INTRODUCTION

Banking sector is the backbone of an economy. Banks are considered to be the mart of the world, the nerve centre of economies and finance of a nation and the barometer of its economic perspective. They are not merely dealers in money but are in fact dealers in development. Banks are important agencies for the generation of savings of the community and also the main agents of credit. They divert and employ the funds to make possible fuller utilisation of the resources of a nation. They transfer funds from regions where it is available in plenty to where it can be efficiently utilised. The distribution of funds between regions paves the way for the balanced development of the different regions. They are thus catalytic agents that create opportunities for the development of the resources to speed up the tempo of economic development. To quote Bhabha, “Banking is the kingpin of the chariot of economic progress. As such its role in expanding the economy of a country like India can neither be underestimated nor overlooked”.

Commercial banks are financial intermediaries, which perform the dual functions of mobilisation of deposits and deployment of surplus funds to the various sectors of the economy. They play a vital role in giving a direction to the economy’s development over time by financing the requirements of agriculture, business and industry. The commercial development and progress of a country is largely dependent upon the services rendered by commercial banks. A well-developed commercial banking system is a sine qua non for the economic development of a nation. The volume of their transactions highlights the economic strides made by the country.
Commercial banks thus act as a vehicle for socio-economic transformation and also a catalyst to economic growth. It plays an important role in mobilising the nation’s savings and in channelising them into high investment priorities and better utilisation of available resources. Lack of resources and lack of effective utilisation of available resources hamper the process of economic development of a nation. It is here that commercial banks play a crucial role because they act as a bridge between those who need funds to acquire necessary assets and those who have funds but are usable to make an effective and productive use of it. Modern commercial banking operations touch almost every sphere of economic activity.

1.1 COMMERCIAL BANKING IN INDIA

In the Indian financial system, commercial banks are the major mobilisers and disbursers of financial resources. The history of commercial banking in India had its origin in the seventeenth century with the establishment of trading centers by the East India Company. It is an undeniable fact that the banking sector in India has undergone remarkable changes during the last forty years.

The role of banks in accelerating the economic development of a country like India has been increasingly recognised following the nationalisation of fourteen major commercial banks in July 1969 and six more banks in April 1980. With nationalisation, the concept of banking has undergone significant changes. Banks are no longer viewed as mere lending institutions. They are to serve the society in a much bigger way with a socio-economic development oriented outlook. To achieve the varied objectives of nationalisation, the nationalised banks have introduced innovative schemes in the mobilisation of resources as well as its disbursement. Nationalisation
resulted in a comprehensive programme of branch expansion, lending to priority sectors and weaker sections of the society and so on.

Since the nationalisation of twenty major commercial banks, the geographical and functional coverage of banks have surged at a rate that is unprecedented in the world. After nationalisation, the public sector banks have given up their traditional approach of maximising profits for the shareholders to a development role in the interest of the country. Nationalisation of banks brought about several diversifications, modifications and innovations in the structure and functioning of banks. In India till the eighties, the banks operated in a protected environment characterised by administered interest rates, high levels of pre-emption in the form of reserve requirements and directed credit.

The horizon of commercial banking in India that enlarged with nationalisation has further widened with the implementation of the Banking Sector Reforms in 1991. Financial and banking sector reforms were initiated in India in 1991 with the report of a committee on the financial system headed by Dr. M. Narasimham, against the backdrop of challenges faced by the Indian banks, from within and outside the banking system in the country as well as forces of globalisation operating worldwide. As a result of financial sector reforms, there has been a shift in the focus from quantitative to qualitative growth. The accent of the reform process was to improve productivity and efficiency of the financial system and to provide a highly competitive environment for different bank group i.e. public sector banks, old private sector banks, new generation private sector banks and foreign banks, which are working in India.

The Narasimham committee proposed introduction of prudential norms such as income recognition, asset classification, provisioning and capital adequacy norms,
and transparency in operations and improvement in productivity, efficiency and profitability of banking operations\textsuperscript{3}. It recommended sweeping changes in the financial sector as per international norms to cater to the needs of the sector and to strengthen it.

The economic reforms of 1991 had unleashed fierce competition among banks. Banking system has now transformed itself into a vibrant financial service sector with many innovative and technology driven services at their end. Some commercial banks have now emerged as financial supermarkets by offering a wide array of services and products by adopting modern technology. Many Indian commercial banks are now competent enough to face the challenges with in the country and from foreign banks.

Against the increasingly competitive and complex nature of the banking industry and against the background of the profound structural changes in banking services worldwide, every Indian bank is forced to embark on a fundamental redefinition of its business and its relationship with its customers. While banks are striving to strengthen customer relationship and move towards ‘Relationship Banking’ customers are increasingly moving away from the confines of traditional branch banking and are seeking the convenience of remote electronic banking services.

There is no denying the fact that technology reach, new products and better services are the demand of the banking sector. The success of the new private bank clearly indicates that the new age banking customer is willing to pay that “little extra” for better service. ‘Customer Satisfaction’ is strongest for the success of an organisation. An organisation cannot survive in the long run if its customers are
dissatisfied by the products or services offered by it. Satisfaction depends on the customer’s own perceptions, aspirations and expectations.

1.2 AN OVERVIEW OF THE INDIAN BANKING SECTOR

India is the largest country in South Asia with a huge financial system characterised by many and varied financial institutions and instruments. The size, niches and vintages of commercial banks in India vary from one another. Their ownership pattern also differs from state owned to private and foreign. The Government of India and the Reserve Bank of India owned State Bank of India. Jammu and Kashmir bank though not a private bank; it is treated as one by the authorities. Some financial institutions got successfully transformed from their original form into banks viz. ICICI Bank and IDBI Bank. There are both new and old private sector banks. Kotak Mahindra Bank Ltd. and Yes Bank Ltd. are the newest banks, while a few are more than 100 years and more old. When compared to other developing economies, commercial banks in India are in front in terms of their geographical coverage, operational capabilities, technological prowess and range of their products and services.

At the top of the banking system is the Reserve Bank of India, which is responsible for prudential supervision of banks, non-banks and for performing other central banking functions. At the end of March 2013, there were 26 public sector banks (State Bank of India and its five associates, 19 nationalised banks and IDBI Bank Ltd), 13 old private sector banks, 7 new private sector banks, and 43 foreign banks. In addition 46 foreign banks have representative offices in India as on September 30, 2013. There were 64 Regional Rural Banks (RRBs) operating in 26 States and in one Union Territory covering 635 districts with a network of 17,856
branches as on March 31, 2013\(^5\). The commercial banks in India achieved tremendous progress in branch expansion also. The number of bank branches of scheduled commercial banks increased from 8,045 at the end of June 1969 to 88,562 at the end of March 2013\(^6\).

Besides the above (as at 31\(^{st}\) March 2013), there were 31 State Co-operative Banks, 370 District Co-operative Banks and 92,432 Primary Agricultural Credit Societies, 20 State Co-operative Agricultural and Rural Development Banks and 697 Primary Co-operative Agricultural and Rural Development Banks. There also are 1,606 Urban Co-operative Banks and more than 24,000 non-banking financial institutions\(^7\).

### 1.3 STATEMENT OF THE PROBLEM

The introduction of liberalisation measures and the emergence of tech-savvy new private sector and foreign banks, the banking sector have become too competitive. The growing universalisation and internationalisation of banking operations, driven by a combination of factors, such as, the continuing deregulation, heightened competition and technological advancements, have led to product innovation and diverse business strategies. To deal with the emerging situations, bankers have to shed a lot of old ideas, change in practices, develop customer loyalty programmes and adopt a distinct approach to meet the challenges ahead. With e-banking, the brick and mortar structure of the traditional banking gets converted into a click and portal model thereby giving real shape and form to the concept of virtual banking.
Operational efficiency and service quality in commercial banks in the light of liberalisation and globalisation reforms in the country had attracted great deal of attention of government, policy makers, administrators, academicians and researchers at the national and state levels. The obvious question that arises is whether the Indian commercial banks are really efficient or not. Which commercial bank group is profitable and productive? What is the experience of the customers in respect of services rendered by their commercial bank? Whether the Indian commercial banking industry is providing quality services to their customers and if so whether it is operationally efficient or not. Whether the customers are satisfied or not on the services rendered by the bank. Which bank group customers are more satisfied on the services rendered? What is the relationship between service quality and operational efficiency of Indian commercial bank group? These problems call for empirical studies.

Measurement of profitability, productivity and service quality of Indian commercial banks need frequent analytical studies with a view to reviewing their success over a period. Initiation of a new study on operation efficiency and the perception of customers regarding the services provided by the commercial banks will naturally throw up additional information which will be useful to the bankers in meeting the challenges ahead. The present study is undertaken with this end in view.

1.4 SIGNIFICANCE OF THE STUDY

The banking Industry has undergone quick changes and fundamental developments in the post-liberalisation period. Significant among them are the advancements in information technology as well as the communication system and these have changed the very concept of “Class Banking” to “Mass Banking.” All
these changes have caused pressure on their productivity, organisational efficiency and quality of customer services.

Due to this intensive competitive situation, it is necessary for all the banks to maintain improved service quality to the customers by providing technologically developed innovative instant service to satisfy them as they are often evaluating and comparing the entire services put forward in the competitive market. Customer delight is the need of the hour. The banks now compete with one another to offer value-added services to customers to expand their customer bases. Any lack in the services or in the quality may cause dissatisfaction among them and may lead to switch over to the competitors thereby causing unpleasant condition to the organisation.

A review of pertinent literature reveals that extensive work has been done on the operational efficiency and service quality in the banking industries. The studies so far available in the field of profitability and productivity of commercial banks are only piecemeal efforts covering some specific banks and region. Besides many of the research studies undertaken has focused on service quality in public sector banks. Further comprehensive studies establishing the relationship between operational efficiency and service quality compared with public and private sector banks are few and far between. With this background, the present study will measure operational efficiency and service quality of Indian commercial banks. The result of the study seems to be useful to the bankers, government, policy makers, academicians and researchers.

1.5 SCOPE OF THE STUDY

The present study is an attempt to evaluate the operational efficiency and service quality of Indian commercial banking industry. The study will cover
operational efficiency and service quality of State Bank Group (SBG), Nationalised Banks (NBs), Old Private Sector Banks (OPSBs) and New Private Sector Banks (NPSBs). Service quality is measured on the basis of five dimensions of the tool SERVPERF developed by J.J.Cronin and S.A.Taylor.

1.6 OBJECTIVES OF THE STUDY

The study was conducted with the following objectives:

1. To review the developments of Indian commercial banks in the post-reforms period.
2. To assess the profitability of Indian commercial banks in the post-reforms period.
3. To assess the productivity and operational efficiency of Indian commercial banks in the post-reforms period.
4. To study the perceptions of customers regarding the service quality of their bankers.
5. To make suitable suggestions on the basis of the findings of the study.

1.7 HYPOTHESES OF THE STUDY

Based on the literature review following hypotheses were formulated:

1. There is significant difference in the growth rate of operating profit ratio of different commercial bank groups.
2. There is significant difference in the growth rate of net profit ratio of different commercial bank groups.
3. There is significant difference in the growth rate of branch productivity of different commercial bank groups.
4. There is significant difference in the growth rate of employee productivity of different commercial bank groups.
5. There is significant difference in the growth rate of bank productivity of different commercial banks.

6. There is significant difference in tangibility of different commercial bank groups.

7. There is significant difference in reliability of different commercial bank groups.

8. There is significant difference in responsiveness of different commercial bank groups.

9. There is significant difference in assurance of different commercial bank groups.

10. There is significant difference in empathy of different commercial bank groups.

11. There is significant difference in service quality of different commercial bank groups.

1.8 PERIOD OF THE STUDY

The study covers a period of 17 years from 1996-'97 to 2012-'13. To study the operational efficiency of commercial banks, eight years are taken in a two year interval commencing from 1996-'97 to the year 2010-'11. Incidentally 1996-'97 is the most significant period in the life of commercial banks because of the impact of liberalisation measures and profits are more or less volatile during the period. The beginning period 1996-'97 was selected purposively because from that period information relating to New Private Sector Banks are available. For measuring service quality of commercial banks, data from bank customers were collected in the year 2012-'13.

1.9 RESEARCH METHODOLOGY

The universe of the present study is Indian commercial banks. The present study is concerned with examining operational efficiency on the basis of profitability and productivity and also to study the service quality of Indian commercial banks.
The study is designed as an empirical one based on survey method. Data have been collected from both secondary and primary sources.

1.9.1 Secondary Data

Secondary data necessary for measuring profitability and productivity of selected sample bank groups were collected from:

i) Report on Trend and Progress of Banking in India, RBI, Mumbai.

ii) Statistical Tables Relating to Banks RBI, Mumbai.

iii) Reserve Bank of India Monthly Bulletins and Annual Reports.

iv) Indian Banks Association (IBA) – Bulletins, Annual Issues and Monthly Issues.

Various other publication of Reserve Bank of India, Government of India, books and journals, websites of various RBI and various banks, annual reports of various banks, Economic Times, Business Line were also used for collecting secondary data.

1.9.2 Primary Data

Primary data were collected from sample respondents through personal interview with the help of an interview schedule specifically designed for the purpose. A direct one to one discussion with the managers and officers of selected bank branches has been a highlight in the collection of data.

Sample Design

For measuring service quality of commercial banks, primary data were used. For the purpose of measuring the service quality of commercial banks at the micro-level, a multi-stage random sampling technique was designed to draw a sample of customers of the bank. In the first stage city centers were selected, in the second, third and the fourth stage commercial banks, bank branches and customers were selected respectively.
Selection of City Centers

This research was carried out only in the cities of Kerala state. The sample consists of customers living in city centers, with a large and diverse population. The researcher purposefully choose only urban customers as they had other banking options from different private, public and foreign banks and was more exposed to different levels of service quality.

For revenue administration the entire state of Kerala is divided into 14 districts. In the first stage of the study, the state has been divided into three regions on the basis of geographical location. The regions are (1) Southern Region, (2) Central Region and (3) Northern Region. The southern region consists of four districts viz. Thiruvananthapuram, Kollam, Alappuzha and Pathanamthitta. The central region consists of four districts viz. Kottayam, Idukki, Ernakulam and Thrissur. The northern region consists of six districts viz. Palakkad, Malappuram, Kozhikode, Wynad, Kannur and Kasargod.

For detailed analysis in each region the list of city centers (Municipal Corporations) was obtained. Kollam and Thiruvananthapuram are the city centers in southern region. Cochin (Ernakulam district) and Thrissur are the city centers in central region and Kozhikode in northern region. From southern and central region one city center (Municipal Corporation) was selected at random. From northern region Kozhikode the only centre was selected. Thus the selected city centers are Thiruvananthapuram from southern region, Cochin from central region and Kozhikode from northern region.
Selection of Banks

In the second stage, a list of commercial banks and their branches in Kerala was obtained. For the collection of information from the bank customers, the banks functioning in the State of Kerala has been divided into following four groups.

1. **State Bank Group:** consists 6 banks
2. **Nationalised Bank group:** consists 20 banks,
3. **Old Private Sector Bank group:** consists 13 banks
4. **New Private Sector Bank group:** consists 7 banks.

The banks which have more than 100 bank branches in the State of Kerala have only been selected for the study.

1) In State Bank Group, two banks viz. State Bank of India and State Bank of Travancore have more than 100 branches in Kerala.
2) In Nationalised Banks groups, six banks viz. Canara Bank, Indian Bank, Indian Overseas Bank, Punjab National Bank, Syndicate Bank and Union Bank of India have more than 100 branches in the state of Kerala.
3) In Old Private Sector Banks groups, four banks viz. Catholic Syrian Bank Ltd., Dhanlaxmi Bank Ltd., Federal Bank Ltd. and South Indian Bank Ltd. have more than 100 branches in Kerala.
4) Among New Private Sector Bank groups, two banks viz. HDFC Bank Ltd. and ICICI Bank Ltd. have more than 100 branches in Kerala.

To collect the primary data, in all, four banks were selected - one bank from each group by using lottery method viz. one bank from State Bank Group, one from Nationalised Banks, one from Old Private Sector Banks and the other one from New Private Sector Banks. The selected banks were as follows.

- State Bank of India representing State Bank Group
• Canara Bank representing Nationalised Banks
• Federal Bank Ltd. representing Old Private Sector Banks and
• HDFC Bank Ltd. representing New Private Sector Banks.

The banks selected in all the three cities were the same.

Selection of Bank Branches

In the third stage, the lists of branches of four selected banks in the limits of three selected cities were obtained. From the list of branches one branch of each sample bank in each city was selected on the basis of lottery method. Thus altogether, 3 branches of State Bank of India, 3 branches of Canara Bank, 3 branches of Federal Bank Ltd. and 3 branches of HDFC Bank Ltd. were selected. In total 12 branches of four banks were selected. The list of banks in each sample bank group with the branches in the State of Kerala and in the three selected districts is given in Appendix-II. The list of selected bank branches is given in Appendix-III.

Selection of Customers

One of the major problems facing in the accuracy of data collection was sample size justification. In the present study sample size was calculated using power analysis on the basis of information obtained from the pilot study. The power analysis gives that a sample of 150 or more is adequate for this study. So information was collected from 150 samples from each of the four categories of bank. Thus, total sample size fixed as 600.

The sample customers consisted of 200 customers in Thiruvananthapuram Municipal Corporation, 200 in Cochin Municipal Corporation and 200 in Kozhikode Municipal Corporation. A sample of 50 customers was collected from each of the bank
branch. Thus 150 customers were selected from the three branches of State Bank of India, 150 from the three branches of Canara Bank, 150 from three branches of Federal Bank Ltd. and 150 from three branches of HDFC Bank Ltd.

Field Work and Data Collection

After selecting the sample bank branches, data were collected using structured interview method. Internal consistency is estimated by using Cronbach’s alpha. In this regard nearly fifty questionnaires were distributed to the respondents of different bank groups for the pilot study. Pilot study was conducted and the interview schedule was pre-tested during the month of January 2012. On the basis of doubts raised by the respondents certain questions in the questionnaire were dropped and redrafted in the present form.

A questionnaire containing total twenty two statements at five-point Likert scale (1=Strongly disagree to 5=Strongly agree) is designed to measure the service quality of the banks under study. The field survey was administered during June 2012 to February 2013. A copy of the interview schedule is appended to this report (Appendix I).

Systematic sampling procedure was used to select the sample customers of different commercial banks who were willing to respond to the questionnaire. To select the respondents in each branch, each working day was divided into two equal periods and every fifth customer leaving the bank premises was approached. With the permission of bank authorities, the respondents were approached outside the bank premises to remove any inconsistency as most of them held multiple accounts with different banks. Responses were collected only from Savings and/or Current Account holders who undertake banking transactions regularly. Data were collected from the
sixty customers visited in the banks using interview method. After editing fifty schedules were taken from each selected branch. In total 720 respondents completed the questionnaire, out of which 600 were selected. Every possible step was taken to minimize the errors in the collection of data from the sample customers by attempting to gain their confidence and co-operation. The co-operation of sample respondent was quite encouraging.

**Measuring Service Quality**

For measuring service quality, SERVPERF developed by Cronin and Taylor (1992) was used to study the perceptions of customers about their banker. SERVPERF directly measures the customers’ perceptions of service performance and assumes that respondents automatically compare their perceptions of the service quality levels with their expectations of those services. The service quality is assessed based five dimensions namely, Tangibility, Reliability, Responsiveness, Assurance and Empathy. The questionnaire used in this research was SERVPERF consisted of twenty-two items related to the measurement of service quality using a five point Likert scale ranging from strongly disagree (1) to strongly agree (5).

**1.10 PARAMETERS OF THE STUDY**

Profitability and productivity of commercial banks for examining operational efficiency are studied using ratio analysis and trend using regression analysis. Profitability and productivity for different categories of Indian commercial banks is analysed separately vis-à-vis, for a period of 15 years from the year 1996-'97 to 2011-12. The study analysed the profitability and productivity of 46 public and private sector banks in India covering the first and second phase of the banking-sector
reforms period. For measuring the profitability and productivity for examining operational efficiency of commercial banks, various parameters were selected.

1.10.1 Profitability of Indian Commercial Banks

For measuring the profitability of Indian commercial banks, three sets of ratios have been used in the study. They are:

1. Spread Ratios
2. Burden Ratios and
3. Profitability Ratios.

Variables Used for Analysing the Profitability of Indian Commercial Banks

The important variables used for analysing the profitability are listed below:

a) Interest Income as Percentage of Total Assets
b) Interest Expended as Percentage of Total Assets and
c) Spread as Percentage of Total Assets.
d) Non-interest Expenditure or Operating Expenses as Percentage of Total Assets.
e) Non-interest Income or Other Income as Percentage of Total Assets.
f) Burden as Percentage of Total Assets.
g) Operating Profit as Percentage of Total Assets
h) Operating Profit as Percentage of Total Income
i) Operating Profit as Percentage of Total Deposit
j) Operating Profit as Percentage of Spread
k) Operating Profit as Percentage of Burden
l) Net Profit as Percentage of Total Assets
1.10.2 Productivity of Indian Commercial Banks

The overall productivity of the four sample bank groups is analyzed by dividing into three parts as ‘Branch Productivity’, ‘Employee Productivity’ and Bank Productivity. For measuring the productivity of Indian commercial banks, following ratios have been used in the study.

1. Business per branch
2. Business per employee and
3. Business per bank

Variables Used for Analysing the Productivity of Indian Commercial Banks

The important variables used for analysing the productivity are listed below:

a) Deposits per branch
b) Advances per branch
c) Business per branch
d) Profitability per branch
e) Deposits per employee
f) Advances per employee
g) Business per employee
h) Profitability per employee
i) Deposits per bank
j) Advances per bank
k) Business per bank
l) Profitability per bank
1.10.3 Service Quality

For measuring service quality of commercial banks, SERVPERF which is an important tool for measuring service quality developed by Cronin and Taylor was used. The responses are obtained against twenty two aspects included in five main dimensions of the service quality. The five dimensions are:

1. Tangibility
2. Reliability
3. Responsiveness
4. Assurance and
5. Empathy.

1.11 STATISTICAL TOOLS USED

The collected data were tabulated and analyzed using SPSS 20th version. The various mathematical and Statistical techniques used in the study were average, standard deviation, coefficient of variation, annual average growth rate (AAGR), exponential growth rate, trend using regression analysis, mean percentage score, correlation coefficient matrix, one way ANOVA and Post hoc tests. All the statistical tests were conducted at 5 per cent and 1 per cent level of significance with the help of appropriate test statistic. All these statistical measures and tests were conducted using SPSS, Microsoft Excel and AMOS.

- Average

Mean has been used to find the average of various items. For a data set, the mean is the sum of the observations divided by the number of observations.
• **Standard Deviation**

Standard deviation (SD) measures the absolute dispersion or variability from the mean values. A small standard deviation implies a high degree of uniformity or homogeneity in the distribution or vice versa. The standard deviation (SD) is the square root of the mean of the squared deviation from the mean of a distribution.

• **Coefficient of Variation (CV)**

The CV indicates the relative variation. The CV expresses the variation as a percentage of the mean. This is another method to compare the variability of two or more than two series of their relative variation. The series for which the coefficient of variation is greater is said to be more variable or conversely less consistent, less uniform, less stable or less homogeneous.

\[
C.V = \frac{\text{Standard deviation}\times 100}{\text{Mean}}
\]

• **Annual Average Growth Rate**

The growth rate and annual average growth rate are the commonly used technique in research studies. Annual Average Growth Rate is calculated by taking the arithmetic mean of the growth rate over two annual periods. With this it is possible to compare the variability of two or more than two series. The growth rate of years is defined as ratio of the difference of the value of the current year and the previous year to the previous year expressed in percentage.

• **Exponential Growth Rate**

The exponential growth model is also known as the Malthusian growth model. Exponential growth occurs when the growth rate of the value of a mathematical
function is proportional to the function's current value. In the case of a discrete domain of definition with equal intervals it is also called geometric growth or geometric decay (the function values form a geometric progression). The formula for exponential growth of a variable $x$ at the (positive or negative) growth rate $r$, as time $t$ goes on in discrete intervals (that is, at integer times 0, 1, 2, 3,...) is

$$x_t = x_0(1 + r)^t$$

where, $x_0$ is the value of $x$ at time 0

- **Cronbach’s Alpha**

  Cronbach’s alpha is a statistical tool used in factor analysis to measure the reliability of data. An alpha value of 0.70 or above is considered to be criterion for demonstrating strong internal consistency and an alpha value of 0.60 or above is considered to be significant.

- **One way ANOVA**

  One way Analysis of Variance (abbreviated as ANOVA) is an extremely useful technique to examine the significance of the difference amongst more than two groups based on one factor (independent variable). The one way ANOVA test is conducted to reveal whether the variation in the ratios is significant or not. If the calculated value is less than 0.05, we accept the null hypothesis otherwise rejected.

- **Tukey’s HSD Post-hoc test**

  If the null hypothesis is accepted, a post-hoc test is needed to determine which groups differ from each other. For the Tukey’s post-hoc test we will first find the differences between the means of all of our groups. We will compare this difference score to a critical value to see if the difference is significant. The critical value in this
case is the HSD (honestly significant difference) and it must be computed. It is the point when a mean difference becomes honestly significantly different.

- **Trend using Regression Analysis**

  Trend analysis is basically an indicator of the quantitative changes in banking operations. It shows the level of growth that banks have achieved over the years on each component of financial statements and also shows the direction of operation over a period of time. Besides, it highlights the trend pattern which helps in knowing the historical development as well as the level of efficiency in banking operation over a time frame. Using the trend eliminated values of growth rates; the trend for the next ten years is predicted and pictorially presented for the sample bank groups under study.

- **Correlation Coefficient Matrix**

  The Correlation Coefficient Matrix of the selected variables with dependent variable is calculated using SPSS 20 to know the relationship between the variables.

- **Mean Percentage Score**

  Mean Percentage Score is used to identify the level of satisfaction of the variables.

  \[ MPS = \frac{\text{Mean score of the variable} \times 100}{\text{Maximum possible score}} \]

- **Simultaneous Equation Modeling**

  Simultaneous Equation Modeling (SEM) was performed to test the fit between the research model and the obtained data. This technique is chosen for its ability to
examine a series of dependence relationships simultaneously, especially where there are direct and indirect effects among the constructs within the model. In this study, AMOS 7.0 was used and the SEM estimation procedure is maximum likelihood estimation. In using SEM, it is a common practice to use a variety of indices to measure model fit. In addition to the ratio of the \( \chi^2 \) statistic to its degree of freedom, with a value less than 3 indicating acceptable fit, researchers recommended a handful of fit indices to assess model fit. These are the Goodness of Fit (GFI), Adjusted Goodness of Fit Index (AGFI), Normated Fit Index (NFI), Tucker Lewis Index (TLI), Comparative Fit Index (CFI), Standardised Root Mean Residual (SRMR), and Root Mean Square Error of Approximation (RMSEA).

1.12 CHAPTER DESIGN OF THE STUDY

The study entitled “Operational Efficiency and Service Quality of Commercial Banks in India” is presented in seven chapters covering all the aspects of the study. The scheme of the presentation is as follows:

The First Chapter viz. ‘Introduction’ describe the statement of the research problem, importance and scope of the study, objectives, hypothesis, research design, statistical tools used, period of study, limitations of the study and organization of the present study.

The Second Chapter entitled ‘Operational Efficiency and Service Quality of Commercial Banks - Literature Review’ deals with the review of literature on operational efficiency and service quality of commercial banks.

The Third Chapter ‘Development and Reforms in Indian Banking Sector’ provides the theoretical background of development and reforms in Indian banking
system. It looks into the history of commercial banks, classification of banks, various activities and structure of scheduled commercial banks. It also presents the progress of working of various bank groups.

The Fourth Chapter titled ‘Profitability of Indian Commercial Banks’ analyses the profitability of Indian commercial banks using ratio and trend analysis.

The Fifth Chapter ‘Productivity of Indian Commercial Banks’ analyses the productivity of Indian commercial banks using ratio and trend analysis.

The socio-economic profile of the sample respondents and the perceptions of customers regarding the quality of services provided by the banks are presented in the Sixth Chapter viz. ‘Service Quality of Indian Commercial Banks’.

The final chapter viz. Chapter Seven presents the major findings of the research study and the suggestions for enhancing the operational efficiency and for improving the service quality of commercial banks to their customers.

1.13 LIMITATIONS OF THE STUDY

Every research work is subjected to certain limitations; and this study is also not an exception. The present study has the following limitations:

1. The sample was restricted to commercial banks only. Foreign banks, Regional Rural Banks and Co-operative banks were not taken for the study which has a great influence on the efficiency of Indian commercial banks.

2. Secondary data for measuring the operational efficiency of commercial banks were taken for various sources. There are chances of errors which are common in traditional accounting reports.
3. Many structural changes have taken place in the Indian banking sector. IDBI Bank Ltd. was under New Private Sector Banks till 2004 later its status changed to other public sector banks.

4. As the primary data were collected using structured questionnaire through interview method, there is a possibility of biasness in the opinion of customers. All efforts are made to reduce the occurrence of bias in the views of respondents.

5. The customers of only four banks were selected for measuring the service quality. As a result, the generalisation of the findings of the present research should be considered carefully.

REFERENCE


5. Ibid., Chap. III, p.44

6. Ibid., p.148

7. Ibid., Chap.V, p.93