CHAPTER 5

RESEARCH METHODOLOGY

This section deals with the research methodology adopted during the course of the current study. The section lays emphasis on the research design, the sample selection procedure, the data collection method rounded up with the statistical tools used for analysis.

5.1 NEED FOR THE STUDY

5.1.1. Objective

Primary Objective:

- To develop a scale meant specifically for measuring service quality in tourism industry in Uttar Pradesh.
- To research and analyze the role of service quality for creating customer satisfaction in tourism industry in Uttar Pradesh.

Secondary Objectives
• To identify the dimensions of service quality and their corresponding measurement variables in tourism industry from customers’ point of view by focusing on Uttar Pradesh.

• To find out the expectations of customers/tourists visiting Uttar Pradesh with regards to service quality.

• To find out the perceived service quality level of customers/tourists visiting Uttar Pradesh.

• To find out the differences between expectations and perceptions of the tourists regarding the services and their core tourism experience.

• To identify dimensions where gap score is minimum i.e. identifying dimension providing highest level of customer satisfaction in terms of service quality.
• To identify dimension with highest gap score i.e. identifying dimensions providing lowest level of customer satisfaction in terms of service quality.

5.1.2. Hypotheses

Hypothesis 1: Service Quality in Tourism Industry is a multi dimensional construct

Hypothesis 2a: There is a significant difference in the preference for various tourism factors across the people of different age groups.

Hypothesis 2b: There is a significant difference in the preference for various tourism factors across the people of different income groups.

Hypothesis 2c: There is a significant difference in the preference for various tourism factors across the people of different professional groups.

Hypothesis 2d: There is a significant difference in the preference for various tourism factors across the people of different gender.

Hypothesis 2e: There is a significant difference in the preference for various tourism factors across the people of different countries.

Hypothesis 2f: There is a significant difference in the preference for various tourism factors across the people who use different modes of booking (online v/s offline mode)
Hypothesis 3: The proportion of tourists to specific city of Uttar Pradesh who have visited it once, more than once or never is same against the alternate hypothesis that proportion of tourists to specific city of Uttar Pradesh who have visited it once, more than once or never is not same.

Hypothesis 4: There is no significant reason among the tourists as they make a choice of U.P. as a tourist destination against the alternate hypothesis that most people visit U.P. primarily because of a specific reason.
Hypothesis 5a: The overall satisfaction of the tourists with respect to the service quality of tourism in U.P. is high.

Hypothesis 5b: The intention to make a visit to U.P. as an alternative destination choice for their qualitative destination is high.

Hypothesis 6: There is no significant difference in the relative importance of the various reasons for ‘not visiting’ Uttar Pradesh against the alternate hypothesis that either poor safety, poor infrastructure, expensive state, Poor Transport or Lack of scenic beauty is identified as the most pertinent factor demographic profile wise in deciding against Uttar Pradesh as a preferred tourism alternative.

Hypothesis 7: There is no significant difference in the relative importance of the various factors for improving the tourism service quality in U.P. against the alternate hypothesis that the logistics, health and hygiene, security and hospitality is identified as the most pertinent factor for improvement in the service quality in U.P.

5.2. RESEARCH DESIGN

Research design is a framework or blue print for conducting research (Malhotra and Dash, 2011). A research design specifies the methods and procedures for conducting a particular study. To identify the factors incorporated in questionnaire, exploratory research design is used where primary objective was to gain insights and comprehension of the issues related to service quality in Tourism industry. Post the pilot survey and construction of the scale, research design adopted was descriptive in nature.

5.2.1. Study Population and Sampling Frame
Study Population

People who have visited the following cities of Uttar Pradesh in the span of last six months (January 2015- June 2015) for different reasons form the study population.
A) Religious Sites/Circuit

1. Varanasi
2. Mathura-Vrindavan
3. Allahabaad

B) Buddhist religious sites/Circuit

1. Sarnath
2. Kushinagar

C) Agra Braj Circuit

1. Agra
2. Fatehpur Sikri

D) Handicraft Circuit

1. Lucknow
2. Aligarh
The Sampling Frame

In order to locate the sampling entities, visit to the above mentioned sample cities of Uttar Pradesh were made in person and an effort was made to cover maximum number of hotels and guest houses within the nearby vicinity of city Railway Stations. For few cities selected renowned hotels were covered, especially for Allahabad, Lucknow, Varanasi and Agra. Number of hotels covered in each mentioned cities are mentioned below:
<table>
<thead>
<tr>
<th>Name of the City</th>
<th>Number of Hotels Covered (With)</th>
<th>Number of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varanasi</td>
<td>Hotel Surya</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Hotel Central Residency</td>
<td>4</td>
</tr>
<tr>
<td>Mathura-</td>
<td>The Radha Ashok</td>
<td>20</td>
</tr>
<tr>
<td>Allahabad</td>
<td>Hotel Yatrik</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Hotel Kanha Shyam</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Hotel Crown Palace</td>
<td></td>
</tr>
<tr>
<td>Kushinagar</td>
<td>The Imperial</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Royal Residency</td>
<td>8</td>
</tr>
<tr>
<td>Sarnath</td>
<td>Hotel Buddha</td>
<td>10</td>
</tr>
<tr>
<td>Agra</td>
<td>Clarks Shiraz</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Grand Hotel</td>
<td>8</td>
</tr>
<tr>
<td>Fatehpur Sikri</td>
<td>Hotel Goverdhan</td>
<td>7</td>
</tr>
<tr>
<td>Lucknow</td>
<td>Clarks Awadh</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Hotel Levana</td>
<td>9</td>
</tr>
<tr>
<td>Aligarh</td>
<td>Hotel Melrose Inn</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Hotel Ruby</td>
<td>2</td>
</tr>
</tbody>
</table>
Within the hotels and guesthouses visited a convenience sample of respondents was procured to get the necessary information.
5.2.2. Sample and Sample Size

Sample size is 250 out of which 238 responses were found fit to be used. Sample size was chosen based on qualitative factors like budget, resource availability, time availability, ease of data collection as well as the review of previous studies done on similar subject.(Markovic et al.2013, D’ Silva et.al 2007, Canny 2013, Hau et al.2014, Jussem et.al 2014)

5.2.3: Sampling technique

The technique used for selecting sample units is convenience sampling. The steps followed were:

Step 1: Uttar Pradesh Tourism Department has divided the state according to the following circuits:

Table 5.2: Uttar Pradesh Tourism Circuits

<table>
<thead>
<tr>
<th>S.No</th>
<th>Tourism Circuit</th>
<th>Destinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Agra Braj Circuit</td>
<td>Agra, Mathura, Vrindavan, Fatehpur Sikri, Soor Sarovar,</td>
</tr>
<tr>
<td>2</td>
<td>Buddhist Circuit</td>
<td>Kapilavastu, Sarnath, Varanasi, Sravasti, Sankisa,</td>
</tr>
<tr>
<td>3</td>
<td>Bundelkhand</td>
<td>Jhansi, Mahoba, Kakramath, Kalinjar, Deogarh, Samthar,</td>
</tr>
<tr>
<td>4</td>
<td>Awadh–Ayodhya</td>
<td>Lucknow, Kukrail, Nawabganj Bird Sanctuary, Ayodhya,</td>
</tr>
<tr>
<td>5</td>
<td>Varanasi &amp; Vindhyachal</td>
<td>Varanasi, Vindhyachal, Ramnagar, Chunar, Allahabad, Kaimoor Wild Life Sanctuary, Chandra prabha Wild Life</td>
</tr>
<tr>
<td></td>
<td>Mahabharata</td>
<td>Hastinapur, Baghpat, Bijnor.</td>
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<tr>
<td>---</td>
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<td>-----------------------------</td>
</tr>
<tr>
<td>7</td>
<td>Ram Van-Gaman</td>
<td>Ayodhya, Bharatkund, Belha Devi-Pratapgarh,</td>
</tr>
<tr>
<td>8</td>
<td>Circuit related to 1st War of</td>
<td>Jhansi, Meerut, Lucknow, Raibareilly, Unnao, Kanpur, Bithoor, Sitapur, Badaun, Bareilly, Hathras, Shahjahanpur, Mainpuri, Firozabad, Gorakhpur, Devaria,</td>
</tr>
<tr>
<td>S.No</td>
<td>Tourism Circuit</td>
<td>Destinations</td>
</tr>
<tr>
<td>------</td>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>9</td>
<td>Jain Circuit</td>
<td>Shravasti, Kaushambi, Allahabad, Ayodhya, Faizabad, Ronahi, Kampil, Hastinapur, Sauripur, Agra, Banaras</td>
</tr>
<tr>
<td>10</td>
<td>Sikh Circuit</td>
<td>Gurudwara Pakki Sangat (Allahabad) - Gurudwara Ahrora, Gurudwara Chota &amp; Gurudwara Bhuili (Mirzapur) - Gurudwara Nichibagh, Gurudwara Gurubagh (Varanasi) - Guru Teg Bahadur Ji ki Tapsthal, Chachakpur, Gurudwara Raasmandal (Jaunpur) - Gurudwara Brahmkund (Ayodhya) - Gurudwara Ahiyaganj (Lucknow) - Gurudwara Singh Sabha (Mathura) - Gurudwara Hathighat, Gurudwara Guru ka</td>
</tr>
<tr>
<td>11</td>
<td>Sufi Circuit</td>
<td>Fatehpur Sikri, Rampur, Badaun, Bareilly, Lucknow, Kakori, Dewasharif (Barabanki), Bahraich, Kichochar Sharif, Kade Shah - Kada (Kaushambi), Allahabad,</td>
</tr>
<tr>
<td>12</td>
<td>Christian Circuit</td>
<td>Merut-Sardhana, Agra, Kanpur, Lucknow, Allahabad,</td>
</tr>
<tr>
<td>13</td>
<td>Handicraft Circuit</td>
<td>Lucknow, Agra, Aligarh, Firozabad, Rampur, Kanpur, Kannauj, Vrindavan, Muradabad, Khurja, Varanasi,</td>
</tr>
</tbody>
</table>

Source: [http://uptourism.gov.in/pages/top/explore/top-explore-tourism-circuits](http://uptourism.gov.in/pages/top/explore/top-explore-tourism-circuits)

From the above mentioned circuits and cities following circuits were chosen randomly:

cities for any reason:

a) Religious Sites/Circuit
1 Varanasi

2 Mathura-Vrindavan

3 Allahabaad
b) Buddhist religious sites/Circuit

1) Sarnath:

2) Kushinagar:

c) Agra Braj Circuit

1) Agra

2) Fatehpur Sikri

d) Handicraft Circuit

1) Lucknow

2) Aligarh

Step 2: From each of the cities few hotels that were either in the five kilometres vicinity of railway station or renowned one where maximum tourists are likely to stay were covered. Respondents from each hotel was selected on convenience based sampling

5.3 RESEARCH INSTRUMENT

Structured Questionnaire has been used with a number of closed ended questions. The information on demographic variables (age group, income, profession and nationality)
has been procured on categorical responses while the information on the preference of
different factors that influence the choices of tourist destination is taken on a five
point Likert Scale with 1 implying strongly disagree to 5 implying strongly agree.
Information on Question Number 5 (Most often reason for visit), Question Number 8
(Reasons for not visiting Uttar Pradesh) and Question Number 9 (Dimensions that
requires improvement) have been taken on multiple response categorical questions.

Questionnaire is divided into three sections which are as follows:

SECTION A: Consist of 47 items and is purely based on 5 point Likert Scale for
measuring the gap between expectation and perception of tourists regarding various
dimensions of Service Quality in Tourism Industry.
SECTION B: Consist of nine close ended multiple choice based questions to identify the reasons of tourist for visiting the mentioned cities, their choices of visiting the same place again, dimension where improvement is required most etc.

SECTION C: Covers the demographic profile of the visitors with six close ended questions covering their age group, Nationality, Income, Gender and Nature of Work.

5.4 DATA COLLECTION

Data collection process was done in two phases – to indentify the variables that can form the possible construct of the scale for measuring service quality in tourism industry and for testing and validating the scales to be used in the study; second for studying the reasons for visiting Uttar Pradesh, Frequency of visit, reasons for considering Uttar Pradesh as alternative destination choice and areas for improvement with the finalized scale.

5.4.1 Interview

In order to identify the variables for scale measuring service quality in tourism industry interview was conducted through a list of unstructured questions with ten officials of Uttar Pradesh tourism department. For four officials interview was conducted in person while for six officials telephonic mode of interview was used.

5.4.2 Questionnaire

Phase I: The first phase of data was done in a span of one month October 2014. In the first phase of data collection, 50 respondents were selected randomly for exploring the factors for measuring service quality in tourism industry. However due to small
sample size the scale could not be validated. Therefore again data collection was done on 150 respondents in a span of two months, November 2014-December 2014. Final factors were extracted during this stage and scale was validated with the sample size of 150.

Phase II: The second phase of data collection was started in the month of January 2015 and completed in the month of June 2015. The entire process took a time of six months as Nine Cities (Agra, Fatehpur Sikri, Varanasi, Mathura, Lucknow,
Allahabad, Sarnath, Kushinagar and Aligarh) were covered by the researcher for collecting data from the visitors from different nearby and renowned hotels of the mentioned cities. Only those visitors who have visited the cities in past six months (January 2015- June 2015) were included in the list of potential respondents. The total sample size was 350 out of which 238 responses were found fit to be used.

5.5 STATISTICAL TOOLS OF ANALYSIS

The coded and tabulated data was analysed using both descriptive and inferential statistical techniques. Mean, standard deviation, range have been calculated to draw a profile of the respondents and their responses. ‘The scales used in section A. is assumed to be interval scales.’ (Zikmund, 2010) and hence, parametric tests are used. The data set was analysed with the help of SPSS 20.0.

5.5.1 Descriptive statistics

Descriptive statistics include the numbers, tables, charts, and graphs used to describe, organize, summarize, and present raw data. In the study descriptive statistics were used to summarize the basic characteristics of the data and to present the demographic profile of the visitors.

5.5.2 Inferential statistics

Inferential statistics was used to draw conclusions about the population from the sample collected randomly from it. The two main methods used in inferential statistics are estimation and hypothesis testing. The study in this case has used hypothesis testing for understanding the population better. The tools used are briefly described below:
5.5.2.1 T- test for independent samples

The independent t- test, also the two sample t- test is an inferential statistical test that determines whether there is a statistically significant difference between the means in two unrelated groups. The null hypothesis for the independent t- test is that is that the population means from two unrelated groups are equal: \( H_0: \mu_1 = \mu_2 \) against the alternative hypothesis, which is that the population means are not equal: \( H_A: \mu_1 \neq \mu_2 \).
The alternative hypothesis is either accepted or rejected based on the significant level (alpha) set by the researcher. Most commonly, this value is set at 0.05.

_T-test for independent samples was used for analysing the difference between preference of tourism factor across men and women. All the statements were tested at 0.05% level of significance._

**5.5.2.2 Paired Sample Test:**

Paired samples _t_-tests typically consist of a sample of matched pairs of similar units, or one group of units that has been tested twice. A typical example of the repeated measures _t_-test would be where subjects are tested prior to a treatment, say for high blood pressure, and the same subjects are tested again after treatment with blood pressure lowering medication. By comparing the same patients’ numbers before and after treatment, we are effectively using each patient as their own control. That way the correct rejection of the null hypothesis can be much more likely, with statistical power increasing simply because the random treatment between patient variations has now been eliminated. However it is to be noted that an increase of statistical power comes at a price: more tests are required, each subject having to be tested twice. Because half of the sample now depends on the other half, the paired version of Student's _t_-test has only "n/2–1" degrees of freedom (with _n_ being the total number of observations). Pairs become individual test units, and the sample has to be doubled to achieve the same degrees of freedom.

_Paired sample T- Test was used for conducting gap analysis on the P-E Framework (Perception- Expectation) and to identify the dimension with highest gap score where improvement is required most (difference is highly significant) and the dimension with lowest gap score and least improvement is required._
The one way analysis of variance ANOVA is used to determine whether there are any significant differences between the means of three or more independent unrelated groups. Before running ANOVA for data, there are certain assumptions that need to be satisfied. These are:
- Dependent variable is either interval or ratio (continuous).

- Dependent is approximately normally distributed for each category of the independent variable.

- Equality of variances between the independent groups i.e. homogeneity of variances.

- Independence of cases.

One-way ANOVA tests the null hypothesis:

\[ H_0: \mu_1 = \mu_2 = \mu_3 = \cdots = \mu_k \]

where \( \mu \) = group mean and \( k \) = number of groups.

**Analysis of Variance was used for testing whether there was a significant difference in the means of the groups under study. ANOVA was used wherever the independent groups were more than two as the t-test for independent samples compares means for just two samples. As in the case of t-test, in ANOVA, too, the statements were tested at 95% level of confidence. Difference was studied age wise, income wise, profession wise, nationality wise and mode of booking.**

**5.5.2.4 Factor Analysis**

Factor Analysis is a set of techniques which, by analyzing correlations between variables reduces their number to fewer factors (common underlying dimensions of the variables) which explain much of the original data more economically. Factor
analysis investigates whether a number of variables of interest \( Y_1, Y_2, \ldots, Y_l \), are linearly related to a small number of unobservable factors \( F_1, F_2, \ldots, F_k \), thus reducing data complexity by reducing the number of variables under study.

*Exploratory Factor analysis was undertaken for data reduction and was applied on section A. A separate scale for constructing for measuring service quality in Tourism Industry.*
5.5.2.5 Logistic Regression Analysis

The crucial limitation of linear regression is that it cannot deal with DV’s that are dichotomous and categorical. The use of logistic regression has increased in the social sciences (Chuang, 1997; Janik & Kravitz, 1994; Tolman & Weisz, 1995) and in educational research- especially in higher education (Austin, Yaffee, & Hinkle, 1992; Cabrera, 1994; Peng & So, 2002a; Peng, So, Stage, & St. John, 2002). With the wide availability of sophisticated statistical software for high speed computers, the use of logistic regression is increasing. This expanded use demands that researchers, editors and readers be attuned to what to expect in an article that uses logistic regression techniques.

The simple logistic model has the form:

\[
\text{logit}(Y) = \text{natural log(odd)} = \ln \left( \frac{\pi}{1 - \pi} \right) = \alpha + \beta X.
\]

Various variables in the business world are dichotomous: for example, consumers make a decision to buy or not to buy, a products may pass or fail quality control, there are good or poor credit risks, an employee may be promoted or not. A range of regression techniques have been developed for analyzing data with categorical dependent variables, including logistic regression and discriminant analysis. Logistical regression is regularly used rather than DA when there are only two categories of the dependent variable. Logistic regression is also easier to use with SPSS than DA when there is a mixture of numerical and categorical IVs because it included procedures for generating the necessary dummy variables automatically, requires fewer assumptions, and is more statistically robust. Logistic regression determines the impact of multiple independent variables presented simultaneously to predict membership of one or other of the two dependent variable categories. Like ordinary regression, logistic regression provides a coefficient ‘b’, which measures
each IVs partial contribution to variations in the DV. To accomplish this goal, a model is created that includes all predictor variables that are useful in predicting the response variable. Variables can, if necessary, be entered into the model in the order specified by the researcher in a stepwise fashion like regression.
Regression Logistic Technique was used for final model as the researcher was interested in seeing that whether the visitor will visit Uttar Pradesh or not. Model stands as follows: A person’s intention to visit any place would be dependent on Demographic factors, Overall Satisfaction and preference for tourism factor. There can be specific reason to visit.

5.6 LIMITATIONS

5.6.1 Time

Time is an important dimension in any study. The current study spanned a total of three years and six months. A major part of the study went into literature review and a crucial part was collecting data. Data collection was undertaken in two phases. The first being for the development of a scale, while the second for gathering responses from the visitors on the final scales. The second part took a much longer time than had been anticipated, delaying the completion of the study. The reason for this was that the study was conducted in nine cities, Agra, Fatehpur Sikri, Varanasi, Mathura, Allahabad, Aligarh, Sarnath and Kushinagar). While collecting data in Lucknow was not difficult, doing so in rest of the cities meant that the researcher had to take leave and time to go and stay in these cities. Hence, the months and days in which the researcher was comparatively free from her professional obligations, was she able to visit these cities to collect the responses from visitors. Perceptions and expectations keep on changing over a span of time but no study can go on forever. Hence, the study has to be designed keeping in mind the time available.

5.6.2 Cost

Monetary constraints limit the area and subjects under study. A study on tourists’ perception and expectation would find better relevance if it included a pan Uttar Pradesh covering major circuits in which the entire state is divided. In this case only
nine cities were targeted. Extending the study to nine cities itself was a substantial monetary strain. Hence, a sample best representative of the population has to be selected and studied.
5.6.3 Cooperation

This is a sensitive area for research, and some tourists were apprehensive of giving information as either they were on a vacation or touring due to any other reason and had the paucity of time. Few were unwilling to disclose their income and in such cases, it was an approximate amount that was finally included. There were some who refused to participate in research due to lack of interest. Women tourists in particular were not very forthcoming when they were asked to write their contact numbers for future use by the researcher. The feeling was that there would be unnecessary disturbance and invasion in privacy at a later stage. Therefore, care is necessary on gaining co-operation for the research.

REFERENCES


