CHAPTER 2

LITERATURE REVIEW

Literature review is important in order to understand the relevance of proposed research in comparison with earlier research work. It also shows the originality and relevance of the research problem and also it shows how this research is different from previous research done on this area. Literature review justifies the proposed methodology. Literature review also will help the researcher to understand the areas of previous research and find out research gap. By finding research gaps, it aims to put the present study in the context of existing literature, providing a background for the investigation.

A number of studies have been made on the working of Mutual Fund industry. Many of them are general topics like study of operations, growth and development of Mutual Funds, perceptual views of investors on Mutual Funds.

2.1 REVIEWS REGARDING SAVINGS ATTITUDE BEHAVIOR

A lot of literature investigates the determinants of risk aversion. These determinants include demographic, socioeconomic and attitudinal factors. Particularly, studies including demographic factors have assessed the impact of lifecycle factors, such as age, education, income, wealth, marital status, and household structure, on risk aversion have highlighted important relationships related to the lifecycle.

The life cycle hypothesis proposed by Ando and Modigliani (1963) is one of the most influential theories in explaining the savings behavior of households. According to study, an individual (or family) seeks to maintain a stable consumption level over its life cycle. It assumes that individuals are smoothing their consumption over time by accumulating resources during their periods of earnings, and then later used for their expenditure during retirement. Hence the individual be a net saver during working years and dis sewer in his/ her post retirement. They concluded that saving-age profile should be hump-shaped since, savings should be positively significant for households in their matured working age and negative for young and in old age.

Rosen and Wu (2004) found that age matters more in financial sophistication of the investor. When investors get older, he/she known to accumulate more knowledge about investing options and strategies, which may lead them to be more likely to invest in relatively sophisticated assets such as stocks and bonds. The study established that increased education leads to an increased asset allocation towards stocks and mutual funds.

A study on Investors perception towards Mutual Fund investments by Sudalaimuthu and Senthil Kumar (2008) was concentrated on highlighting the investor awareness and preference in Mutual Fund schemes, factor that influences the investor in selecting Mutual Fund scheme, the level of satisfaction on the investment of Mutual Fund, problems faced by Mutual Fund investors and the investment objectives, preference among Fund types (balanced, growth, dividend etc.).

Singh and Jha (2009) conducted a study on awareness and acceptability of mutual funds and found that consumers basically prefer mutual fund due to return potential, liquidity and safety and they were not totally aware about the systematic investment plan will also consider various factors before investing in mutual fund.

Desigan et al (2006) conducted a study on women and found that women are indecisive in investing in mutual funds due to various reasons like lack of knowledge about the investment protection and their various investment procedures, market fluctuations, various risks associated with investment, assessment of investment and redressal of grievances regarding their various investment related problems. Savings is a habit specially embodied into women. Even in the past, when women mainly depended on their spouse income, they used to save to meet emergencies as well as for future activities. In those days, women did not have any awareness about various investment outlets. But as time passed, the scenario has totally changed.

Ramamurthy and Reddy (2005) conducted a study to analyze recent trends in the mutual fund industry and draw a conclusion that the main benefits for small due to

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efficient management, diversification of investment, easy administration, nice
return potential, liquidity, transparency, flexibility, affordability, wide range of choices
and a proper regulation governed by SEBI. The study also analyzed about recent trends in
mutual fund industry like various exit and entry policies of mutual fund companies,
various schemes related to real estate, commodity, bullion and precious metals, entering
of banking sector in mutual fund, buying and selling of mutual funds through online51.

Nayak (2010) studied the nature of investor’s grievances and assessing the role of
grievance redressal agencies. Samples of 200 persons in Valsad District of Gujarat State
were drawn at random for the study. The study revealed that, Occupational affiliations
cultivate a set of values and beliefs which may or may not always be supportive to the
decision making ability of income level37. Also the study observed that the volume of
investment in securities is a positive function of the level of income. But the chi square
tests reveal an association between the knowledge aspect and the level of income.
Experience of investment in securities, the more conversant one becomes with the formal
and informal procedural requirements of investments. Also the study conclude that
various occupational background of investors have significant association with their
awareness of the functions of various grievance redressal agencies.

Syed Tabassum Sultana (2010) in his study, on Indian individual investor
behaviour, mentioned that, age act as major differences in risk taking ability of investor.
The aged investors fare better in comparison to the younger ones. Younger investors are
over confident in and largely accounts for excessive trading leading to lower returns this
lead to decline in the risk taking ability38.

2.2 STUDIES REGARDING RISK BEHAVIOR

Risk, is a complex psychological and behavioral process which does not
necessarily generalize across situations and may vary across individuals (Bromiley and

The studies conducted in US by Morga, Barlow and Brazzer (1965) found that primary motivation for saving in middle aged perceived that retirement planning needs to be taken more seriously. Also tax escape plays a major role, investment expectations for retirement benefit plays a major role for savings and investment. During times when stock markets are in a bull run and the general feeling is extremely optimistic, the expectations from investment rise to higher levels of income. Individuals working in financial services industry were also found to be more financially sophisticated. The study showed that the high – income individuals preferred to manage their investments themselves.

With the objective of analyzing how individuals allocate their wealth and also the individual risk preferences and degree of risk aversion, Riley Jr. and Chow (1992) collected random sample of wealth creators of 200 samples of US population. The author developed a Relative Risk Aversion Index from asset allocations and compared this index across various demographic and socio economic categories like age, gender, education, marital status, income and wealth. Findings shows that young age people prefer to keep their assets in personal property and reluctant to take only little risk. The proportion in equity was found to increase consistently with age until the age of 65 and then starts to fall. The researchers also found a negative relation between risk aversion and income. The study concluded that risk aversion decreases as age increases but only up to a certain age and then it decreases which imply that the focus of investment is usually shifted to lower risk investments. In analyzing the risk tolerance assessments, demographic variables relating to the investor need to be taken into consideration and controlled. Prior research in various country contexts finds significant relationships between risk tolerance and demographic variables such as gender, age, educational attainment, net assets, income, marital status and number of dependants (Bernasek and Shwiff 2001; Grable 2000; Chaulk, Johnson and Bulcroft 2003).

A study on the investors requirements in the Securities Market in India was examined by Balanaga Gurunathan (2007). He argued that investors will consider three objectives while investing his money, namely safety of invested money, liquidity position of invested money and return on investment. He observed that the investors need protection from the various malpractices and unfair practices made by the corporate and
intermediaries. For this he classifies the financial markets into bonds, MF schemes, Real estate and Non financial assets\textsuperscript{55}. The present positive attitude of investors is heartening though investor sentiments have been shaken by the various scandals. He concluded that for gaining the confidence and attractiveness of investors in the securities market there is a need to provide an adequate rate of return and fair operating efficiency of corporates in the securities market\textsuperscript{39}.

Dulebohn (2002) examines retirement savings in risk taking by reviewing two studies of direct and mediated influences of risk taking among higher education employees in their sponsored savings plans\textsuperscript{56}. According to a study for investment risk behaviour and retirement planning, the researcher found that maintaining a positive return from investments in retirement accounts was extremely important to the respondents because these funds were expected to atleast partially, if not completely, supplement income in retirement. The study observed that individuals with higher income or assets levels were expected to be better able to recover from losses. The main conclusion drawn from the study was that the perception or belief about opportunity was the direct influence on preference, and that the opportunity perception, itself, was a mediator of worker’s experience, beliefs and disposition\textsuperscript{40}.

Barua and Varma (1991) evaluated the performance of master share (1987-1991) using CAPM approach from the view point of large investors, small investors and from fund management. The study had used ET Index as a proxy for market behavior. The risk adjusted performance is measured by using Sharpe, Jensen and Treynor measures\textsuperscript{41}. They used capital market line to study the risk return relationship of the fund from the prospective of large investors and security market line for small investors. The study concludes that the fund performed better than the market for small investors and fund management but the fund did not do well when compared to CML.


Nalini Prava Tripathy (2006) in her empirical study “Market Timing Abilities and Mutual Fund Performance- An Empirical Investigation into Equity Linked Saving Schemes” evaluated the market timing abilities of Indian Fund managers of thirty-one tax planning schemes in India over the period December, 1995 to January, 2004 by using Jensen and Mazuy Model and Henriksson and Merton model. The study indicates that the Fund managers have not been successful in reaping returns in excess of the market; rather they are timing the market in the wrong direction.42

Changing investments too frequently enhances risks and reduces profitability. It also leads to added expenses related to transactions (Markowitz, 2009).57 Hanumantha Rao and Vijay Mishra, (2007) opined, the Indian Mutual Funds industry has been growing at a healthy pace of 16.68 per cent for the past eight years and the trend will move further. According to his study, it has been found out that almost 54% of people invests for security and certainty while 38 % of the people invests for current spending. Some 53 % of the people prefer long term investment whereas 23% people each prefer medium term and small term investment.58

The Delhi-based Society for Capital Markets (Gopalsamy, 2005) also conducted a study (October 1998) that revealed that the majority of retail investors on capital markets have lost confidence in various agencies associated with capital markets, including the Securities and Exchange Board of India. Investors have no confidence or low confidence in company managements, auditors, stock brokers and the SEBI43.

Sarita B. (2012) evaluated performance of 25 equity diversified mutual funds using Jensen’s and Fama’s measure of net selectivity and concluded that out of 25 funds, 24 funds have positive net selectivity reflecting superior performance of the fund managers44.

Sodhi and Jain (2004) evaluated 26 equity schemes drawn from 26 AMCs belonging to public and private sector. They concluded that the equity mutual funds have overall inferior performance in comparison of risk and Return. Sasaki and Rathihia (2008)

pointed out that the different variables which influence to invest on mutual funds are safety, liquidity, stability, speculative values, diversification and low cost. Through the study the researcher found that, the most important factors leading to mutual fund investments are risk freeness and income, the next factors are savings and cost.

Selvam et.al (2011) studied the risk and return relationship of Indian mutual fund schemes. The study found out that out of thirty five sample schemes, eleven showed significant t–values and all other twenty four sample schemes did not prove significant relationship between the risk and return. According to t-alpha values, majority (thirty two) of the sample schemes' returns were not significantly different from their market returns and very few number of sample schemes' returns were significantly different from their market returns during the study period.

2.3 STUDIES REGARDING PERFORMANCE OF MUTUAL FUNDS

Sapar and Narayan(2003) examines the performance of Indian mutual funds in a bear market through relative performance index, risk-return analysis, Treynor's ratio, Sharp's ratio, Sharp's measure, Jensen's measure, and Fama's measure with a sample of 269 open ended schemes (out of total schemes of 433). The results of performance measures suggest that most of the mutual fund schemes in the sample of 58 were able to satisfy investor's expectations by giving excess returns over expected returns based on both premium for systematic risk and total risk.

Selvaraj V., and Marammal Devi V., (2007) examined the performance of mutual funds, they found that “the performance of an actively managed fund largely depends on the investment decisions of its manager. Statistically, for every investor who outperforms the market, there is one who underperforms. Among those who outperform their index before expenses, though, many end up underperforming after expenses. Before expenses, a well-run index fund should have average performance. By minimizing the impact of expenses, index funds should be able to perform better than average.”

A study by Narayanasamy et al, (2013) mainly focused on the performance of selected equity large cap mutual fund schemes in terms of risk-return relationship. The main objectives of the research was to analyze the financial performance of selected mutual fund schemes through the statistical parameters such as (alpha, beta, standard deviation, r-squared, Sharpe ratio). The study has taken time period from 2010-2012, comprising of 5 mutual fund schemes launched by different private sector. During the study, the fall in the CNX NIFTY during the year 2011 has impacted the performance of all the selected funds. Also, it may be concluded that all the funds have performed well in the high volatile market movement expect Reliance vision.

Another study (Kalpesh P Prajapati, Mahesh K Patel, 2012) examines the performance evaluation of Indian mutual funds through relative risk-return analysis, Treynor's, Sharpe's, Jensen's, and Fama's measure. The data used is daily closing NAVs. The data sources for study was from 2007 to 2011 and the top five asset management companies was selected. The most popular BSE SENSEX is used as a proxy for the market and the daily closing value of BSE SENSEX is collected from the website www.bseindia.com. The results of performance measures suggest that most of the mutual fund have given positive return during 2007 to 2011. HDFC and Reliance mutual fund have performed well as compared to the Sensex return. ICICI prudential and UTI Mutual fund has lower level of risk compare to HDFC and Reliance mutual fund during the year 2007-2011.

An Empirical Study on the Performance of Select Mutual Fund Schemes in India by Subhal and Jaya Bharathi (2007) was carried out for open end mutual fund schemes and 51 schemes are selected by convenient sampling method. This study has mainly aimed at examining the investment performance of Indian Mutual funds in terms of a) Sharpe Ratio b) Treynor Ratio and c) Jensen differential return measure. The study reported a mixed performance of sample schemes during the study period. The Sharpe Ratio indicates good performance by majority of the scheme, while in terms of Treynor ratio only few schemes show good performance. The study also gives a positive scope to study the Mutual funds in the details of the investments in different sectors (Ellis, 1992).
2.4 REVIEWS REGARDING IMPORTANCE OF BRAIN DOMINANCE

Brain dominance can be expressed in terms of preference to understand and express something. It denotes the thinking modes of brain. The brain is divided into two halves, left and right. Although a function may depend more on one half than the other, the notion that one half is dominant and other is non-dominant is possibly too simplistic for describing most tasks (Gabbard, 1997).62

The left half of the brain has been described as analytic in orientation focuses on individual elements within a field and analyses them sequentially (McCluskey and Parish, 1993).63 Usually left half processes verbal and non verbal sequential information. In contrast, right half is thought to be more creative in nature. (Mc Cluskey and Parish, 1993). The left half of the brain controls the right sides of their bodies and the right side of the brain controls the emotions and conceptual thought (Herrmann, 1995).64 Thus right handed/right eyed individuals are generally more analytic in orientation because of left half brain dominance, while left are more to be holistic and creative in nature (Mc Cluskey and Parish, 1993). Studies find that such neurological impairments reduce both patients’ ability to feel emotion and the optimality of their decisions in ways that cannot be explained by simple cognitive changes (Bechara et al 1999, Damasio 1994).65

Prechter (2001) he analyzed human behaviour and came up with a basic behavioral function: He says impulsive mental activity leads to herding. He divided human brain in following components the brain stem, limbic, and neocortex. Emotional responses are attributed to limbic system and neocortex is attributed to rational responses. Individual and large investors focusing and taking lot of interest in behavioral finance. Study of psychology and finance helps to understand irrational market movements and investor behavior. The important experience biases and thinking errors those misguide judgment are: Representativeness, Overconfidence, Aversion to Ambiguity, Innumeracy, Prospect Theory, Mental Accounting and Narrow Framing.66

Brain behavior has especially been associated with learning styles and personality traits (Saleh, 2001). Investigation into an individual’s brain behavior and relating it to his performances came primarily in the form of examining functions of the various parts of
the individual’s brain. Studies tapping this area of research preferred various terminology such as brain hemisphericity, brain dominance, split brain research, hemisphere specialization research, or lateralization in the research literature (Saleh, 2001; Baynes and Long, 2007).

Behavioral finance is an emerging field to understand the psychology of the investor in various investment avenues. A study by Mccrae aims to study the relationship between personality traits (big five model) and risk profile of the investors attitude. The five factor model delineates five broad traits—extraversion, neuroticism, agreeableness, conscientiousness, and openness to experience—that encapsulate most of the differences in personality across individuals (Mccrae 2005). These traits, sometimes designated as domains, were originally used to describe individuals. A statistical technique that is conducted to identify sets of correlated dimensions. The result of the research study proves that the personality traits do not have much influence towards the attitude of the investor as the investor most wisely invest in diversified portfolio to minimize their risk. Moreover the investor invests mainly for tax gaining purpose and to meet their future expenses. Attitude towards investment depends on risk tolerance and agreeableness. Attitude towards investment depends on agreeableness and risk tolerance; the remaining variables such as neuroticism, openness, extraversion, conscientious, and locus of control are not influencing the attitude towards investment.

2.5 REVIEWS REGARDING INVESTORS ATTITUDE TOWARDS MUTUAL FUND

Dr. Binod Kumar Singh (2012) evaluated the demographical factors of investor’s attitude towards mutual funds and selection of mutual fund as an investment option has been studied. The survey was conducted in Ranchi with sample size of 250 respondents. Demographic attributes like gender, age, income and educational qualification was compared with investors attitude towards mutual funds. Chi-square test has been used to analyze the collected data. Various factors were ranked on the basis of weighted scores and scoring was also done on the basis of scale.
Pritham P. Kothari and Shivganga C. Mindargi (2013) describes the importance of Mutual fund industry in financial service sector. In India, mutual funds is been treated as an investment vehicle to mobilize the saving of billions of investors into debt and equity markets. Mutual fund is the comfortable way of investing in stock market. The main aim of the mutual funds is to mobilize the savings of the individuals who have surplus and converting them into revenues in the future days. The agents employ individual resources in such manner as to provide minimal risk, stable returns, high liquidity and capital appreciation through diversified and expert management. The study emphasizes the change in different demographic variable on the attitude of investors towards mutual funds. The survey was conducted with 200 respondents have different demographic profiles. The survey finds that, investor doesn’t have any attitude towards mutual fund investments.

Gaurav Agarwal and Dr. Mini Jain (2013) conduct the survey on Investor’s preference towards Mutual Fund in comparison to other Investment Avenues. The study finds the challenging environment; various investment modes are accessible to the investors. Every investment has its own pros and cons. Every individual attempts to proportionate the positive and negative of the investment model while investing in them. Mutual fund is easiest way of investment when compared to any other mode of investment, as it provides good opportunity for a common man to diversify their investment professionally. The study reveals the investment mode preferred by the respondents and to study the preference towards mutual fund when there are other mode of investments available in the market.

Priyanka Sharma and Payal Agarwal (2015) in their research describe the Investors’ Perception and Attitude towards Mutual Fund as an Investment Option. Mutual fund has become a new gateway for billions of investors. When an individual couldn’t follow the risk he is taking against inflation and ends up in negative returns, mutual funds have come with needful help to the investors. The study aims to understand the investor’s preference over mutual funds and performance evaluation of the preferred schemes. The sample was collected from 50 respondents. The study found that influence buying behavior mutual funds investors, sources that investor rely more while making investment and preferable mode to invest in mutual funds market.
Rekha Rathore, Shelly and Jaya (2014) evaluate the retail investor’s attitude towards mutual funds. Mutual fund is the most attractive option in the current scenario as an investment option for the investors. For its good return, easy liquidity, low risk, high supervision, tax benefits etc has made the investors to have a good opinion. The objective of the study is to know Attitude of retail investor towards Mutual Fund. The research focuses more on retail investors, an individual retail investor can invest in mutual fund with low risk and more return. Sample was collected from 100 respondents and Chi square statistical technique is drawn from collected data. Various demographical factors were also studied towards investments in mutual funds.

In the next section, we will be discussing the various research work carried out and the outcome of those researches. The section 2.6 helps to identify the research gap that exists in the work carried out earlier.

2.6 OUTCOME OF VARIOUS STUDIES:

The various studies focus area, Methodology adopted and the outcome has been listed below in the section 2.6.1 to 2.6.5.

The reviews regarding ‘Savings attitude behavior’ are indicated in the table 2.1 below. The reviews regarding ‘risk behavior’ are indicated in the table 2.2. The reviews regarding ‘performances of mutual funds’ are indicated in the table 2.3. The reviews regarding ‘Importance of Brain Dominance’ are indicated in the table 2.4. The reviews regarding ‘Investor’s attitude towards mutual fund’ are indicated in the table 2.5.
### 2.6.1 REVIEWS REGARDING SAVINGS ATTITUDE BEHAVIOR

<table>
<thead>
<tr>
<th>Name of Author</th>
<th>Title of Paper</th>
<th>Focus Area</th>
<th>Findings/ Outcomes</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bressan, Silvia.P, Noemi, Pellizzon, Loriana.</td>
<td>Portfolio Choice and Health Status.</td>
<td>Role of the individual's health in making financial decisions.</td>
<td>Poor self-reported health negatively impacts the portfolio choice, while other health measures are irrelevant for investment decisions.</td>
<td>Data from the first wave of the Survey of Health, Aging and Retirement in Europe (SHARE).</td>
</tr>
<tr>
<td>Sudalaimuthu and P Senthil Kumar (2008).</td>
<td>A study on “Investors perception towards Mutual Fund Investments”.</td>
<td>To understand and analyze investor’s perceptions of such risks and expectations.</td>
<td>Investors perceive risk as under performance, risks in Mutual Fund investments are medium and the returns on Fund investments are not so satisfactory.</td>
<td>The Survey was conducted among 555 geographically dispersed investors spread over 12 urban and semi-urban areas.</td>
</tr>
<tr>
<td>Singh and Jha (2009).</td>
<td>A study on investors’ attitude towards mutual funds as an investment option.</td>
<td>The impacts of various demographic factors on investors’ attitude towards mutual fund.</td>
<td>71 respondents have a positive attitude, 117 respondents have a neutral attitude and 62 respondents have a negative attitude towards the mutual funds.</td>
<td>Chi-square test has been used and for analyzing the various factors responsible for investment.</td>
</tr>
<tr>
<td>Nayak (2010).</td>
<td>Investigating the nature of investor’s grievances and assessing the role of the grievance redressal agencies.</td>
<td>Investigator Grievances redressal Mechanism and Protection for retail Investors.</td>
<td>To protect the interest of investors through cost effective and time bound grievance redressal mechanism for retail investors.</td>
<td>Conceptual study.</td>
</tr>
<tr>
<td>Syed Tabassum Sultana (2010).</td>
<td>An empirical study of Indian individual investor’s behavior.</td>
<td>Demographic behavior difference in risk taking ability of investor.</td>
<td>The aged investors are better in comparison to the younger ones.</td>
<td>Samples were collected from 891 respondents.</td>
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</table>

Table 2.1: Reviews Regarding Savings Attitude Behavior.
## 2.6.2 STUDIES REGARDING RISK BEHAVIOR

<table>
<thead>
<tr>
<th>Name of Author</th>
<th>Title of Paper</th>
<th>Focus Area</th>
<th>Findings/ Outcomes</th>
<th>Methodology</th>
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<tbody>
<tr>
<td>Riley Jr., W. B. and Chow K. V. 1992.</td>
<td>Asset allocation and individual risk aversion.</td>
<td>Relative Risk Aversion Index from asset allocations and compared across various demographic and socio economic categories.</td>
<td>Young age people prefer to keep their assets in personal property and reluctant to take only little risk.</td>
<td>Random sample of 200 samples of US population.</td>
</tr>
<tr>
<td>Balanaga Gurunathan (2007).</td>
<td>Investors requirements in the Securities Market in India.</td>
<td>In order to gain confidence of investors in the securities market there is a need to provide an adequate rate of return and fair operating efficiency of corporate in the securities market.</td>
<td>Securities market to provide an adequate rate of return and fair operating efficiency.</td>
<td>Conceptual Study.</td>
</tr>
<tr>
<td>Dulebohn J. (2002).</td>
<td>An investigation of the determinants of investment risk behavior in employer-sponsored retirement plans.</td>
<td>Risk behavior and retirement planning.</td>
<td>Positive return from investments in retirement age was extremely important to the respondents.</td>
<td>Field survey of 795 college and university employees were examined.</td>
</tr>
<tr>
<td>Authors</td>
<td>Title</td>
<td>Summary</td>
<td>Source</td>
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<tr>
<td>Barua, Samir K., and Verma, Jaynath R. (1991).</td>
<td>Master Share: a Bonanza for Large Investors.</td>
<td>Capital market risk return relationship of the fund from the prospective of large investors and security market line for small investors. Fund perform better than the market for small investors and fund management but the fund did not do well when compared to CML.</td>
<td>CAPM approach from the view point of large investors, small investors and from fund management.</td>
<td></td>
</tr>
<tr>
<td>Nalini PravaTripathy (2006).</td>
<td>Market Timing Abilities and Mutual Fund Performance An Empirical Investigation into Equity Linked Saving Schemes (ELSS).</td>
<td>Thirty-one tax planning schemes in India over the period December, 1995 to January, 2004 was examined. Fund managers have not been successful in reaping returns in excess of the market; rather they are timing the market in the wrong direction.</td>
<td>Jensen and Mazuy Model and Henriksson and Merton model.</td>
<td></td>
</tr>
<tr>
<td>Markowitz, H.M. (2009).</td>
<td>Harry Markowitz: Selected Works.</td>
<td>Indian mutual fund industry. 53 % of the people prefer long term investment whereas 23% people each prefer medium term and small term investment.</td>
<td>Markowitz model.</td>
<td></td>
</tr>
<tr>
<td>Authors</td>
<td>Title</td>
<td>Description</td>
<td>Sample</td>
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<tr>
<td>Selvam, Murugesan and Palanisamy, Bhuvaneswari, (2011).</td>
<td>Analysis of Risk and Return Relationship of Indian Equity (Dividend) Mutual Fund Schemes.</td>
<td>Analyzed the risk and return relationship of Indian Mutual Fund Schemes (Dividend Option).</td>
<td>out of thirty five sample schemes, eleven showed significant t–values and all other twenty four sample schemes did not prove significant relationship between the risk and return.</td>
<td>12 Mutual fund companies with different categories were selected.</td>
</tr>
</tbody>
</table>

Table 2.2: Studies Regarding Risk Behavior.
### 2.6.3 STUDIES REGARDING PERFORMANCE OF MUTUAL FUNDS

<table>
<thead>
<tr>
<th>Name of Author</th>
<th>Title of Paper</th>
<th>Focus Area</th>
<th>Findings/ Outcomes</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sapar, Narayan Rao and Madava, Ravindran.</td>
<td>Performance Evaluation of Indian Mutual Funds.</td>
<td>Performance of Indian mutual funds in a bear market.</td>
<td>58 schemes were able to satisfy investor's expectations by giving excess returns over expected returns based on both premium for systematic risk and total risk.</td>
<td>Sample of 433 schemes, out of which 269 open ended schemes.</td>
</tr>
<tr>
<td>Kalpesh P Prajapati, Mahesh K Patel, 2012.</td>
<td>Comparative study on Performance Evaluation of Mutual Fund Schemes of Indian Companies.</td>
<td>Performance evaluation of Indian mutual funds.</td>
<td>Most of the mutual fund has given positive return during 2007 to 2011.</td>
<td>The data sources for study was from 2007 to 2011 and the top five asset management companies was selected.</td>
</tr>
<tr>
<td>M.V.Subhal, S.JayaBharathi, 2007.</td>
<td>An Empirical Study on the Performance of Select Mutual Fund Schemes in India.</td>
<td>Examining the investment performance of Indian Mutual funds in terms of a) Sharpe Ratio b) Treynor Ratio and c) Jensen differential return measure.</td>
<td>The Sharpe Ratio indicates good performance by majority of the scheme, while in terms of Treynor ratio only few schemes show good performance.</td>
<td>51 schemes are selected by convenient sampling method.</td>
</tr>
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### 2.6.4 REVIEWS REGARDING IMPORTANCE OF BRAIN DOMINANCE

<table>
<thead>
<tr>
<th>Name of Author</th>
<th>Title of Paper</th>
<th>Focus Area</th>
<th>Findings/ Outcomes</th>
<th>Methodology</th>
</tr>
</thead>
</table>
Right half of the brain is thought to be more creative in nature. | Neurological impairments reduce both patients’ ability to feel emotion and the optimality of their decisions in ways that cannot be explained by simple cognitive changes. | Conceptual study. |
| Parameshwari and Jayashree (2015). | Personality traits and risk profile influencing attitude of investor.         | Psychology of the investor in various investment avenues.                   | Personality traits do not have much influence towards the attitude of the investor.                                                                                                                                  | Descriptive survey was made. Statistical tools like Correlations and linear regression are calculated. |
| Saleh A. (2001, June). | Brain Hemisphericity and Academic Majors: A Correlation Study – Statistical Data Included. | Correlation between academic majors and brain dominance.                   | Capability of mastering new skills if thought in compliment to hemispheric preferences.                                                                                                                             | Sample was collected from 429 students from southern part of united states. |
| McCrae R. R. (2005). | Personality structure.                                                        | Relationship between personality traits (big five model) and risk profile of the investors attitude. | Personality traits do not have much influence towards the attitude of the investor as the investor most wisely invest in diversified portfolio to minimize their risk. | Conceptual study. |

Table 2.4: Reviews Regarding Importance of Brain Dominance.
## 2.6.5 INVESTOR’S ATTITUDE TOWARDS MUTUAL FUND

<table>
<thead>
<tr>
<th>Name of Author</th>
<th>Title of Paper</th>
<th>Focus Area</th>
<th>Findings/ Outcomes</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Binod Kumar (2012).</td>
<td>A study on investor’s attitude towards mutual fund as an investment option.</td>
<td>Attitude towards mutual funds and selection of mutual fund as an investment option.</td>
<td>Investor are still confused about mutual funds and doesn’t carry any attitude towards mutual fund investment.</td>
<td>Sample size of 250 respondents data was collected.</td>
</tr>
<tr>
<td>Pritham.P.Kot hari and Shivanga C. Mindargi (2013).</td>
<td>A study of investors attitude towards mutual fund with special reference to investors.</td>
<td>Importance of Mutual fund industry in financial service sector.</td>
<td>investors doesn’t have any attitude towards mutual fund investments.</td>
<td>Survey was conducted with 200 respondents have different demographic profiles.</td>
</tr>
<tr>
<td>Gaurav Agarwal and Mini Jain (2013).</td>
<td>Investor’s preference towards mutual fund in comparison to other investment avenues.</td>
<td>various investment modes which are accessible to the investors.</td>
<td>Mutual fund is easiest way of investment when compared to any other mode of investment.</td>
<td>Sample size of 300 respondents were interviewed.</td>
</tr>
<tr>
<td>Priyanka Sharma and Payal Agarwal (2015).</td>
<td>Investors’ perception and attitude towards mutual fund as investment option.</td>
<td>Mutual Fund as an Investment Option.</td>
<td>Investor rely more while making investment and preferable mode to invest in mutual funds market.</td>
<td>The sample was collected from 50 respondents.</td>
</tr>
<tr>
<td>Rekha Rathore, Shelly and Jaya (2014).</td>
<td>Attitude of investor towards mutual fund: a case study of retail investors in district yamunanagar, Haryana (India).</td>
<td>Retail investor’s attitude towards mutual funds.</td>
<td>Investors have good opinion about mutual fund. Individuals tries to invest with less risk and safety factors.</td>
<td>Sample was collected from 100 respondents and Chi square statistical technique is drawn from collected data.</td>
</tr>
</tbody>
</table>

Table 2.5: Investor’s Attitude Towards Mutual Fund.
### 2.6.6 Research Gaps Identified

The research gap identified from the earlier research work is mentioned in the table 2.6. The salient features of the research work carried out earlier and the Research gap that exists are mentioned below:

<table>
<thead>
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<th>Objectives of Present study</th>
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<td>Majority of the research was done on the Performance of Equity Mutual funds.</td>
<td>Only very few research focuses specifically on Large cap funds (Equity and Open ended mutual funds) and Mid cap funds (Equity oriented and Open ended Mutual funds).</td>
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<td>It was observed that, very less research has been reported related to theories of brain and investments towards equity mutual funds.</td>
<td>To understand the attitude of investors towards equity mutual fund using left-right brain concept.</td>
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Table 2.6: Research Gap.
2.7 REVIEW AND THEORETICAL BACKGROUND OF BRAIN THEORY

In case of finance, while investing, investors are recommended to control their feelings which will make them to take wrong decisions (Babin and Donovan, 2000).

2.7.1 Brain decisions - Risk as feelings

How brain makes decisions under risk by controlling feelings is a question which yet to be answered. Still lot of researchers are making their result to get better decisions. Under great pressure or stress, neocortex of the brain will be keep on analysing to come to a decision.

According to George Loewenstein people will respond to risks at two levels and called this as Risk as feeling. At emotional level one may overreact or may under react. For examples over reaction make occur during terrorist attack and under reaction to more familiar and risks of talking phones while driving.

Researchers have found that more psychological and neurological behaviours plays vital role in decision-making during one’s. In case of simple issues, or mere calculations, prefrontal cortex of the brain be more active. But in case of difficult situations like investing in a new business or investing in stocks, mutual fund, brain areas associated with emotions become more active. In this situation, the rational part of the brain finds its hard to resist the temptation. In this context, it is not possible to change intentional behaviour into extensional one. Intentional behaviour is the attitude or desires or wants of an individual.

2.8 EVOLUTION OF BRAIN DOMINANCE THEORY

In 1861, Paul Broca – French Surgeon in his study on hemispheric dominance theory says side of the brain is attributed to a particular characteristics. Initially, researchers had a belief that higher faculty was due to left side. Later that century,
German physician Karl Wernicke explored the possible correlation to brain health and linguistic deficits.

By the late 1800’s, John Jackson proposed neglected hemisphere i.e. the right brain theory he raised question on left brain dominant theory.

The 1940s witnessed the development of brain mapping, which helped lower the possibility of side effects during brain surgery.

The popular conception of the left-brained/right-brained theory grew out of widespread exaggerations and misunderstandings of the work of Broca, Wernick, Gazzaniga, Sperry, and other pioneers in lateralization research.

The Brain theory research made tremendous strides during the 1950’s when Roger Sperry at the California Institute of Technology was able to sever the corpus callosum, the nerve fibers between the two cerebral hemispheres, and study each of the hemispheres in isolation. His split-brain theory research, for which he received the Nobel Prize in 1981, established that the two hemispheres of the brain process information differently.

According to split- brain theory, through a series of research, determined which sides, of the brain were involved in language, math, drawing and other functions in these patients. But then popular-level psychology enthusiasts ran with this idea, creating the notion that personalities and other human attributes are determined by having one side of the brain dominates the other (Christopher Wanjek, 2013). They concluded that Individuals do not learn with only one hemisphere, but there may be a preference for one or the other processing strategies.

As a concept, the theory gained traction with the public at large during the last quarter of the 20th century, when common folks began fancying themselves as being either right-brained (creative, subjective, emotional) or left-brained (analytical, objective, stoic). Though it was never green-lighted by science, the theory has since become a common theme in lifestyles magazines and on television talk shows. All across the Internet, numerous tests are offered that claim to identify whether a subject is a left or right-brained individual.
When Sperry won the 1981 Nobel Prize in Physiology and Medicine, the theory that speech is thoroughly controlled by the left hemisphere gained popular traction.

Further research has indicated that mathematical skills are linked to both halves of the brain. The conclusion today in neuroscience is that the two hemispheres—linked through the corpus callosum—work in coordination with one another on a vast range of functions.

In a 2013 lateralization study of 1,000 subjects aged 7–29 at the University of Utah, it was found that both the right and left hemispheres are equally active at processing thoughts and feelings, regardless of whether the activity was slightly higher in certain brain regions among some of the participants (Preidt, 2013)70.

2.9 SPECIALIZATION OF THE TWO HEMISPHERES OF THE BRAIN

There are two sides of your brain known as hemispheres. The left brain vs. right brain theory suggests that people have a dominant brain hemisphere, and that the dominant hemisphere influences one's learning and personality. Specifically, left brain dominant people are more logical and right brain dominant people are more creative. The theory stems from an overexertion of the lateralization of the brain -- each hemisphere has specific cognitive processes (Lilienfeld, Lynn, Ruscio, and Beyerstein, 2010)71.

In most individuals, the processes of visualization, hearing, creativity, and perception are largely bilateral, though believed by some to be stronger on the right half of the brain (Beaumont, 2003). The right hemisphere is more readily linked with depressive thoughts, such as pessimism, sorrow, and self-deprecation72.

By contrast, the left side is often linked to positive mental processes such as enjoyment and decisiveness. Left hemisphere controls the right side of your body and deals with logical thought and linguistic function73. Unique and unusual experiences are processed more on the right half of the brain, while predicted and planned situations tend to be handled on the left as shown in the below mentioned Fig. 2.1.
2.10 LEFT BRAIN VERSUS RIGHT BRAIN

The majority of people are left brain dominant. Herald Sun test to see right brain or left brain dominance is popular on internet today. Left brain thinkers are logical and are practical in action, on the other hand imaginative is associated with right side brain activity. Left handers are right brain dominant people: which coincides with right brain dominant people being less common (as left-handed people are less common). Some people have mixed brain dominance i.e. they possess the characteristics related to left-right brain people, and are considered to be very balanced people.

An understanding of the left-right brain theory and knowing the utilization of brain hemispheres helps us to understand ourselves better. It improves ability to think creativity and be practical minded. It also informs about the reasons why you prefer certain activities or have certain interests
text.

There are some functional asymmetries in the brain, and it is true that certain regions of both hemispheres are specialized for particular functions. For example speech illustrates that most right-handed people, speech is processed predominantly in the left. In some left-handers, speech is processed either predominantly in the right hemisphere or on both sides.
All complex behaviours and cognitive functions require the integrated actions of multiple brain regions in both hemispheres of the brain. All types of information are probably processed in both the left and right hemispheres (perhaps in different ways, so that the processing carried out on one side of the brain complements, rather than substitutes, that being carried out on the other).\textsuperscript{76}

Among left-handers, almost half use their right hemisphere for language. Higher-level mathematicians, problem-solvers, and chess players have more right hemisphere activity, while beginners in those activities usually are left-hemisphere active. For right handers, the right hemisphere controls gross motor function while fine motor is usually more of a left hemisphere activity. The right recognizes negative emotions faster; the left notices positive emotions faster. Suffice it to say that the old biases about music and arts being "right-brained frills" are outdated (Ornstein and Sobel, 1987).

While each side of the brain processes things differently, some of these earlier assumptions about the left and right brain are outdated. Brain lateralization refers to the activity of using one side (hemisphere) of the brain more than the other. However, to be more accurate, the term "relative lateralization" has been used, because a person is usually using at least some of the left and right hemisphere at the same time (whole brain mode). Because of this, it is important for instructors to have knowledge of brain hemisphericity in order to identify the advantages and disadvantages in their decision techniques and understand when and how to develop and use certain techniques. In addition, knowledge of brain hemisphericity can assist them in becoming more flexible and effective in the decision making skills preferably in case of investment opinions. Since investment attitude is about individual’s interest or their family interest, brain dominance may play a vital role in decision making towards investment behaviour.

\textbf{2.11 CONCEPT OF ATTITUDE}

Attitude, values and ideals play a significant role in building the personality and entire mental set up of an individual. What pupil thinks, feels and values is a reflection of his attitude. Attitude usually arises in individual as a result of their effort to satisfy particular essentials. If the individual is assisted in finding or by chance of taking decision, his future reaction to that object is positive. On the other hand if the object fails
to satisfy his inclination, the individual may develop negative attitude towards it. Attitudes are the final product of feelings and decision experienced in connection with given things. This develops changing nature of individuals and undergoes changes according to the emotional reaction occasioned by their stimuli. Youngsters are quick to develop attitude and quick to change it.

Attitude is inclination to behave in a consistent way towards a given set of work assigned. It is a persistent mental state of readiness to react to a certain object, not as they are but as they are perceived to be.

Attitudes are composed from various forms of judgments. Attitude does not form overnight. When an individual come across similar experiences it leads to formation of opinion. The similar prolonged opinion gives rise to a particular attitude towards anything. Attitude can be changed through influence and one should understand that attitude also changes as a response to communication. Attitude plays a very important role in decision making. Attitudes play a very crucial role in the assessment of one’s success or failure especially in investment. Thus attitude of a person develops as a response to various experiences from the society.

2.12 CONCEPT OF ATTITUDE TOWARDS INVESTMENT

Attitude towards Investment is the state of mental and emotional readiness to react to situations, perceived as leading to future planning. The attitude of the investor towards investing is said to be favorable if the investor has no negative thought about investment. The thought may vary for long term and as well as in short term. The attitude differs, if it is individual opinion or the family opinions or the investors well wisher. The independent way of investing, more sympathetic and positive behavior of the well wisher’s towards investor can enhance the attitude towards investment.

In the present study attitude towards investment can thus be defined as inclination of investment towards equity mutual fund by knowing new schemes, collecting information, analyzing information and sharing information with others, which direct his/her responses, behavior and thoughts towards investment. Thus it would be interesting to study investors ‘inclination towards investment in equity Mutual fund.
Hence in the present study attitude of the investor towards investment was investigated as one of the indicators of effectiveness in case equity Mutual fund.

2.13 RESEARCH GAPS

All previous studies are mainly focused on the performance of mutual funds and the growth of industry, variety of schemes etc. A few studies analyzed the behavioral aspect but it limits to the decision making level only. Very few studies have been done regarding the investor’s behavioral aspect, expectation of investor, risk tolerance level of investors and the effectiveness of grievances and redressal mechanism which serves as justification for using all the demographic variables mentioned as control variables in the regression analysis.

There exists a gap to know the irrational behavior of investor and from investor point of view. By promoting the investment activity, the investors contribute to the generation of national income, prosperity of the society and higher standard of living of the citizens. They can contribute more in the development of Indian economy if their attitude towards investment decisions is analyzed properly. In this context, present research must be carried out to know the actual reason of their preference towards investment instruments.

The behavioural approach can be useful in understanding the irrational decisions of Indian investors in Mutual fund. Carrying this further, future research could also examine the effect of actual recent performance of the client’s investment portfolio with respect to brain dominance which is our present study. An individual’s preference of one of the left or right hemispheres over the other brings some differences in terms of instructional processes as well. It would also be relevant to study the effects of the ongoing financial turmoil on investor attitudes, with respect to the risk tolerance in decision making.

There are quite a few studies on Behavioral finance. There is no study which has looked at the theories of brain and investments. In this context, present research must be done to know the actual reason of their preference towards investment instruments. Behavioral approach can be useful in understanding the irrational decisions of Indian investors in the area of Equity Mutual fund. There are very few research outcomes which focuses on the study of linking the brain dominance theory with that of investment in
Equity mutual funds. After careful study and analysis of the work carried out earlier, research gaps were identified as mentioned below in the table 2.7.

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Table 2.7: Objectives of the present study.

### 2.14 SUMMARY OF THE CHAPTER

In the present chapter various research works carried out in the same area are studied and listed. The research gap is identified.

In the next chapter we discuss regarding the research methodology adopted for the present research, namely:

- Analyzing the performance of selected Indian Open ended Equity Mutual fund schemes (Large cap and mid and small cap funds), and
- Analyzing the attitude of investors using Left-Right (Cognitive-Emotive Behaviour) brain methodology.