Dimara et al. (2016), examined the consumers' willingness to participate and willingness to pay for the green hotel practice i.e. towel reuse program, where the results showed that majority of the consumers were willing and supporting to pay extra amount for the green hotels and towel reuse programs. “It was found out that 72% would adopt a towel reuse program and that 44.1% of them are willing to pay extra for a single practice of towel reuse.” The result also showed that “foreign tourists and customers with prior experience with a towel reuse program exhibit a higher probability to participate to the program compared to Greek citizens and customers without prior experience.”

The perusal of review of literature leads one to realize that analyzing the behaviour towards acceptance of green products and services by the Indian consumers is a very sensitive topic. Its domain extends to economical, business, industry and most alarming to the society at large. The research work in this field is found less in India especially with respect to consumer behaviour towards green attributes of hotels. Moreover various past studies have focussed on consumer awareness, consumer perception towards green hotels, attitude towards green products in general and also specifically towards green hotels but none of the study has taken into consideration all the factors together viz. ecoliteracy, perception, consumers’ preference, willingness to pay towards green attributes and consumer green acceptance behaviour towards green attributes of hotels in India. Hence the present study has also focussed on ‘WHY’ part of the aforesaid variables and will also add to the extant knowledge by linking all the variables with consumer green acceptance behavior (CGAB).

CHAPTER III
RESEARCH METHODOLOGY
This chapter discusses the population of the study, sample and sampling procedure, procedure of data collection, survey instrument used and the statistical tools and techniques used for analysis of data. This chapter is divided into eight sections. Section I gives an outline the meaning of research in general. Section II deals with the objective of the study, Section III explains the research design, section IV outlines the purpose of the study, Section V deals with the hypothesis of the study, Section VI explains the brief outline of survey instruments, Section VII explains the data collection and research procedure, and last Section VIII detailed the statistical tools and techniques used in the study.

3.1 Research: An Overview

The Advanced Learner’s Dictionary of Current English lays down the meaning of research as “a careful investigation or inquiry especially through search for new facts in any branch of knowledge.”

The term ‘research’ refers to the “systematic method to articulate the problem, formulating a hypothesis, collecting the facts or data, analyzing the facts and reaching to certain conclusions in the form of solutions towards the concerned problem.” In simpler terms, Research is organized and logical investigation of a problem. According to Clifford Woody, “Research involves significantly redefining problems, framing hypothesis or advised solutions; accumulating, organizing and appraising data; making inference and reaching conclusion; and at last prudently testing the conclusion to determine whether they fit the formatting hypothesis.” In other words, a systematic way of collecting data and to gain knowledge is research.

There are two types of research i.e. “qualitative research is the collection, analysis and interpretation of data that cannot be meaningfully quantified, that is, summarized in numbers.” Some of the most frequently used qualitative techniques are participant observation, interviews, ethnography, focus group discussion and document analysis. Whereas the “quantitative research is the collection of data that involves larger, more representative respondent samples and the numerical calculation of results.” “Quantitative techniques include survey methods, formal methods (e.g. econometrics), and numerical methods (e.g. mathematical modeling)”. The choice between the above stated two methodologies depends upon the suitability of research objectives. On the basis of above discussion, quantitative research has been chosen by the researcher as it best fits the nature and purpose of this study that attempts to understand and analyze consumer
behavior with respect to green attributes of the hotels. One of the most popular quantitative techniques—‘Survey Method’ has been employed to collect the data with the help of questionnaire.

3.2. Objective of the current study

The objectives of the research are as follows:

5. Assessing the awareness of Indian consumers about green attributes of hotels.
6. Assessing the perception of Indian consumers about green attributes of hotels.
7. Assessing the preference of Indian consumers towards green attributes of hotels.
8. Assessing willingness to pay of Indian consumers for green attributes of hotels.

This chapter details out the research methodology for the present study. It explains the research objectives and a suitable methodology to achieve those objectives. The objectives of this study were to identify the four major aspects. Initially, demographic variables were taken which include gender, age, family income, types of travelers, education, and number of nights spent in a hotel were linked with all the major five variables i.e. ecoliteracy, consumer perception, consumer preference, willingness to pay and consumer green acceptance behavior.

First, this study was to assess the awareness of Indian consumers about green attributes of hotels. This involved a study of ecoliteracy or knowledge of Indian consumers about the green attributes of hotels. Ecoliteracy was linked with other variables i.e. consumer perception, consumers’ preference, willingness to pay and Consumer Behavior (Consumer Green Acceptance behavior i.e. CGAB).

Second, was examining the perception of Indian consumers about green attributes of hotels. Perception of Indian consumers were identified on the basis of various green attributes which was implemented by the hotels and tried to identify that which attributes were perceived as an important attribute by the Indian consumers. Consumer perception was directly associated with the preference of consumers, willingness to pay and Consumer Behavior (Consumer Green Acceptance behavior i.e. CGAB).

Third, to identify Indian consumers’ preference towards green attributes of hotels which was studied by identifying which green attributes were most preferred attributes by the Indian
consumers. This consumer preference was then linked with willingness to pay and CGAB (Consumer Green Acceptance behavior).

**Lastly**, to assess Indian consumers’ willingness to pay for green attributes of hotels. The willingness to pay would ultimate show the behavior of consumers towards acceptance of green purchase. All the factors were interlinked with each other which ultimately would decide the consumer awareness, perception, preference and their willingness to pay. Fig 3.1, explains the proposed model of the current study describing all the above objectives.

![Fig 3.1 Source: Researcher](image)

The researcher has linked the model by examining the relationship among the ecoliteracy of consumers, consumer perception, consumers’ preference and willingness to pay which influenced consumer green acceptance behavior. Further, the proposed model has also linked the impact of demographic variables which includes gender, age, family income, education, types of travelers and number of nights spent in a hotel on the mentioned variables.

**3.3 Research Design**

Research design is a crucial part of the study which prepares a systematic and logical plan that gives direction to the research study. The current study was to identify the consumer awareness,
perception of consumers, choice of preference, willingness to pay and consumer green acceptance behavior towards the green attributes of the hotel. This study is based on **Exploratory and Descriptive research.**

Research designs include exploratory study, descriptive study and experimental studies. **Exploratory research** provides a better understanding of an issue or situation. “Exploratory research is a type of research conducted because a problem has not been clearly defined. It also manages the broad problem into specific problems making researcher aware about the problem situation. Exploratory research lays the initial groundwork for future research.”

**Descriptive research** is concerned with “describing the characteristics of the individuals. The researcher clearly defines what he wants to measure and must find adequate method of measuring it.”

An **Experiment study** is a method of “making statistical decision from and about experimental data. This is done by asking and answering hypothetical question.”

“The current study is based on Descriptive research where the study was concerned with the specific predictions and characteristics concerning individual, group or situation.”

**3.4 Purpose of the study**

This study intends to identify the awareness level of Indian consumers, perception of consumers, their preferences, willingness to pay and consumer green acceptance behavior towards green attributes of hotels. The changing mindset and demand pattern of the consumers, the hotels are showing their interest towards implementing green services. This study explores the Indian consumers’ acceptance behavior of green services in hotels and also to know that which factor influence the consumers’ behavior towards acceptance of green services. Moreover, the changing pattern of consumers’ demand and hotels’ initiative towards implementation of green attributes have brought this research into light.

**3.5 Research Hypothesis**

1) $H_01$: There is no significant difference between gender and ecoliteracy of consumers towards green attributes of hotels

2) $H_02$: There is no significant difference between gender and perception of consumers towards green attributes of hotels
3) $H_03$: There is no significant difference between gender and consumers’ preference towards green attributes of hotels

4) $H_04$: There is no significant difference between gender and willingness to pay towards green attributes of hotels

5) $H_05$: There is no significant difference between gender and consumer green acceptance behavior towards green attributes of hotels

6) $H_06$: There is no significant difference between age and ecoliteracy of consumers towards green attributes of hotels

7) $H_07$: There is no significant difference between age and perception of consumers towards green attributes of hotels

8) $H_08$: There is no significant difference between age and consumers’ preference towards green attributes of hotels

9) $H_09$: There is no significant difference between age and willingness to pay towards green attributes of hotels

10) $H_010$: There is no significant difference between age and consumer green acceptance behavior towards green attributes of hotels

11) $H_011$: There is no significant difference between education and ecoliteracy of consumers towards green attributes of hotels

12) $H_012$: There is no significant difference between education and perception of consumers towards green attributes of hotels

13) $H_013$: There is no significant difference between education and consumers’ preference towards green attributes of hotels

14) $H_014$: There is no significant difference between education and willingness to pay towards green attributes of hotels

15) $H_015$: There is no significant difference between education and consumer green acceptance behavior towards green attributes of hotels

16) $H_016$: There is no significant difference between family income and ecoliteracy of consumers towards green attributes of hotels

17) $H_017$: There is no significant difference between family income and perception of consumers towards green attributes of hotels
18) $H_018$: There is no significant difference between family income and consumers’ preference towards green attributes of hotels

19) $H_019$: There is no significant difference between family income and willingness to pay towards green attributes of hotels

20) $H_020$: There is no significant difference between family income and consumer green acceptance behavior towards green attributes of hotels

21) $H_021$: There is no significant difference between types of travelers and ecoliteracy of consumers towards green attributes of hotels

22) $H_022$: There is no significant difference between types of travelers and perception of consumers towards green attributes of hotels

23) $H_023$: There is no significant difference between types of travelers and consumers’ preference towards green attributes of hotels

24) $H_024$: There is no significant difference between types of travelers and willingness to pay towards green attributes of hotels

25) $H_025$: There is no significant difference between types of travelers and consumer green acceptance behavior towards green attributes of hotels

26) $H_026$: There is no significant difference between number of nights spent in a hotel and ecoliteracy of consumers towards green attributes of hotels

27) $H_027$: There is no significant difference between number of nights spent in a hotel and perception of consumers towards green attributes of hotels

28) $H_028$: There is no significant difference between number of nights spent in a hotel and consumers’ preference towards green attributes of hotels

29) $H_029$: There is no significant difference between number of nights spent in a hotel and willingness to pay towards green attributes of hotels

30) $H_030$: There is no significant difference between number of nights spent in a hotel and consumer green acceptance behavior towards green attributes of hotels

31) $H_031$: There is no relationship between ecoliteracy of consumers and consumer perception towards green attributes of hotels

32) $H_032$: There is no relationship between ecoliteracy of consumers and consumer’s preference towards green attributes of hotels
33) $H_0$: There is no relationship between ecoliteracy of consumers and willingness to pay towards green attributes of hotels
34) $H_0$: There is no relationship between ecoliteracy of consumers and consumer green acceptance behavior towards green attributes of hotels
35) $H_0$: There is no relationship between consumer perception and consumer’s preference towards green attributes of hotel
36) $H_0$: There is no relationship between consumer perception and willingness to pay towards green attributes of hotel
37) $H_0$: There is no relationship between consumer perception and consumer green acceptance behavior towards green attributes of hotel
38) $H_0$: There is no relationship between consumers’ preference and willingness to pay towards green attributes of hotel
39) $H_0$: There is no relationship between consumers’ preference and consumer green acceptance behavior towards green attributes of hotel
40) $H_0$: There is no relationship between willingness to pay towards green attributes of hotel and consumer green acceptance behavior

3.6 Survey Instrument
3.6.1 Instrumentation
For data collection the structured and self administered questionnaire was prepared where majorly five variables were taken i.e. ecoliteracy of consumers about green attributes of hotels, perception of the consumers about green attributes of hotels, consumer’s preference towards green attributes of hotels, willingness to pay for green attributes of hotels and consumer green acceptance behaviour. All these variables were measured by using five point likert scale as 1=strongly disagree/ Not important at all/Never, 2= Disagree/ Unimportant/Rarely, 3= slightly important/ Neutral/ Seldom, 4= Agree/important/often and 5= strongly agree/ highly important/ Always. The questions for this study were modified and incorporated from various past studies like Han & Chan(2013), Kim, Palakurthi, & Hancer (2012), and Millar & Baloglu (2012) which was related to perception of consumers, choice of preferences and willingness to pay towards green attributes of the hotels. References regarding Ecolitercay attributes were taken from Kim et al., (2010) and Laroche (2001), 11 attributes of consumer perception and consumer preferences
were taken from Millar (2008, 2012) and Kim, Palakurthi, & Hancer (2012) whereas for consumer perception, three statements were also modified from Han et al.,(2010) respectively whereas. Demographic variables were chosen from the study Millar (2008). References regarding willingness to pay and consumer green acceptance behaviour were taken from Noor Amalina Yusof (2014), Ms. Xing Han (2013) and Laroche (2001). Four statements of consumer green acceptance behaviour were taken from the study Jhawar et.al.,(2012).

The first part in the questionnaire was related to demographic variable that included gender, age, education, family income, types of travellers and number of nights spent in a hotel. The second part of the questionnaire was related to ecoliteracy or knowledge or awareness of consumers which included sustainable and non sustainable attributes which was asked by the consumers to tick that helped in identifying their awareness level towards the green attributes practiced by the hotel. Also, a Likert based scale question has been used to identify the awareness of consumers.

The third part included the consumer perception which was framed on the basis of five Likert scale. This part included 21 green attributes incorporated by the hotels that were asked to tick the importance level of green attributes by the consumers that further helped to know that which green attribute were perceived important by the Indian consumers.

Similarly the fourth part of questionnaire included consumers’ preference which again included 16 green attributes based on Likert scale that showed that which attributes Indian consumers will choose while staying in a hotel.

The Part five included the questions related to willingness to pay which examined that whether the Indian consumers would pay premium price for the green attributes or not. And if the consumer is ready, then how much amount is he willing to pay.

In last part, respondents were asked to give their opinion towards their action. This has helped in identifying the consumer green acceptance behaviour.

3.7 Data Collection and Research Procedure

To collect data, standardized questionnaire were distributed online as well as offline to 700 domestic tourists. Questionnaires were distributed to 400 online consumers and 300 to offline consumers where overall responses came out to be 463. The majority of the responses came from
online consumers i.e. 312 from online consumers and 151 responses from offline consumers. The online questionnaire was made in Google doc that was convenient for respondents to fill and submit form.

The database of these consumers was Indian Tourists who visited within the states of India can be either business or leisure travelers. These consumers were not restricted to any particular state and this study tried to make the sample a true representative of pan Indian consumers. Random sampling was used where the sample were chosen out of those population who are Domestic tourists. From India Tourism Statistics at a Glance (2014), the Domestic Tourists were 1282 Million, in 2014. The purpose of this study was to know Domestic tourists’ awareness, perception, preferences and willingness to pay towards green attributes of hotel industry. Also the behavior of these tourists has identified towards acceptance of green services. In today’s scenario, every hotels are “going green” for achieving competitive advantage in the market. There are various reasons for hotels to go green like cost saving, competitive advantage, customer loyalty, employee retention etc. The Hotel Association of Canada identified that cost savings are the primary driving factor in the decision to implement environmental initiatives in a hotel facility (Graci 2002). So this study has chosen domestic tourists to identify their awareness, perception, preferences, WTP and CGAB towards green attributes followed in a hotel.

**Sample size calculation:**

Determination of Sample Size:

Sample Size-Infinite Population:

\[
\text{Sample Size}= \frac{Z^2 \cdot p \cdot (1-p)}{C^2}
\]

Sample Size- Finite Population

New Sample Size= Sample Size/ \{1+[(Sample Size-1)/Population]\}

Where:

\[p = \text{proportion of Population}\]

\[C= \text{Confidence Interval}\]
Z = Z-value (Cumulative Normal Probability Table) represents that a sample will fall within a certain distribution

For the purpose of this research population is finite and consists of 1,282,000,000 domestic tourists. Sample size has been calculated at 95% confidence level, 4% Confidence Interval and 5% population proportion.

Sample Size-Infinite Population:

\[ SS = \frac{(3.8416 \times 0.5 \times 0.5)}{(0.04)^2} = 600 \]

Sample Size- Finite Population

New Sample Size = \[ \frac{600}{1 + \frac{(600-1)/1282000000}} \] = 599.95 \approx 600 domestic tourists.

The data was collected between the time periods of August 2015- March 2016. In every one month, one reminder by mail was given to the respondents who were sent online questionnaire and for offline respondents, one call in every one month was made to fill questionnaire as soon as possible. Out of 700 questionnaires a total of 463 usable questionnaires were returned.

3.8 Statistical Technique

Once the data was collected, appropriate statistical tools have been used. The statistical tools i.e. Cronbach’s Alpha for reliability test, KMO & Bartlett’s Test of Sphericity used to identify the sample adequacy and validity and suitability of the responses collected (refer Table 4.1.1 and 4.2.1 in the next chapter). ANOVA test and Independent Sample ‘t’ test used for analyzing differences between demographic attributes and other variables, also Tukey’s Post hoc test in ANOVA has been used to determine which groups differ from each other. The Multiple Correlation Analysis and Multiple Regression Analysis were used to examine the relationships among the variables and impact of variables on one another. For all demographic data frequencies, means and standards deviations were run in SPSS. The SPSS 20.0 software was used for data analysis and interpretation.

A brief outline of the statistical tests used in this study is presented below: