CHAPTER 3

RESEARCH METHODOLOGY

Need for Study

Financial markets are characterized by acute volatility and most of the financial decisions are taken in situations with high degree of complexities and uncertainty. Fluctuations in financial markets are not new for investors. In the face of such uncertainties, it becomes difficult to analyze investor decision making process. Many financial theories presume that investors act rationally and they always take decisions objectively after considering all the available information. But number of times studies related to behavioral finance have proved the irrationality in individual investment decisions and choices. Most of the time, investor’s decisions are not fully based on pure rational calculus. The assumption of traditional financial theories has been criticized on the ground that investors are human beings and have their own unique values. One can’t expect from an investor to make decisions solely on the basis of objective factors. There are many other factors which may affect investor decision making process and force the investors to act irrationally. Behavior and other demographical factors are also determinants in finalizing the investment decisions of investors.

Investor’s personality is one of the key determinants of market movements. The way in which investors frame the situation is dependent on their financial and psycho-social features as well as how they interpret their financial knowledge in order to make investment decisions. Right investment decision is the most critical and crucial challenge for investors. The success of their investment portfolio decision is also dependent on the psychological trait of an individual. So, it is important to study the role played by personality traits in shaping up the investment behavior. An analytical and critical review of existing literature exhibits that no research has been conducted so far in the field area of personality traits and investment
behaviour with consideration of various demographical features. Research studies differentiate investment behavior on the basis of gender difference (Bart H. H. Golsteyn, James J. Heckman and Huub Meija, 1951 and Croson R and Gneezyu, 2004) whereas research studies have also found out the impact of difference in occupational groups on the type of financial assets held (Thomas R. Atkinson, 1956). It has also been explored by the studies that the effect of demographic factors such as gender, marital status, age, occupation, self employment, race, income and education on the risk forbearance level while some other studies demonstrated that heterogeneity in investment behavior is because of genetic factor (Barnea A, Cronqvist H and Siegely S, 2009), peer effects (NgI and Wuf, 2010) and risk acceptance (Sultana S. T, 2010). The Results of the study by Cliff Mayfield, Grady Perdue, Kevin Wooten, (2008) points out that individual investors who have high degree of extraversion always invest in short duration investment, whereas investors with high degree of neuroticism/risk aversion stay away from this activity. Individuals who avoid risk, never invest for longer time period. In the study of Peterson, R. L. (2011) it was found that personality traits of emotional stability and openness to experiences were significantly connected “success traits” for investors.

A comprehensive stock of literature survey is given in the second chapter (Review of Literature) of this report which concludes that no study has been conducted so far which examined the impact of personality traits on investment behavior with reference to demographical features especially in Indian context. This was considered as gap in the existing knowledge. Present research was an effort to identify the personality traits among different sections of society that could be the driving force for investor’s decisions. Main aim of the study was to find out such fundamental issues related to investment behavior which are driven by various personality traits. The study seeks to find out the influence of certain personality traits namely agreeableness, need for achievement, self-image and risk
adaptiveness on decision making process of individual investors among different
demographical features such as age, gender, education, income, religion and occupation.
The study has improved the understanding of financial decisions taken by individuals with
different personality traits and in different demographic dimensions. Research has also
provided new insights in the field of investment decisions which is required to fill the gap
existing in the available literature.

Problem Statement

As mentioned in preceding paragraphs of need for study, individual’s personality traits can
guide the investment behaviour and financial decisions. It has been observed by researcher
that there is need to understand the dependency of investor’s decision on personality traits
and demographical features. So, to find out the impact of various personality traits and
demographical features on investment behaviour, researcher framed the problem of study:

“What is relationship between the investment behavior and
personality traits of agreeableness, self-image, need for
achievement and risk adaptiveness by taking various demographical
factors of sample such as age, gender, education, income, religion
and occupation etc. into consideration.”

Aim of the problem discussed in the research was to find out relationship between the
investment behavior and psychological traits of individuals with respect to the demographical
factors.

The above stated problem was further sub-divided into following problems:

1. What are the personality traits responsible for investment behavior?

2. Find out the relationship between different identified personality traits and investment
   behaviour.
3. What are the psychological needs responsible for investment behaviour?

4. What is the role of demographic factors involving the investment behaviour?

5. To discover the relationship between personality traits and investment behaviour by taking demographic factors into consideration.

6. What are the tendencies among different sections of society for their personality traits and investment behaviour?

**Objectives of research**

Study of individual investor behaviour in financial market is important because of its impact on the prices of financial assets and financial market dynamics. Investor's personality traits divert them from rational behaviour to irrational behaviour. Main objective of the research is to reveal the traits of personality in choice of investment alternatives and to find out whether there is a difference in behaviour on the basis of demographic features. The research was carried out to find out the degree to which psychological traits influence the investment behaviour of investors with different demographical characteristics. The research focused on four personality traits namely agreeableness, need for achievement, self-image and risk adaptiveness and impact of these four psychological traits on the decision making process of investors in different demographics such as age, education, income, occupation, caste and gender has been analyzed in the study. Researcher has framed objectives for research in such a way so that research can provide solutions of above stated problems.

1. To find out the personality traits responsible for investment behaviour.

2. To study the relationship between different identified personality traits and investment behaviour.

3. To understand the psychological need responsible for investment behaviour.
4. To analyze the role of demographic factors involving the investment behaviour.

5. To examine the relationship between personality traits and investment behaviour by taking the demographic factors into consideration.

6. Compare the tendencies among different sections of society for their personality traits and investment behaviour.

**Hypotheses of the Study**

To carry out the study researcher has framed the hypotheses. Hypotheses stated below were tested for their acceptation and rejection.

1. There will be some specific psychological traits which can affect the investment behaviour.

2. Investment is directly influenced by the personality traits.

3. A set of Psychological needs is responsible for investment behaviour.

4. The demographical factors play a significant role in investment decision.

5. Investment behaviour is directly influenced by personality traits with consideration to demographic factors.

6. There will be significant difference among the investment tendencies with respect to the demographical factors.
Research Methodology

There has been tremendous change in financial markets and investors. In such rapidly growing and dynamic financial market investors play a significant role not only in managing their own money but also its consequential effect on whole financial market portfolio. Investors are special and dissimilar and they are at the disposal of financial market with these dissimilarities. Investor’s decision of investing their money is most important and crucial decision as once an investor has invested then he/she can’t step back or change their decision of investment. Investor’s financial decision is resultant of not only to maximize the profit and wealth but also there may be various other behavioral as well as demographical factors which can influence mind of investors for making choice of investment alternatives. It may be easy to understand various financial phenomena by studying personality of investors by taking the different demographical features into consideration. How investors make their investment decision in real world might be dependent on various psychological factors exposed in terms of their personality traits. Demographical factors such as age, education, income, gender, occupation and caste etc. may also affect investment choice of investors. Present research is related to investment from the perspective of difference in investor’s personality and demographical features. Researcher was intended to understand relationship between personality traits of an investor and their investment decision. Researcher has enquired integration between decision making process and personality traits of investor specifically considering agreeableness, self-image, need for achievement and risk adaptiveness. Role of demographical factors in investment decision was also analyzed in the research. So, present study is a type of descriptive and exploratory research.
Research Design

Thus ultimately from each specified sub-demographical feature sixty subjects were selected and total number of twelve groups of sixty subjects each was formed for conduction of study. A detailed description of the research and sample design in diagram form is given in the figure shown hereunder:

All these subjects will be tested for their psychological traits such as self-image, risk adaptiveness, agreeableness and need for achievement.

Sample Design

Population specified for this study was all the investors, who were residents of different districts of Haryana. From this population, subjects selected for sample were chosen randomly on convenience basis from various districts of Haryana State. Composition of sampling distribution was on the basis of six different demographical factors such as age,
gender, education, income, occupation and caste. Each demographical factor was classified into two categories and by this method total twelve groups were formed, each group having 70 subjects and a total number of 840 subjects were selected as sample. Subjects chosen for each demographical feature were divided into two groups by adopting specified criteria. Criteria adopted for forming two groups on the basis of age factor; subjects having age 25 to 35 yrs were included in the first group and for second group subjects having age more than 35 yrs were taken. On the basis of gender; groups of male and female subjects were formed. For making the groups on the basis of educational qualification; subjects included in the first group were having qualification up to 12th standard and second group was made up of the subjects with qualification more than 12th standard, on the basis of income; first group subjects were having income up to Rs. 3,00,000 and subjects for second group subjects were having income more than Rs. 3,00,000, these groups were nominated as low and high income groups. For forming the group on the basis of profession; first group was consist of businessmen and second group included servicemen. Last set of group was formed on the basis of caste; first group was formed from the subjects taken from marginalized castes and for second group subjects were taken from affluent caste people. Marginalized and affluent castes were decided on the basis of reservation policy of Government of Haryana. Selected subjects were tested for their personality traits of agreeableness, self-image, need for achievement and risk adaptiveness as well as for the affinity of investment behaviour by using questionnaire method of data collection. After data collection all the filled up questionnaires were scrutinized by the research scholar. During the scrutiny process it was found that some of the questionnaires were not filled up properly, so, the unfilled or partially filled questionnaires were excluded from the fully and properly filled up questionnaires. In all the specified groups, the number of residual questionnaire was more than 60 and less than
70. From these finally obtained sets of questionnaires, 60 questionnaires were chosen randomly for including them in the research.

**Method of Data Collection**

Questionnaire method of data collection was used to collect the data. Investigator collected the data by personally visiting the investors or by instructing the persons/individuals who has helped for collection of data. Agreeableness, self-image, need for achievement and risk adaptiveness measuring scales/tests were used to measure the various tendencies of personality traits and for scaling the dimension of investment behaviour ‘Investment Behaviour Measuring Scale’ was used. A detailed description of various scales used in the research is given hereunder.

**Tools Used**

Conduction of research requires certain tools to collect factual information. Selection of vital tools was of vital importance for successful conduction of research. Tools used in the research were:

1) Agreeableness Measuring Scale
2) State Self Esteem Scale
3) Achievement Motive Test
4) Risk Adaptiveness Test
5) Investment Behaviour Measuring Scale

**Agreeableness Measuring Scale (AMS)**

The scale was developed by Dr. Rishipal and Nidhi Jain in 2013.

**Questionnaire Design**
A structured questionnaire of sixty statements was framed to determine the degree of Agreeableness among investors. Agreeableness Measuring Scale was framed to determine the degree of six sub-trait of agreeableness such as Trust, Morality, Altruism, Cooperation, Modesty and Sympathy. Questionnaire contains 10 statements for each sub-trait of Agreeableness, out of which five statements were positive and five were negative statements.

**Selection of items**

To finalize the AMS, number of trial researches was conducted.

First Draft: While developing the first trial draft of this test, a set of 16 items were included for each sub-trait to scale the related feature of individual's personality. These sets of 16 items each were consist of equal number of positive and negative items for the different dimensions of agreeableness such as trust, morality, altruism, cooperation, modesty and sympathy etc.

Second trial test: Second draft of the AMS was consisting of 78 items. After second trial also some of the items were found unsatisfactory so, eliminated from the final draft. On the basis of criterion adopted to finalize the test 60 items were selected after thorough checking and improvement for the language and semantic characteristics.

Final Draft: Final draft of the AMS contains total 60 items for measuring the personality trait of agreeableness and its sub-traits. Each sub-trait includes total 10 items and these items were equally divided as positive and negative items for measuring the sub-traits of agreeableness.

**Administration and Scoring**

AMS was administered individually as well as in group. Respondents were asked to fill up their personal particulars printed on the front page of test then to attempt the test. The investigator has also explained the mode of recording the choices on AMS.

AMS consists of sixty statements in which thirty statements were positive and thirty were negative. All six sub traits include ten statements. The statements were framed in a structured
manner with close ended options. Every statement scaled on Likert’s five point Scale on 5 classifications, i.e. Strongly Agree(5), Agree(4), Can't Say(3), Disagree(2), Strongly Disagree(1) and for negative items it is Strongly Agree(1), Agree(2), Can't Say(3), Disagree(4), Strongly Disagree(5). The statements include almost all relevant components of personality trait of agreeableness such as, trust, morality, altruism, cooperation, modesty and sympathy etc. Maximum time given for filling the questionnaire was 45 minutes.

**Standardization of Questionnaire**

Items in the questionnaire were selected after thorough checking and improvement for the language and semantic characteristics. To make the scale exact and standard for measuring the trait of agreeableness and its sub-traits such as trust, morality, altruism, cooperation, modesty and sympathy etc. all necessary measures were taken. To finalize the AMS, two trial researches were conducted and a final draft was prepared for checking of its reliability and validity.

**Reliability**

Internal consistency of questionnaire is concerned with the homogeneity of the items within the scale which is typically ascertained by Cronbach's (1951) coefficient alpha which was found to be 0.82 for the scale. The reliability indices of the 6 sub-scales were also computed on the relationship between half of the items with the other half of the items known as split half method which was 0.76 for trust, 0.82 for morality, 0.72 for altruism, 0.89 for cooperation, 0.71 for modesty and 0.91 for sympathy.

In the present research reliability of the scale was found to be 0.79. The reliability index measures the dependability of test scores by showing an agreement with their theoretical true values.

**Validity**
AMS has face validity, as all items of scale were related to agreeableness and a high content validity. In order to find out validity from coefficient of reliability, the reliability index was computed.

**State Self Esteem Scale**

The State Self-Esteem Scale (SSES) was developed by Heatherton and Polivy in 1991

**Questionnaire Design**

State Self-Esteem Scale was a twenty item scale that measures respondent’s self-esteem at a particular time. The twenty items were divided on the basis of three components of self-esteem i.e. performance self-esteem, appearance self-esteem and social self-esteem. Out of twenty statements thirteen statements were scored reverse.

**Selection of items**

The 20 items are divided into 3 elements of self-esteem: (1) performance self-esteem, social self-esteem, and appearance self-esteem. These items were selected to measure three sub-components of self-esteem in following way:

- **Performance Self-esteem Items**: Item no. one, four, five, nine, fourteen, eighteen and nineteen were included to measure performance self-esteem of respondent.
- **Social Self-Esteem**: Item no. two, eight, ten, thirteen, fifteen, seventeen and 20 were included to measure social self-esteem of respondents.
- **Appearance Self-Esteem**: Item no. three, six, seven, eleven, twelve and sixteen were included to measure appearance self-esteem of respondents.

**Administration and scoring**
SSES was administered individually as well as in group. Respondents were asked to fill up their personal particulars printed on the front page of test then to attempt the test. The investigator has also explained the mode of recording the choices on SSES.

SSES consists of 20 items with 7 positive and 13 negative items. The statements were framed in a structured manner with close ended options. All items were responded by using a five point scale – 1 for ‘not at all’; 2 for ‘a little bit’; 3 for ‘somewhat’; 4 for ‘very much’; 5 for ‘extremely’). Maximum time given for filling the questionnaire was 10 minutes.

**Standardization of Questionnaire**

The level of consistency and validity was tested by five studies that examined the construct validity of the State Self-Esteem Scale (SSES). First and second studies were conducted for the psychometric reasons i.e. to check the content validity and factor structure of questionnaire; third study inspected naturally happening changes in self-esteem in a classroom setting; fourth study established that the SSES is responsive to self-esteem management typical of those used in the Laboratory and study 5 examined self-esteem adjustment during a clinical therapy program.

**Reliability**

Test-retest reliability was computed as 0.78. Considering the responses if they indicate to measure the same aspects for which they were intended to measure, it was found that they did so, the index of reliability being 0.76 in the present research.

**Validity**

The State Self Esteem Scale is a test used for quantitative analysis of an individual’s psychological attributes and mental processes and has a high degree of construct validity. It displays significant con-current and discriminant validity (Heatherton, T. F. & Polivy, J. 1991)
Achievement Motive Test

Test was developed by V.P.Bhargava in 1994 and published by National Psychological Corporation.

Questionnaire Design

The test was consisted of fifty (50) items of incomplete sentences or items which were to be completed by the respondents by putting a check mark on any of three alternative responses given against each item.

Selection of items

First a rough format of test with 75 items was prepared and a preliminary testing programme was carried on 35 subjects in order to check administrative feasibility of the test and also to find out which of the items were not proper and can be dropped in the test without losing the rationale of the test. The ultimate draft was received after considering reliability and validity of the test.

Administration and Scoring

The usual time for administration of the test was 30 minutes which includes the time needed for giving the instructions to the respondents. Each item in the test has one alternative with achievement motivation and each item indicating achievement motivation has been quantified with score of 1 and rest were given zero score. Total score earned on all the items was the N-Ach score.

Standardization of Questionnaire

Items in test are repeated more than once in order to know the level of consistency with which the subject is answering the test. Similar responses on similar test items indicate the consistency in responding to the test. The inter-consistency among the test items and reliability of the responses and criterion validity was obtained which was high enough for accepting the test for use as a measure of achievement motivation.
**Reliability**

Test-retest reliability after an interval of one month was found 0.91 and reliability by comparing the responses on similar items was 0.79. Considering the responses if they indicate to measure the same aspects for which they were intended to measure, it was found that they did so, the index of reliability being 0.78 in the present research.

**Validity**

The test was tried for having the agreement with the criterion test of achievement motivation. It was found that the test scores on this test and with the test scores for SCT of Dr. Bishwanath Mukherji had an agreement of 0.80 and with Educational Achievement Test (General) it had an agreement of 0.85

**Risk Adaptiveness Test**

An inventory of 36 statements was prepared by Dr. Rishipal and Nidhi Jain in 2013.

**Questionnaire Design**

A structured questionnaire of thirty six statements was designed to measure the degree of risk adaptiveness among investors. Risk Adaptiveness Test was designed in the form of dichotomous statements.

**Selection of items**

To finalize the Risk Adaptiveness Test, two trial researches were conducted.

First Draft: While developing the first trial draft of this test, 45 items were included to scale the related feature of individual's personality. These 45 items were to measure different dimensions of Risk taking behavior of investors. Second trial test: Second draft of the Risk Adaptiveness Test was consisting of 39 items. After second trial also some of the items were found unsatisfactory so, eliminated from the final draft. On the basis of criterion adopted to finalize the test 36 items were selected after thorough checking and improvement for the language and semantic characteristics.
Final Draft: Final draft of the Risk Adaptiveness Test contains total 60 items for measuring the personality trait of risk adaptiveness.

Administration and Scoring

The usual time for administration of the test was 20 minutes which includes the time needed for giving the instructions to the respondents. The statements included in the test were dichotomous statements. Each item in the test has two alternatives i.e. agree and disagree. Statements has been quantified with score of one and zero. Total score earned on all the items was the risk adaptiveness score.

Standardization of Questionnaire

Items in the questionnaire were selected after thorough checking and improvement for the language and semantic characteristics. To make the scale exact and standard for measuring the trait of risk adaptiveness, all necessary measures were taken. To finalize the Risk Adaptiveness Test, two trial researches were conducted and a final draft was prepared for checking of its reliability and validity.

Reliability

Internal consistency of questionnaire is concerned with the homogeneity of the items within the scale which is typically ascertained by Cronbach's (1951) coefficient alpha which was found to be 0.79 for the scale.

Reliability of the scale in the present research was found to be 0.72. The reliability index measures the dependability of test scores by showing an agreement with their theoretical true values.

Validity

Risk Adaptiveness Test has face validity, as all items of scale were related to risk adaptiveness and a high content validity. In order to find out validity from coefficient of reliability, the reliability index was computed.
**Investment Behaviour Measuring Scale**

An inventory of 15 statements was prepared by Dr. Rishipal and Nidhi Jain in 2013.

**Questionnaire Design**

A structured questionnaire of fifteen statements was designed to measure the tendency of investment among different investors. The statements were framed in a structured manner with close ended options. Every statement was scaled on the Likert’s five point scale on 5 classifications, i.e. 1 = not at all; 2 = a little bit; 3 = somewhat; 4 = very much; 5 = extremely.

**Selection of items**

To finalize the Investment Behaviour Measuring Scale, number of trial researches were conducted.

While developing the draft of this test, first 23 items were included to scale the behaviour of investors. These 23 items were to measure different dimensions investment pattern. After number of trials some of the items were found unsatisfactory and eliminated from the final draft. To finalize the test 15 items were selected after thorough checking and improvement for the language and semantic characteristics.

**Administration and Scoring**

The usual time for administration of the test was 10 minutes which includes the time needed for giving the instructions to the respondents. The statements included in the test were based on Likert scale. Each item in the test has five alternatives. Statements have been quantified with score of 1, 2, 3, 4 and 5. Total score earned on all the items was the Investment Behaviour score.
Standardization of Questionnaire

Items in the questionnaire were selected after thorough checking and improvement for the language and semantic characteristics. To make the scale exact and standard for measuring the tendency of investment, all necessary measures were taken. To finalize the Investment Behaviour Measuring Scale, number of trial researches was conducted and a final draft was prepared for checking of its reliability and validity.

Reliability

Internal consistency of questionnaire is concerned with the homogeneity of the items within the scale which is typically ascertained by Cronbach's (1951) coefficient alpha which was found to be 0.83 for the scale. The reliability index measures the dependability of test scores by showing an agreement with their theoretical true values.

Reliability of the test in present research was found to be 0.79 for the scale.

Validity

Investment Behaviour Measuring Scale has face validity, as all items of scale were related to investment behaviour and a high content validity. To examine validity from coefficient of reliability, the reliability index was worked out.

Statistical Tools and Techniques

To work out the results and for testing the hypotheses, collected data was interpreted by using Range, Mean, Standard Deviation, Karl Pearson Coefficient of Correlation, Coefficient of Determination and t test.

Mean was calculated to find out the average scores for every variable. To find out association among variables and for testing the significance of relationship Karl Pearson coefficient of correlation and coefficient of determination was used to confirm the results of correlation,. T test was used to find out difference between two groups. Researcher has used t test to test the significance of difference between means of two groups. Coefficient of determination was
used to analyze the change in dependent variable and for ensuring whether the results are because of independent variable’s impact not by chance.