

# Chapter - 4

## Research Plan and Procedure



### *~Abstract~*

This chapter discusses the research design of the present study. After identifying the research gap in the previous chapter, the researcher states the research problem along with its objectives in this chapter. It also highlights the sampling techniques used to extract a viable sample from the population for the present study. It further details the selection of tools and statistical operations carried out for the analysis of data. The chapter also discusses in detail the formulas of Correlation, Regression and Compare Mean T Test used for determining the relationship and interdependence between Interpersonal and Mass Communication.

# CHAPTER – 4

## Research Plan and Procedure



### 4.1 INTRODUCTION

According to the predetermined objectives of a study, a researcher has to plan the entire process of study in terms of research plan and design suited to the study in order to accomplish the purpose of the study. A plan is typically any diagram or list of steps with timing and resources, used to achieve an objective. It is commonly understood as a temporal set of intended actions through which one expects to achieve a goal.

Planning (also called forethought) is the process of thinking about and organizing the activities required to achieve a desired goal. It is thought essential to the creation, maintenance and refinement of a plan, or integration of it with other plans. It combines forecasting of developments with the preparation of scenarios of how to react to them and ensure finding of the end results. In other words, planning and the process of organizing activities in a research project is known as Research Plan and Procedure.

#### 4.1.1 RESEARCH

Research is a systematic problem analysis, model building and fact finding for the purpose of important decision - making and control for the process of study undertaken. It is a well-planned, systematic process which implies that it needs planning at all the stages. It uses scientific methods. It is an objective process as it attempts to provide accurate authentic information. It is sometimes defined as the application of scientific methods in the solution of problems.

A broad definition of research is propounded by Martyn Shuttle worth. According to him, “In the broadest sense of the word, the definition of research includes any gathering of data, information and facts for the advancement of knowledge”.

Another definition of research is given by Creswell, who states that, “Research is a process of steps used to collect and analyze information to increase our understanding of a topic or issue”. It consists of three steps: (i) Pose a question, (ii) Collect data to answer the question, and (iii) Present an answer to the question.

#### 4.1.2 METHODOLOGY

Methodology is the systematic, theoretical analysis of the body of methods and principles associated with a branch of knowledge. Typically, it encompasses concepts such as paradigm, theoretical model, phases and quantitative or qualitative techniques. A methodology does not set out to provide solutions. It is, therefore, not the same thing as a method. Instead, it offers the theoretical underpinning for understanding which method or set of methods or so called “best practices” can be applied to a specific case, for example, to calculate a specific result.

#### 4.1.3 RESEARCH METHODOLOGY

Research Methodology involves the following steps as per the figure 4.1 below: -



Fig - 4.1 Steps of Research Process

Research methodology is the process which is used to collect information and data for the purpose of making decisions related to problem solving. The research methodology may include publication research, interviews, surveys and other research techniques, and can include both present and historical information.

## **4.2 PROBLEM STATEMENT**

After reviewing the works carried out by different communication scholars and researchers in the previous chapter, the researcher concluded that both mass and interpersonal communications are related to each other. They are harmonizing to one another and are in each other's pocket. People rely on mass media for their dialogue topics *i.e.* to be able to converse. Similarly mass media shape their content in accordance with their audience. Interpersonal interaction among people play a mediating role between mass media effects on public and at the same time, this interaction serves to spread, through social networks, information and opinions originally broadcast through mass media. Hence, both are dependent on one another for their base and material. But such exploration of their interdependence on one another is quite rare in the Indian region. So, the present research is an attempt on the part of the researcher to explore such interdependence between these two fields of study in the Indian context. Hence after identifying the research gap, the researcher states and defines the problem as: -

### **Interdependence of Interpersonal and Mass Communication – A Study**

#### **4.2.1 OPERATIONAL ASPECT OF RESEARCH PROBLEM**

Interpersonal Communication here stands for communication with Parents, Life Partner, Siblings, Friends & Co-Workers and others via face to face or one to one by using means of communication like E-Mail, Social Media, Correspondence and Mobile etc.

Mass Communication here stands for communication with a large number of audiences by using means of communications like Television, Newspaper, Radio, Social Media, Cinema, Internet, Magazine etc.

## **4.3 RESEARCH OBJECTIVES**

The research objectives of the present research are as follows: -

**The Primary Objectives are:**

1. To study how mass media issues are discussed at interpersonal level.
2. To study how issues of interpersonal communication are depicted in mass media.

**The Other Objectives are:**

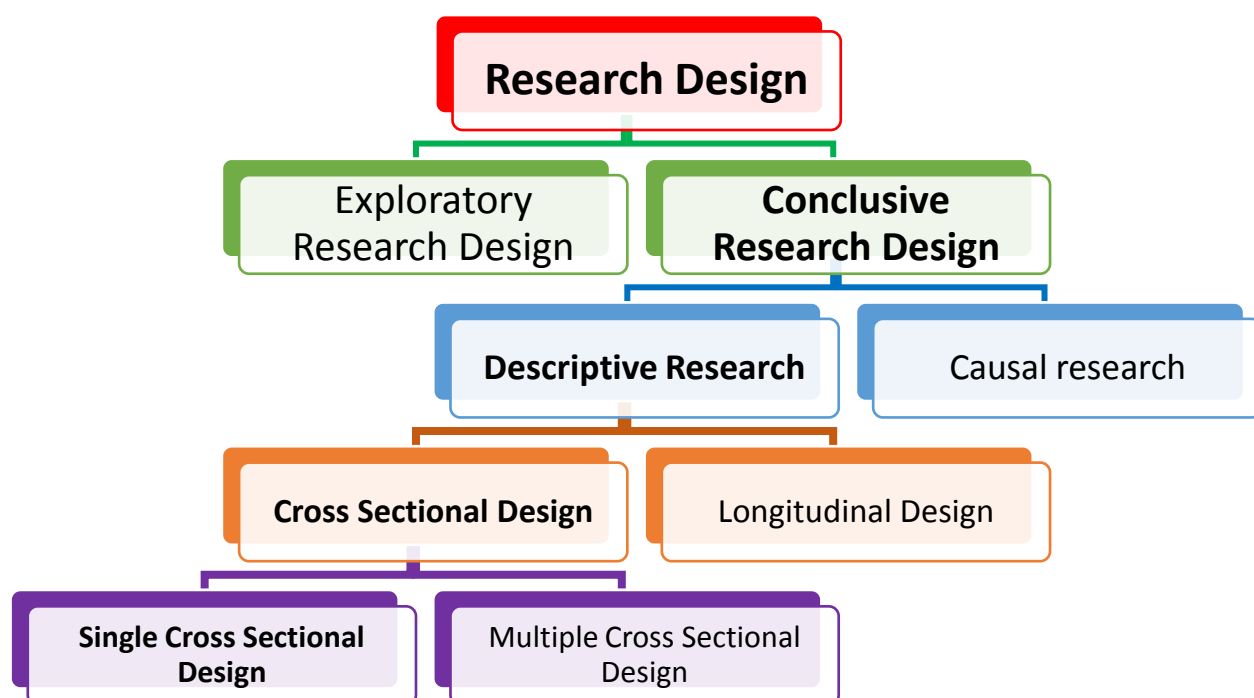
3. To study demographic profile of audiences (respondents).
4. To study media habits of audiences (respondents).
5. To identify topics of interpersonal communication of respondents with others.
6. To study interpersonal communication of audiences keeping in view the types of topics and issues received from different media.
7. To identify issues of mass media which figure in interpersonal communication of audiences.
8. To identify main reasons behind respondents' use of social media.
9. To check the belief of respondents on information received from different media.
10. To investigate whether issues raised by mass media are reflected in interpersonal interaction of respondents or not.
11. To identify people with whom one discusses and the topics on which one interacts with others after reading, watching or listening to programs broadcasted through mass media.
12. To investigate whether media provide base and material for interpersonal interaction or not.
13. To investigate whether development in mass communication technologies has changed the very nature, form or content of interpersonal communication or not.

#### **4.4 RESEARCH DESIGN**

A research design is a master plan specifying the methods and procedures for collecting and analyzing the needed information. It is a frame work or blue print that plans the action for the research project.

In other words, a research design is a systematic plan to study a scientific problem. The design of a study defines the study type (descriptive, correlational, semi-experimental, experimental, review, meta-analytic) and sub-type (e.g., descriptive-longitudinal case study), research questions, hypotheses, independent and dependent variables, and, if applicable, data collection methods and a statistical analysis plan. Research design is a framework that has been constructed to seek answers to research questions.

It is a detailed outline of how an investigation will take place. A research design typically includes - how data will be collected, what instruments will be employed, how these instruments will be used and the intended means for analysing the collected data.



**Fig - 4.2 Types of Research Design**

The Research Design of the present study is **Conclusive** which can be defined as, “the research design which assists the decision - maker in determining, evaluating and selecting the best course of action to take in a given situation”. Further, Conclusive Research is of two types: Descriptive and Causal. Out of these, the present research type is **Descriptive** as it is, “A type of conclusive research that has its major objective, the description of something – usually characteristics or functions etc”. Further, Descriptive Research is of two types: Cross Sectional and Longitudinal. The present one is **Cross Sectional** and can be stated as, “A type of research design involving the collection of

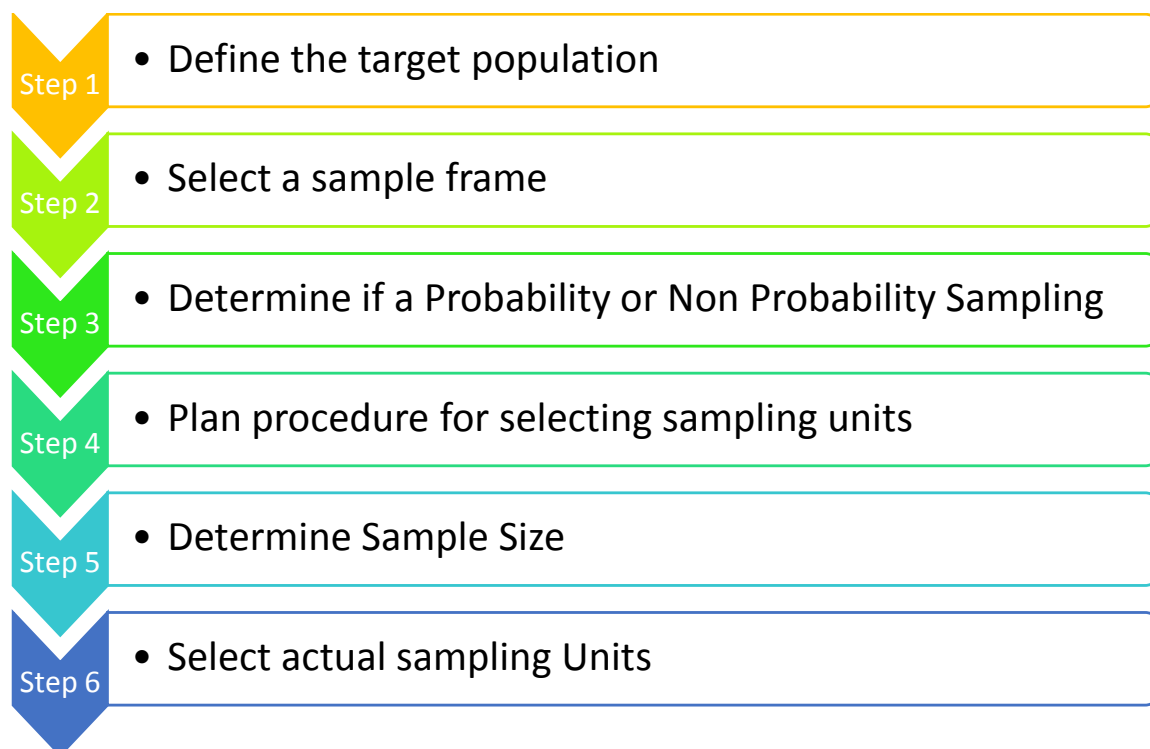
information from any given sample of population elements only once”. Cross Sectional research is further divided into Single and Multiple. The present research has **Single Cross Sectional Design** which implies “A Cross Sectional Design in which one sample of respondents is drawn from the target population and information is obtained from this sample once”. In short, the present study is **Conclusive, Descriptive, and Single Cross Sectional Research Design** in nature.

## 4.5 SAMPLING PLAN

*“You cannot put the same shoe on every foot”.*

- **Pibilius Syrus**

The process of Sampling involves any procedure using a small number of items or parts of the whole population to make conclusions regarding the whole population. A sample is a subset, or some part, of a larger population. The purpose of sampling is to enable the researchers to estimate some unknown characteristics of the population. The process of sampling is briefly stated in the fig. 4.3 below -



**Fig - 4.3 The Sampling process**

### **Target Population**

The target population for the present study is the residents of Haryana who are able to communicate effectively and efficiently with others by using different means of communication. Haryana is a state with 90 assembly constituencies and 10 parliamentary constituencies. It is situated in the heart of India and adjacent to the National Capital region, Delhi.

### **Sample Frame**

Haryana as a whole is a very big area to study and extract sample. So, within it, the researcher has set a frame to study out of all the districts of Haryana, six districts - Karnal, Kurukshetra, Kaithal, Jind, Hissar and Panipat- as frame to extract sample. The frame is setup in a manner that all strata of target population can be covered.

### **Sampling Type**

The method used, in the present study, for extracting sample from the population is Non Probability Convenience Sampling because in the Cross Sectional Study one has to go for Survey from the Sample. So, to ease the task, the type of Sampling is taken as Non Probability Convenience Sampling.

### **Selection of Sample Units and Sample Size**

Although, the researcher in the present study is used Non Probability Convenience Sampling Method yet he selected the Sample Units from every strata of population under study fulfilling his criteria for perfect sample. The sample size for the present study has been limited up-to 500 respondents.

## **4.6 DATA COLLECTION**

Data Collection in a research is a detailed process in which a planned search for all relevant data is made by the researcher.

### **4.6.1 TYPES OF DATA**

Data can be categorized as:

- 1. Primary Data-** Primary data is the data which is collected first hand specially for the purpose of study. It is collected for addressing the problem at hand. Thus, primary data is the original data collected by the researcher first hand.



2. **Secondary data-** Secondary data is the data that have been already collected by and readily available from other sources. Such data are cheaper and more quickly obtainable than the primary data. It may be available when primary data cannot be obtained at all.

The researcher, in the present study collected **Primary Data**.

#### 4.6.2 DATA COLLECTION METHODS

The methods adopted for Collecting Data in different types of research can be categorized as follows:

**Methods of Data Collection for Qualitative Research-** Qualitative Research is generally undertaken to develop an initial understanding of the problem. It is non-statistical in nature. It uses an inductive method, that is, data relevant to some topics are collected and grouped into appropriate meaningful categories. The explanations emerged from the data itself. It is used in exploratory research design and descriptive research also. Qualitative data comes in a variety of forms like - interview transcripts, documents, diaries and notes made while observing. There are two main methods for collecting Qualitative data:

- **Direct Method** -When the data is collected directly, it makes use of disguised methods. The purpose of data collection is not known. This method makes use of -
  - Focus Groups
  - Depth Interviews
  - Case Study
- **Indirect Method** – This method makes use of -
  - Projective Techniques

**Methods of Data Collection for Quantitative Research-** Quantitative Research quantifies the data and generalizes the results from the sample to the population. In quantitative research, data can be collected through two methods:

- Survey Method
- Observation Method

The method adopted for data collection, in the present study, was **Survey Method** of data collection which can be stated as, “A research technique in which information is gathered

from a sample of people by use of a tool (Questionnaire or Interview Schedule), a method of data collection based on communication with a representative sample of individuals”.

#### **4.6.3 DATA COLLECTION TOOLS**

The tool used, in the present study, for data collection was a well-structured questionnaire, which got filled by the sampling units. The questionnaire was divided into four parts ensuring that each factor should be covered by it. Following is the layout of the questionnaire for the present study:

- Part 1 of the questionnaire comprises of the questions related to the demographics and general information of the respondents like Gender, Age, Educational Qualification, Marital Status, Family Background, Occupation, Family Income and Family Structure etc. Question numbers 1-11 are related to personal details of the respondents.
- Part 2 of the questionnaire comprises of the questions related to the media habits of the respondents. Question numbers 12-16 deal with the same and reflect the usage pattern of different means of mass communication by the respondents.
- Part 3 of the questionnaire comprises of the questions related to the interpersonal communication habits of the respondents. Question numbers 17- 21 deal with the same and reflect the sources and mediums accessed by the respondents for their interpersonal communication.
- Part 4 of the questionnaire comprises of the questions related to facts determining the interdependence of interpersonal and mass communication. Question numbers 22-30 deal with the same and reflect whether they are interdependent upon one another or not.

#### **4.7 DATA PROCESSING AND ANALYSIS**

For the present study, data collected from the well – structured questionnaires was processed to gather the required information by using some statistical operations like tabulation and graphing by using the database applications on computers. It was done on the Microsoft Excel. The analysis of the information gathered by processing the data was done further by using some high level tools of statistical applications like Statistical

Programming in Social Science (SPSS, Version 17) from IBM Corporation. The researcher used Frequency Tabulation, Compare Mean T Test, Bivariate Correlation Analysis, Charting, Graphing and Tabulation of the outcome in order to have a concluding output and achieve knowledge with proper interpretation.

#### 4.7.1 COMPARE MEAN T TEST

It is used to compare the difference between two means, two averages, two proportions or two counted numbers. The means are from two independent samples or from two groups in the same sample.

A confidence interval for the difference between two means specifies a range of values within which the difference between the means of the two populations may lie. These intervals may be calculated by, for example, a producer who wishes to estimate the difference in mean daily output from two machines; a medical researcher who wishes to estimate the difference in mean response by patients who are receiving two different drugs; etc. The confidence interval for the difference between two means contains all the values of  $(\mu_1 - \mu_2)$  (the difference between the two population means) which would not be rejected in the two-sided hypothesis test of

$$H_0: \mu_1 = \mu_2 \text{ against } H_a: \mu_1 \neq \mu_2,$$

i.e.

$$H_0: \mu_1 - \mu_2 = 0 \text{ against } H_a: \mu_1 - \mu_2 \neq 0.$$

If the confidence interval includes 0, one can say that there is no significant difference between the means of the two populations, at a given level of confidence. Tests of Significance for Two Unknown Means and Known Standard Deviations from given samples from two normal populations of size  $n_1$  and  $n_2$  with unknown means  $\mu_1$  and  $\mu_2$  and known standard deviations  $\sigma_1$  and  $\sigma_2$ , the test statistic comparing the means is known as the *two-sample z statistic*

$$Z = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}}$$

which has the standard normal distribution ( $N(0,1)$ ).

The null hypothesis always assumes that the means are equal, while the alternative hypothesis may be one-sided or two-sided.

### **Tests of Significance for Two Unknown Means and Unknown Standard Deviations**

In general, the population Standard Deviations are not known, and are estimated by the calculated values  $s_1$  and  $s_2$ . In that case, the test statistic is defined by the *two-sample t statistic*

$$t = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

### **4.7.2 CORRELATION**

Pearson product-moment correlation coefficient, also known as  $r$ ,  $R$ , or Pearson's  $r$ , a measure of the strength and direction of the linear relationship between two variables that is defined as the (sample) covariance of the variables divided by the product of their (sample) standard deviations. Pearson's correlation coefficient when applied to a sample is commonly represented by the letter  $r$  and may be referred to as the *sample correlation coefficient* or the *sample Pearson correlation coefficient*. We can obtain a formula for  $r$  by substituting estimates of the covariances and variances based on a sample into the formula. That formula for  $r$  is:

$$r = \frac{\sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum_{i=1}^n (X_i - \bar{X})^2} \sqrt{\sum_{i=1}^n (Y_i - \bar{Y})^2}}$$

An equivalent expression gives the correlation coefficient as the mean of the products of the standard scores. Based on a sample of paired data  $(X_i, Y_i)$ , the sample Pearson correlation coefficient is

$$r = \frac{1}{n-1} \sum_{i=1}^n \left( \frac{X_i - \bar{X}}{s_X} \right) \left( \frac{Y_i - \bar{Y}}{s_Y} \right)$$

where

$$\bar{X} = \frac{1}{n} \sum_{i=1}^n X_i, \text{ and } s_X = \sqrt{\frac{1}{n-1} \sum_{i=1}^n (X_i - \bar{X})^2}$$

are the sample mean and sample standard deviation, respectively. Thus, the first parenthesized term in the previous summation is the standard score. (The terms for  $Y$  are similar.)

### 4.7.3 REGRESSION

The Regression analysis performs linear regression analysis by using the “least squares” method to fit a line through a set of observations. It is the calculation of single dependent variable which is affected by the values of one or more independent variables. For example, one can analyze how an athlete's performance is affected by such factors as age, height and weight. One can apportion shares in the performance measure to each of these three factors, based on a set of performance data, and then use the results to predict the performance of a new, untested athlete.

**Y Range** It is the range of dependent data.

**X Range** It is the range of independent data.

Regression Equation for Y dependent on X Independent

Regression Equation (y)  $= a + bx$

Slope (b)  $= (N \sum XY - (\sum X)(\sum Y)) / (N \sum X^2 - (\sum X)^2)$

It can be derived by following formula also

$$b = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sum (x - \bar{x})^2}$$

$$\text{Intercept (a)} = (\sum Y - b (\sum X)) / N$$

It can be derived by following formula also

$$a = \bar{y} - b\bar{x}$$

Where,

x and y are the variable

b = The slope of Regression Line

a = The intercept point of the regression line and y axis.

N = Number of Values or Elements.

X = First Score

Y = Second Score

$\sum XY$  = Sum of the product of first and second score

$\sum X$  = Sum of First Score

$\sum Y$  = Sum of Second Scores

$\sum X^2$  = Sum of square of First Scores

## 4.8 CONCLUSIONS AND REPORT

After the analysis of data with the help of above said methods and formulas, the researcher made an attempt to generalize the results so that, a layman can understand the results of the study. It is a vital step in the process of research. In this step, the researcher discussed and elaborated the results in detail and simplified the findings and checked whether the objectives of the study has been achieved or not. He also discussed the limitations faced by him during the course of study and gave suggestions for the future studies to be carried out on the related topic and area concerned.

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