CHAPTER 2

RESEARCH METHODOLOGY
2. RESEARCH METHODOLOGY

2.1. INTRODUCTION

Research is commonly known to be a continuous search for knowledge. Research is an art of scientific search for specific information. According to Clifford Woody, “research comprises defining and redefining problems, formulating hypothesis or suggested solutions, collecting, organizing and evaluating data, making deductions and reaching conclusion and further testing the conclusions to determine whether they fit the formulating hypothesis”. Research Methodology is a scientific and systematic way of finding solutions to a problem.

In the present study, researcher has gone through various steps as mentioned above, to analyze the research associated problem along with its reasons. For undertaking any kind of research, researcher must know various research techniques like mean, mode, median, frequency distribution, standard deviation or Chi-Square. Thereafter researcher need to analyze which of these techniques is relevant to his or her research. Thus for any systematic research study, a scientific approach is necessary. It was therefore, essential to conceive and plan a systematic design to arrive at an
appropriate conclusion. All the business undertakings are operating in the world of uncertainty, but research design, more than any other procedure, can minimize the degree of uncertainty to a greater extent.

2.2 OBJECTIVES OF THE STUDY

- To Study the existing pension schemes of Government as well as selected private insurance companies.
- To study the customer’s response towards the existing pension schemes of selected insurance companies
- To compare the risk, return and liquidity aspects of the pension products.
- To study the needs of the customer with reference to the pension offerings by insurer.
- To suggest vital improvements for existing pension schemes

2.3 HYPOTHESIS OF THE STUDY

- The supply of pension products is matching with the customers’ needs.
- The total shift from Defined Benefit to Defined Contribution is desirable from the viewpoint of customer.

- The Pension Fund Regulatory & Development Authority (PFRDA) Reforms are in tune with the needs and preferences of Customer.

2.4 RESEARCH DESIGN

Research design is an outline of research study, which indicates what researcher will do from writing the hypothesis and its operational implications to the final analysis of data. “A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure1. Research design constitutes decision regarding what, why, where, when and how concerning an inquiry or a research study.

Overall research design may be divided into the following parts2:

a. **Sampling Design**: This deals with the method of selecting items to be observed for researcher’s study

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1 Clair Selltiz and others, Research Methods in Social Sciences, (1962), pg. 50 published by Holt, New York
b. **Operational design:** It states the techniques by which procedures specified in sampling, statistical and observational designs can be carried out.

c. **Observational Design:** It relates to the conditions under which the observations are made.

d. **Statistical Design:** It is concerned with the questions of how many items are to be observed and how the information and data gathered are to be analyzed.

**2.4.1 SAMPLING DESIGN**

A sample design is a definite plan for obtaining a sample from a given population. No researcher can study the entire population and hence selects a few individuals belonging to a population for the purpose of his / her study. These selected individuals form a sample and while selecting these individuals the researcher should consider the following facts:

a) The definition of the population

b) Size of the sample

c) Representativeness of the sample.

There are different types of sample designs based on two factors such as representation basis and element selection technique.
For representation basis, the sample may be Probability or non-probability sampling. Probability sampling relates with random selection while non-probability with the non-random sampling.

The study was based on analysis of primary and secondary data. The sample size consisted of data collected from policyholders of pension products, prospective buyers of pension products and experts in the field of pension.

The total population as per Census 2011\(^3\) for Pune city is 3,11,5,431. The researcher selected random sample of 503 which includes policyholders as well as prospective buyers from the urban population. The sample percentage to total population is 0.016%.

### 2.4.1.1 RANDOM SAMPLING METHOD

Probability sampling is also known as ‘random sampling’. Under this sampling design, every item of the universe has an equal chance of inclusion in the sample. The results obtained from probability or random sampling can be assured in terms of probability i.e. we can measure the errors of estimation or the significance of results obtained from a random sample, and this fact brings out the superiority of random sampling design over the

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\(^3\) Census 2011 – Population for Pune city- www.census2011.co.in
deliberate sampling design. Random sampling ensures the law of Statistical Regularity\(^4\), which states that if on an average the sample chosen is a random one, the sample will have the same composition and characteristics as the universe.

Hence, random sampling is considered as simplest possible sampling method and is most appropriate when the population is more or less homogeneous with respect to the characteristics under the study. Keeping this in view the researcher used random sampling method for selection of a sample for the present study.

To ensure reliability of the results, the primary analysis data was collected for policyholders of pension products and prospective buyers of pension products from all corners of Pune city for the period \textbf{January 2011 to March 2012}. The secondary data analysis covered pension products from the year \textbf{2005 to 2010}. The product brochures were collected from selected insurance companies predominant in pension market in India either in person or downloaded from the Internet.

Sample size consisted of 103 policyholders of pension products and 400 prospective buyers of pension products of Pune city were covered by personal interviews. Considering the

importance of the sampling in the study, the care was taken to identify the sample which was true representative of the class. The homogeneity of the sample was determined on the basis of profile of the LIC policyholders as they are the dominant players of the pension market in India.

2.4.1.2 PILOT STUDY

For testing Hypotheses 2 & 3, the researcher conducted Pilot Study by doing initial survey and interviewed 15-20 newly joined employees of Central Government for whom the New Pension System (NPS) was made compulsory. Surprisingly, it was noticed that the employees could not answer a single question, as they were unaware about the details of the NPS. Hence, the researcher designed the questionnaire for the experts in the field of pension. A method similar to Delphi method 5 was used for testing the hypothesis related to New Pension System by conducting focused interviews of experts in the field of insurance and senior executives of insurance companies. In all 18 experts were interviewed, the list of which is mentioned below:

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5 Delphi method is a structured communication technique, originally developed as a systematic, interactive forecasting method which relies on a panel of experts - Norman Dalkey, Olaf Helmer (1963) An Experimental Application of the Delphi Method to the use of experts - Management Science, 9(3), Apr 1963, pp 458-467
# LIST OF EXPERTS

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Name of the Expert</th>
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<tbody>
<tr>
<td>1</td>
<td>Shri S.P. Subhedar, Advisor, ICICI Prudential, Ex-MD, Life Insurance Corporation of India</td>
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<tr>
<td>2</td>
<td>Shri Arvind Kumar, Joint Secretary, Ministry of Finance, Government of India, Director, National Insurance Academy</td>
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<td>3</td>
<td>Shri Balram Bhagat, CEO, UTI Retirement Solutions</td>
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<td>4</td>
<td>Shri Arpan Thanawala, Actuary &amp; Consultant – Thanawala Consultancy Services</td>
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<tr>
<td>5</td>
<td>Shri Chandrashekhari Tilak, Vice President, National Securities Depository Limited</td>
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<tr>
<td>6</td>
<td>Shri G.N. Agarwal, Actuary, Future Generali Life Insurance Co. Ltd.</td>
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<tr>
<td>7</td>
<td>Shri Jagdish Salunkhe, Advisor, MERCER, Ex-Chairman, Life Insurance Corporation of India</td>
</tr>
<tr>
<td>8</td>
<td>Shri N. Lakshmanan, Actuary, HDFC Ergo General Insurance Co. Ltd., Ex-ED, Life Insurance Corporation of India</td>
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<tr>
<td>9</td>
<td>Shri. K. Seshagiridhar, SDM (P&amp;GS), Life Insurance Corporation of India</td>
</tr>
<tr>
<td>10</td>
<td>Smt. Latha, Actuary, Secretary (P&amp;GS), Life Insurance Corporation of India</td>
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<tr>
<td>11</td>
<td>Shri Niraj Kumar, Vice President, Bajaj Allianz Life Insurance Co. Ltd.</td>
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<td>12</td>
<td>Smt. Sarita Garg, Secretary (P&amp;GS), Life Insurance Corporation of India</td>
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<tr>
<td>13</td>
<td>Shri Vikash Raj, CEO, Infrastructure Development Finance Company</td>
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<td>14</td>
<td>Shri R. Siddiqui, Jt. General Manager, LIC Pension Fund Ltd.</td>
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<tr>
<td>*15</td>
<td>Executive Officer, Rajasthan State Insurance and PF</td>
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<td>*16</td>
<td>Executive Officer, Rajasthan State Insurance and PF</td>
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<tr>
<td>17</td>
<td>Smt. Madhuri Kulkarni, Chief (Actuarial), Life Insurance Corporation of India</td>
</tr>
<tr>
<td>18</td>
<td>Smt. Meghana Baji, Senior Vice President, ICICI Prudential Life Insurance Co. Ltd.</td>
</tr>
</tbody>
</table>

* The name of the officers was not disclosed on their request.
Besides field investigations, the researcher also relied on discussions with experts, PFRDA’s officials, actuaries, academicians and retired officials to develop a clear understanding of the dynamics of the scheme.

2.4.2 OPERATIONAL DESIGN

The operational design deals with techniques by which the procedures satisfied in sampling and advanced decisions about operational procedures.

The following Figure 2 depicts the conceptualization of data analysis of customer preferences and expectation evaluation undertaken by the researcher for the present study.
Additionally, the above tests replicated on the six indices as follows:

1. Customer Perception about Pension Provider
2. Customer Perception about Pension Product
3. Customer Expectations from the pension products
4. Needs & Preferences of Customers of Pension Products
5. Service Experience
6. Overall Buying Experience
A factor analysis was made on the resulting scores. The mean scores on a per item basis were plotted on the Customer Expectations & Perception Grid set out as Figure 3.

**Figure 3: CUSTOMER EXPECTATIONS & PERCEPTION GRID**

2.4.3 OBSERVATION DESIGN

This deals with different data collection methods. For data collection, the researcher used primary and secondary sources of data. The researcher used a ‘survey method’ for collection of primary data.
2.4.3.1 OBSERVATION METHOD

In research design, many times the observation helps the researcher to reduce complexities and to make the research work more fruitful. When observation is used for research purpose, it becomes a scientific tool for data collection and it serves for a formulated research purpose. Under the observation method, the information is sought by way of investigator’s own direct observation without asking from the respondent. The advantages of this method are, information obtained through observations relates with current happenings, subjective bias is eliminated, is independent of respondents and relatively less demanding for active co-operation from others. The limitations for this method are, information provided is limited and obstacles created may be for unforeseen factors and may hamper data collection effectively if concerned resources are not directly accessible\(^6\).

Observation method was useful for the researcher while conducting pilot study.

Three questionnaires were designed to collect information as follows:

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1. Questionnaire for Policyholders of pension products
2. Questionnaire for Prospective Buyers of pension products
3. Questionnaire for Experts in the field of Pension

The questionnaires used in the field survey are included in Appendices.

2.4.4 STATISTICAL DESIGN

Descriptive research involves gathering data that describe events and then organizes, tabulates, depicts and describes the data collection\(^7\). Statistical tools play an important role in research. Statistics helps the researcher in designing the research, analyzing its data and drawing conclusions there from. Statistics is divided into major areas that are Descriptive statistics and inferential statistics. Descriptive statistics deals with development of certain indices from raw data while inferential statistics deals with the process of generalization.

The methods of collecting data for descriptive research can be employed singly or in various combinations, depending on the research questions at hand. Descriptive research often calls upon

\(^7\) (Glass & Hopkins,) – Descriptive Research - 1984
quasi-experimental research design\textsuperscript{8}. Some of the common data collection methods applied to questions within the realm of descriptive research includes surveys, interviews and observation.

The study undertaken by the researcher was a descriptive type of research making use of surveys, interviews and observation methods.

2.5 DETERMINATION OF THE REQUISITE DATA

Keeping in mind the broad objectives of the study, it was first attempted to identify the data / information requirements which included:

1. Brochures of Traditional and ULIPs pension schemes in India.
2. Related literature on Pension.
3. Initiatives taken by Central and State Government of India based on the recommendations of the various committees / study groups.

2.6 COLLECTION OF PRIMARY DATA

Primary data are those which are collected for the first time

\textsuperscript{8} (Campbell & Stanley) - quasi-experimental research design - 1963
and which could be original in character. The secondary data are those which have already been collected by someone else and which have already been passed through the statistical process.

There are several methods of data collection, particularly in descriptive researches. This includes the following methods.

### 2.6.1 INTERVIEW METHOD

This type of data collection method needs direct interaction with the respondents. This interaction involves presentation of oral-verbal stimuli and response in terms of oral-verbal communications. The method of collecting information through personal interviews is usually carried out in a structured way. This method can be used through personal interview or telephonic interviews. Personal interview requires interaction between minimum two people where one is interviewer while the other could be an interviewee. This generally involves face-to-face contact with direct or indirect, personal or group investigation. For telephonic interview the interviewer collects information on telephone itself. This is the cheapest, fastest and flexible method.

This method was also of great help to the researcher as she could fill up some of the questionnaires through the direct interviews
with the respondents. The Researcher had some informative discussions during this interview process. This method was also found to be very useful for the researcher for Pilot survey.

Apart from getting the two questionnaires for policyholders and prospective buyers filled through interviews, the researcher had to interview 18 experts in the field of pension who were handling directly or indirectly the New Pension System of PFRDA. This method helped the researcher to refine the questionnaires. As most of the experts were from Mumbai, the researcher visited Mumbai frequently by taking prior appointments as all of them were of high stature.

2.6.2 COLLECTION OF DATA THROUGH QUESTIONNAIRES (SURVEY METHOD)

This method of data collection is quite common and popular and it is applicable for detailed enquiries. Questionnaire is a set of questions focused on specific topic or specialized area. This questionnaire can be divided into subsets depending on the sub-topics of specialized area. This method is generally adopted by research workers, private and public organizations as well as government organizations also. In this method, usually a
questionnaire is sent to a respondent with a request to answer the questions and return the questionnaire. The respondents have to answer the questions on their own. As this is the era of information technology, the method of collecting data by mailing the questionnaires is most extensively employed in various economic and business surveys. The major advantages of this method are no geographical constraints for global survey, low cost; respondents get sufficient time to go through the questionnaire and can handle large samples in order to get reliable and precise results. The only major disadvantage is that it is time-consuming as compared to other methods of data collection where constant follow-up is needed.

Questionnaires were collected from the respondents using a pre-tested structured interview schedule. Based on the methodology and impact assessment framework, data from policyholders and prospective buyers was collected on following parameters:

- Personal Information (address, Dependent, Education, Occupation, Gender)
- Annual income
- Perception about the pension provider
- Perception about pension product
- Needs and preferences
• Customer expectations from the pension product
• Service expectations
• Overall buying experience.

The researcher adopted the above-mentioned method of data collection for her research considering the advantages.

Primary data was collected during January 2011 to March 2012 from 103 policyholders of pension products and 400 prospective buyers of pension products. All twenty four life insurance companies as per Insurance Regulatory and Development Authority’s website have set up their businesses in India and branch offices at Pune. Life Insurance Corporation of India, being the major player in the market was an important company for studying the pension products. The researcher also selected randomly six life insurance companies, viz. HDFC Standard Life Insurance Co. Ltd., ICICI Prudential Life Insurance Co. Ltd., SBI Life Insurance Co. Ltd., IDBI Federal Life Insurance Co. Ltd., TATA AIA Life Insurance Co. Ltd., Kotak Mahindra Old Mutual Life Insurance Ltd. The main objective of the field survey was to get first hand information and perception of beneficiaries, non-beneficiaries, insurance companies, regulators of pension products and NPS.
Data was collected on random sample basis all over Pune city by interviewing the people who had bought pension policy called policyholders and people who had not bought pension policy called prospective buyers.

2.7 COLLECTION OF SECONDARY DATA

Secondary data represents a very powerful tool for the researcher as entire research work is carried out on the basis of secondary data. It is nothing but the backbone of research work. Secondary data is the one which has already been collected and analyzed by someone else. Usually this analyzed data is available in the published form.

Secondary data on pension was collected from Insurance Companies & from the Internet in the form of product brochures.

The researcher made an extensive use of statistical (secondary and published) data and detailed information about pension schemes available with selected insurance companies.

The researcher also collected data from various sources of information:
The researcher tried to study available literature on pension from various books, magazines, research papers and newspapers.

The following websites were browsed:

- www.pfrda.org.in
- www.irdaindia.org
- www.pensionreform.org
- www.pbgc.gov
- www.indiapensiongroup.com
- www.india.gov.in/citizen/senior_citizen/acts_pensions.php
2.8 VERIFICATION OF THE DATA

In the present study, the collected data was verified with the support of following characteristics:

- Reliability of Data
- Suitability of Data
- Adequacy of Data
- Instrumentation
- Testing

2.8.1 RELIABILITY OF DATA

Reliability means the consistency or repeatability of the measure. Reliability refers to the confidence we can place on the measuring instrument to give the same numeric value when the measurement is repeated on the same subject. Reliability is the extent to which an experiment, test, or any measuring procedure yields the same result on repeated trials. Without the agreement of independent observers to be able to replicate research procedures, or the ability to use research tools and procedures that yield consistent
measurements, researchers would be unable to satisfactorily draw conclusions, formulate theories, or make claims about the generalizability of their research. Following questions were taken into consideration by the researcher while testing the data.

- Who collected the data?
- What were the sources of data?
- Whether the Methods of data collection were proper?
- At what time the data was collected?
- Was there any bias for compilation?
- What was the degree of accuracy?

Survey research presents all subjects with a standardized stimulus, and so goes a long way toward eliminating unreliability in the researcher's observations. Careful wording, format, content, etc. can reduce significantly the subject's own unreliability.

2.8.2 SUITABILITY OF DATA

This relates with appropriateness of data with the suitable enquiry. If collected data does not match with the content of specific research topic, then it is called as Unsuitable data. Partial data can be extracted from the source if the researcher finds it appropriate with the content of research topic. Considering object, scope and nature
of research, broad study is carried out on the guidelines of the research guide.

The responses relevant to the subject matter of study which were received from various respondents were analyzed and the inputs which were given by the respondents being irrelevant to the subject matter of study were not considered.

2.8.3 ADEQUACY OF DATA

Adequacy is nothing but sufficient availability of data. If the level of accuracy required for utilizing the data is not adequate, then the researcher should not use this data for research purpose. Researcher had used the available data after checking reliability, availability and suitability of data.

For the adequacy of data, the researcher had made pilot survey of policyholders and identified people who could provide appropriate and adequate information for responding the questions.

2.8.4 INSTRUMENTATION

Instrumentation can often be viewed as a simple input device or method. This is a process of collection of functions and their applications for the purpose of measuring, monitoring and
controlling activities. The structured questionnaires designed by the researcher were the important instruments for handling all the processes mentioned above.

2.8.5 TESTING

For the test of validity the researcher carried out survey by a pilot test. The test was performed through questionnaire by interviewing policyholders of pension products in order to check whether the questionnaire was precise or not. Researcher had convinced the users as well as the prospective buyers of the pension products that the results of this research would be helpful to insurance companies for devising a good pension product.

2.9 TOOLS FOR DATA ANALYSIS

The data, after collection, has to be processed and analyzed in accordance with the outline laid down for the purpose at the time of developing the research plan. Processing implies editing, coding, classification and tabulation of collected data. Analysis of data involves a number of closely related operations, which are performed with the purpose of summarizing the collected data and organizing these in such a manner that they answer the research question(s).
For the purpose of the present study the researcher used data analysis tools such as Statistical Product and Service Solutions (SPSS –Statistical) software & Advanced Microsoft Excel to analyze the data. Data collected was segregated and then consolidated with Microsoft Excel and presented using simple analysis in terms of averages, percentages, mean, median, standard deviation, tabular analysis, pie charts, bar diagrams, tables and graphs.

2.10 LIMITATIONS OF THE STUDY

The researcher tried at the grass root level to get first hand data through separate questionnaire designed for existing policyholders and prospective buyers of pension products. Some of the insurance companies were reluctant to give policyholders’ data for the reason of confidentiality.

The responses relevant to the subject matter of study, which were received from various respondents, were analyzed and the inputs / responses which were given by the respondents being irrelevant or incomplete to the subject matter of study were not considered.

The researcher was solely engaged for the study and hence faced the limitations of cost, time and other resources which are the
common roadblocks for the individual researcher in obtaining and cleaning the comprehensive data.

Interviewing the experts in the field of pension as per their convenience and the researchers availability during that time due to service was really a tough job.

In view of shouldering various social and official responsibilities, researcher found it difficult to maintain a work-life balance. However, the researcher prioritized to devote appropriate length of time by availing periodic leave and ensured optimum efforts for successful completion of the study.