CHAPTER V

Research Design

5.1. Introduction

Research design or structure is at the core of the research work. It deals with planning and designing complete research work. Research design starts with deciding on data sources as per defined objectives, hypotheses and scope.

Primary data collection methods are selected on the basis of data requirement. Sampling design, sampling methods are used depending upon the resources and time available; with the researcher.

The selected research work is of descriptive type and it aims at finding out preferences and perceptions of the potential buyers of RML. It will also analyze and understand financial planning of these individuals.

5.2. Rationale of the Research Work

The research work titled- “Reverse Mortgage as a potential financial planning tool and its inclusion in financial plans of urban population of Maharashtra” is essential, considering various factors. The study aims at making reverse mortgage as an important financial product for all the stakeholders. Following are the important factors which led to undertake the research work:

1. Social changes:

The growth in the Indian and the world economy has led to a large number of people venturing out of their home towns in search of better job opportunities in India and abroad. This has led to a situation where there is breakdown of traditional Indian joint family system. Nuclear families have become order of the day and the youth of today are either too busy or simply not willing to take care of their aged and retired parents.
Most of such aged parents do not have any formal retirement plans to take care of their financial needs at this stage of life. In such situation they could not finance their retirement and have no option.

2. Economic Changes:

Senior citizens in India are facing problems like higher inflation, increasing medical costs, higher life expectancy, inconsistent rate of returns on other investment options and lower interest rates on deposits. This will increase expenses for senior citizens and will lower their incomes. There is an increasing risk that savings and investments made by senior citizens may not be sufficient, for life. This has made retirement phase very challenging. Senior citizens may have to compromise on their standard of living due to ‘Socio-Economic’ changes.

3. Demographic Changes:

Census of 2001 has projected population growth for India, till year 2050. Demographic trend shows that population is India is ageing very fast. It is projected that, more than 12 percent of the population in year 2026 will in the age group 60 years and more. This is significantly higher considering current level of 7.6 percent\(^{18}\). This means higher percentage of population will be in the non-earning group. These senior citizens will have dependency on their children and their life saving to survive. These changes will aggravate the problems in the country considering above socio-economic changes. This will also increase burden on the government.

Figure-5.1 gives the age wise population projection till the year 2026. It clearly shows that population of senior citizens is steadily increasing. Thus, average age of the country will also go up.

4. **Changes in pension system:**

Pension system in India covers very less percentage of households. Government of India has changed pension system in 2004 from ‘Defined Benefit (DB)’ based system to ‘Defined Contribution (DC)’ based pension system. This system needs individual to contribute certain amount regularly into a pension plan so as to get good amount of pension, during old age. Earlier defined benefit system was backed by government and not needed any contribution from an individual. Thus security available earlier on pension is not available now. The New Pension System is also launched by government of India in 2004 to facilitate this transformation.

5. **High home equity:**

In India, higher portion of life savings of an individual is invested in their houses. They are emotionally attached to their houses and wish to pass it on to next generation. Most of the individuals are “home rich, cash poor”, in their old age and they could not unlock their most valuable asset. Rising prices of residential properties, in all major cities in India is also fuelling value of homes and in turn increasing the home equity value further.
This high home equity cannot be utilized during the life time of senior citizens as they need house to stay and do not have any other option. These senior citizens need some option to unlock value of the home. There are few options like giving some portion on rent, but such options gives very less income, compared to the value of the house property.

6. **Reverse Mortgage Scheme:**

Government has launched Reverse Mortgage Scheme considering all above issues for senior citizens, but it has failed to take off in last 4 years. A new variant of reverse mortgage i.e. RMLeA is launched but it also could not raise interest in the minds of senior citizens. This factor is of big worry, on the back drop of no social security and high home equity available in the hands of senior citizens.

7. **Professional Experience of the Researcher:**

The researcher has professional experience of 10 years in the financial services industry. Researcher also possesses extensive experience in financial planning for individuals. Majority of the experience is with the bank and Life Insurance Company. This also made the research to select this topic so that hands on experience will be helpful in the research work on this novel and upcoming product.

All the factors discussed above re-emphasizes the need of financial security for the senior citizens, in their retired life. They need regular and consistent ‘income stream’, during their old age. Reverse mortgage can address this problem and provide much needed financial support to the senior citizens.

This research work is important to understand reverse mortgage products in the context of Indian social system. The research work will also help senior citizens to find place of reverse mortgage loans in their financial plans. It will be useful for all stakeholders to plan journey for reverse mortgage in India.
5.3. Objectives of the Research Work

Objectives of the research work follows naturally from the rationale of the research work. Objectives of the study explain the purpose of the research work. It also lays foundation for the research design, data analysis, suggestions and recommendations section.

Following are the objectives of the research work:

1. To understand and analyze financial plans of potential buyers of reverse mortgage schemes.

2. To access awareness level, preferences, perceptions of these buyers regarding reverse mortgage schemes and analyze factors impacting their decision.

3. To Study risk & return proposition involved in reverse mortgage schemes for RML buyers and its inclusion in financial plans of urban population in Maharashtra.

5.4. Statements of Hypotheses

Hypothesis is an answer to the formal question as per researcher’s experience or prediction which a research intends to answer, at the end of the research work. Hypothesis is a proposition or set of propositions. It helps to attain overall objectives of the research work. These hypotheses should be tested after data collection and analysis.

Following are the hypotheses for the research work:

1. Individual’s self-awareness about current status of his financial planning is related to adequate retirement planning.

2. Individuals considering reverse mortgage loans as useful financial tool for retirement planning will be interested in buying second house.

3. Individual’s feeling that they have inadequate retirement planning, will be related to their view that RML is good financial shelter, during old age.
5.5. Assumptions

1. Reverse mortgage is a new concept in India and till date very less research work is done on this subject. Thus very less data and information is available on the subject. Most of the information on the products, processes, current trends etc. is available for the developed countries like USA. Thus it is assumed that situation in these countries was similar to India, during initial period of launching RML.

2. Sampling unit is individual home-owners in the age group 30-60 years who has taken home loan during the financial years 2007-2012. This is based on assumption that individuals who has taken home loan in the recent past can understand concept of RML and its impact and can give better responses. Also, these individuals can represent potential RML buyers in true sense, for the purpose of this research work.

3. Sampling units were selected from Mumbai, Pune and Nashik considering the fact that 49 percent of the urban population stays in these cities. It is assumed that individuals from these cities will represent urban population of Maharashtra. Also these cities are bigger mortgage loans markets in Maharashtra, with high rate of property appreciation in past few years.

4. Child education planning is not taken into consideration while calculations, assuming cost of education is factored in their monthly expenses. Higher education cost may not be applicable for all individuals and its estimation is not possible at this point of time. Higher education cost can be funded using options like education loan.
5.6. Limitations

1. Behavioral aspects are not taken into consideration while analyzing data and presentation of the findings.

2. All the conclusions are drawn on the basis of the data and information given by the respondents. But as it is financial data, 100 percent correct data may not have given by them. However researcher has tried at his level best to conduct correct and reliable data from the respondents.

3. As RML is relatively new concept not much research work is done till date. Thus data sources are limited.

4. Bank branches have not shared any information on progress of RML. They have just shared product details.

5.7. Data Collection

Primary and secondary data has been used for the research work. Primary data is more important for this research work as this is first hand data. RML is new concept in India and till date not much research work is done on this subject. Thus not much secondary data is available on the subject on RML which is related to Indian situation. Secondary data is available which is more related to western countries, but it played important role in setting up foundation for the research work.

5.7.1. Primary Data

Primary data is collected by the researcher through structured questionnaire from selected individuals (sample). The questionnaire has 22 questions mainly close ended questions with few open ended question to access perceptions and preferences of individuals. Few questions are aimed at getting financial information of the selected individuals. These
questions helped in analyzing retirement planning and related information. Individual financial information is also collected so as to access current financial position.

Data is collected using this questionnaire through direct interviews, field visits and also through e-mails. Researcher has explained reverse mortgage product and important aspects of financial planning before collecting responses. A small booklet was prepared to explain the concept and features of reverse mortgages. It made individuals to understand the concept and give responses with some basic knowledge about RML.

Researcher has also observed the respondents while interviews so as to assess their behaviors. Field visits were also made to some of the designated bank branches which are listed on the NHB websites and provide RML to their customers. These interactions were helpful to understand perspective of the banks and current disbursement volumes of RML. Formal questionnaire was not prepared as limited responses from these branch branches were required. Main objective of visits to these branches was to understand focus of the banks in promoting RML products through branches.

Researcher has collected primary data with a comprehensive sampling plan in place. Sampling design was planned with specific consideration towards time and cost involved. Following sampling design will explain this plan in detail.

**5.7.2. Secondary Data**

Secondary data is useful in getting brief insights into the subject under study and also provides guidelines for the research work. It provides initial framework and direction to design the research structure. It also helped in formulating each step in the research work with complete planning.

Sources used for secondary data collection:

1. Books published on the subject in USA.
2. Research reports from various agencies in USA.
3. Research papers.
4. Publications various periodicals like journals and magazines.
5. Internet- Websites like www.reversemortgage.org , www.nhb.org.in ,
   www.reversemortgageleaders.com
7. Government reports
8. Physical visits to the banks and interactions with branch managers.
9. The required literature was reviewed from various libraries like
   a. Jaykar Library, University of Pune
   b. MGV’s IMR Research Centre, Panchvati, Nashik

5.7.3. **Sampling Design**

**I. Universe:**

Researcher has decided the universe for the research work, which constitutes individuals who owns a home and are residing in the urban parts of Maharashtra. These individuals are in the age group 30 - 60 years and have taken home loan during the financial years 2007 to 2013.

**II. Sampling Unit:**

Individual home owners in the defined universe from the cities Mumbai, Pune and Nashik; formed the sampling units for the purpose of this research work. Data is collected by researcher from these three cities using questionnaire. Responses are collected from the individuals who are the principal borrower or primary earning member of the family.

**III. Sampling Method:**

Researcher has used ‘**Snowball sampling**’ method for selecting samples from the defined population. This sampling method is niche sampling method, used mainly
when the population involved is infinite and respondents are difficult to identify. This is cost effective and time saving sampling method.

In this method at the initial stage individuals were discovered by using probability sampling. They were selected randomly and take more time in this process. This selected group was then used to refer the researcher to other individuals who possesses similar characteristics and they in turn provided further references.

IV. Sample Size:
The researcher has to selected samples from three different cities of Maharashtra state i.e. Mumbai, Pune and Nashik. The sample size is determined by using approach based on precision level and confidence level. This method of calculating sample size is used when population under the research work is infinite.

Formula for determining the sample size-

\[ n = \frac{z^2 \cdot p \cdot q}{e^2} \]

\( n \) = Sample Size,
\( p \) = Sample proportion,
\( q = 1 - p \),
\( e \) = Acceptable error (precision level) = 5% = 0.05
\( z \) = 1.96 (as per table of area under normal curve for given confidence level of 95%)

This calculation will give the most conservative sample size for the research work.

The population under study is infinite. Let’s take equal sample proportions i.e.
\[ p = 0.5 \text{ and} \]
\[ q = (1-0.5) = 0.5 \]
\[ n = (1.96)^2 \times 0.5 \times 0.5 / (0.05)^2 \]
\[ = 0.9604 / 0.0025 \]
\[ = 384 \]

The most conservative sample size as per calculations is 384. As this is most conservative sample size; researcher has selected the sample size as 400. This sample size is higher than the conservative estimate and will be adequate, with precision level of 5 percent and confidence level of 5 percent. Thus, the selected the sample size as 400 and responses will be collected from 400 different individuals.

The samples are to be selected from three different cities of Maharashtra. The researcher has selected these samples equally from these cities; as these three cities are different on many parameters and represents various geographies of urban Maharashtra.

Table- 5.1 Sample Size

<table>
<thead>
<tr>
<th>City</th>
<th>Number of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mumbai</td>
<td>135</td>
</tr>
<tr>
<td>Pune</td>
<td>135</td>
</tr>
<tr>
<td>Nashik</td>
<td>130</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
</tr>
</tbody>
</table>

5.7.4. Pre-testing of the Questionnaire

Questionnaire was tested by collecting required data from 42 individuals, who possesses similar characteristics as per sampling plan. Out of these 32 home owners were from Nasik city and 10 were from Pune. Questionnaire was tested for appropriateness,
language, sequence of questions etc. The necessary questions were then modified accordingly, to get appropriate data. Pre-testing exercise helped in getting ideas for formulating data collection plan.

5.8. Analysis and Interpretation of Data

Data collected through the survey was collated for analysis using Microsoft excel. This data was analyzed and presented using various techniques. Data analysis and presentation helped to interpret responses, and give insights. Findings were interpreted using this analysis which further resulted into conclusions and suggestions. Data analysis and interpretation took the research work towards logical end. Hypotheses testing were also done to find out its correctness.

For the purpose of analysis and interpretation of the data various methods and techniques like percentage, chi-square test, graphical presentation and charts were used. Analysis and data interpretation is also done using online retirement calculator and online survey software.

5.9. Conclusions and Recommendations

Data analysis and interpretation led to the most important and last phase of the research work i.e. conclusions and recommendations. Hypotheses testing gave clear outcome of the research work and researcher could cross check data with his hypotheses.

This entire exercise gave many indications and direct results to derive conclusions. These conclusions are helpful in formulating recommendations for all the stakeholders to decide way forward for this product. Recommendations are given which will decide role of each stakeholder. It also gave specific recommendations for the development for reverse mortgage products in Indian market.