CHAPTER – 3
RESEARCH METHODOLOGY

3.1 MEANING OF RESEARCH

Research in common parlance refers to a search for knowledge. Once can also define research as a scientific and systematic search for pertinent information on a specific topic. In fact, research is an art of scientific investigation. 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.” research as a “systematized effort to gain new knowledge.” to some people consider research as a movement, a movement from the known to the unknown. It is actually a voyage of discovery. They all possess the vital instinct of inquisitiveness for, when the unknown confronts them, they wonder and thier inquisitiveness makes them probe and attain full and fuller understanding of the unknown. This inquisitiveness is the mother of all knowledge and the method, which man employs for obtaining the knowledge of whatever the unknown, can be termed as research.

Research is an academic activity and as such the term should be used in a technical sense. Research comprises defining and redefining problems, formulating hypothesis or suggested solutions; collecting, organizing and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis. The Encyclopedia of Social Sciences define research as “the manipulation of things, concepts or symbols for the purpose of generalizing to extend, correct or verify knowledge, whether that
knowledge aids in construction of theory or in the practice of an art.” Research is, thus, an original contribution to the existing stock of knowledge making for its advancement. It is the pursuit of truth with the help of study, observation, comparison and experiment. In short, the search for knowledge through objective and systematic method of finding solution to a problem is research. The systematic approach concerning generalization and the formulation of a theory is also research. As such the term ‘research’ refers to the systematic method consisting of enunciating the problem, formulating a hypothesis, collecting the facts or data, analysing the facts and reaching certain conclusions either in the form of solutions(s) towards the concerned problem or in certain generalizations for some theoretical formulation.

The purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth which is hidden and which has not been discovered as yet. Though each research study has its own specific purpose, they may think of research objectives as falling into a number of following broad groupings:

1. To gain familiarity with a phenomenon or to achieve new insights into it. (Studies with this object in view are termed as exploratory or formulative research studies)
2. To portray accurately the characteristics of a particular individual, situation or a group. (Studies with this object in view are known as descriptive research studies)
3. To determine the frequency with which something occurs or with which it is associated with something else. (Studies with this object in view are known as diagnostic research studies)
4. To test a hypotheses of a causal relationship between variables. (Such studies are known as hypothesis-testing research studies)

### 3.2 SIGNIFICANCE OF RESEARCH

All progress is born of inquiry. Doubt is often better than overconfidence, for it leads to inquiry, and inquiry leads to invention is a famous Hudson Maxim in context of which the significance of research can well be understood. Increased amounts of research make progress possible. Research inculcates scientific and inductive thinking and it promotes the development of logical habits of thinking and organization. The role of research in several fields of applied economics, whether related to business or to the economy as a whole, has greatly increased in modern times. The increasingly complex nature of business and government has focused attention on the use of research in solving operational problems. Research, as an aid to economic policy, has gained added importance, both for government and business.

Research provides the basis for nearly all government policies in their economic system. For instance, government’s budgets rest in part on an analysis of the needs and desires of the people and on the availability of revenues to meet these needs. The cost of needs has to be equated to probable revenues and this is a field where research is most needed. Through research they can devise alternative policies and can as well examine the consequences of each of these alternatives.
Decision-making may not be a part of research, but research certainly facilitates the decisions of the policy maker. Government has also to chalk out programmes for dealing with all facets of the country’s existence and most of these will be related directly or indirectly to economic conditions. The plight of cultivators, the problems of big and small business and industry, working conditions, trade union activities, the problems of distribution, even the size and nature of defense services are matters requiring research. Thus, research is considered necessary with regard to the allocation of nation’s resources. Another area in government, where research is necessary, is collecting information on the economic and social structure of the nation. Such information indicates what is happening in the economy and what changes are taking place. Collecting such statistical information is by no means a routine task, but it involves a variety of research problems. This day nearly all governments maintain large staff of research technicians or experts to carry on this work. Thus, in the context of government, research as a tool to economic policy has three distinct phases of operation.

In addition to what has been stated above, the significance of research can also be understood. Keeping in view the following points:

(a) To those students who are to write a master’s or Ph.D. thesis, research may mean a careerism or a way to attain a high position in the social structure; (b) To professionals in research methodology, research may mean a source of livelihood; (c) To philosophers and thinkers, research may mean the outlet for new ideas and insights; (d) To literary men and women, research may mean the development of new styles and creative work. (e) To analysts and intellectuals, research may mean the generalizations of new
theories. Thus, research is the fountain of knowledge for the sake of knowledge and an important source of providing guidelines for solving different business, governmental and social problems. It is a sort of formal training which enables one to understand the new developments in one’s field in a better way.

3.3 SELECTED MICROFINANCE INSTITUTIONS:-

I) National Bank of Agriculture and Rural Development (NABARD)

ii) Small Industrial Development Bank of India (SIDBI)

iii) Self Employed woman’s Association (SEWA)

iv) Tribhuvandas Foundation (T.F.)

3.4 RESEARCH OBJECTIVES:-

• To assess framework, and structure of Microfinance Activities.
• To clarify microfinance on the basis of some literature.
• To study the characteristics, working method, different schemes, major activities, different Models, rates of interest, functions, services & performance of selected MFIs.
• To analyse the growth rate of Selected MFIs in Gujarat. How the Microfinance benefited to the society.

3.5 DATA SOURCE:-

• Primary Data:
  Data from Microfinance Institutions
• **Secondary Data:**

Data from Library, Books, Journals, Published Reports, Newspapers, Magazines, Electronic Data and Annual Publications from MFIs.

**3.6 RESEARCH DESIGN: -**

For my study work I have taken four main microfinance institutes. These are actively working in the State Gujarat. I have tried to study of its last five year progress, growth, performance, benefits, funds distributions and other welfare activity managed by them for the society on the individual basis. Hence through the secondary data the hypothesis is formulated and also analyzed with the effective test. The Comparative study (Intra-comparision) of last five (05) years i.e. 2006-07 to 2010-11 is taken. Data is been collected from various MFIs Head quarters of Gujarat and from Annual Report. Then after I found or calculated or analyzed the contributions of MFIs in Gujarat out of India level (from the total Indian contributions) data. Table wise interpretation is given for the betterment of the different activities.

I did Comparative study on the basis of intra-comparison attempt done here because NABARD’s working in thousands crores of Rupees, SIDBI’s working with crores of Rupees, SEWA working with lakhs of Rupees & TF Working is in thousands of rupees. Another reason is that all four institutes Schemes, Funding Agency, Working Pattern, Target Area, interest Rate, Refinance Rate, Fund Allocation, Distribution Channel is different. All the things discussed in detail in my Forth Chapter. Through intra-comparison I recommend that in which activity (area) MFIs should take more incentive, development and funding (Care) to the state of Gujarat.
3.7 TOOLS OF ANALYSIS: -

Statistics tools, t- test, Trend Analysis, Mean, Mode, Medium, Co-relation, charts, Comparative Tables study etc.

**Mean(X):**

Arithmetic average is also called as mean. It is the most common type and widely used measure of central tendency or an average.

Mean is defined as the quantity (figure) obtained by the number of observations.

Formula of Mean (x)

\[ X = \frac{X_1 + X_2 + \ldots + X_n}{n} = \frac{\sum x}{n} \]

Where,

- \( X \) = value of the variable
- \( n \) = total number of items
- \( \sum \) = sum of the observations of the variable

**Median (M):**

Median (M) is defined as the middle value of the observations which have been obtained at arranging the data either in ascending order of magnitude. It lies in the centre of distribution. The value of those items which divides the series in two equal parts, one half containing value. The term position refers to the place of a value in a series.

\[ \text{Position of the Median (M)} = \frac{n+1}{2} \]

**Mode (Z):**

The Mode (Z) is defined as the value of the variable which occurs most frequent in the data. In the other words, the mode or modal value of the
distribution is that value which corresponds to the maximum frequency. Mode is used by the people, researcher and business man in their everyday life.

The mode of the numbers 1,2,3,2,0,4,2 since the number 2 occurs maximum number of times i.e. 2. Or in case of no repetition of data the maximum value data is considered as Mode e.g. 1, 5,8,9,4, & 3, since the number 9 is the highest value data is considered as mode.

**Correlation**

The correlation between two variables can be the following two types:

1. Positive correlation.
2. Negative correlation.

1.) Positive correlation.

Sometimes the changes in the values of two variables are in the same direction i.e. when the values of one variable increase, the values of the other variable also increase and when the value of one variable decrease the value of other variable also decrease, the correlation between them is said to be positive. The correlation between age of husband and age of wife, income and expenditure are the examples of positive correlation.

2.) Negative correlation.

When the changes in the values of two variables are in opposite direction i.e. when the value of one variable increase, the value of the other variable decrease, and when the values of one variable decrease, the value of the other variable increase, the correlation between them is said to be negative.
The correlation between the price of commodity and its demand, expenditure and savings, are the examples of negative correlation.

**Types Sample Testing:**
It has two types

1. **Large Samplings:** when the samples size is more than 30 at that time following test is recommended.
   - Z- test
   - $X^2$ test
   - ANNOVA (Analysis of variances test) - test
2. **Small Samplings:** When the samples size is less than 30 at that time following test is recommended.
   - F- test
   - $t$- test

   For my study $t$ –test is recommended and suited. Hence concept related to $t$-test is given below:

**$t$-test**
This is very important distribution was given by W.S. Gosse in 1908. He published his work under the pen-name of student. Hence the distribution is known as student’s $t$ distribution. For testing the significance of the difference between samples mean and the population mean, $t$ distribution can be used.

**$t$-test degree of freedom**
The probability table of $t$ distribution is given for various levels of significance and for different degree of freedom. Degree of Freedom is the
number of independent observation of the variable. The number of
independent observations is different for different statistics.

**t-test formula:**

\[
t = \frac{|x - \mu|}{\sqrt{S}} = \frac{n-1}{S}
\]

*here the value of x and standard deviation is require.*

**x bar formula**

\[
x = \frac{\sum x_i}{n}
\]

**Standard deviation (S) formula**

\[
S^2 = \frac{1}{n} \left( \sum d_i^2 - \frac{(\sum d_i)^2}{n} \right)
\]

Degree of Freedom (d. f.) = n-1 and 5% level of significant 4 d. f. is to
be taken for the t-table

The answer of t –Calculation and the value of t- table is compared and
on that basis:

If, \(t\)- calculation is less than \(t\)-table value than Ho may be Accepted

If, \(t\)- calculation is greater than \(t\)-table value than Ho may be Rejected

**3.8 HYPOTHESES:**

In research, assertion made about some property of elements being
studied. Such an assumption is made early in the investigation, guiding the
investigator in searching for supporting data. The hypothesis is found to be
true or false at the conclusion of the research study, depending on whether or
not the proposed property actually characterizes the elements. Social science
research, and by extension business research, uses a number of different approaches to study a variety of issues. This research may be a very informal, simple process or it may be a formal, somewhat sophisticated process. Regardless of the type of process, all research begins with a generalized idea in the form of a research question or a hypothesis. A research question usually is posed in the beginning of a research effort or in a specific area of study that has had little formal research. A research question may take the form of a basic question about some issue or phenomena or a question about the relationship between two or more variables.

From the Review of literature following hypothesis are formulated.

- $H_0 =$ NABARD significantly distributes purpose wise Microfinance in Gujarat.
- $H_1 =$ NABARD does not significantly distribute purpose wise Microfinance in Gujarat.

- $H_0 =$ NABARD Significantly Distributes Agency Wise Microfinance in Gujarat.
- $H_1 =$ NABARD does not significantly Distribute Agency Wise Microfinance in Gujarat.

- $H_0 =$ SIDBI significantly distributes Microfinance through various schemes in Gujarat.
- $H_1 =$ SIDBI does not significantly distributes Microfinance through various schemes in Gujarat.
• $H_0 = \text{SEWA Significantly Generated Employment through Various Activities in Gujarat.}$

• $H_1 = \text{SEWA does not Significantly Generated Employment through Various Activities in Gujarat.}$

• $H_0 = \text{SEWA significantly distributes Loans through SEWA Bank in Gujarat.}$

• $H_1 = \text{SEWA does not significantly distribute Loans through SEWA Bank in Gujarat.}$

• $H_0 = \text{SEWA has significantly paid insurance claimed to the Micro client in Gujarat.}$

• $H_1 = \text{SEWA has not significantly paid insurance claimed to the Micro client in Gujarat.}$

• $H_0 = \text{Tribhuvandas Foundation has significantly satisfied number of beneficial through various Activities in Gujarat.}$

• $H_1 = \text{Tribhuvandas Foundation has not significantly satisfied number of beneficial through various activities in Gujarat.}$

**3.9 IMPORTANCE OF THE RESEARCH**

• The research will be helpful to know about the clients found in rural areas that how different types of facilities provided by MFIS.

• The research will focus on social, economical and financial development done by MFIs in Gujarat.
• The research will study that MFIs provide employment opportunities which is improves life style of needed person.

3.10 LIMITATIONS OF THE RESEARCH

• Lake of proper response from Microfinance institutions.
• It takes time to do this work.

3.11 CHAPTER PLAN:

Chapter 1: Introduction to Microfinance.

Chapter 2: Review of Literature

Chapter 3: Research Methodology

Chapter 4: Introduction to Selected Microfinance Institutions:

  Part – I: National Bank for agricultural and Rural Development (NABARD)
  Part - II: Small Industrial Development Bank of India (SIDBI)
  Part – III: Self Employed Women’s Association (SEWA)
  Part – IV: Tribhuvandas Foundation (T.F.)

Chapter 5: A comparative study of selected Microfinance Institutes

Chapter 6: Conclusions and Suggestions.