Chapter 3
Research Methodology
3.1 Research Methodology Used:

Research methodology is the way in which researchers specify how they are going to retrieve the all-important data and information that will be required to make vital decisions.

Research methodology typically involves a full breakdown of all the options that have been chosen by a company in order to investigate something. This would include the procedures and techniques used to perform the research; as well as any of the terminology and explanations of how these methods can be applied effectively. 45

Research methodology used: Quantitative Research

Quantitative research aim to measure the quantity or amount and compares it with past records and tries to project for future period. In social sciences, “quantitative research refers to the systematic empirical investigation of quantitative properties and phenomena and their relationships”. The objective of qualitative research is to develop and employ mathematical models, theories or hypothesis pertaining to phenomena. The process of measurement is central to quantitative research because it provides fundamental connection between empirical observation and mathematical expression of quantitative relationships. Statistics is the most widely used branch of mathematics in quantitative research. Statistical methods are used extensively with in fields such as economics and commerce. 46

Quantitative research methods:

Questionnaires

Questionnaires often seem a logical and easy option as a way of collecting information from people. They are actually rather difficult to design and because of the frequency of their use in all contexts in the modern world, the response rate is nearly always going to be a problem (low) unless you have ways of making people complete them and hand them in on the spot.


(and this of course limits your sample, how long the questionnaire can be and the kinds of questions asked). As with interviews, you can decide to use closed or open questions, and can also offer respondents multiple choice questions from which to choose the statement which most nearly describes their response to a statement or item. Their layout is an art form in itself because in poorly laid out questionnaires respondents tend, for example, to repeat their ticking of boxes in the same pattern. If given a choice of response on a scale 1-5, they will usually opt for the middle point, and often tend to miss out subsections to questions. One needs to take expert advice in setting up a questionnaire, ensure that all the information about the respondents which you need is included and filled in, and ensure that you actually get them returned. One will need to ensure that questions are clear, and that you have reliable ways of collecting and managing the data. Setting up a questionnaire that can be read by an optical mark reader is an excellent idea if you wish to collect large numbers of responses and analyze them statistically rather than reading each questionnaire and entering data manually. Now a days google docs can also be used to collect data using questionnaire.\footnote{Cooper, D., & Schindler, P. (2011). \textit{Business Research Methods}. New Delhi: Tata McGraw Hill.}

Developing and using a questionnaire -

1. Identify your research questions
2. Identify your sample
3. Draw up a list of appropriate questions and try them out with a colleague
4. Pilot them
5. Ensure questions are well laid out and it is clear how to 'score them' (tick, circle, delete)
6. Ensure questions are not leading and confusing
7. Code up the questionnaire so you can analyses it afterwards
8. Gain permission to use questionnaires from your sample
9. Ensure they put their names or numbers on so you can identify them but keep real names confidential
10. Hand them out/post them with reply paid envelopes
11. Ensure you collect in as many as possible
12. Follow up if you get a small return
13. Analyze statistically if possible and / or thematically

3.2 Sampling Technique used:

Stratified Random Sampling:

Stratified random sampling is a technique which attempts to restrict the possible samples to those which are "less extreme" by ensuring that all parts of the population are represented in the sample in order to increase the efficiency (that is to decrease the error in the estimation). In stratified sampling the population of $N$ units is first divided into disjoint groups of $N_1$, $N_2$, ..., $N_h$, ..., $N_L$, units, respectively. These subgroups, called strata, together they compromise the whole population, so that $N_1+N_2+...+N_L=N$

From each stratum a sample, of pre-specified size, is drawn independently in different strata. Then the collection of these samples constitute a stratified sample. If a simple random sample selection scheme is used in each stratum then the corresponding sample is called a stratified random sample. 48

Reasons for stratification.

1. To obtain estimates of known precision for certain subdivisions of the population by treating each subdivision as a stratum. Since sampling is done independently in each stratum, separate stratum estimates and their precision can be obtained by treating each stratum as a "population" in its own right. For example, in household surveys estimates may be required by province, income group, occupation, age group, etc. In business surveys, estimates are often required by Standard Industrial Classification (SIC).
2. For administrative convenience; for example stratification can provide survey organization to control the distribution of fieldwork among its regional offices. Sometimes different parts of the population may call for different sampling procedures.

With human populations, people living in institutions (e.g. hotels, hospitals) are often placed in a different stratum from people living in ordinary homes. In household surveys, since households are sparsely populated in rural areas compared to distribution of households in urban areas, separate sampling schemes have to be employed.

3. Stratification may often produce a gain in precision of the estimates of characteristics of the whole population. The amount in the gain depends on the type of stratification. If the population is heterogeneous and if it can be divided, using prior information about the population, into subpopulations (strata), each of which is internally homogeneous. If each stratum is homogeneous, that is characteristic under consideration vary little from one unit to another, a precise estimate (an estimate with smaller variance) of any stratum parameter can be obtained from a small sample in that stratum. These estimates can then be combined to obtain a precise estimate for the whole population.

Sampling:

There are 27 Public Sector (Nationalized) banks, 22 Private Banks and 30 foreign banks existing in India and 34 Co-operative banks in India.

The Sampling Technique used was Stratified Sampling under which I have done simple random sampling.

The banks that provide at least one category of services were selected in the sample. There are total 67 banks providing at least one type of service.

As per the Morgan’s table the sample size came to 57 (for confidence level 95%).

Techniques derive inferences:

Chi Square Method

To identify association between type of Bank and service facilities.

ANNOVA Technique: To identify whether there is any relationship between the amount of services provided and parameters.

This analysis can be done within the group and also among the groups.