CHAPTER II

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In pursuance of the objectives and hypotheses the following methodology was adopted for conducting the present study. The research design adopted for the study is descriptive in nature. The study is conducted in two stages.

2.1 Sources of Data

In the first explorative stage of this study, the review of literature was undertaken to familiarise the researcher to formulate a conceptual framework of the study and to evolve appropriate methodology. For these purposes various secondary sources such as research articles published in research journals, study reports of expert committees and commissions, seminar and conference reports were obtained mainly through the libraries of Bharathiar University, Coimbatore, University of Kerala, Trivandrum, SBI Staff College, Hyderabad, PSG Institute of Management Studies, Coimbatore, National Institute of Bank Management, Pune, Institute of Financial Management and Research (IFMR), Chennai, Center for Development Studies, Chennai and Trivandrum, SBI Training Centre, Trivandrum, ICFAI National College (HQ), Hyderabad, Institute for Development and Research in Banking Technology (IDRBT), Hyderabad, IBA Bulletins, RBI reports, Reports on trends and progress of Banking in India were also collected and analysed. Interviews with bank managers also helped the researcher to formulate a conceptual framework of the study.

In the second stage, primary data were collected from customers of selected public sector Banks, Private sector banks and Foreign Banks. For this purpose structured interview schedule was prepared to collect information from the respondents.

2.2 Area of Study

The study area is Coimbatore city. Coimbatore, the second biggest city of the southern state of Tamil Nadu, is identified as one of the fast developing metros of India. There are about 50,000 small, medium and large scale industries. It is well known for its textile, hosiery, pumps and foundry, automobile and engineering
products. Coimbatore, being an industrial area, many public, private and Foreign Banks has established its branches over here.

2.3 Pilot Study and Finalising of Interview Schedule

The interview schedule drafted was first tested before finalising it by conducting a pilot study. For the purpose of the pilot study, a field survey was conducted among 50 customers, consisting of 20 from public sector bank, 20 from private sector bank and 10 from foreign bank.

In the light of pilot survey results, suggestions and criticisms made by supervising guide, research experts and fellow researchers, the interview schedule draft was revised. The revised interview schedule was then circulated among three experts for evaluation. The interview schedule was redrafted considering their comments and then finalised.(Annexure –I)

2.4 Design of Interview Schedule

I Profile of bank customer (Personal data)
II Service expectations
III Service perceptions
IV Five feature ranking
V Problems faced by customers
VI Suggestions of respondents

2.5 Sampling Design

The Sample Size of the study was 500 bank customers. It was selected by convenience sampling method, which includes 200 individual customers from selected public sector bank, 200 individual customers from selected private sector banks and 100 individual customers from selected Foreign Banks. Four banks from public, private and foreign sectors were selected for the study.

The bank branches selected for the present study are:

1. Canara Bank
2. Citi Bank
3. City Union Bank
4. HSBC Bank
5. ICICI Bank
6. Indian Bank
7. Indian Overseas Bank
8. ING Vysya Bank
9. Karur Vysya Bank
10. Lakshmi Vilas Bank
11. Standard Chartered Bank
12. State Bank of India.

2.6 Processing and Analysis of Data

The data collected for the study has been processed and analysed with the help of computer software SPSS – 11 version.

Suitable mathematical and statistical tools are applied:

Chi-Square Test

In this study the respondents opinion on several attributes were asked. To find out the opinion given by majority of the respondents and how their personal profile influences the opinion the $\chi^2$ test was applied.

The $\chi^2$ Statistic is defined as:

$$\chi^2 = \sum_{i=1}^{n} \frac{(O_i - E_i)^2}{E_i} \rightarrow \chi^2 (n-1) \text{ d.f}$$

$O_i$ : Perceived Score

$E_i$ : Expected Score

The following are the applications of $\chi^2$ test:

1. To test the significant difference between observed and expected values the service quality gap in different dimension is taken as the dependent variable and low, medium and high levels of satisfaction as independent variables.

2. To test the independence of attributes the low, medium and high levels of satisfaction are taken as dependent variable and demographic factors such as age, sex, educational qualification, occupational status and monthly income of the respondents as independent variables.
Simple Percentage

Percentage Table is used to highlight the classification of bank customers into public sector, private sector and Foreign Banks and also to segregate the customers based on their demographic factors such as Age, Sex, Educational Qualification, Occupational Status and Monthly Income of the Respondents.

Analysis of Variance (ANOVA)

The ANOVA Table is applied to find out whether there is any significant difference between the various sectors of the bank with respect to various dimensions for service expectation and service perception.

The dependent variable is the mean score of service quality gap in each dimension (Tangibility, Reliability, Responsiveness, Assurance and Empathy) and the independent variables are the different banking sectors.

ANOVA is also used to find out whether there is any significant difference between the demographic factors of the respondents like age, sex, educational qualification, occupational status and income of the respondents relating to their scores on various dimensions (Tangibility, Reliability, Responsiveness, Assurance and Empathy) for both service expectation and service perception.

Multiple Regression

This analysis represents a logical extension of two variable regression analyses. The main objective of regression analysis is to explain the variation in one variable (called the dependent variable), based on the variation in one or more other variables (called the independent variables). The following are the three general purposes of multiple regression analysis:

1. To derive an equation, this provides estimates of the dependent variable from values of the two or more independent variables.
2. To obtain a measure of the error involved in using this regression equation as a basis for estimation.
3. To obtain a measure of the proportion of variance in the dependent variable accounted for or “explained by” the independent variables.
The general regression model with k explanatory variables is shown below

\[ Y_i = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \beta_3 X_{i3} + \ldots + \beta_k X_{ik} + \epsilon_i \]

where,

\[ \beta_0 = Y \text{ intercept} \]
\[ \beta_1 = \text{slope of } Y \text{ with variable } X_1 \text{ holding variables } X_2, X_3 \ldots X_k \text{ as constant} \]
\[ \beta_2 = \text{slope of } Y \text{ with variable } X_2 \text{ holding variables } X_1, X_3 \ldots X_k \text{ as constant} \]
\[ \beta_3 = \text{slope of } Y \text{ with variable } X_3 \text{ holding variables } X_1, X_2, X_4 \ldots X_k \text{ as constant} \]
\[ \ldots \ldots \ldots \ldots \]
\[ \beta_k = \text{slope of } Y \text{ with variable } X_k \text{ holding variables } X_1, X_2, X_3 \ldots X_k \text{ as constant} \]
\[ \epsilon_i = \text{random error in } Y \text{ for observation } i \]

In this study, multiple regression is applied to establish relationship between one dependent variables and five independent variables:

Dependent variable is Service gap (Y)

Independent variables are:

- \( X_1 = \text{Expectation score on tangibility} \)
- \( X_2 = \text{Expectation score on reliability} \)
- \( X_3 = \text{Expectation score on responsiveness} \)
- \( X_4 = \text{Expectation score on assurance} \)
- \( X_5 = \text{Expectation score on empathy} \)

**Cluster Analysis**

Cluster Analysis is a multivariate procedure ideally suited to segmentation applications in marketing research. Cluster, by definition is a group of similar objects. Grouping or clustering is distinct from the classification methods. Classification pertains to a known number of groups and the operational objective is to assign new observations to one of these groups. Cluster analysis is a more primitive technique in that no assumptions are made concerning the number of groups or the group structure. Grouping is done on the basis of similarities or dissimilarities.
In this study, a set of 22 attributes relating to the service perception is taken with an objective of grouping them under different groups based on the similarities or dissimilarities of services provided by different sectors of the bank. The 22 service attributes for grouping are:

1. Modern equipment
2. Visually appealing facilities
3. Neat and professional appearance of the employees
4. Visually appealing materials associated with the service.
5. Promised Services of the Bank
6. Sincerity in solving customer’s problem
7. Performing services right the first time
8. Provides services at the promised time
9. Maintenance of error free records
10. Service information are intimated to the customers
11. Prompt service provided by the banks
12. Employees willingness to help customers
13. Availability of employees at service counters
14. Behaviour of Employees in creating confidence among customers
15. Comfortable interaction with employees
16. Consistent courtesy of employees.
17. Answering clearly and precisely to customers queries
18. Polite and Consistent courtesy of employees
19. Personal attention to the customers
20. Convenient operating hours to all customers
21. Bank has customer’s best interest at heart
22. The needs of the customers are understood

The 22 variables pertaining to the study are classified into different clusters using Dendrogram by Ward Linkage method based on Hierarchical Cluster Analysis.
Garrett's Ranking Method

To find out for which dimension the customer gives priority they were asked to rate the mentioned features and problems faced by them taking 1 to 5 as frequencies. On the basis of their scores; the ranks were given to the factors and problems.

Those rates were converted into percentile positioning by using

\[ P = \frac{100 \times (R - 0.5)}{N} \]

P: Percentile Position
R: Rank
N: Number of items

For these percentile positions, perceptive scores were taken from Garrett's Table.

‘Z’ Test

To compare the significant difference between perceived and expected level of satisfaction the “Z” test - test based on two means is applied.

All statistical tests were done at 5% level of significance with the help of appropriate statistical tools.