Chapter 4: Research Methodology

4.1 Introduction

Research is about searching for some facts, information with the objective of solving some specific problem at hand. The word, ‘research’ is taken from the French word, ‘recherché’ which means, ‘to seek’. Research consists of two syllables, ‘re’ and ‘search’. Research is done in an organized or systematic way. The dictionary meaning of word Research is the systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions. Research in common parlance refers to search for knowledge. Research can also be defined as a systematic and scientific search for pertinent information on a specific topic. The main features of research are:

a) It is a continuous process
b) It is based on objective consideration and elimination of personal biasedness.
c) It is an empirical study, based on different event methods such as, observation experiments.
d) It develops new techniques, tools and ideas

4.2 Objectives of Research

The purpose of research is to discover answers to questions through the application of scientific procedures. Following are the various objectives of research

a. To understand the in depth aspect of a problem
b. To find multiple solution to a problem
c. To test on the existing theories for practical applications
d. To develop new concepts, theories and ideas
e. To test the hypothesis and have a direct relationships with the variables
f. To predict the future studies and scope of the top
4.3 Steps in Research Process:

1.1 **Formation of Research Problem** - Research begins with an identification of a problem, as there exist a problem the gap of doing research comes into existence which can be filled with various reviews of literature, data analysis and tools & techniques of analysis.

1.2 **Review of Literature** - It studies the review of earlier researcher. The purpose of this review is to find out the gap of reviews done by the previous researchers which helps the current research to take up the gap and fill the gap of earlier researcher for future. Literature review implies analysis of research papers, journals, books, magazines, reports, projects on the subject of study.

1.3 **Deciding Objectives** - Objectives are the end result of research. It is the goals which the researcher aims at. Objectives should be few and not too many. The research question is converted into research objectives. There can be main objectives and sub-objectives. Main objectives are the overall statement of the focus of the research while sub-objectives are the specific component of the main objectives.

1.4 **Identifying Variables** - There are two types of variables i.e., dependent variables and independent variables. Independent variables are responsible for the change while dependent variables are the outcome of the change.

1.5 **Constructing Research Hypothesis** - The hypothesis are generally, based on the research objectives. There are two types of hypothesis i.e., Null hypothesis and Alternative hypothesis. The null hypothesis describes that there is no relation between the two variables while alternative hypothesis describes that both the variables are interdependent and related. Acceptance of Null hypothesis implies rejection of the alternative hypothesis.

2.1 **Deciding Research Design** - A Research design is nothing but the road map as to how the research work will take into consideration. A researcher has to first analyze the scope and the structure of the research work which will be convenient to conduct any research related
activities. A research design is the plan of a research study. A research design helps to decide upon issues like what, when, where, how much, by what means, etc. with regards to a research study. Research design is a conceptual structure within which the research will be conducted.

2.2 *Types of Research Design* - There are three types of research design which are

a. **Exploratory Research** – This research is also known as a formulative research design. This research will help the researcher in discovering the ideas and insights. The objective of this research is to use a proper research design that will help in formulating a research problem with an in-depth or more precise investigation that works on the working hypothesis from an operational aspect.

b. **Descriptive Research** - Describing a particular individual characteristic or a group is concerned with a Descriptive research. The frequency of occurrence between one variable with another is done by this research which shows the relationship between these variables.

c. **Casual Research** - Casual research is carried out to explain the relationship between two or more variables. In the present research, the relationship between employee productivity and performance in a retail apparel store is measured with the stores profitability and customer services with appropriate aspect of training given to the employees can be measured to establish causal relationship between the two variables.

2.3 **Qualitative/Quantitative Research** - A researcher gets an option for doing its research which can be in the form of qualitative and quantitative. The data which are expressed in numerical forms are termed to be called as quantitative research whereas the data not expressed in numerical form are termed to be called as qualitative research.

3.1 *Constructing Instrument off Data Collection* – Ones the analysis is confirmed on what the data is be to be studied the next step is to start collecting the data, the data collected an be in the form of primary or secondary which have to be blended from both perspective.
3.2 **Primary & Secondary Data** – Primary data is the data which are collected from the external factor perspective of the company which can be in the form of questionnaire, interview etc., whereas secondary data is collected in the form of books, magazines, internet etc., which helps the researcher to get more insights of the research work.

3.3 **Preparation of Questionnaire** - A questionnaire contains list of questions on the subject of the research. Questionnaire is generally divided into different parts like, general questions, specific questions, covering various aspects of the research problem. Questionnaire can be prepared on the basis of list of information needed in the research to solve the problem. Questions can be open-ended or closed-ended.

Open-ended questions provide large variety of answers and hence, it becomes difficult to analyze these questions.

Closed-ended questions provide limited options to choose from like, ‘Yes’ or ‘No’, ‘Strongly Agree’, ‘Not Agree’, ‘Strongly Not Agree’, etc. Such questions can be easily tabulated and analyzed. The questionnaire should be simple and easy so, that there is no confusion to the respondents in answering the question.

4.1 **Sample Selection** - Research is carried out on the basis of sampling. A sample is a part of the universe, selected for the purpose of research. It can be in the form of population in the universe or in the form of censes, which can be a convenient way to do a research work.

4.2 **Sample Size** - A sample size is the no of respondents a researcher needs to investigate for conducting the research activity. This can be as per the researcher choice to get the out of its respondents as per the research topics.

4.3 **Sampling technique** - A Non-Random Sampling technique was used to study this research work which was a convenience sampling technique to understand the productivity of employees at the store.
5.1 **Data Collection, Data Processing, Data Analysis**- Data collection implies field work to collect the data from the chosen samples or respondents. Data collection is most tiring job and requires a lot of passion. It is time consuming and frustrating. There is always the problem of sampling error or non-sampling error. Editing of data means, checking the completeness of the data collected, its consistency and legibility of data so, that the data is ready for further processing. Some editing can be done at the field also i.e., checking the omissions or blank pages of the questionnaire, checking the handwriting or checking the responses whether they are logical or not.

![Data Collection Diagram](image)

6.1 **Report Writing**- The last step in the research process is report writing. It is a complete document which describes the entire research work, undertaken in a systematic manner. It describes the actual findings of the research. It also makes suggestions and recommendations.

**4.4 Present Study – Research Method**

The topic of the present research is ‘An Analysis of Environmental Factors over the Productivity of Employees with Special Reference to Retail Apparel Industry. The objective of the research was to identify factors, responsible for employee productivity and performance. There are various factors which influence the productivity and performance of the employees in the stores
are Leadership, Training, Appraisal, etc. Another objective of the research is to find out the correlation between the Productivity of employees versus the Environmental factors.

The present research is based on two corporate entities which are market leaders in the field of apparel products. These are, Westside and Shoppers Stop. They have most popular brands in the market. The research will help in finding out the comparative analysis of both the brands with respect to employee’s productivity and performance towards the environmental factors within the stores and the outcome of employees towards the stores profitability.

4.5 Data Collection

There are two sources of data, used in any research. These are Primary Sources (or Primary data) and Secondary Sources (or Secondary data). Both primary and secondary data are used in the present report.

Primary data is the data which is first hard collected, directly from the field work with the help of a structured questionnaire. It is raw data which needs to be processed and analyzed to convert it into specific information and results. The collection of primary data involves field work, contacting the respondents. Such data is very useful in the research process as it gives the current state of the situation or problem in hand. The primary data is used along with the published secondary data to draw meaningful conclusions and results. However, collecting primary data is expensive and time consuming. There is also the possibility of interviewers’ bias or the respondents’ bias.

Secondary data is the available, published data. Such data is readily available and it is economical and less time consuming. It is also reliable as it is published data and the sources are authentic. There are two main sources of secondary data. These are internal sources and external sources. Internal sources are companies own sales record. The external sources are government publications, trade associations, newspapers, text books, journals, trade directories, companies’ annual report, etc.
4.6 Sampling

A. Size and design of sample

The study was conducted in stores of Westside and Shoppers Stop in Mumbai district. The sample population is the employees of the stores from various age groups working at various levels in the store as front end sales staff or back end inventory management, even the store managers were been considered in the sample size.

B. Sampling technique

A Non–Random technique was been used to conduct the research study of productivity of employees towards the organizational effectiveness.

C. Sample size

A sample of 1000 employees was considered for doing this research. 1000 employees sample were been broken down to 500 each for the stores of Westside and Shoppers Stop, including 10 stores with 10 store managers and 50 employees at each store.

4.6.1 Tools used for Data Analysis

The statistical analysis or data analysis can be of two types namely, Descriptive Analysis and Inferential Analysis (or Statistical Analysis). In the case of Descriptive Analysis, the data, collected from the sample is analyzed or measured in terms of measures of central tendency. This include mean, median, mode, measures of dispersion standard deviation. These tools are used in describe in brief, the data, collected from the sample.

On the other hand, in case of Inferential Data Analysis, the sample data is used to make generalization about the total population. In this analysis, different tests are conducted like, chi-
square test, one sample proportion test and other related statistical tests, the null hypothesis and draw conclusion about the research.

The methods of data collection were;

1. Questionnaire.
2. Telephone Survey.
3. Personal Interview.
4. Observation.
5. Desk Research.

Questionnaire is an instrument, used for data collection from the respondents. Questionnaire, in order to be effective, must collect the right information, needed for research, must induce employees and store managers to provide all the information and must minimize errors in reporting. A structured questionnaire was prepared for the research. It was accompanied by a covering letter, explaining the purpose and objective of the study.

The questionnaire can be structured or unstructured in the present research. Structured questionnaire with closed-ended questions were asked to the respondents. The wording of the questions was kept very simple so, that consumer can answer the questions without much difficulty. The response of the consumer on the whole was excellent.

Telephone survey method was used for taking prior appointment with the targeted audience. Telephone Survey was also carried out with the executives of the two brands i.e., Westside & Shoppers Stop to fix the appointment and get the basic details. The responses of the executives & Store Managers who were very encouraging and positive.

Personal Interview was carried out with majority of the respondents. Employees were also contacted at different places like, malls, offices, residences and some common places for get together and meetings. Personal Interview method has advantages as well as disadvantages. While conducting interviews, personal observation was also done to find out the details of the
employees and store managers towards the customer relationship management they did within and outside the stores.

Desk research method was used to collect the available secondary data from different college libraries and other libraries in the city.

4.6 2. Period of Study

The data collected is from questionnaire in which there are objectives as well as subjective questions asked to the respondents. The questions were in the form of structured and unstructured. The research has 2 questionnaire, one was for the employees of the stores which were a total of 490 employees of each store Westside and Shoppers Stop & the second questionnaire was for the store manager of respective stores. A total of 20 stores have been interviewed with 10 each store managers of respective store brand has been taken into consideration. The period of the research study pertains to January 2013 to June 2017.

4.6 3. Techniques used for Data Analysis

As per the normality test performed, the data does not satisfy the normality assumptions, hence the tests applied are non-parametric test. The statistical tests used are Mann Whitney test, Friedman test, Multiple Response Analysis, Frequency and Bar diagram.

1. Mann Whitney U test

Mann-Whitney U test is the alternative test to the independent sample t-test. It is a non-parametric test used for comparing two population means that come from the same population. In order to test whether two population means are equal are not, this test is used. It is used in case of equal sample sizes. Mann-Whitney test is usually used when the data is ordinal. Wilcoxon rank sum, Kendall’s and Mann-Whitney test are similar tests and are equivalent to chi square test. In Statistics Mann Whitney U test is a non-parametric test of the null hypothesis that two samples come from the same population against an alternative hypothesis, especially that a particular population tends to have larger values than the other.
Mann–Whitney test being a non-parametric test does not assume distribution related assumptions. However some assumptions which are assumed are as follows:

a. Random sample is drawn from a population.

b. Independence within samples and mutual independence is assumed.

c. Assumption of ordinal measurement scale is made.

2. Friedman test

The Friedman test is a non-parametric statistical test developed by Milton Friedman. It is similar to the parametric repeated measures ANOVA; it is used to detect differences in treatments across multiple test attempts. It is used to test the differences between the groups especially when the dependent variable is being measured is ordinal. A continuous data that has violated the necessary assumptions to run one-way ANOVA with repeated measures can also use this test.

The following assumptions has to be made while using Friedman test

a. Group is a random sample form the population.

b. Dependent variable should be measured at the ordinal or continuous level.

c. Samples should not be normally distributed.

3. Multiple Response Analysis

Multiple response analysis is a frequency analyzed when there can be more than one response per participant to a survey question. Multiple response analysis allows the set of responses to be combined and collectively analyzed. Such an analysis can be performed using SPSS Multiple Response sets function.

4. Bar diagram and Pie charts

The use of either vertical or horizontal bars that shows the comparison amongst different categories which is known as a bar graph, whereby on one of the axis is the discrete value and on the other axis represents a specific categories, sometimes this chart is also called as column bar chart.
Bar graphs
In a Bar graph or a bar chart data is presented in form of rectangular bars with the length proportional to the values they represent. Plotting of the bars can be done vertically or horizontally. A vertical bar is called a column bar chart.

Pie charts
A pie chart is a specialized graph used in statistics represented in form of a circle. Plotting of independent variables is done around a circle in clockwise or anticlockwise direction. The dependent variable which is usually percentage is made as a measure that is proportionate to the size of the quantity. Each arc is portrayed by constructing radial lines from its end to the center of the circle, creating slices.

5. Frequency Distribution table
In statistics the frequency of an event is the number of times the even has occurred in a study. A frequency of a particular data value is the number of times the data value occurs. These frequencies can be represented graphically in form of histograms, bar diagrams, pie charts and Frequency distribution tables. In the present study frequencies are represented by using frequency tables, bar graphs and pie charts.

A frequency distribution table the values are arranged with one or more variables taken in the sample. The frequency or the count of the occurrences of values within a particular group is entered in the table. Summarization of the distribution values is done by the table.