7	8	9	7	10	10	10	7	6	6	9	1	1	1	4	8
10	Kotak Mahindra Bank	9	9	10	7	9	1	4	6	8	6	4	6	4	2	2	10	6	6	4	3	8	9	8	9	8	5	8	6	3	2

Table shows the year wise composite ranking of CAMEL. In the year 2014-15, IDBI Bank ranked first because of their best performance in Management Efficiency and capital adequacy. This is followed by Axis bank on second position with its good performance in Management Efficiency and Assets Quality. During 2015-16, again IDBI Bank holds first position due to its best performance in Management Efficiency and much better performance in Capital Adequacy in compare to previous year. This year also it is followed by the Axis Bank. On third position HDFC Bank improves its performance in context of Capital Adequacy, Assets Quality, Management Efficiency and also in Earning Quality in compare to previous year. In the year 2016-17, IDBI Bank tightly holds the first position with its good performance in Capital Adequacy, Management Efficiency, Earning Quality and Liquidity. While this year it is followed by HDFC Bank on second position. HDFC Bank strongly improves its performance in context Capital Adequacy, Assets Quality, Management Efficiency and also in Earning Quality in compare to previous years and ups its position. While on third position there is axis bank which is on second position in previous two years. Axis Bank degrades its position due to decline the performance in context of Management Efficiency and Liquidity. In the year 2017-18, with an improved performance HDFC Bank holds first position due to high performance in Assets Performance, Management Efficiency, Earning Quality and liquidity. This is followed by Axis bank on second position and Kotak Mahindra Bank jumps to third position with its good performance in context of Capital Adequacy, Assets Quality, Management Efficiency and Earning Quality in compare to previous years. In the year 2018-19, again HDFC Bank is on first position with the good performance in Capital Adequacy, Assets Quality, Management Efficiency and Earning Quality while the performance of Liquidity is declined this year. On the second position there is Kotak Mahindra Bank which was on third position in last year. Kotak Mahindra Bank improves their performance in context of Assets Quality, Management Efficiency, Earning Quality and Liquidity in compare to previous years. On the third position there is Axis bank which declined its position from second to third this year due to poor performance in Earning quality in compare to last year. In all the five years Central Bank of India and Indian bank both are in the bottom position tenth and ninth respectively due to their bad performance in Assets Quality, Management Efficiency and Earning Quality.

TABLE 7: OVERALL AVERAGES AND RANKING OF ALL THE COMPONENTS OF RATIO

No.	Name of Banks	C		A		M		E		L	
		AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK	AVERAGE	RANK
1	State Bank of India	50.57	4	12.56	5	451.78	6	28.09	4	30.62	5
2	Bank of Baroda	52.45	2	11.08	8	427.74	7	27.44	6	67.53	2
3	Bank of India	53.40	1	13.43	3	397.36	8	26.03	8	81.37	1
4	Central Bank of India	49.14	7	18.47	2	223.69	10	25.47	9	60.95	3
5	Indian Bank	51.85	3	12.26	6	303.04	9	27.64	5	32.50	4
6	Axis Bank	48.37	8	10.00	9	535.41	3	54.08	1	18.64	10
7	HDFC bank	49.72	6	8.85	10	582.00	1	31.27	2	19.03	9
8	ICICI Bank	46.94	10	11.33	7	468.00	5	30.58	3	26.18	6
9	IDBI Bank	50.11	5	19.15	1	537.54	2	25.37	10	23.35	7
10	Kotak Mahindra Bank	46.98	9	13.12	4	506.13	4	26.12	7	20.23	8

Table shows the overall average and ranking of all components of CAMEL. State Bank of India ranked fourth for Capital Adequacy and shows average performance, fifth for Assets Quality again shows an average performance, for Management Efficiency it ranked down to sixth rank and shows lower performance in compare to Capital Adequacy and Assets Quality while it ups the rank to fourth and fifth for Earning and Liquidity, so it can be said that, the Management Efficiency is lower in State Bank of India while other components are at average. Bank of Baroda ranked second in Capital adequacy and liquidity which indicates very good performance. It ranked eighth for Assets Quality and shows lower NPA. But for Management Efficiency and Earning it ranked seventh and sixth which indicates the performance below the average and this is the area where Bank of Baroda needs to focus. Bank of India ranked first in context of Capital Adequacy and Liquidity which indicates the best financial position and availability of liquid funds. For assets quality it ranked third which indicates that they are not efficient to recover their credit. While for Management Efficiency and Earning Quality, it ranked eighth and indicates poor management and earnings. Central Bank of India shows very poor performance in Capital Adequacy, Assets Quality, Management Efficiency and Earning Quality, but it ranked third for Liquidity. Indian Bank ranked third for Capital Adequacy and fourth for Liquidity which indicates good financial position and availability of liquid assets. For Assets quality and Earning it shows average but in context of Management Efficiency it seems such a poor and ranked ninth. Axis Bank shows bad performance in Capital Adequacy and ranked eighth and also ranked last among all banks in Liquidity so it indicates bad financial position and lack of liquid assets. But it holds first position for Earning Quality and shows highest earning capacity among all banks and also shows good performance in Assets Quality with lower NPA and ranked third for Management Efficiency. HDFC Bank holds first rank which indicates the superior management efficiency amongst all bank and also perform great in Assets Quality and shows highest recovering of credited money amongst all bank. HDFC Bank also ranked second for Earning and sixth for Capital Adequacy. But in Liquidity it ranked to ninth and indicates unavailability of liquid funds. ICICI Bank ranked last among all bank for Capital Adequacy which indicates worst financial position. But it holds third position in Earning Quality and shows the good income generating capacity, while it ranked average in the remaining parameters. IDBI Bank ranked second in Management Efficiency which shows good management decision by the authority. Also shows an average performance in Capital Adequacy and Liquidity while poor performance in Assets Quality and Earning Quality. Kotak Mahindra Bank shows decent performance in all the parameters. In an overall performance, HDFC bank perform well in context of most parameters.

TABLE 8: OVERALL RANKING OF CAMEL

No.	Name of Banks	OVERALL AVERAGE	OVERALL RANKING
1	State Bank of India	114.73	7
2	Bank of Baroda	117.25	5
3	Bank of India	114.31	8
4	Central Bank of India	75.54	10
5	Indian Bank	85.46	9
6	Axis Bank	133.30	2
7	HDFC bank	138.17	1
8	ICICI Bank	116.61	6
9	IDBI Bank	131.11	3
10	Kotak Mahindra Bank	122.52	4

TESTING OF HYPOTHESIS

Table shows and overall average and ranking of all the components of CAMEL. In this HDFC Bank hold first rank amongst all banks and Axis Bank holds second rank. While on the last position there is Central Bank of India which holds tenth position. It is also noted that in compare to public sector bank, private banks are performed very well.

The study proposed a hypothesis that there is a significant difference between the financial performance of public sector banks and private sector banks with special reference to the selected variables. The study considered 22 different financial ratios as variables viz., Capital Adequacy Ratio (CAR), Debt Equity Ratio (DER), Advance to Total Assets Ratio (ATAR), Government Securities to Total Investment Ratio (GSTIR), Coverage Ratio (CR), Gross NPA Ratio (GNPAR), Net NPA Ratio (NNPAR), Total Investment to Total Assets Ratio (TITAR), Total Advance to Total Deposit Ratio (TATDR), Business per Employee Ratio (BER), Profit per Employee Ratio (PER), Business per Branch Ratio (BBR), Profit per Branch Ratio (PBR), Dividend Pay-out Ratio (DPR), Return on Assets Ratio (RAR), Interest Income to Total Income Ratio (IITIR), Other Income to Total Income Ratio (OITIR), Liquid Assets to Total Assets Ratio (LATIR), Government Securities to Total Assets Ratio (GSTAR), Liquid Assets to Demand Deposit Ratio (LADDR), Liquid Assets to Total Deposit Ratio (LATDR), Approved Securities to Total Assets Ratio (ASTAR).

To investigate the proposed hypothesis statistical tools like Descriptive Statistics, One Way ANOVA (to examine the significant difference between the banks as well as among the banks), Test of Homogeneity (Levene Statistic) has been used. The following sections discuss the results of various statistical tests employed.

TABLE 9: DESCRIPTIVE STATISTICS WITH TEST OF HOMOGENEITY

SR. No		N	Mean	Std. Deviation	Std. Error	D.F	Test of Homogeneity - p value (Sign)	Test of Homogeneity of Variance (Levene Statistics)	Decision Rule for variance at 5 % level of significance	
1	Capital Adequacy Ratio	Public Banks	5	12.312	1.232	0.551	(1, 8)	0.336	1.047	Not Significant
		Private Banks	5	15.398	2.466	1.103				
		Total	10	13.855	2.454	0.776				
2	Debt Equity Ratio	Public Banks	5	15.436	2.027	0.907	(1, 8)	0.671	0.194	Not Significant
		Private Banks	5	8.974	2.507	1.121				
		Total	10	12.205	4.027	1.274				
3	Advance to Total Assets Ratio	Public Banks	5	58.032	4.466	1.997	(1, 8)	0.888	0.021	Significant
		Private Banks	5	60.336	4.478	2.002				
		Total	10	59.184	4.387	1.387				
4	Government securities to total investment Ratio	Public Banks	5	81.394	4.157	1.859	(1, 8)	0.047	5.491	Not Significant
		Private Banks	5	72.406	8.637	3.863				
		Total	10	76.900	7.955	2.516				
5	Coverage Ratio	Public Banks	5	90.236	1.886	0.844	(1, 8)	0.208	1.871	Not Significant
		Private Banks	5	85.016	2.662	1.190				
		Total	10	87.626	3.507	1.109				
6	Gross NPA Ratio	Public Banks	5	10.236	3.742	1.673	(1, 8)	0.971	0.899	Not Significant
		Private Banks	5	6.896	7.457	3.335				
		Total	10	8.566	5.834	1.845				
7	Net NPA Ratio	Public Banks	5	5.180	1.932	0.864	(1, 8)	0.354	0.970	Not Significant
		Private Banks	5	3.346	3.874	1.732				
		Total	10	4.263	3.044	0.962				
8	Total Investment to Total assets Ratio	Public Banks	5	25.264	4.899	2.191	(1, 8)	0.986	0.000	Significant
		Private Banks	5	27.226	5.295	2.368				
		Total	10	26.245	4.919	1.555				
9	Total Advance to Total Deposit Ratio	Public Banks	5	69.500	7.416	3.317	(1, 8)	0.686	0.176	Not Significant
		Private Banks	5	87.032	8.979	4.015				
		Total	10	78.266	12.069	3.816				
10	Business per Employee Ratio	Public Banks	5	167.274	28.996	12.967	(1, 8)	0.317	1.141	Not Significant
		Private Banks	5	151.828	61.019	27.288				
		Total	10	159.551	45.768	14.473				
11	Profit per Employee Ratio	Public Banks	5	-0.166	0.560	0.251	(1, 8)	0.170	2.276	Not Significant
		Private Banks	5	0.468	1.659	0.742				
		Total	10	0.151	1.215	0.384				
12	Business per Branch Ratio	Public Banks	5	1568.314	445.746	199.344	(1, 8)	0.040	5.985	Not Significant
		Private Banks	5	2375.708	198.031	88.562				
		Total	10	1972.011	535.551	169.356				
13		Public Banks	5	-1.314	4.931	2.205	(1, 8)	0.131	2.828	Not Significant

	Profit per Branch Ratio	Private Banks	5	14.052	21.213	9.487				
		Total	10	6.369	16.625	5.257				
14	Dividend Payout Ratio	Public Banks	5	7.898	3.988	1.783	(1, 8)	0.054	5.088	Not Significant
		Private Banks	5	33.160	47.024	21.030				
		Total	10	20.529	34.163	10.803				
15	Return on Assets ratio	Public Banks	5	-0.158	0.536	0.240	(1, 8)	0.306	1.193	Not Significant
		Private Banks	5	0.774	1.193	0.533				
		Total	10	0.308	1.001	0.316				
16	Interest income to Total Income Ratio	Public Banks	5	88.710	2.259	1.010	(1, 8)	0.232	1.675	Not Significant
		Private Banks	5	82.466	3.263	1.459				
		Total	10	85.588	4.223	1.335				
17	Other Income to Total Income Ratio	Public Banks	5	11.290	2.259	1.010	(1, 8)	0.232	1.675	Not Significant
		Private Banks	5	17.534	3.263	1.459				
		Total	10	14.412	4.223	1.335				
18	Liquid Assets to Total Assets Ratio	Public Banks	5	11.184	4.978	2.226	(1, 8)	0.008	12.270	Not Significant
		Private Banks	5	7.510	0.589	0.263				
		Total	10	9.347	3.862	1.221				
19	Government Securities to Total Assets Ratio	Public Banks	5	20.404	2.955	1.321	(1, 8)	0.428	0.696	Not Significant
		Private Banks	5	19.540	3.901	1.745				
		Total	10	19.972	3.294	1.042				
20	Liquid Assets to Demand Deposit Ratio	Public Banks	5	228.042	103.281	46.189	(1, 8)	0.005	15.018	Not Significant
		Private Banks	5	69.524	15.119	6.762				
		Total	10	148.783	108.731	34.384				
21	Liquid Assets to Total Deposit Ratio	Public Banks	5	13.216	5.710	2.553	(1, 8)	0.018	8.726	Not Significant
		Private Banks	5	10.860	1.691	0.756				
		Total	10	12.038	4.159	1.315				
22	Approved Securities to total Assets Ratio	Public Banks	5	0.124	0.155	0.069	(1, 8)	0.000	48.049	Not Significant
		Private Banks	5	0.000	0.000	0.000				
		Total	10	0.062	0.122	0.039				

This table presents the results of Descriptive Statistics and Levene's Test Statistic for test of homogeneity. From the above table it was evident that means difference was found out between public sector and private sector banks. In case of Capital Adequacy Ratio, Debt Equity Ratio, Advance to Total Assets Ratio, Government securities to total investment Ratio, Coverage Ratio, Net NPA Ratio, Total Investment to Total assets Ratio, Total Advance to Total Deposit Ratio, Business per Employee Ratio, Profit per Employee Ratio, Profit per Branch Ratio, Dividend Payout Ratio, Return on Assets ratio, Interest income to Total Income Ratio, Other Income to Total Income Ratio, Government Securities to Total Assets Ratio of the standard deviation of public sector banks is less than the private sector banks. Equal variances across the groups/samples is called homogeneity of variances. The Levene's test uses an F-test to test the null hypothesis that the variance is equal across groups. Levene's test statistic shows that except for two variables viz., Advance to Total Assets Ratio, Total Investment to Total assets Ratio, remaining all variables have equal variances across the samples.

Ho: The variances are significantly different.

H1: The variances are not significantly different.

TABLE 10: ONE WAY ANOVA

SR. No			Sum of Squares	df	Mean Square	F	Sig.	Decision Rule at 5 % level of significance
1	Capital Adequacy Ratio	Between Groups	23.808	1	23.808	6.266	0.037	Significant
		Within Groups	30.396	8	3.799			
		Total	54.204	9				
2	Debt Equity Ratio	Between Groups	104.394	1	104.394	20.085	0.002	Significant
		Within Groups	41.580	8	5.197			
		Total	145.973	9				
3	Advance to Total Assets Ratio	Between Groups	13.271	1	13.271	0.664	0.439	Not Significant
		Within Groups	159.973	8	19.997			
		Total	173.244	9				
4	Government securities to total investment Ratio	Between Groups	201.960	1	201.960	4.396	0.069	Not Significant
		Within Groups	367.548	8	45.943			
		Total	569.508	9				
5	Coverage Ratio	Between Groups	68.121	1	68.121	12.801	0.007	Significant
		Within Groups	42.571	8	5.321			
		Total	110.692	9				
6	Gross NPA Ratio	Between Groups	27.889	1	27.889	0.801	0.397	Not Significant
		Within Groups	278.447	8	34.806			
		Total	306.336	9				
7	Net NPA Ratio	Between Groups	8.409	1	8.409	0.897	0.371	Not Significant
		Within Groups	74.960	8	9.370			
		Total	83.368	9				
8	Total Investment to Total assets Ratio	Between Groups	9.624	1	9.624	0.370	0.560	Not Significant
		Within Groups	208.113	8	26.014			
		Total	217.736	9				
9	Total Advance to Total Deposit Ratio	Between Groups	768.428	1	768.428	11.332	0.010	Significant
		Within Groups	542.473	8	67.809			
		Total	1310.900	9				
10	Business per Employee Ratio	Between Groups	596.447	1	596.447	0.261	0.623	Not Significant
		Within Groups	18256.050	8	2282.006			
		Total	18852.497	9				
11	Profit per Employee Ratio	Between Groups	1.005	1	1.005	0.655	0.442	Not Significant
		Within Groups	12.271	8	1.534			
		Total	13.275	9				
12	Business per Branch Ratio	Between Groups	1629712.678	1	1629712.678	13.700	0.006	Significant
		Within Groups	951623.535	8	118952.942			
		Total	2581336.213	9				
13	Profit per Branch Ratio	Between Groups	590.285	1	590.285	2.489	0.153	Not Significant
		Within Groups	1897.269	8	237.159			
		Total	2487.554	9				
14	Dividend Payout Ratio	Between Groups	1595.422	1	1595.422	1.433	0.266	Not Significant
		Within Groups	8908.719	8	1113.590			
		Total	10504.141	9				
15	Return on Assets ratio	Between Groups	2.172	1	2.172	2.540	0.150	Not Significant
		Within Groups	6.838	8	0.855			
		Total	9.010	9				
16	Interest income to Total Income Ratio	Between Groups	97.469	1	97.469	12.375	0.008	Significant
		Within Groups	63.008	8	7.876			
		Total	160.477	9				
17	Other Income to Total Income Ratio	Between Groups	97.469	1	97.469	12.375	0.008	Significant
		Within Groups	63.008	8	7.876			
		Total	160.477	9				
18	Liquid Assets to Total Assets Ratio	Between Groups	33.746	1	33.746	2.686	0.140	Not Significant
		Within Groups	100.522	8	12.565			
		Total	134.268	9				
19	Government Securities to Total Assets Ratio	Between Groups	1.866	1	1.866	0.156	0.703	Not Significant
		Within Groups	95.794	8	11.974			
		Total	97.660	9				
20	Liquid Assets to Demand Deposit Ratio	Between Groups	62819.891	1	62819.891	11.531	0.009	Significant
		Within Groups	43582.152	8	5447.769			
		Total	106402.042	9				
21	Liquid Assets to Total Deposit Ratio	Between Groups	13.877	1	13.877	0.783	0.402	Not Significant
		Within Groups	141.833	8	17.729			
		Total	155.710	9				
22	Approved Securities to total Assets Ratio	Between Groups	0.038	1	0.038	3.219	0.111	Not Significant
		Within Groups	0.096	8	0.012			
		Total	0.134	9				

This table presents the details of One-Way ANOVA results for the predictor variables in the study. From the table it can be observed that there is a significant difference at 5% level between public sector banks and private sector banks financial performance in terms of Capital Adequacy Ratio 0.037, Debt Equity Ratio

0.002, Coverage Ratio 0.007, Total Advance to Total Deposit Ratio 0.010, Business per Branch Ratio 0.006, Interest income to Total Income Ratio 0.008, Other Income to Total Income Ratio 0.008 and Liquid Assets to Demand Deposit Ratio 0.009, remaining variables are not exhibiting significant result.

CONCLUSION

Overall averages and rankings of all the components are outcome of the study of 5 public sector and five private sector bank using CAMEL approach. HDFC bank holds first position with 138.17% which is followed by Axis bank 133.30% and IDBI bank 131.11%. The study observed that the private sector banks are in top of the rankings.

As per the statistical test the null hypothesis is a significant difference in financial performance of public sector and private sector banks has been proved in very few areas, due to the limitation of number of observations selected for study. But when comparison is made within the sample banks of the sectors the hypothesis does not stand true.

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