CHAPTER - IV

Research Methodology
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RESEARCH METHODOLOGY

METHODOLOGY

If any study on research is to be recognized as valid or true, it must be done in systematic and scientific manner. Hence, research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In it, we study the various steps that are generally adopted by researcher in studying his research problem along with the logic behind them. This chapter presents detailed idea about the methodology followed to carryout this study.

In this chapter the researcher explains about the methodology used for carrying out the present study. It covers title of the study, significance of the study, aims and objectives of the study, research hypothesis, research design, pilot study, universe, sampling design, source of data, tools of data collection, about the instrument, scoring, pre-test, method of data collection, statistical analysis and limitations of the study.

STATEMENT OF THE PROBLEM

Tiruchirappalli is one of the tourist spots in Tamilnadu and attracts foreign and domestic tourists. Numerous businessmen and officials have regular official visits to Tiruchirappalli. These activities regularly promote the floating population to Tiruchirappalli. Considering these aspects and the hotel accommodation available in Tiruchirappalli, an attempt has been made to understand the visitors expectations and perception about the quality of hospitality industry in this city. Tiruchirappalli city has been surrounded by historical monuments and places. There has been an opinion that if the city needs to attract more tourists then it must offer better boarding and lodging facilities. There are 4 star, 3 star and 2 Star Hotels in the city. At present only 5 Star
hotels exist. It clearly indicates that there is a gap between the requirements and reality of hospitality industry in Tiruchirappalli. Against this background the study makes an attempt to explore the expectations of Tourists and officials in relation to service quality in the 4 star, 3 star, 2 star hotels situated in Tiruchirappalli.

The purpose of this study is to assess and examine the nature and perceptions of service from the viewpoint of the accepted levels of hospitality. This study seeks for improving quality of service through a realistic measurement of quality using the parameters of quality assessment. Hotel Industry in India has witnessed tremendous boom in recent years. Hotel Industry is inextricably linked to the tourism industry and the growth in the Indian tourism industry has fuelled the growth of Indian hotel industry.

Service sector has come to acquire great prominence in the world as well as national economics. * Hotel Industry in India has a supply of 1,10,000 rooms. According to the tourism ministry at an average 4.4 million tourists visit India every year and the current trend demand will soar to 10 million in 2010 - to accommodate 350 million domestic travelers.

*'Hotels in India' have a shortage of 1,50,000 rooms fueling hotel room rates rise across India. With tremendous pull of opportunity, India is a destination for hotel chains looking for growth. *The World Travel and Tourism Council, India, data says, India ranks 18th in business travel and will be among the top 5 in this decade. Sources estimate that demand is going to exceed supply by at least by 100% over the next 2 years. Five-star hotels in metro cities allot the same room, more than once a day to different guests, receiving almost 24-hour rates from both guests against 6-8 hours usage.

* www.business.mapsofindia.com
With demand-supply disparity, 'Hotel India' room rates are most likely to rise 25% annually and occupancy to rise by 80%, over the next two years. Hotel Industry in India is eroding its competitiveness as a cost effective destination. The domination of the service sector today is confirmed by the fact that 70% of the World GDP is realized in the service sector. To overcome this shortage, Indian hotel industry is adding about 60,000 rooms, currently in different stages of planning and development, which should be ready by 2012. Hotel Industry in India is also set to get a fillip with Delhi hosting 2010 Common wealth Games.

PURPOSE OF THE STUDY

Tiruchirappalli is attracting a lot of foreign tourists as well as domestic tourists. There is also a big contingent of floating population who comes to the city for work and stay for a period ranging from three months to one year. It would be worthwhile to assess the quality of service produced by the existing star hotels to the tourist, and the purpose of this study is to assess and examine the perceptions of the guests of the star hotels regarding the quality of the hospitality and to demonstrate ways by which these hotels can make qualitative improvements in service.

The study makes an attempt to explain the reality and perception and suggest for improvement in Service Quality of the hotels in Tiruchirappalli.

THE OBJECTIVES OF THE STUDY

1. To ascertain the satisfaction levels in service quality in the star hotels.

2. To identify the factors responsible for the success of service quality in hotel industry.

3. To ascertain the association between the selected socio-demographic variables and various dimensions of service quality.
4. To analyse the interdependent relationships among various dimensions (Tangibles, Reliability, Responsiveness, Assurance, Empathy) of service quality.

5. To suggest a suitable measures for improving service Quality in the hotel industry, if possible.

HYPOTHESES (Null)

1. There is no significant association between the selected socio-demographic variables and various dimensions of service quality.

2. There is no significant association between the attributes of service quality in hotel industry.

3. There is no significant association relationship between the successful factors of service quality in hotel industry.

RESEARCH DESIGN

The design or blueprint is an essential part of the research. The present study is designed to look into the opinions of the respondents, about the existing service quality. The main aim of the study was to assess the service quality association with certain selected variables (Socio-Demographic variables and various dimensions of service quality) hence the Descriptive research design is adopted.

The design of a sociological research can be assumed as the plan of action, the strategy and the structure of the overall procedure by which the researcher intends to gain more knowledge of a specific problem or a specific aspect of society. Research Design is the specification of methods and procedures for acquiring the information required.

In the present study the researcher follows a Descriptive Design in order to illustrate the existing service quality and its implementation in Hotels in Tiruchirappalli.
Hence the study is descriptive in nature. A survey is a process of collecting data from the existing sources about a problem under study. Purpose of the survey Descriptive Design is to describe the attitudes, opinions, behaviors, or characteristics of the population based on the data collected from a sample of a population.

PILOT STUDY

Pilot study is necessary for carrying out a proper research. Pilot study is the preliminary study of the universe to get an early idea about the study. Goode and Halt observed that “no amount of thinking, however logical, brilliant insight is likely to take place of careful empirical checking”.

In this study the researcher conducted a pilot study to know the reliability of conducting such a study in Tiruchirappalli Hotels.

In order to rectify the limitation of the questionnaire, pre-test was conducted in Tiruchirappalli Hotels. The General Managers analyzed the questionnaire and gave good suggestions to the researcher. This pre-test helped the researcher to make the questionnaire more clear, predicable and informative.

PRE-TESTING

In order to rectify the limitations of the questionnaire, pre-test was conducted with 10 respondents at the five hotels in Tiruchirappalli. The General Manager, Personnel Manager, Restaurant Managers, Supervisors analysed the questionnaire and gave good suggestions to the researcher. This pre-test helped the researcher to make the questionnaire more clear, practicable and informative.

In order to see if the particular question is relevant to the study or not, the researcher conducted Pre-testing twice. Since the first time the questionnaire was not very relevant the researcher had to change the questionnaire. It was then administrated to 5 respondents after which, it was modified and administered.
The questionnaire was prepared to study the Dimensions of service quality approach. The questionnaire was prepared under 5 dimensions namely

1. **Tangibles** (Appearance of physical facilities, equipment, personnel, and communication materials)

2. **Reliability** (Ability to perform the promised service dependably and accurately)

3. **Responsiveness** (Willingness to help customers and provide prompt service)

4. **Assurance.** (Knowledge and courtesy of employees and their ability to convey trust and confidence)

5. **Empathy** (The firm provides care and individualized attention to its customers)

Research Questions

The research questions addresses the dimensions of service quality provided by the five hotels in Tiruchirappalli city with the objective of providing significant information for improving service quality.

DATA COLLECTION

Primary data

The primary data required for the study were collected by using a structured self administered questionnaire. Hence it is an interview schedule the questionnaire was divided into two parts. Part I dealing with Socio-demographic profile of the customers interviewed. Part II deals with the five dimensions of service quality provided in the hotels. For evaluating the customer responses in relations to the Service quality variables, the researcher has used 5 point Likert Scale in the questionnaire. The Researcher has personally interviewed the customers selected for the interview.
Sampling Unit

Sample Unit is any Tourist visiting Tiruchirappalli and staying in any of the star hotels in Tiruchirappalli.

Sample size

The sample size is 750 customers inclusive of foreign tourist. The sample hotels are: Hotel Sangam, Femina Hotel, Ramyas Hotel, Breeze Residency and Royal Southern Hotel. All the star hotels in Tiruchirappalli were selected for the study. Budgeted hotels were not considered in the study. Of the above five star hotels one hotel belongs four star category, three hotels belong Three Star category and one hotel is classified as 2 Star category. The samples were drawn from the above five hotels during the period from September 2007 to March 2008. Since the customers and tourists are of floating nature, the researcher has selected 150 respondents from each hotel who have responded to the query. In total the sample size is worked out to 750. The population being studied involves an ongoing process that makes listing or counting every element in the population impossible. A strictly random selection procedure can not be used because full listing of the population is impossible. Hence the sampling method in the study can be considered as a random sampling.

VARIABLES OF THE STUDY

A variable can be defined as a thing that is observed and that is of such nature that each single observation can be classified into one and only one of a number of mutually exclusive classes. Both independent variables and dependent variables are considered in this study. Independent variables of the present study are the aspect of service quality maintained by the Hotel. Dependent variables are the sense of satisfaction, appreciation and loyalty of the tourists. The study analyses the various dimensions of SERVQUAL and its association with certain selected variables (Socio-
Demographic variables and various dimensions of SERVQUAL). The Descriptive research design is adopted to establish the cause - effect relationship between the selected Socio - Demographic variables and various dimension of SERVQUAL researcher analyses the different aspect of SERVQUAL and establish association between variables.

STATISTICAL ANALYSIS

The data collected were carefully analyzed and processed. Statistical techniques such as Karl Pearson's co-efficient of correlation test, F-test, Chi- square test were applied to draw meaningful inferences. The Karl Pearson's Co-efficient of correlation was used to find out the relationship between different Service quality dimensions Chi-square test was used to find out the association between two variables. F- test was used to find the significant difference among the variables. The researcher used SPSS -16 (Statistical Package for Social Sciences), AMOS - 7 (Advance moments of structures) for statistical analysis.

CORRELATION

In probability theory and statistics, correlation, (often measured as a correlation coefficient), indicates the strength and direction of a linear relationship between two random variables. In general statistical usage, correlation or co-relation refers to the departure of two variables from independence. In this broad sense there are several coefficients, measuring the degree of correlation, adapted to the nature of data.

F-TEST

An F-test is any statistical test in which the test statistic has an F-distribution if the null hypothesis is true. The name was coined by George W. Snedecor, in honour of Sir Ronald A. Fisher. Fisher initially developed the statistic as the variance ratio in the 1920s. Examples include:
a. The hypothesis that the means of multiple normally distributed populations, all having the same standard deviation, are equal. This is perhaps the most well-known of hypotheses tested by means of an F-test, and the simplest problem in the analysis of variance (ANOVA).

b. The hypothesis that a proposed regression model fits well.

c. The hypothesis that the standard deviations of two normally distributed populations are equal, and thus that they are of comparable origin.

CHI-SQUARE

A chi-square test (also chi-squared or \(\chi^2\) test) is any statistical hypothesis test in which the test statistic has a chi-square distribution when the null hypothesis is true, or any in which the probability distribution of the test statistic (assuming the null hypothesis is true) can be made to approximate a chi-square distribution as closely as desired by making the sample size large enough.

Some examples of chi-squared tests where the chi-square distribution is only approximately valid:

a. Pearson's chi-square test, also known as the chi-square goodness-of-fit test or chi-square test for independence. When mentioned without any modifiers or without other precluding context, this test is usually understood.

b. Yates' chi-square test, also known as Yates' correction for continuity.

c. Mantel-Haenszel chi-square test.

d. Linear-by-linear association chi-square test.

e. The portmanteau test in time-series analysis, testing for the presence of autocorrelation

f. Likelihood-ratio tests in general statistical modelling, for testing whether there is evidence of the need to move from a simple model to a more
complicated one (where the simple model is nested within the complicated one).

FACTOR ANALYSIS

Factor analysis is a statistical method used to explain variability among observed variables in terms of fewer unobserved variables called factors. The observed variables are modeled as linear combinations of the factors, plus "error" terms. The information gained about the interdependencies can be used later to reduce the set of variables in a dataset. Factor analysis originated in psychometrics, and is used in behavioral sciences, social sciences, marketing, product management, operations research, and other applied sciences that deal with large quantities of data.

CLUSTERING

Clustering is a nonlinear activity that generates ideas, images and feelings around a stimulus word. As students cluster, their thoughts tumble out, enlarging their word bank for writing and often enabling them to see patterns in their ideas. Clustering may be a class or an individual activity.

What is Clustering?

Clustering can be considered the most important unsupervised learning problem; so, as every other problem of this kind, it deals with finding a structure in a collection of unlabeled data. A loose definition of clustering could be "the process of organizing objects into groups whose members are similar in some way". A cluster is therefore a collection of objects which are "similar" between them and are "dissimilar" to the objects belonging to other clusters. In this case we easily identify the 4 clusters into which the data can be divided; the similarity criterion is distance: two or more objects belong to the same cluster if they are "close" according to a given distance (in this case geometrical distance). This is called distance-based clustering. Another kind of
clustering is conceptual clustering: two or more objects belong to the same cluster if this one defines a concept common to all that objects. In other words, objects are grouped according to their fit to descriptive concepts, not according to simple similarity measures.

MULTIPLE REGRESSION

Statistical method for analyzing the relation between several independent variables and one dependent variable. A statistical technique that predicts values of one variable on the basis of two or more other variables. In multiple regression, more than one variable is used to predict the criterion. For example, a college admissions officer wishing to predict the future grades of college applicants might use three variables (High School GPA, SAT, and Quality of letters of recommendation) to predict college GPA. The applicants with the highest predicted college GPA would be admitted. The prediction method would be developed based on students already attending college and then used on subsequent classes. Predicted scores from multiple regression are linear combinations of the predictor variables. Therefore, the general form of a prediction equation from multiple regression is:

\[ Y' = b_1X_1 + b_2X_2 + \ldots + b_kX_k + A \]

where \( Y' \) is the predicted score, \( X_1 \) is the score on the first predictor variable, \( X_2 \) is the score on the second, etc. The \( Y \) intercept is \( A \). The regression coefficients (\( b_1, b_2, \) etc.) are analogous to the slope in simple regression.

PATH ANALYSIS MAY MEAN:

Path analysis (statistics), a statistical method of finding cause/effect relationships. Path analysis (computing), a method for finding the trail that leads users to websites. Critical Path Method, an operations research technique
STRUCTURAL EQUATION MODELING

Structural equation modeling, or SEM, is a very general, chiefly linear, chiefly cross-sectional statistical modeling technique. Factor analysis, path analysis and regression all represent special cases of SEM. SEM is a largely confirmatory, rather than exploratory, technique. That is, a researcher are more likely to use SEM to determine whether a certain model is valid., rather than using SEM to "find" a suitable model--although SEM analyses often involve a certain exploratory element.

In SEM, interest usually focuses on latent constructs--abstract psychological variables like "intelligence" or "attitude toward the brand"--rather than on the manifest variables used to measure these constructs. Measurement is recognized as difficult and error-prone. By explicitly modeling measurement error, SEM users seek to derive unbiased estimates for the relations between latent constructs. To this end, SEM allows multiple measures to be associated with a single latent construct.

A structural equation model implies a structure of the covariance matrix of the measures (hence an alternative name for this field, "analysis of covariance structures"). Once the model's parameters have been estimated, the resulting model-implied covariance matrix can then be compared to an empirical or data-based covariance matrix. If the two matrices are consistent with one another, then the structural equation model can be considered a plausible explanation for relations between the measures.

Compared to regression and factor analysis, SEM is a relatively young field, having its roots in papers that appeared only in the late 1960s. As such, the methodology is still developing, and even fundamental concepts are subject to challenge and revision. This rapid change is a source of excitement for some researchers and a source of frustration for others.
Structural-equation models (SEMs) are multiple-equation regression models in which the response variable in one regression equation can appear as an explanatory variable in another equation. In "non-recursive" SEMs, two variables in a model can affect one-another reciprocally, either directly, or indirectly through a "feedback" loop. Structural-equation models can include "latent" variables -- variables that are not measured directly, but rather indirectly through their effects (called indicators) or, sometimes, through their observable causes.

Structural equation modeling (SEM) is a statistical technique for testing and estimating causal relationships using a combination of statistical data and qualitative causal assumptions. This view of SEM was articulated by the geneticist Sewall Wright (1921), the economists Trygve Haavelmo (1943) and Herbert Simon (1953), and formally defined by Judea Pearl (2000) using a calculus of counterfactuals.

SEM encourages confirmatory rather than exploratory modeling; thus, it is suited to theory testing rather than theory development. It usually starts with a hypothesis, represents it as a model, operationalises the constructs of interest with a measurement instrument, and tests the model. The causal assumptions embedded in the model often have falsifiable implications which can be tested against the data. With an accepted theory or otherwise confirmed model, SEM can also be used inductively by specifying the model and using data to estimate the values of free parameters. Often the initial hypothesis requires adjustment in light of model evidence, but SEM is rarely used purely for exploration.

ABOUT THE INSTRUMENT

The questionnaire measures 5 dimensions of the Service Quality with the help of fifty questions. Each question is rated on five point scale.
The 5 dimensions are as follows

1. Tangibles (10 Questions)
2. Reliability (13 Questions)
3. Responsiveness (6 Questions)
4. Assurance (9 Questions)
5. Empathy (12 Questions)

SCORING

The scoring is done in a five-point scale technique as mentioned below.

1. Highly satisfied
2. Satisfied
3. Moderately
4. Dissatisfied
5. Highly dissatisfied

The primary data for the present study is collected using a Questionnaire. The research tool is divided into 2 parts. Part-1 deals with Personal Profile of the respondents and Part-2 deals with Dimension of Service Quality.

SCALING AND SCORING TECHNIQUE

Scaling involves ranking individuals according to a classification system. It is ordering of a number of related items (descriptive characteristic or attitude statements) to form a continuum in order to provide a means of quantitative measurement of qualitative variables. It requires assigning scores or numbers to the variables or attributes being measured. For the present study, five point scaling technique was used for getting responses from the respondents in the study area through an appropriate scoring pattern and it was collected in the form of questionnaire type of research tool.
RELIABILITY OF STATISTICS

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Cronbach's Alpha Based on Standardized Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.911</td>
<td>.925</td>
<td>65</td>
</tr>
</tbody>
</table>

Cronbach's alpha is the most common form of internal consistency reliability coefficient. Alpha equals zero when the true score is not measured at all and there is only an error component. Alpha equals 1.0 when all items measure only the true score and there is no error component.

Cronbach's alpha can be interpreted as the percentage of variance, the observed scale would explain in the hypothetical true scale composed of all possible items in the universe. Alternatively, it can be interpreted as the correlation of the observed scale with all possible other scales measuring the same thing and using the same number of items. Cut-off criteria: By convention, a lenient cut-off of .60 is common in descriptive research; alpha should be at least .70 or higher to retain an item in an "adequate" scale; and many researchers require a cut-off of .80 for a "good scale."

SIGNIFICANCE OF THE STUDY

The quality of the services varies according to demographic character. The influencing factors of Service Quality are personalized care and availability. The two statements accounted for 60.017 percent of the variance in the original fifteen statements. The individual factors of Service Quality in hotel industry comprise courtesy and friendliness of staff, guests feeling safe and delighted with the employees, maintaining error-free records, convenience of operating hours, rooms would have quality furnishings and trust of company employees. The six individual statements account for majority of the variance among the fifty individual statements of the study. Empathy is found to contribute maximum in Service Quality. All the dimensions in Service Quality are interrelated.
SCOPE OF THE STUDY

This study has been focused towards Service Quality aspects of selected five hotels and identifying the determinants of Service Quality in this hotel. This study deals with the Customer Expectations and Customer Satisfaction levels. This study also made an attempt to understand the influence of demographic facts on customer expectations on various dimensions of Service Quality. This study has considered the following 5 dimensions for assessing Service Quality of the sample hotel.

Five hotels namely Hotel Sangam, Hotel Femina, Ramyas, Breeze Residency, Royal Southern Hotels Pvt. Ltd were selected for the study. The selection was on the basis of 4 Star status, 3 Star Status, and 2 Star Status hotels.

CHAPTERIZATION OF THE THESIS

1. Chapter - I  Introduction
2. Chapter - II  Profile of the Hotels
3. Chapter - III  Review of Literature
4. Chapter - IV  Research Methodology
5. Chapter - V  Service Quality Analysis I
   Service Quality Analysis II
6. Chapter - VI  Findings, Suggestions and Conclusion.

CHAPTERIZATION

Chapter - I - Introduction

It is intended to provide a brief idea of the study and the nature of the topic in detail in this chapter. From this chapter it is able to know the meaning, definitions of service marketing concept, service quality, service quality dimensions customer satisfactions.
Chapter - II - Profile of the Hotels

This is prepared with special references to the brief history of the hotels, classifications of hotels, general information regarding the hotels.

Chapter - III - Review of Literature

The researcher explains the literature survey connected with the stated problem. Hence, the earlier studies, if any, which are similar to the study in hand, should be carefully studied. The researcher have reviewed two types of literatures - the Conceptual literature concerning the concepts and theories, and the Empirical literature consisting of studies made earlier which are similar to the proposed one.

Chapter - IV - Research Methodology

Here the researcher explains about the methodology used for carrying out the research study. Here the researcher specifies the title of the study, need and importance of the study, statement of the research problem, aims and objectives of the study, research hypotheses, research design, pilot study, sampling design, tool of data collection, pre-test, method of data collection, method of analysis problems encountered.

Chapter - V - Analysis and Interpretation

Here the researcher analyses the data collected, and tabulated the data using statistical analysis. Interpretation is also made below each table with the help of statistical inferences.

Chapter - VI - Findings, Suggestions, Implications and Conclusion

Here the researcher reveals his findings about the study and suggestions that can improve the service quality in the hotel industry. Here the researcher explores his ideas about the study.