CHAPTER 3

OBJECTIVES AND RESEARCH METHODOLOGY

The methodology is usually a guideline for solving the research problem undertaking the various methods, techniques and tools. Research methodology explains why we are using the particular tool or a method in comparison of the other tools and methods so that the researcher is capable of evaluating the research result. This chapter deals with method and techniques used by the researcher in order to achieve the objectives of the study. It includes statement of the problem, objective of the study, hypothesis of the study, data collection as well as data analysis tools.

3.1 STATEMENT OF RESEARCH PROBLEM

Today, India's prime concern is the formation of an employable workforce to tackle its statistic profit to the greatest degree. To achieve this target, the nation needs a training framework which can convey quality regarding talented and business prepared workforce, while concentrating on world-class investigate and Indian higher education, the significant and impressive developments of the past few decades notwithstanding faces major challenges in both quantitative and qualitative terms. Due to rising competition in the educational world, the chance of delivering the service minimizes. It is necessary that higher education institutions use the marketing activities for creating brand or identity that locates them in the social world. Branding gives community members the ability to recognize an institution through several quality factors. The reason for promoting higher education institution is to characterize quality education system, market-oriented, but the institution primary role and function, which is to provide a specific type of service of general social benefit, in accordance with its needs cannot be ignored. Due to the increased numbers of higher education institutes, the quantity of educated students is increasing while the quality standard of education is decreasing.

3.2 OBJECTIVE OF THE STUDY

The research objectives are the concrete statements given to describe the effects of marketing activities in creating brand of higher educational institutes. The research objectives are as follows:
• To analyze the marketing activities under taken by the higher educational institutions to position their product/services in the mind of prospect.
• To study the various marketing activities and their impact in creating brand of higher educational institutes in Uttarakhand.
• To identify the key factors of effective branding of higher educational institutes of Uttarakhand.
• To study the interrelationship of various factors and their impact in creating brand loyalty and brand equity.
• To analyze the gap between students expectations and institution delivery.

3.3 RESEARCH HYPOTHESIS
The main purpose of this research is to explore and study the effects of marketing in creating the brand of higher educational institutes in the Uttarakhand region considering the objectives alongside the literature hypothesis emerged are as follows:

Hypothesis No 1

The concept of marketing has developed in importance for universities and colleges all over the world (Durkin & Mckenna 2011). Marketing activities are playing cutting-edge competition among education institution to pull new enrollments. The innovative approach of marketing activities belongs to the institution only helps to enhance the brand value and image. (Bangari & Chaubey 2017). Therefore, the researcher formulates the hypothesis:

- **H₀**: Brand awareness and brand image of higher education institution is not associated with the marketing activities of institutions.
- **H₁**: Brand awareness and brand image of higher education institution is associated with the marketing activities of institutions.

Hypothesis No2

According to Chapleo (2011), branding in the higher education sector (public or private) can be pursued either promotion of values, culture, and vision or focusing on marketing activities of higher education institutions. Parshalini Naidu et al. (2016) highlight the dimension of quality and reputation that affect private and public universities. Wan Chang Da (2007) highlights the contrast between public and private universities and
suggests a hybrid model that allows both to operate within a single system of higher education provision in India. Therefore, the researcher formulates the hypothesis:

- **H0**: The mean of factors of effective branding of higher educational institutes of Uttarakhand does not differ significantly across government and private sector institutions.
- **H1**: The mean of factors of effective branding of higher educational institutes of Uttarakhand differs significantly across government and private sector institutions.

**Hypothesis No3**

Based on the literature, the authors found that both effective and continuance commitment has an impact on brand loyalty. According to (Newman and Werbel’s 1973) statement, it is also presumed that brand experience is a valid measure of brand loyalty, as it is more likely that consumer’s who encounters a superior brand experience will prefer this brand in the future. According (Keller 2008) Customer-based brand equity is achieved when the consumer has a high level of awareness and familiarity with the brand and holds some strong, favorable, and unique brand associations in memory. Therefore, the researcher formulates the hypothesis:

- **H0**: There is no significant relationship between the factors of brand of higher education with brand loyalty and brand equity.
- **H1**: There is significant relationship between the factors of brand of higher education with brand loyalty and brand equity.

**Hypothesis No. 4**

Aldridge & Rowley (1998) suggested that management of higher education must not only focus on academic services but must emphasize on overall student experience from educational institution as a useful dimension of measuring satisfaction of students. Sabri (2011) suggested understanding from student’s perspectives their expectations from the institution and their own experience. Therefore, the researcher formulates the hypothesis:

- **H0**: There is no significant gap between students expectations and institution delivery.
• **H14:** There is significant gap between student’s expectations and institution delivery.

### 3.4 RESEARCH METHODOLOGY

Research methodology is an organized way to solve the research problem. It constitutes of research method. It is the procedures by which researchers go about their work of describing, explaining and predicting phenomena. It aims to give the work plan of research. The main purpose of this research is to explore and study the effects of marketing in creating the brand of higher educational institutes in the Uttarakhand region. Thus, there are several research aims and objectives that this study attempt to achieve. Therefore the main purpose of this section is to give information on research activities and steps carried out.

#### 3.4.1 Research Design

The design is the structure of any scientific work. It gives direction and systematizes the research. The researchers have defined a number of research design for investigating the objectives.

The study focuses on analyzing the marketing activities, and higher education institutions are adopting for enhancing their brand value. Thus for this study and descriptive research is used.

Descriptive research design is concerned with describing the characteristics of a particular individual or group. It also determines the frequency with which something occurs. As this stage involved analyzing data collected through fieldwork, therefore, a survey was conducted with convenient respondents to study marketing and branding of higher education institutions in Uttarakhand. And the researcher has used SPSS to analyze the collected data. The results are reported descriptively along with statistical inferences. The analysis of the descriptive research is based on the deductive reasoning which is a logical argument based on hard evidence. The research design for this study was descriptive in nature.

#### 3.4.2 Type and Source of Data

Data used to support the analysis in this study was gathered from two sources, primary data, and secondary data. Primary data refers to the first-hand information gathered by the researcher to answer the problem (Hackley 2001). Primary data can be collected
through both qualitative and quantitative research methods, such as questionnaire, focus group interview, and Delphi research. In this study, Primary data is collected through the structured questionnaire as it ensures that the data collection was standardized such that all the respondents got the same question in the same format. The selection of the research tool depends on few factors such as time, the skill of the researcher and budget of the study. Secondary data refers to the existing information which is collected by someone else for the specific purpose. For this secondary study data was collected through various research reports, research papers, journals, periodicals, magazine and different websites.

Apart from making sure that the data collected is related and relevant to the research objectives, the researcher also ensured that it is reliable by collecting it from sources with good creditability.

### 3.4.3 Data Collection Instrument

The study depends on both the primary and secondary data. The primary data was collected from the survey using a well-structured questionnaire. The questionnaire comprised of close-ended. Online questionnaire using Google docs as well as the personal survey was done by the researcher. For online data collection, the researcher emailed and requested respondents to access link and response were collected online in a spreadsheet. Another approach was respondents were being approached as per the convenience, to administer the questionnaire personally to collect response with accuracy and to avoid recollection of response.

- **Designing of Questionnaire**

The questionnaire is an instrument designed to bring the desired information. The questionnaire was designed with theoretical inputs taken from printed materials and discussion with a guide and peer group. (Bangari & Chaubey 2018, Sojkin. B, Bartkowiak. P, & Skuza. A 2011, Jose. L, et.al 2009). Necessary modifications were carried out as per the requirement of the study. The respondents were apprised that the survey is being conducted for academic purpose only and no commercial intentions. While collecting the feedback, the respondent was made aware and about what the actual survey is off and whether they were reluctant to share any information.

There were total 12 questions. The questions were closed-ended. Each question started with explicit instruction on how to respond using five-point Likert scales. The questionnaire is pilot tested.
### Category of question | Question number | Total question
--- | --- | ---
Part-A | 1,2,3,4,5,6,7 | 7
Part-B | 1,2,3,4 | 4
Part-C | 1,2,3,4,5,6 | 6

- **Part-A** question comprises of Name of the university /Institution that respondents are associated, and type of university. The next three questions are multiple choice comprises factors considered while choosing institution for the course. Channels consider for getting awareness about the institution while applying for admission and tools institution using for marketing of its courses respectively.

- **Part-B** questions were developed to know the expectations of the students before and after taking admission. As the question is based on the expectation which means it will help us to know that whether the respondents agree or disagree towards the statements, therefore, the level of agreement Likert scale is being used (1- Strongly Disagree, 2- Disagree, 3-Undecided, 4 - Agree, 5 - Strongly agree). The next set of question is to know the opinion of respondents on brand equity and brand loyalty factors. The last question in this segment is to know the opinion of respondents on dimensions of a brand building or effective branding. As the question is based on the expectation which means it will help us to know that whether the respondents agree or disagree towards the statements, therefore, the level of agreement Likert scale is being used (1- Strongly Disagree, 2- Disagree, 3-Undecided, 4 - Agree, 5 - Strongly agree).

- **Part-C** questions comprise the demographic profile of the respondent.

The responses collected from the questionnaire then fed into SPSS 22 version and different statistical analyses were carried out.

- **Validity of Questionnaire**
  The validity indicates the degree of which an instrument measures what it supposed to measure .The content validity is the extent to which the measuring instruments represents the factor under study. The content of the questionnaire
designed with theoretical inputs taken from published materials and further it was validated with experts and peer group.

- **Pilot study**

This research explores the marketing activities undertaken by the higher educational institutions in creating a brand of their institution. Pilot study permits the preliminary testing of the hypotheses that lead to testing more precise hypotheses in the main study. Pilot study provides with the idea, approaches, clues that not have foreseen before conducting the pilot study. A pilot study of this research helps to make needed alternations in the data collecting methods and therefore analyze data in the main study more efficiently. A sample size of 50 was taken for a pilot study. A pilot study was therefore conducted by the intercepting respondents who are engaged in higher education institutions during April 2017 and administering a questionnaire to those amongst them who are willing to respond. Cronbach’s alpha test tested the reliability of the scale items. It is used to determine if the Likert scale used is reliable or not. The scores obtained for each construct exceeded the minimum requirement 0.70 as given below in the table.

**Table 3.3.4 Reliability Statistics**

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>Cronbach’s Alpha Based on Standardized Items</th>
<th>No. of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.725</td>
<td>.910</td>
<td>32</td>
</tr>
</tbody>
</table>

With the help of (SPSS 22) the reliability of the brand building factors scale is tested. Cronbach’s alpha is .725 hence the scale is reliable. The above result conveyed adequate reliability of scales and paved the way forward to proceed. Based on the validity and reliability of the questionnaire gathered during pilot survey and on the completion of the data analysis of the data obtained from the pilot study, highest accuracy was obtained. Therefore no changes were being made and the same questionnaire was used for the final data collection.
3.4.4 Sampling Design And Techniques

Sampling design refers to the process of selecting samples from a population. According to Kothari (2004), the ultimate test of a sample design is how well it represents the characteristics of the population. The reason for the sampling in this study is to lower cost, increase accessibility to study the population and increase the speed of data collection. For this study convenience sampling (non probability sampling) was used to collect the data from the population. As in the targeted population we have consumers those avail services of higher education institutions in Uttarakhand. In order to implement random sampling we need to have list of all the students and employees who are engaged in higher education institutes in different areas of Uttarakhand, though it was not possible to collect the list of all the students and employees of education institutions in Uttarakhand.

- **Sample Size:** Sample size assurance is the act of picking the quantity of observation or imitates to incorporate into a factual sample. The sample size is a vital element of any empirical investigation in which the objective is to make inductions about a populace from a sample. The items so selected constitute is technically called a sample. In order to reduce the sampling error further a larger sample was proposed. By targeting 550 responses 600 questionnaires were administered to the suitable potential respondents chosen conveniently. Subsequently, 525 responses were received and only 510 of them were found suitable for analysis. For the study the population frame was Uttarakhand state. Sample size for the present study includes 510 individual members associated with the higher educational institutions.

- **Sampling Technique:** Sampling method are the means to select sample of respondents from the population. A convenient and judgmental sampling technique will be used for this study. Around 510 respondents from Uttarakhand who are directly or indirectly associated with various higher educational institutions will be contacted / surveyed.

3.4.5 Data Analysis

After collection the data will be systematically arranged tabulated and appropriate analysis will be carried out with the help of research-based statistical software i.e.
SPSS-22. Certain statistical analyses like Mean, Standard deviation, T-test, chi-square test, factor analysis and ANOVA will be used.

Data Analysis Tool:

- **KMO and Bartlett’s Test**: Kaiser-Meyer-Olkin (KMO) Test is a measure of how suited your data is for Factor Analysis. The test measures sampling adequacy for each variable in the model and the complete model. The lower the proportion, the more suited your data is to Factor Analysis. KMO returns values between 0 and 1. A rule of thumb for interpreting the statistic: KMO values between 0.8 and 1 indicates the sampling is adequate. KMO values less than 0.6 indicate the sampling is not adequate and that remedial action should be taken. Some authors put this value at 0.5, so use your judgment for values between 0.5 and 0.6. KMO Values close to zero means that there are large partial correlations compared to the sum of correlations.

- **Mean**: In the case of a discrete probability distribution of a random variable X, the mean is equal to the sum over every possible value weighted by the probability of that value. For a finite population, the population mean of the property is equal to the arithmetic mean of the given property while considering every member of the population. For small samples, sample mean differs from the population mean. The law of large numbers dictates that the larger the size of the sample, the more likely it is that the sample mean will be close to the population mean.

- **Standard deviation**: Standard deviation is a measure of the dispersion of a set of data from its mean. It is calculated as the square root of variance by determining the variation between each data point relative to the mean. The chances of higher deviation occur when the data points are further from the mean within the data set. In finance, the standard deviation is a statistical measurement; when applied to the annual rate of return on an investment, it sheds light on the historical volatility of that investment. In statistics, the standard deviation (SD, also represented by the Greek letter sigma σ or the Latin letter s) is a measure that is used to quantify the amount of variation or dispersion of a set of data values. A low standard deviation indicates that the data points tend to be close to the mean (also called the expected value) of the set, while a high standard deviation indicates that the data points are spread out.
over a wider range of values. The standard deviation of a random variable, statistical population, data set, or probability distribution is the square root of its variance. It is algebraically simpler, though in practice less robust, than the average absolute deviation. A useful property of the standard deviation is that, unlike the variance, it is expressed in the same units as the data. There are also other measures of deviation from the norm, including average absolute deviation, which provide different mathematical properties from standard deviation. In addition to expressing the variability of a population, the standard deviation is commonly used to measure confidence in statistical conclusions. For example, the margin of error in polling data is determined by calculating the expected standard deviation in the results if the same poll were to be conducted multiple times. This derivation of a standard deviation is often called the "standard error" of the estimate or "standard error of the mean" when referring to a mean. It is computed as the standard deviation of all the means that would be computed from that population if an infinite number of samples were drawn and a mean for each sample were computed. It is essential to note that the standard deviation of a population and the standard error of a statistic derived from that population (such as the mean) are entirely different but related (related by the inverse of the square root of the number of observations). The reported margin of error of a poll is computed from the standard error of the mean (or from the product of the standard deviation of the population and the inverse of the square root of the sample size, which is the same thing). Also, is typically about twice the standard deviation—the half-width of a 95 percent confidence interval. In science, researchers commonly report the standard deviation of experimental data, and only effects that fall much farther than two standard deviations away from what would have been expected are considered statistically significant—normal random error or variation in the measurements is in this way distinguished from likely genuine effects or associations. The standard deviation is also important in finance, where the standard deviation on the rate of return on an investment is a measure of the volatility of the investment. When only a sample of data from a population is available, the term standard deviation of the sample or sample standard deviation can refer to either the quantity as mentioned above as applied to those data or to a modified quantity that is an
unbiased estimate of the population standard deviation (the standard deviation of the entire population).

- **Percentage analysis:** Percentage analysis is the method of presenting the raw data as a percentage of a better understanding of collected data. The percentage analysis is used in the demographic profile to know the percentage of respondents concerning their gender, age, education, occupation, monthly income, etc.

- **ANOVA (Analysis of Variance):** In statistics, analysis of variance (ANOVA) is a collection of statistical models and their associated procedures, in which the observed variance is partitioned into components due to different sources of variations. In its simplest form, ANOVA provides a statistical test of whether or not the means of the several groups are all equal. The One-Way ANOVA procedure produces a one-way analysis of variance for a quantitative dependent variable by a single factor (independent) variable. This technique is an extension of the two-sample t-test. In this study, ANOVA analysis is carried out to compare means and to find out significance difference in their means of branding factors across the stakeholders, type of universities in Uttarakhand. Similarly, Anova is carried to find out the significant relationship among the perception of students regarding factors of branding in enhancing the brand equity of higher education institutions.

- **Chi-Square Test:** The chi-square test of goodness of fit has been used here to test whether a significant difference exists between the observed number of responses and an expected number of responses based on the null hypothesis in each category or class. Hypothesis testing for the chi-square test of independence as it is for other tests like ANOVA, where a test statistic is computed and compared to a critical value. The critical value for the chi-square statistic is determined by the level of significance (typically .05) and the degrees of freedom. The degrees of freedom for the chi-square is calculated using the following formula: $df = (r-1)(c-1)$ where $r$ is the number of rows and $c$ is the number of columns. If the calculated value of chi-square test statistic is greater than the critical value, the null hypothesis can be rejected. In this study chi-square test is carried out to know the degree of association among marketing tools used by the institutions and type of the university as well as among the marketing tools and stakeholders of the higher educational institutions.
• **Paired t-test:** A paired t-test is used to compare means of two populations where two samples in which observations in one sample can be paired with observations in the other sample. Before-and-after observations on the same subjects are done in this test. Each type of t-test uses a procedure to boil all of the sample data down to one value, the t-value. The calculations compare sample mean(s) to the null hypothesis and incorporate both the sample size and the variability in the data. At-value of 0 indicates that the sample results exactly equal the null hypothesis. In statistics, we call the difference between the sample estimate and the null hypothesis the effect size. As this difference increases, the absolute value of the t-value increases. In this study Paired t-test is used to analyze the gap between student expectations and institutions delivery.

• **Regression analysis:** Regression analysis is used in statistics to find trends in data. It is the most basic and commonly used predictive analysis. Regression analysis is used to model the relationship between a response variable and one or more predictor variables. It is a statistical approach to forecasting change in a dependent variable. on the basis of change in one or more independent variables. It is also known as curve fitting or line fitting because a regression analysis equation can be used in fitting a curve or line to data points, in a manner such that the differences in the distances of data points from the curve or line are minimized. Relationships depicted in regression analysis are, however, associative only, and any cause-effect (causal) inference is purely subjective. It is essential for creating a model for estimating one variable based on the values of others. In the regression model, the independent variable is written as X variable and the dependent variable as Y. The relationship between X and Y can be shown on a graph with the independent variable X along the horizontal axis and the dependent variable Y along the vertical axis. The regression model aims to determine the straight line relationship that connects X and Y. The straight line connecting any two variables X and Y can be stated as Y= a+Bx, where a is called the Y interceptor simply the intercept, and b is the slope of the line. If the intercept and slope of the line can be determined, then this entirely determines the straight line.
3.4.6 Reliability-Test

The reliability of the questionnaire was first tested before the relationships between the different variables were proved. The researcher visited most of the higher educational institutions of Uttarakhand for collecting data, after collecting data researcher coding the data and interpretation of data and find that,

Table 3.4.6 Reliability Statistics

<table>
<thead>
<tr>
<th></th>
<th>Cronbach's Alpha</th>
<th>No of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand Building Factors</td>
<td>.857</td>
<td>32</td>
</tr>
<tr>
<td>Brand loyalty and Equity Factors</td>
<td>.919</td>
<td>13</td>
</tr>
</tbody>
</table>

In this Cronbach's Alpha is 0.857 which shows that the data is reliable. Hence the reliability in the Cronbach's Alpha is very high validating the fact that the reliability of the questionnaire is very high.

KMO and Bartlett's Test

<table>
<thead>
<tr>
<th>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</th>
<th>.822</th>
</tr>
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<tbody>
<tr>
<td>Bartlett's Test of Sphericity</td>
<td></td>
</tr>
<tr>
<td>Approx. Chi-Square</td>
<td>14310.700</td>
</tr>
<tr>
<td>Df</td>
<td>2080</td>
</tr>
<tr>
<td>Sig.</td>
<td>.000</td>
</tr>
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</table>

Bartlett’s test of sphericity and the Kaiser-Meyer-Olkin measure of sampling adequacy are both tests that can be used to determine the factorability of the matrix as a whole. It is suggested that if Bartlett’s test of sphericity is significant and if the Kaiser-Meyer-Olkin measure is greater than the 0.6, than factorability is assume. The results value of Bartlett’s test of sphericity is significant (p< 0.001, p= 0.000). The Kaiser-Meyer-Olkin measure is 0.822 which is greater than 0.6. Thus, based from the results, which indicates that data is reliable enough to go for further test it is appropriate to proceed with Factor Analysis to examine factors responsible for effective branding.
3.4.7 Limitation Of The Study

- The study is limited to the stakeholders associated with the higher education institutions of Uttarakhand.

- The study has been restricted to only 510 consumers. Because of inherent sampling error and sample biasness, the result may be deviated and thus cannot be generalized.

- The research was intended to cover the whole population area which could require the researcher to spend a lot of time and financial resources to cover the area population. But due to limited time and financial resources the researcher decided to confine the study to some selected higher education institutions of Uttarakhand.

- The personal views, opinions and biasness of respondents affect the quality of the data.