IMPACT OF INVESTORS' SENTIMENTS ON STOCK RETURNS OF INVESTORS: EVIDENCE FROM LONDON STOCK EXCHANGE

ABSTRACT

Investor sentiments play an important role in investors' decisions about the investment activities in the stock market. Sometimes, investors ignore the market analysis and base their decisions on their sentiments only. Therefore, these sentiments may affect the returns of the investors. The present study evaluated the impact on these investors' sentiments on investment decision. The researchers targeted four most prominent sentiments of the investors. These sentiments are overconfidence, glamour stock, religious beliefs and herd like behaviour. The researcher collected data from the investors trading at London Stock Exchange. The data in this study was collected through a questionnaire. The collected data was analysed through independent sample t-test, ANOVA and regression. The study finds that female and young investors are more obsessed with their sentiments. However, male and older investors quite control their sentiments during the investment. The study also finds that overconfident investors have to face negative returns from the market. Glamour stocks and religious beliefs of the investors are irrelevant in determining the returns of an investor. Herd like behaviour is quite risky, but the study has found that this behaviour is helpful in generating positive returns in the market. The study has been conducted in a developed economy. The future researchers may work on developing economies as well and comparison can also be performed.

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1. INTRODUCTION

1.1. PROLOGUE

The introduction is that section of the research in which the discussion over some of the important constituents of any project is discussed. In this research proposal, some of the major concerns about the problem statement that is aim, objectives, questions and background to the research problem are postulated out. Hence, this section holds a critical importance.

1.2. BACKGROUND OF THE STUDY

Investment decision is very important in any of capital and equity markets. There are a number of factors that play an important role in determining the investment decision of investors. Some of these factors are external and some of them are internal to investors. External factors include market factors and economic factors; whereas, internal factors are related to the personality of investors. Personality traits of the investors, perceptions and his sentiments are also important determinants of investment decision.

Traditionally, it was assumed that markets are inefficient and investors follow a rational perspective during investment. The traditional theories of fundamental finance assume that every investor is a rational investor and investment decisions are taken on the basis of thorough statistical analysis and diversified portfolios are formulated to avoid the risk. These rationally diversified portfolios will help to achieve the equilibrium in the market. However, this situation is not prevalently observable in most of the case in different stock markets across the globe. A number of market crashes have been observed in the past. The history of the financial market is full of dramatic events in which the markets faced serious shocks and under some adverse circumstance entire markets crashed. The incidents like the Great crash of 1929, the Tronic

Boom of early 1960, the Nifty Fifty bubble of 1970s and Black Monday of 1987 are some of the examples of these drastic changes. Stock prices experienced abnormal fluctuations during these events. This situation raises some serious questions regarding the validity of these traditional theories. The answers of these questions lie within the field of behavioural finance (Baker & Wurgler, 2007).

Researchers have identified that one of the major reasons behind market crashes were the irrational decisions of investors. Most of these decisions of investors are taken under the personal sentiments of investors. A rational investor performs a complete analysis including the financial statement analysis of the company and market analysis before taking an investment decision. The past performance of a company in which investor is willing to make the investment is evaluated and the future is speculated on the basis of this past performance. There can be a number of financial indicators used for the evaluation of financial performance of a company including return on equity (ROE), return on investment (ROI), return on assets (ROA), earnings per share (EPS), Earning Yield, Size of Firm, and Market to Book Value, Dividend per Share, Dividend Yield and many others. However, some time investors' decisions become independent of these factors and his personal sentiments about the investment play the main role in decision making (Mishkin & Eakins, 2011). Moreover, sometimes the investor under-react or over-react to these indicators. This inappropriateness of the reaction disturbs the entire market. Resultantly, markets behave in an abnormal way. Some of the investors earn abnormal profits in this situation, while others have to bear abnormal losses as experienced in the events referred above (Shefrin, 2005).

Although, most of the earlier studies in financial literature were based on the assumption of market inefficiency and investor rationality, many of the researchers have followed a different perspective while studying the financial markets recently. Many of the authors are of the view that "if a market exhibits either an overreaction phenomenon or a high-

PER effect, then significant substantial returns can be earned by using simple strategies" (Dahlquist et al., 2000). Trabelsi (2010) and many other researchers have provided empirical evidences regarding the role of personal sentiments of investors in investment decisions (Trabelsi, 2010).

The personal sentiments are also explained as behaviours of investors. These sentiments are discussed under the umbrella of behavioural finance. Behavioural finance deals with the psychology of investors. This field discusses that what type of psychological factors are involved in investment decisions of investors and how they affect market. The market inefficiencies because of these factors can be explained better thorough behavioural finance. It becomes more important to study the behaviour of investors, especially in a market where uncertainty is quite high. Investors may feel that other people in the market are more knowledgeable as compared to them (Fernandez et al., 2011).

It is pertinent to note while studying the investors' sentiments that the level of risk taken varies largely among investors. All investors are not ready to take the same level of risk while trading in the market. An investor can be risk averse, risk taker or risk avoider (Liston & Soydemir, 2010; Brigham & Houston, 2013). The personal attitude greatly affects the level of risk taken by the investor (Liston & Soydemir, 2010). The investor's confidence plays an important role here. Sometimes investors become overconfidence during investment decision, and they take the decision aggressively to earn higher returns. These investors plunge into a risky investment decision without making the appropriate analysis and getting the required level of information.

Investor sentiments provide the rationale for acceptance of overpriced share by investors. The behavioural components of the stock markets are explained by investor sentiments (Benjamin & Frank, 2011). Most of the time, investors merely take the decision on the basis of past information or some speculation made by the company or other investors

(Kaustia et al., 2012). Some investors consider some specific stocks as sin stock and they are not willing to buy these stocks despite they are profitable stock (Liston & Soydemir, 2010). Herd like behaviour is also quite common (Avery & Zemsky, 1998) . Moreover, many investors merely take the investment decision about some particular company on the basis of glamorous elements involved in the company. This glamour can be found in some ads of the company or its image in the market (Hasnawati, 2010).

A number of previous studies have investigated the role of personal sentiments in their investment decisions and have proven that many of the investments decisions are influenced by the personal sentiments of investors (Trabelsi, 2010). Personal sentiments of investors are existent in many forms affecting their investment decision. They can be referred to beliefs, overconfidence, judgements, attractions, the sixth sense, risk attitude and herd like behaviour, herd like behaviour, investment on the basis of glamorous elements and faith of investors (Benjamin & Frank, 2011).

1.3. RESEARCH PROBLEM

Many of the investors are guided by their personal sentiments for taking investment decision instead of some fundamental and technical analysis. Most of the times, these sentiments misguide investors and resultantly, they fail to take some proper decision in the market. Eventually, they had to suffer and market and economy also get disturbed because of wrong decisions taken by the investors. Hence, the problem statement is

"What is Impact of Investors' Sentiments on Investment Decision in case of London Stock Exchange?"

1.4. AIM OF STUDY

This study is mainly focused to evaluate the influence of investor sentiment in the decision making process and how these sentiments affect their stock returns.

1.5. RESEARCH QUESTIONS

The present study has formulated following important research questions that have been tried to be answered through this study.

- How investors make investment decisions in capital market?
- What are different key investors' sentiments that play a key role in determining investment decision?
- What is the effect of sentiments on investors' stock returns?

1.6. RESEARCH OBJECTIVES

The present is an attempt to achieve following research objectives?

- To find out the potential investor' sentiments that are likely to govern the decision making process carried out by an investor.
- To evaluate the behaviour of investors during the investment process.
- To provide the reasons for the sentiment generation in a capital market.
- To evaluate that how an investor's sentiments affect his/her decisions.
- To evaluate the effects of investors' sentiments on their stock returns.

1.7. SIGNIFICANCE OF STUDY

The present study is an attempt to perform an analysis of investors' sentiments in determining the investment decision of investors. This study provides an insight that how

investor sentiments affect the investment decision making of investors. The study evaluates the behaviours of investors. The present study has performed the analysis that how stock returns of the investors are affected by their investment decisions. The study plays a guiding role for the investors and guides them that how they can control their sentiments during decision making process in order to increase their stock returns.

1.8. SCOPE OF THE STUDY

The study is being performed for the investors trading in London stock exchange. It is of great help to them in understanding the effects of their various sentiments on stock returns. This study covers the personal sentiments of the investors and the factors contributing to the formulation of certain sentiments have not been evaluated in the present study.

1.9. OUTLINE OF RESEARCH METHODOLOGY

This study is being performed on investors trading in London stock exchange. Hence, all the investors trading in LSE are the population of the present study. The sample will be chosen from these investors. The data collection took place through self-administered questionnaires. The data is quantitative in nature as the researcher is following a quantitative approach in the present study. This data has been analyzed through SPSS and mainly regression analysis has been performed to test the formulated hypotheses.

1.10. DELIMITATIONS OF STUDY

The present study is performed on investors making investment in London Stock Exchange only. Moreover, the present study is only evaluating the impact of investor's sentiments on the personal stock returns of investors and not on the overall market.

1.11. STRUCTURE OF THE DISSERTATION

This dissertation is comprised of six main chapters. Chapter 1 is the introduction chapter that provides information about the background of the study, the problem statement, research questions, objectives and significance of the study.

Chapter 2 deals with the literature review. This chapter discusses the various sentiments as studied by previous researchers. The effects of these sentiments on investment decisions of the investor have been elucidated in this chapter. This chapter lays the foundation of the theoretical framework being tested in the study.

Chapter 3 is about theoretical framework and hypotheses. The theoretical framework has been established after thorough literature review and hypotheses have been derived from this framework. These hypotheses have been tested in the study.

Chapter 4 explains the employed methodology in the present study. This chapter explains the population of the study and it has been discussed that how a sample has been chosen from this population. This chapter provides the details of the collection and analysis of the data. This chapter is important in determining the validity and reliability of the study.

Chapter 5 is comprised of two sections. The first section provides the results of various statistical tools applied to the collected data. The results have been interpreted and hypotheses rejection or acceptance has been made on the basis of the obtained results. The second section is the discussion section. The results obtained in the first section have been explained in a non-technical way and they have been related to the previous studies.

Chapter 6 is the last chapter of the study. This chapter provides the conclusion based on the findings of the study. This chapter also provides the implications of the study. The implications for the academia and investors both have been provided in this section. At the end of this chapter, the researcher has explained some of the important limitations and some recommendations have also been made for future researchers.

2. LITERATURE REVIEW

2.1. PROLOGUE

This chapter deals with the literature review. The previous studies investigating the investor's sentiments and their impact on stock returns have been studied and the key findings of the previous studies have been reported here. The conflict ideas have been discussed in order to build an argument. The literature also incorporates a good blend of old and recent studies to have a broader understanding.

2.2. IRRATIONAL INVESTORS AND INVESTOR SENTIMENTS

The researchers have recently extensively targeted the behaviour of the investors. The non-rational investors misperceive the distribution of values of the asset in the financial market. The researchers have an implicit assumption it is very relevant to study non-rational investor for the critical evaluation of performance of financial markets. However, anciently there are two opposing point of views about the relevancy of this issue. On one hand researchers like Black (1986) advocate if all the investors show a rational behaviour in the market and have correct understanding of the information generated in the market, there will be a limited trading activity in the market as it will be in the interest of the investor to stop trading among each other. Moreover, when there will be a limited trading activity in the market then there will be a poor liquidity of individual assets and pricing of index funds and derivative assets will become very difficult. The entire functioning of the market will get disturbed because of the poor liquidity of the individual assets. Black (1986) calls the irrational traders as noise traders. These noise traders misperceive the information generated in the market and liquidity of different individual assets stems from these noise traders. Resultantly, the traders with the proper market information have the incentive to execute the trading activity and the information

about their trading is vested in the prices of the securities. In short, the structure of the entire financial market is largely dependent on the presence of these noise traders in the market. Alternatively, Firedman (1953) argues that irrational investors are not relevant to the performance of the financial market. He advocates that these irrational investors will be driven out of the market by the rational investors (Friedman, 1953).

According to the modern financial theory, investors tend to show a rational behaviour in identification and processing of the relevant information for optimal decision. However, recently, there are lot of empirical evidences that show the presence of investors' behaviour deviating from the predictions made by the financial analysts (Charness & Gneezy, 2003). The results are quite anomalous when the efficient markets hypothesis is followed. The Efficient Market Hypothesis (EMH) was quite dominant in the earlier studies of financial asset pricing. The differences in the results from the EMH are different because of the implicit cognitive biases. These biases are likely to distort the perception of the market and resultantly market prices of the securities are likely to significantly deviate from the fundamental values.

Earlier studies of investments are based on the notion of rational investors and efficient markets. However, a large numbers of researchers have a consensus that investors are often irrational and markets are inefficient. This irrational behaviour of investors and market inefficiency causes over reactions by the investors creating significant earning possibilities. These possibilities can be availed through application of simple strategies (Dahlquist et al., 2000). The irrational behaviour of investors is because of the sentiments of the investors that have a significant influence investment decisions (Trabelsi, 2010). The concept of investor sentiments comes under umbrella of behavioural finance. Behavioural finance deals with the psychology of the investors and explains the behaviour of practitioners in the financial market. It also explains the effects of the behaviour of individual stock returns and on overall market and economy as well. Behavioural finance explains a number of hidden truth and many of the

answers of the questions lies within the domain of behavioural finance. The behavioural finance explains the possible reactions of the individuals in uncertain market environment. The information analysis becomes harder in an uncertain environment and this situation give rise to the perception among various market participants that others have better knowledge about the market (Fernandez et al., 2011). Thus, investor sentiment provides the reasons behind the acceptance of overpriced shares. These sentiments are the behavioural elements embedded in the market prices (Benjamin & Frank, 2011).

The investor sentiments are referred to the demands put forward by the investor for the various securities being traded in the market that is not justified by the fundamentals principals of investment, research and analysis and real investment at firm level. The notion of investor sentiments stems from the work of Keynes (1936). The researchers like Black (1986), DeLong, et al. (1990) and Baker & Wurgler (2007) worked further on investor sentiments. Most of the studies define investor sentiments in a similar way. According to Shleifer & Summer (1990), "investor sentiments can be referred to changes in demand for the securities seem to be a response to changes in expectation or sentiment that are not fully justified by information." It is also defined as "…a belief about future cash flows and an investment risk that is not justified by the facts at hand" (Baker & Wurgler, 2007).

There are several cognitive biases of the investors. One of the most important biases of the investor is overconfidence. The investors have a tendency to make their decisions unwittingly. These investors assign excessive weights to their knowledge and information available to them by ignoring the information available publicly (Lichtenstein & Fischhoff, 1977). Overconfidence is a type of irrational behaviour of the investors because this behaviour is not on the basis of principle of normative rationality. These principles are expected to be followed for the maximization of the utility (Trinugroho & Sembel, 2011).

There are various studies that have evaluated the impact of overconfidence in the financial markets. Overconfidence behaviour of the investors causes prediction errors. These prediction errors create adverse trading. The investors with overconfidence buy very expensive stock or they sell very cheap stock. Kufepaksi (2007) call this overconfidence as self-deception behaviour. This behaviour causes a remarkable error in predicting the stock prices. The resulting effects of this behaviour include excessive trading and investors show a high tendency to trade in the market (Graham et al., 2006). This overtrading in the stock market is because of overconfidence of the investors. These investors have the belief that they have the requisite ability and necessary knowledge for trading in the market. The investors having this belief have the tendency to make very frequent transactions. The trading frequency is largely affected by the overconfidence of the investors (Grinblatt & Keloharju, 2009).

There are many other studies showing that overconfidence of the investors not only affect trading frequency but also volume of the trading. Overconfident investors have a greater tendency to trade in large volumes (Glaser & Weber, 2003). The level of overconfidence has a positive relation with trading volume. The over trading stems from overconfidence and concomitantly there is a decline in the investors' returns (Statman et al., 2003). Biais et al. (2002) state that the overconfident investors invest in the securities that are not likely to generate greater benefits that result in unprofitable investment. The investors, who trade too much, experience reduction in earning and often they invest in stock with negative earnings (Kirchler & Maciejovsky, 2002).

Pompian (2006) state that the investors with overconfidence underestimate the risk and many a time they ignore the risk vested in a security. The most important risk associated with trading is reduction in stock price and investors lose their capital. The information about the global market and macroeconomics is used for the valuation of prices of the stock. The presence of a bad news in the market causes a decline in the stock prices as the investors will sell more

and purchase less because of the bad news. This situation will increase the supply in the market and demand for the stocks will decline. However, the investor with overconfidence will ignore this risk emanated from the market information because of their own beliefs about the choices of stocks. Therefore, this type of information will not decrease the volume and frequency of trading activity (Trinugroho & Sembel, 2011).

According to Cheng (2007), overconfidence is quite common in human behaviours. The investors with this behaviour overestimate their ability to make the investments in the markets and they predict greater chances for the success. They estimate a higher probability of gaining return in the market. A person's overconfidence level is identifiable with the help of calibration test. This test is a procedure that evaluates the level of knowledge and confidence of the investor. This combination shapes the level of overconfidence of an investor. The level of overconfidence of an investor is measured through the overconfidence score. This score is based on the probability of confidence level of minus the average score of the true answer (Kufepaksi, 2007).

Glaser & Weber (2003) defines overconfidence as the behaviour of an investor in which they overestimate the values of the assets. Overconfidence has three main aspects. These aspects are (1) Miscalibration that is referred to subjective probability which is greater than actual probability (2) Better-than-average effect that shows the tendency of the investor to estimating above average ability (3) Illusion-of-control that gives a belief to the individuals of having more ability to correctly predict the stock prices more accurately as compared to others.

The investors with overconfidence make many mistakes in the market that have been highlighted by Pompian (2006). These mistakes are as follows:

i. The investors with overconfidence make excessive trading because of the belief that they have a greater ability and knowledge of trading and other investor do not have such knowledge and ability.

ii. The investors with overconfidence overestimate the market prices.

iii. Overconfident investors do not assess the vested risk in an appropriate manner and it is underestimated.

iv. The overconfident investors are unable to properly diversify their portfolio and their portfolios are under-diversified.

The theory of excessive trading advocates that investors with overconfidence will follow very aggressive strategies of trading. This situation will lead to poor investment performance. The overestimation regarding the information accuracy will increase the trading volume in the market. The increase in trading frequency and volume increase the market volatility that will cause lower and sometimes even negative returns (Gervais & Odean, 2001). The average behaviour of overconfident investors in the markets gives rise to harmful effects. However, some times this behaviour generates excessive returns as compared to rational investors. The investors with a higher trading desire will tend to be more aggressive in their trading strategies (Statman et al., 2003).

Stocks are important instruments in the capital market used for the investment. There are numbers of aspects of stocks that must be observed. One of the important aspects of stock is the difference between value stocks and glamour stocks. The literature widely recognizes the superiority of the value stocks over the glamour stocks. The value stocks have a lower market value as compared to book value. However, the glamour stocks have a higher value than book value. The difference between the price of a value stock and glamour stock is called value premium. This phenomenon is quite common in stock markets across the globe (Athanassakos, 2006).

"The stocks are called glamour stocks when they attract a large number of investors because of the significant price increase during a sustained period of time" (Hasnawati, 2010). If an organization is reporting a higher sale of a particular product as compared to expectations,

investor will tend to behaviour positively to this reported information. The prices of the stock of the company will go higher and information reported by the firm will be reflected in the stock prices. Moreover, the investors will also underestimate the worth of the stocks that could not perform during a short run. The investors with this attitude have a higher tendency of making systematic errors and predictions about the growth of the company may prove faulty (John et al., 2002).

A study was conducted by Fama & French in 1998 on the investment strategies on the investors trading in 13 stock exchanges of the world. They concluded that value stock generate higher returns as compared to glamour stocks. This situation was prevalent in 12 stock exchanges out of 13 stock exchanges of the world. The investors follow the strategy of glamour stocks by following the book value approach are not like to gain higher returns and the value premium rarely exists in the actual situation. This situation is prevails significantly despite the stock with smaller capitalization yield higher returns as compared to stocks with larger capitalization (Saleh, 2005).

The findings of the Fama & French are also supported by other studies. Sukarsono (2008) performed a study on the investment in value and glamour stocks at the Indonesian Stock Exchange. This study determined the value and glamour stock by following the price to book value approach. He studied 100 stocks in totality. This study also confirmed that value stocks are likely to generate higher returns in the long run as compared to glamour stocks in the long run. The glamour stocks may help the investors to accumulate more wealth in the short run but it is very risky decision to invest in these stocks. However, this study also finds out that a large number of investors are very much obsessed by the glamour stocks and they have a higher tendency to invest their capital in these stocks. Another important finding of this study is related to the size of the company. The superiority of value stocks is visible in case of large companies but value stocks do not occupy a superior position in case of smaller companies.

The investors who are largely inclined towards investing in glamour stocks are likely to make more errors in forecasting. These errors may have devastating effects on the investments. The investor target the glamorous stocks in quest of earning more returns but these glamorous stocks show more volatile behaviour in the market. This volatility may have devastating effects on the entire investment of the capital and under adverse circumstances they can even lose all of their invested capital. The investors who are obsessed with glamorous stocks forego the risk associated with these stocks and they only focus on the returns being generated by these stocks. This is extremely risky attitude of the investor and cannot be treated as a rational decision (Auxier, 2006).

The investor in the stocks markets of developed economies tend to surrender a heuristic simplification in their decision making process. There are various cognitive errors that are quite visible in the decision making. The investor run the risk of making these errors in quest of avoiding time taking analytical exercise and gaining higher returns in a short time. The glamour stocks are the best options for these investors as they feel that these stocks will increase their wealth in days. The heuristic simplification is even stronger in the emerging markets as the investors trading in these markets are not familiar with the mechanism of the market and risk evaluation techniques. The investor overestimates the value of the glamour stocks (Chen et al., 2004).

Religious beliefs are important part of investors' sentiments that affect the investment decision of an investor. There are concepts of faith based stock and sin stocks (Theodore, 2010). The faith based stocks are influenced by the sincerity and truthfulness. These stocks are in compliance with the faith in God and principles of social and religious norms. The investors following religious and social beliefs become very choosy while making the investment decisions. The foremost concern of these investors is compliance with religious and social norms. The investors who are overwhelmed by these religious beliefs are even ready to follow

their principles on the cost of higher returns (Emil et al., 2006). The sin stocks often show a superior risk return trade off but it is not important for the investors with religious beliefs (Liston & Soydemir, 2010). On the contrary, some other studies negate this notion. These studies argue that faith-based funds do not have negative effects on the performance of a portfolio when they are taken as a group because of the adjustment of risk. Rather these stocks are strongly correlated with portfolio of the market (Emil et al., 2006).

Religious beliefs of an investor restrict the investment options. It is very important to perform research on faith-based and sin stocks. The investors with religious beliefs do not invest in sin stocks regardless of their returns and market performance over a period of term. Although, there are many stocks that may be regarded as sin stocks by the investors and they have shown remarkable performance but the investors with religious beliefs are not interested in these stocks. They tend to stay away from these stocks. The demand of faith based stocks has experienced a growth in recent few years and many sin stocks have outperformed in the market (Liston & Soydemir, 2010). Some of the studies have investigated the religious sentiments of the investors but there are numbers of questions that are required by answered about the religious beliefs and investors' returns. The previous literature lacks a consistent finding about this relationship. It is still unknown that an investor following the social and religious norms can generate higher risk adjusted returns on not. Same is the case with the investor who is neglecting these social and religious norms. Therefore, there is a dire need to investigate that how these religious beliefs affect the overall returns of the investors in the market.

The popularity of faith-based stocks is rising but the empirical evidence of the performance of these stocks is inconclusive. Some o the studies have found that these stocks show a lower performance as compared to the conventional financial products being traded in the market. According to the study of Hussein & Omran (2005), faith-based stock yield lower

returns as compared to their other counterparts being traded in the market. Similar findings are also reported by Girard and Hassan (2005). However, some studies oppose such findings and they do not observe that faith-based stock under perform in the market as compared to their conventional counterparts (Naber, 2001; Hakim & Rashidian, 2004; Boasson et al., 2006).

The evidence regarding sin stocks is also inconclusive like faith-based stocks. According to Goodall (1994) sin stocks are more vulnerable to market volatility. They show a volatile behaviour in the long run. The study of Chen & Bin (2001) finds that sin stocks underperform as compared to other stocks in the market. They performed their studies on gaming stocks and further found that returns associated with these stocks are also affected by the gaming legislations. The study of Salaber (2007) reports very interesting findings. This study reports that sin stocks show a higher performance in a situation of recession as compared to the situation of expansion.

Many a time investors show their willingness to bear the financial cost in order to make a compliance with the social and religious norms. The superior returns of sin stocks are irrelevant for these investors (Kim & Venkatachalam, 2008). Lobe & Roithmeier (2008) performed study on faith-based and sin stocks. They constructed an index of approximately 700 companies and found that the performance of sin stocks is higher as compared to the stocks having compliance with social and religious norms. The study of Fabozzi et al. (2008) also reports similar findings. They stated that it is a common benchmark that sin stocks will outperform in the market. They argue that infringement of social norms cause generation of higher returns. The study of Hong and Kacperczyk (2009) finds that social norms have significant effects on performance of stocks. However, these effects are varying from time to time and from market to market.

The world economy has experienced many corporate scandals during the last few decades. Because of these scandals the investors are showing greater interest in ethical,

trustworthy and socially responsible investments (SRI). The growth of SRI securities have been observed during the last few years. This growth is observable both in absolute and relative terms. The investors who are inclined towards faith-based and SRI investments funds make the selection of various religious, social, and ethical criteria. The investors chose specific stocks for the investments on the basis of these criteria (Boasson et al., 2006). For instance, an investor following the religious and social norms may choose the companies who are promoting society-friendly environment, create equal opportunities and avoid the stocks of companies dealing in wine, tobacco and gaming etc.

The herding behaviour in finance is referred to collective actions of investors in the market. The investors imitate each other and their decisions are based on the actions of other investors. For instance, a group of investor may trade in a similar direction at a same time. The investors following herd behaviour do not perform the assessment and analysis at their own and they follow the trend of the market. These investors show a form of correlated behaviour in the market (Avery & Zemsky, 1998; Sias, 2004).

There can be several reasons behind this herding behaviour. The participants of a market often infer the information from other participants of the market. The investors react in accordance with the fundamental information arriving in the market. Many of the analysts merely show the herd behaviour to safeguard their reputation in the market (Kim & Pantzalis, 2003). The institutional investors tend to show the herd behaviour for the remuneration purpose (Sias, 2004). Many a time investors are irrational and they exhibit the herd behaviour because of the social and psychological conventions (Holmes et al., 2013).

Pierdzioch & Rülke (2012) argue that herd behaviour sometimes results in efficient outcomes, but it is also likely to bring stabilization to market prices by creating bubble like episode in the market (Wylie, 2005). There is widespread assumption in the market that herd behaviour is quite common among individual as well as institutional investors. This behaviour

is one of the prime reasons behind the stock market volatitliy and instability of prices (Rajan, 2006). Welch (2000) states, "Herding in financial markets, in particular, is often presumed to be pervasive, even though the extant empirical evidence is surprisingly sparse". However, the empirical evidence about the herd behaviour is quite inconclusive in the existing literature.

There is an important question about the herding behaviour i.e. is it rational to exhibit herd behaviour? Under some specific circumstances the herd behaviour is quite a rational choice for the investors. For example, money managers simple copy the actions of other managers to protection their reputation and remuneration. Similarly, young analysts are of the view that they can be fired if they do not show their consensus with the senior analysts (Devenow & Welch, 1996). It is similar to a bank run situation when depositors make contribution in the bank after seeing the long queues of other depositors outside the bank e.g. observed in case of Northern Rock.

According to Bikhchanadani & Sharma (2000), there are two types of herdings that are quite observable in the market. The first one is called "spurious hearding". This type of herding takes place when al the investors trading in the market face a similar kind of information and react in a similar way without knowing the actions of other investors. The other one is "intentional hearindg". This herding takes place when the investors intentionally mimic the actions of other investors. The first type of herding may result in efficient outcomes for the investors whereas, the other one may not generate higher returns but this type of herding increases the fragility of the stock market. Intentional herding is one of the major factor contributing towards the volatility of the market and overall systemic risk is increased in the market.

The mangers often exhibit the herding behaviour in the market to share the blame. They tend to find justification of their underperformance from herding (Rajan, 2006). The herding is visible in forecasting, evaluation and investment simultaneously. The herding is even more

common in the situations when the investors feel that the infroamtion available privately to them is inadequate for the decision making. Moreover, the herding behaviour may also prove a rational choice in case when the investors have a short term investment planning and they do not intend to go long for a longer period of time (Holmes et al., 2013).

Some of the authors are of the view that herding stems from the irrational behaviour of the investors and this behaviour give rise to bubble-like phenomenon. Moreover, non-rational herd behaviour also rises as a consequence of psychological restraints. The pressure from social circle plays an important role in this situation. The sociological factors have important implications for the investors. The market participants imitate each other. This imitation is more visible in the situation when market uncertainty is quite higher (Baddeley et al., 2004). The information scarcity is one of the fundamental reasons behind the herding behaviour.

Shleifer & Summers (1990) draw the line between arbitrageurs and noise traders. Arbitrageurs are fully rational. The term of noise traders was coined by Black (1986). These investors are not rational. The investments decisiones of noise traders are affected by the systematic biases. The changes in the demands of these investors are often irrational and they tend to to shown an irrational behaviour. Their decisions are not justified by the fundamental principles of investment. These investor often take the investment decision on the basis of advices given by the financial gurus or actions of the senior investors (Baker et al., 2009).

The economist have present various point of views about the investors' sentiments determining the investment patterns. These sentiments often lead to mispricing of assets. The investors often overreact of underreact to the information coming to the market. This inforamtion is understood and interpreted differently by the investors. But in uncertain situation, when some of the investor fail to understand and interpret this information, they go along the flow of the market and imitate the actions of other investors or act upon the advice of the financial analysts. Many a time when this uncertaintly is even more higher, the investors

do not make the their decisions on the basis of the information collected and analyzed privately but they base their decision on the advice and actions of other market participants. The motive behind this herding behaviour is to control the uncertainty. The slow dissemination of the inforamtion in the market leads to underreaction but it may cause overreation of the investors in the long run (Hong & Stein, 1999).

Henker et al. (2006) argue that herding is quite common in extreme market situations. The investors in this situation does not rely on their private information and analysis but they follow the trend of the overall market. The herding results in convergence of individual results in aggregate market return (Gleason et al., 2004). According to Sias (2004) institutions herd collectively and trading of these institutions takes place along with the momentum of the market. The herding is increase when the movement in the market are quite excessive.

The rational models of asset pricing and herding behaviour make remakrable predictions about the existence of cross-sectional standard deviation of returns. The market stress stipulate the following of herding behaviour specifically. The dispersion in the market will be wider when the investors will be following different types of information and analysis. All the securities being traded in the market do not have a same kind of sensitivity. The sensitivity of a security determines the dispersion in the market. The wide spread hearding behaviour, contrarily, will cause a lower dispersion in the market even in case of large market movements (Henker et al., 2006).

2.3. INVESTOR SENTIMENTS AND STOCK RETURNS

Investor sentiments create consistent mispricing when it is combined with the arbitrage risk (DeLong et al., 1990). Baker et al. (2009) provided empirical evidence that mispricing is a result of investor sentiments. There are four distinct way in which investor sentiments affects the real investment in the firm. Firstly, sometimes manager and investor have similar

sentiments about the future prospects of the firm. In this situation, sentiments will result in increasing the investment (McLean & Zhao, 2009). Secondly, managers surmise the information about the prospects from share prices. Therefore, inflated prices of shares lead the managers to conjecture the higher cash flows in future and lower discount rate. Both factors will cause more investment in firm (Morck et al., 1990). Thirdly, when the beliefs on investors are catered via investment, it results in higher firm value in the short run (Polk & Sapienza, 2009). Fourthly, many a time firms forego the investment in quest of external financing when the firm securities are undervalued. The investment and external financing will lead to an increase in sentiments in this situation (Baker et al., 2003).

Investor sentiments are observable in a situation when the price of a security deviates from the present value of future cash flows. This deviation occurs because of two main reasons. Firstly, the investor make ex ante evaluation of the various events occurring in the market that are likely to affect the value of the security. This evaluation is often biased that leads to the wrong decision making by the investor s (Kaustia et al., 2008). Secondly, the investor show an irrational reaction the ex post resolution of arising uncertainties in the market because of various reasons (Hirshleifer, 2001).

Bernile & Lyandres (2011) have explained the different in the above two explained form of sentiments with a simple example. They have assumed a firm that is facing an event whose outcomes are quite uncertain. Assume that a firm faces an event with an uncertain outcome. For the purpose of simplicity they further assumed that there are two possibilities about the realizations of value. The first possibility is related to the firm value after the occurring of event that has some probabilities. When the investors have the first type of sentiments then they will tend to be overly optimistic about the outcomes of the event and they believe that the probability of the good outcome is greater than actual likelihood. In this situation, the value of firm before the occurrence of the event that is equal to the present value

of firm after the event under the subjective probability distribution of the investor is higher than the expected value of the firm under the true probability distribution. Therefore, the change that is expected in the firm value after the event is negative. Under the second possibility, the investor may assign correct probabilities to the outcomes associated with the event but in order to resolve the embedded uncertainty they react in an emotional way. In this situation their valuation of the firm after the event is different for the true valuation of firm after the event. However, this difference between two valuations is not reflected in the pre-event value of the firm.

The two scenarios described above explain the role of investor sentiments in the market. The first scenario is referred to "immediate emotions" (Loewenstein, 2000). The firms' values after the events are efficient in this situation whereas pre-event values are not efficient. The second scenario is referred to "anticipated emotions". The firms' values before event are efficient but post even values are inefficient (Bernile & Lyandres, 2011). The biased expectations of the investors and their irrational decision have strong effects on the stock prices. It important to determine the efficiency of pre-event and post event prices of the firms' stock as it will lead the mangers to align their decisions. For instance, the decisions of a manager about making the real investment for the long term depends upon the factor that if the prices after the event are efficient or not. This efficiency of the post event prices of the firm is reflective of payoff from the investment in the future. The inefficiency of the post event prices is reflective of decline in earnings because of the investment in the short run (Edmans, 2009). The mangers exert costly efforts if they feel the market prices have the ability to incorporate the shirking effects. On the contrary, there are many researchers who have highlighted the importance of pre-event efficiency of the prices (Chirinko & Schaller, 2001; Gilchrist et al., 2005; Polk & Sapienza, 2009).

The approach of the behavioural finance was developed on the basis of anomalies with respect to efficient market hypothesis (EMH) that are observable in the capital markets. The behavioural finance deals with the psychology of investors in the finance. The behaviour finance is divided into two distinct categories. One is focused on the macro issues that deals with anomalies described in EMH. The other categories of behavioural finance deals with the micro elements including the psychological biases of the individual investors. The biases of the investors are in opposition to the rational behaviour of the investors as proposed by the classical economic theory, EMH and portfolio theory (Pompian, 2006).

2.4. SUMMARY OF LITERATURE REVIEW

The literature review has been prepared after making a thorough review of the existing literature. A blend of old and new studies have been consulted for the preparation of literature review in order to study the evolution of the ideas and the most recent developments as well. The literature is shows that investor sentiments are largely prevalent in all the investment decisions undertaken by the researchers. These investment decisions have important repercussions for the stocks returns of the investors. The sentiments are often referred to irrational behaviour of the investors. These investor sentiments often prove to be misleading. However, it is pertinent to note that the results about the nature of the relationship between investor sentiments and stock returns are quite inconclusive. There are quite conflicts results in the existing literature. Some of the studies show that particular investment behaviours have positive impact on stock returns while others report negative relationship between both.

3. THEORETICAL FRAMEWORK AND HYPOTHESES

The framework has been shown in Figure 1. This framework has been established after the extensive literature review. There is consensus among the researchers in the previous literature that investor sentiments have significant impact on stock returns. However, the nature of this impact is a controversial debate and literature shows inconclusive arguments and findings of the previous studies. Because of the lack of consensus and inconclusive findings the present study has formulated non-directional hypotheses. The direction will be determined through a comprehensive analysis.

Investor sentiment is the main independent variable in this study that has been shown as a construct in the framework provided in Figure 1. There are four key sentiments of the investors that have been chosen in the present study. The dependent variable of the study is stock returns of the investors. All the four key investor sentiments are being used as independent variables in the present study. The Table 1 provides the description of all taken variables.

3.1. HYPOTHESES

H1: Over confidence of the investor has a significant impact on stock returns.

H2: Investment in glamorous stocks yields returns for the investors.

H3: Religious and social beliefs have a significant impact on stock returns.

H4: The herd behaviour has a significant impact on stock returns.

Figure 1: Proposed Theoretical Framework

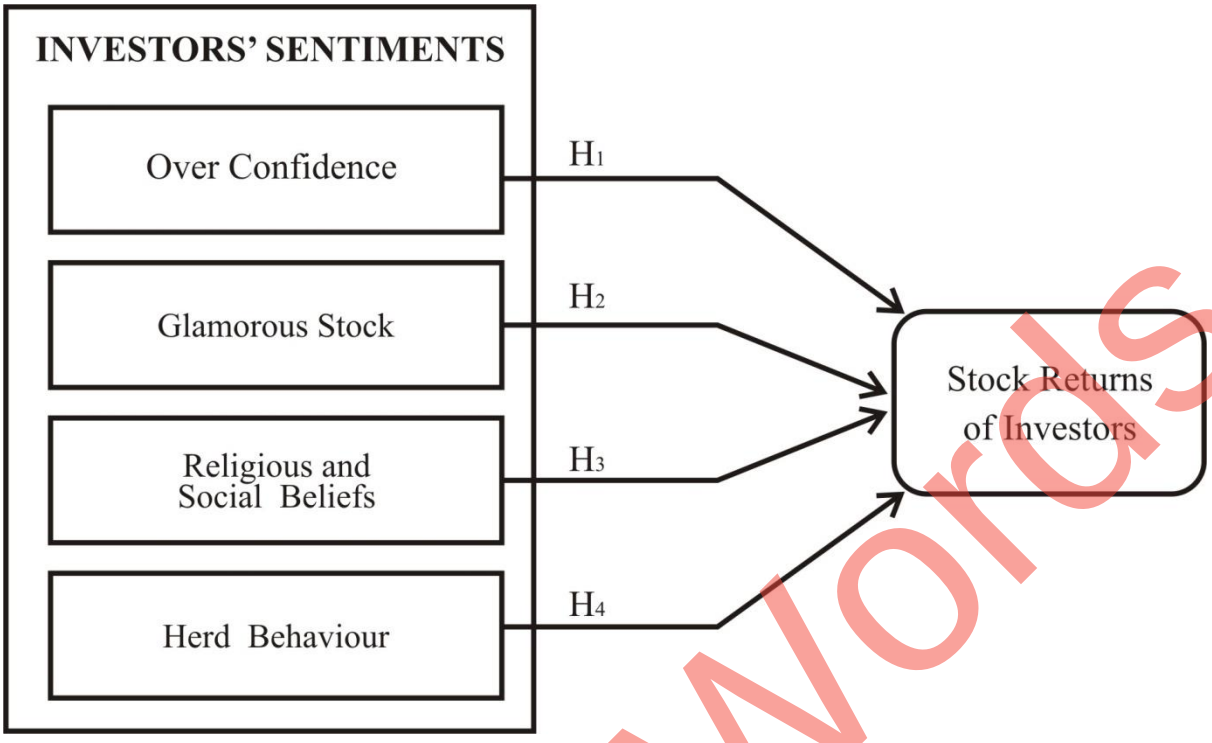


Table 1: *Description of Variables*

Variable	Definitions	Reference
Over Confidence	Overconfidence is self-deception behaviour that provides the understanding of an investor that he/she has better knowledge and information as compared to others in the market.	(Kufepaksi, 2007)
Glamour Stocks	The stocks are called glamour stocks when they attract a large number of investors because of the significant price increase during a sustained period of time	(Hasnawati, 2010)
Religious and Social Beliefs	Religious and social beliefs deals with faith-based and sin stocks. The investors make their decisions on the basis of their religious and social beliefs and returns associated with a particular stock are not important.	(Liston & Soydemir, 2010)
Herd Behaviour	The herding behaviour in finance is referred to a situation in which investors try to copy the actions of others in the market.	(Avery & Zemsky, 1998)

4. RESEARCH METHODOLOGY

4.1. PROLOGUE

This chapter of the study deals with the research methodology that is used for the completion of research. Research methodology occupies a central position in any research as it determines the validity and generalizability of the study. The reliability of a study stems from a rigorous research methodology. A researcher must take care of the necessary parameters of research while devising the research methodology. The researcher has ensured that all the necessary requirements of the study are fulfilled and all parameters of the researcher are taken well care of. The researcher has provided a brief overview of the various methodologies and then explained the chosen method among the explained ones. This explanation has been provided in order to support the selected method. This explanation well justifies the method adopted in the present study.

4.2. STUDY TYPE

The present study is a causal and Correlational study. This study endeavours to evaluate the role of investors' sentiments in stock returns earned by these investors. An investor considers a number of factors before making the investment decision. However, many a times an investor becomes very much obsessed with his own sentiments and take the decision under these sentiments. Therefore, these sentiments can have a significant impact on the returns generated by their investments. This study is evaluating this impact of investors' sentiments on stock returns. Hence, it is a causal study because the study hypothesize that there is a cause and effect relationship between investors' sentiments and stock returns.

4.3. STUDY CONTEXT

The study is being conducted in the context of London Stock Exchange (LSE). The study is focused upon the investors trading in London Stock Exchange. Their perceptions are being studied in this study. The study is taking in account the sentiments of the investors. The study is evaluating the level of sentiments of these investors and role of these sentiments in stock returns being earned by them. The study has collected the data in a natural environment and investors were not asked to perform any activity but they were only asked about the ongoing practices being followed by them.

4.4. STUDY PARTICIPANTS

The present study takes the investors trading in London Stock Exchange as elements of population. The study is focused on the personal sentiments of these investors that are affecting their investment decisions, resultantly affecting the stock returns. The investors' decisions are affected by various factors. Many a times, investors perform various kinds of analysis before taking the decision of investment. The markets are quite uncertain these days and it is really hard to take the decision in face of this high level of uncertainty. Apart from the analysis performed by these investors, many a time investors rely on the analysis of other investors or merely follow the market trend. Investors also have certain level of sentiments about different stocks. Some investors become more obsessed by these sentiments rather than the analysis of market. These sentiments can be misleading as they are far away from the true analysis of the market. The investors can only tell about their investments that overwhelm them during taking the investment decision. Therefore, the study is focusing on these investors. Alternatively, the researcher could have focused on analysts and market experts for collection of data but they would not have been provided accurate information about the sentiments level of the investors. Moreover, the study could have used the proxies but the accurate measurement of sentiments

was not possible in this case as well. Hence, the researcher has decided to focus on investors from LSE for data collection.

4.5. STUDY SAMPLE

A target population must be identified and sample should be selected from this population at design stage (Cooper & Emory, 1995). The present study has selected 200 investors from London Stock Exchange. The sample greater this number would have been very difficult to handle because of the cost and time constraints and other issues. Moreover, according to Sekaran (2003), a sample size greater than 30 and less than 500 is appropriate for a study. Thomas (2000) said that a sample of 200 is good enough for performing a comprehensive analysis, particularly in case of a study conducting survey. The response rate in the present study was 79%. The final data set was comprised on 158 respondents.

4.5.1. Sampling Design

Gupta (1993) argued that merely sample size cannot be considered a reliable source of making the sample representative. The selection procedure is also important in making the sample reliable and true representative of the population. The selection criteria for selection and non-selection of the elements in the population must be lucid (Oliver, 2003). However, a researcher may face some constraints while making the selection of the sample out of population. The present study is following purposive convenient sampling. The researcher is facing significant budget and time constraints. The selection of sample on probability sampling may involve significant time and cost. Therefore, keeping in view these constraints the researcher is following the sampling strategy based on convenient sampling. This is most appropriate sampling strategy when a researcher faces time and budget constraints (Cooper & Schindler, 2007).

4.6. RESEARCH APPROACH

The approach of a research is very important in determining the validity and generalizability of research. The researcher must choose carefully among the two widely used approaches in research i.e. qualitative and quantitative approach. Both approaches have some merits and demerits. These two approaches are being discussed briefly here.

Qualitative approach is widely used in studies of social sciences. The studies that are exploratory knowledge follow this approach. This approach is focused on performing the qualitative analysis. Different objects, events and things are explained in detailed in this philosophy. This is being argued to be very useful as it does not rely on a single method of data collection and analysis. In this way, detailed information is obtained through this approach. This approach is helpful in deep digging. The researchers following this approach are more likely to obtain more information about the matter under investigation. However, these researchers must keep in view that personal biasness of the researcher may not be possible to separate. This biasness may result in misleading results.

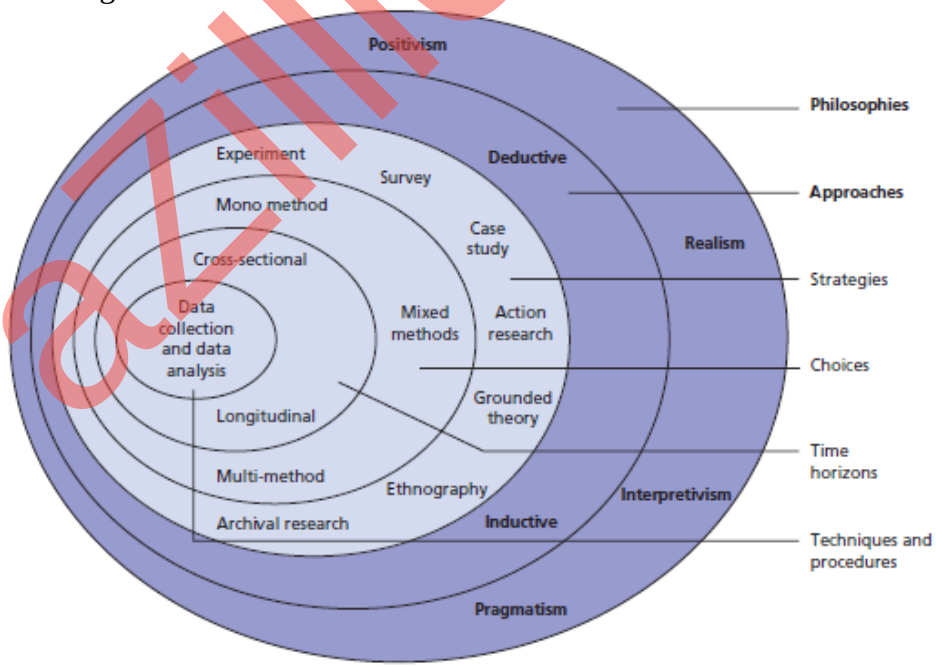
Quantitative approach is widely used in studies of economics and finance. However, the use of this approach in studies of management, marketing and other branches of social sciences has increased many folds. The basic feature of this approach is quantification of various events and objects. The variables being studied under this approach are quantified. This approach attempts to measure various phenomenons. This characteristic of quantitative approach makes this approach more reliable. The results obtained through this approach are not only reliable but not generalizable to a wider population. This research approach is also useful in controlling the biasness of researcher. The results may not get impaired by the biasness involved in these researches. However, the information content generated under this approach is limited. The researchers also argue that reliance on some specific instrument and methods may not prove to be beneficial for the study.

The researcher has decided to follow quantitative approach in this study. This approach is mainly selected for its ability to control the biasness of the researcher. Moreover, this approach generates reliable results for the study. The integration of both approaches is not possible in the present study. The integration of both methodologies entails a cost and time. The researcher has scarcity of funds and time available for the present study. Thus, researcher has decided to follow quantitative approach.

4.7. RESEARCH PHILOSOPHY

Philosophy of the research lays down the foundation of the study. The entire research is built around this philosophy. The philosophy guides the researchers to develop the most suitable methods for the completion of the research study. The philosophy deals with development of knowledge during this research. The nature of the developed model is also determined by the philosophy. Saunders et al. (2009) have provided a research onion in their book. This research onion explains four core philosophies. The research onion is placed as Figure 2.

Figure 2: Research Onion



A brief overview of the four research philosophies is being provided below:

i) Positivism: This philosophy is quite close to the point of view of natural scientists. The researchers who tend to follow this philosophy work on the socially observable phenomenons. The generalization of some law is usually end product of this philosophy. The researchers following this philosophy follow a very structured methodology. The element of flexibility is missing from this philosophy. The researcher following this approach develops the hypotheses that are tested and results are generalized.

ii) Realism: This philosophy deals with the scientific inquiry of various phenomenons. This philosophy states that reality is usually judged on the basis of five human senses. The realities in the real life are quite different from the perceptions. This philosophy is opposite to idealism. The researcher following this philosophy must understand that perceptions are different from realities

iii) Interpretivism: This philosophy is of the view that systems in the current financial and management systems are quite complex and a single method cannot be used to fully understand them. Therefore, a research must use different methods to fully interpret the mechanism or phenomenon being studied in a research. A researcher following this philosophy should comprehend the differences prevailing between human beings and other objects and events etc. This philosophy emphasize upon treating the human beings as social actors.

iv) Pragmatism: This research philosophy states that some research questions are more appropriate to answer as compared to others. A researcher may revisit the research questions carefully. This philosophy is very appealing as it emphasize that a researcher must follow a research approach. The reliance on a single

method may not generate useful results. This philosophy focuses on integration of two research approaches explained earlier. This integration results in generation of wider information that may enhance the understanding and knowledge of the researcher and reader about the underlying phenomenon.

The present study is following the philosophy of positivism. This philosophy is more useful in performing a reliable analysis of the matters under investigation. The researcher in the present study is following a highly structured methodology. This methodology has been carefully planned. The researcher has also developed hypotheses that are tested at the end of this study. These hypotheses will be tested on the basis of the results obtained from statistical analysis of the collected data. The researcher will generalize the findings of the present study on the basis of use of positivism philosophy.

4.8. DATA FOR STUDY

Data occupies a core position in any research. The findings of the study are drawn on the basis of the data. A reliable study is actually a product of reliable data. The researcher has ensured that all the necessary parameters for collection of a requirement of data are met. A researcher may use data of different types and nature depending upon the purpose and type of study. Data can be categorized into two main types:

i) Primary Data: Primary data is also called the first hand data. The data does not have any prior existence. This data is collected and generated at the same time. The data is solely collected for specific studies. The data is not used in other studies and is purely in line with the purpose of the present study. Because of this feature of data, this data is referred to pure data. However, there can be some questions raised with respect to reliability of the data because of the involvement of human element in this data. The respondents may provide biased responses. This biasness can be controlled to some

extend by ensuring the reliability and validity of the instrument used for the purpose of data collection.

ii) Secondary Data: This data is available before the collection of the data. The data has prior existence. The data is generated ahead of its collection. The same data can be used for several studies. The data does not have the characteristics of exclusivity. This data is not prepared by keeping in view any research study, so the purpose of biasness with respect to research studies is not involved in this data. However, other biasness like windows dressing is quite common in this type of data.

The data can be divided into three main categories by nature:

i) Cross Sectional Data: This type of data is collected on a single time period. The different elements of the population provide this data. This data is not time bound. The missing time factor is the main feature of this type of data. This type of data is quite common in one shot studies conducting surveys.

ii) Time Series Data: This data is quite common in studies of economics and finance. This data is collected about a certain element of the population over a specific period of time. This data is time bound data. The time factor is the main feature of this data.

iii) Panel Data: Panel data is widely used in studies of finance. This data combines the features of cross sectional and time series data. This data is collected from different elements of the population (feature of cross sectional data) for a specific period of time (feature of time series data). This data is quite useful as it addresses the problems of shortage of data by increasing the number of observations.

The present study is a one shot study that will not be repeated. Moreover, the targeted population of the present study is comprised of investors. The researcher has conducted a survey to collect the data from these investors. This data is being produced for the first time and collected at the time of production. The data is being generated exclusively for the present

study. Therefore, the data collected for the present study is primary data. Moreover, the data collected for the present study is being collected for a single time period; therefore, the data is cross sectional in nature.

4.9. DATA COLLECTION

The data in the present study is being collected through self-administered and web based questionnaires. The respondents are often concerned about the data collected from them. They are concerned that their identity can be revealed after the collection of data and it may raise serious problems for them in the organization. The organization may penalize them from providing the information of organization to outsiders. Here the data is being collected from investors and they have been asked to provide the information about their sentiments that may influence their investment behaviour. Therefore, fear of penalization is not prevalent in this case for the investors who are independently investing by using their own wealth. However, despite this fact that researcher has ensured that the secrecy of the investors have been maintained. The researcher has tried to explain to the respondents that their confidentiality is being strictly maintained and no respondent is being identified in individual capacity. The data provided by them is purely used for the purpose of research only. The researcher has provided a detailed cover letter in beginning of research for this purpose. The apprehensions of the respondents have been addressed in this cover letter.

4.9.1. Instrument

The data has been collected through a questionnaire. This questionnaire is being referred as 'instrument' here as it is being used for measurement of variables under study. The instrument is comprised of 23 items apart from demographic variables. These 23 items are

related to 5 variables (4 independent variables and 1 dependent variable). The researcher has developed the instrument on the basis of many of previous studies.

4.9.2. Measurement Scale

The selection of an appropriate measurement scale must be made carefully. The accuracy of the scores of the test applied to the data depends upon the measurement scale. The researcher in this study has used a five point likert scale. This scale was developed to seek the agreement of the respondents on the statements asked from then in this survey. The range of this questionnaire is from 1 to 5 where 1 stands for 'Strongly Disagree' and 5 is used for 'Strongly Agree'. Apart from the questions related to the main variables of the present study, a section comprising of demographic variables was also made a part of the research study. The demographic information about the respondents was collected from perform comparisons between different demographic categories.

4.9.3. Validity Testing

The researcher has tested the validity of the developed instrument before floating the same for purpose of data collection. The researcher checked the instrument for content and construct validity. The instrument was discussed with different investors in the market for content validity. The instrument was discussed with academicians for the purpose of construct validity. The suggestions of academicians and practitioners were incorporate in the developed instrument.

4.10. DATA ANALYSIS

The collected data has been entered into SPSS 20. A series of tests have been performed for a comprehensive analysis. The main analysis performed in the present study is regression

analysis that is applied on the collected data to evaluate the impact on investors' sentiments on stock returns earned by the investors. However, many other tests have been performed before performing the regression analysis. The researcher has performed the demographic analysis first to observe the sample characteristics. Demographic analysis is important to understand the applicability of the study.

The present study is following survey technique for the collection of the data. The variables under consideration (investors' sentiments) are not directly measureable and an instrument has been used for the measurement of investors' sentiments. Therefore, it is important to authenticate the reliability of the instrument. The reliability of the instrument has been evaluated through measure of inter-item consistency i.e. Cronbachα. This reliability has been tested on two stages. Firstly, the reliability has been tested on pilot testing stage. This pilot testing has been conducted to avoid any discrepancies in the instrument at a later stage and reliability of the instrument has been checked at earlier stage to avoid the wastage of time.

After testing the reliability the researcher has performed the tests of measure of difference. There are two main tests performed here. One is t-test and other one is One Way ANOVA with extension of Post Hoc Tuckey Test. The independent sample t-test has been performed to evaluate the differences with respect to sentiments in male and female investors. The results of this test show that who is more obsessed with sentiments while trading in the market. One Way ANOVA (Analysis of Variance) has been performed to evaluate the differences with respects to sentiments in two demographic categories. One category is the age groups and other category is education group. The differences in sentiments have been examined in respondents with different age groups and different educational backgrounds. These highlighted differences are important to understand the level and nature of the investor sentiments that are operational during the investment decisions taken by these investors.

After applying the tests of measure of difference, the researcher has performed the main analysis to evaluate the impact of investors' sentiments on stock returns. This is done through regression analysis. However, there are certain assumptions that should be checked before applying the regression results. These assumptions are important in assessing the reliability and generalizability of the results of regression analysis. There are following six assumptions that have been tested here in this study before applying regression analysis.

i. Normality of the Data: This assumption states that data must be normal. This assumption is tested through skewness and kurtosis in this study.

ii. Linearity in Variables: According to this assumption, there must be a linear relationship between independent and dependent variables. This assumption has been tested here with correlation matrix.

iii. Homogeneity of Variance: The variances in variables must be homogeneous. This assumption has been tested through Leven's Statistics.

iv. Absence of Outliers: There should be no outliers in the data, as per this assumption. The assumption has been tested through box plot.

v. Normal Distribution of Error Terms: The error terms computed during the regression analysis must have a normal distribution. The assumption has been tested with the help of histogram.

vi. Absence of Multicolinearity: This assumption states that all the independent variables must be independent of each other otherwise individual impact of some variables may become difficult to evaluate in case of normality of the data. The assumption has been tested through VIF and Tolerance values.

After testing the assumptions of regression, the researchers have fairly reported all the results of these assumptions. Afterwards, regression analysis has been performed to evaluate the impact of investors' sentiments on stock returns. The researchers has performed the

regression analysis with enter method and stepwise regression. The regression with enter method has been performed to evaluate the overall impact of all the sentiments on stock returns and stepwise regression has been performed to identify the most significant sentiments and examine their impact on stock returns.

4.11. LIMITATIONS OF THE STUDY

The present study has certain limitations. The current study is focused on investors sentiments and stock return. Stock returns can be measured accurately with the help of secondary data. However, investor sentiments cannot be measured directly. The researchers can either use some proxies that may deploy secondary data or a questionnaire can be used for measurement of these sentiments. The researcher is using questionnaire in the present study to measure the sentiments and stock returns are also being measured with the help of instrument in order to maintain the uniformity of data. Therefore, the researcher has to rely on the statements provided by the investors who are respondents of the present study.

The present study is also has the limitations related to sample of the study. The study is only focused on LSE so the study may not be generalizable to investors trading in other stock exchanges across the globe. Moreover, the sample has been chosen on the basis of convenient sampling because of the cost and time constraints faced by the researchers.

The researcher is only focusing on quantitative approach in the present study. The focus on this approach only is likely to generate limited information. The researcher may generate a wider content of information on qualitative approach or integrating both approaches. The integration can be more useful as it will generate wider information at one end and on other end it will control the biasness of the researcher.

4.12. ETHICAL CONSIDERATIONS

A good research study is strictly in compliance with the ethical standards of the research. A researcher is always supposed to follow ethical practices while performing a research. The researcher in present is also following ethical practices and compliance with ethical standards has been ensured by the researcher. The researcher has ensured that no respondent is identified in individual capacity. The confidentiality of the respondents has been maintained at all levels. Moreover, the respondents were not forced for the provision of data. The researcher did not use any coercive means for collection of data. The respondents were provided ample time to provide the data. This was helpful in obtaining unbiased data.

5. RESULTS AND ANALYSIS

5.1. PROLOGUE

This chapter of the study deals with the results that have been obtained after applying various statistical tests on the data collected during this study. Results are very important in any empirical study as they provide the findings of the study. The findings of the study become more reliable when they are based on the results of the widely recognized statistical tools. These findings extend the validity of the study. The generalizability of the study becomes wider when results findings are based on reliable results. It is responsibility of a researcher to fulfil all the basic requirements of the statistical tools before applying these tools. The researcher in the present study has ensured that all the parameters of have been met before applying the results. The researcher has reported all the results in detail in this chapter. These results have been thoroughly interpreted. The findings of the study on the basis of these results have been highlighted at the end of this chapter.

5.2. RELIABILITY ANALYSIS

The variables taken in the present study are not directly measureable, except stock returns. The investor sentiments focused in the present study cannot be measured directly. The researcher has used an instrument (questionnaire) for the measurement of these variables. Therefore, it is necessary to check the reliability of the instrument used for the collection of data in the present study. As reported earlier in chapter 4, the reliability has been tested twice in the present study. Firstly, the reliability has been tested during the pilot testing stage. Results of pilot testing stage have been reported in Table 2. This table shows that the values of Cronbach's Alpha for all the variables are above 6. Thus, reliability of the instrument at pilot stage testing was proved and further data collection was performed after this.

Table 2: Reliability Analysis (Pilot Testing)

Variable	Cronbach's Alpha	N
Overconfidence	.678	5
Glamour Stock	.614	4
Religious Beliefs	.732	5
Herd Like Behaviour	.692	5
Stock Returns	.617	4

Secondly, the reliability of the instrument has been tested after the completion of data collection process. This reliability has been tested to ensure that the instrument is still reliable after completing the process of data collection. The results of this reliability are reported here in Table 3. These results also show that values of Cronbach's Alpha for all the variables are still above the acceptable benchmark of 0.6. Thus, reliability of the instrument at both stages has been confirmed by the results reported in Table 2 and Table 3.

Table 3: Reliability Analysis (Final)

Variable	Cronbach's Alpha	N
Overconfidence	.784	5
Glamour Stock	.745	4
Religious Beliefs	.894	5
Herd Like Behaviour	.697	5
Stock Returns	.781	4

5.3. DESCRIPTIVE STATISTICS

Descriptive statistics are very important in evaluating the overall attitude of the respondents. The results of descriptive analysis are reported in Table 4. The values of minimum

and maximum are shown in this table. These values are showing the range of the values of the various variables. These values are showing here that dispersion in the values of the variable is not too high. It is very much under control here. The same thing has also been confirmed by the standard deviation. However, the largest dispersion is observable in herd like behaviour.

The mean value is measure of central tendency. The results provided here in Table 4 shows that investors do not show their inclination towards overconfidence, glamour stock and religious beliefs. The investors seem quite mature and they understand that overconfidence can be slayer for their investment activities. They also have a very good understanding that it can be quite risky to invest in glamour stock. Moreover, most of the investors are of the view that religion must be kept separate from investment activities. However, herd like behaviour has been found quite common in the market. There are many investors who are following other investors in the market in order to decide their investment pattern. The investors in the market are also getting good returns. The returns are not too high but the value of 3.71 shows a satisfactory position of returns earned by the investors.

Table 4: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Overconfidence	158	2	4	2.64	.540
Glamour Stock	158	2	4	2.67	.507
Religious Beliefs	158	2	5	2.16	.604
Herd Like Behaviour	158	2	5	4.12	.726
Stock Returns	158	3	5	3.71	.460

5.4. INDEPENDENT SAMPLE T-TEST

Independent sample t-test has been performed to evaluate the differences between the sentiments of male and female investors taken in the sample of the present study. The results have been reported in Table 5 and Table 6. Table 5 shows the results of independent sample t-test and Table 6 show the results of group statistics. This tables first reports the results of Levene's test. Levene's test the primary assumption of independent sample t-test i.e. homogeneity of variance.

The value of *F*-Statistics for overconfidence, glamour stock, religious beliefs, herd like behaviour and stock returns are .002 ($p > 0.05$), 1.037 ($p > 0.05$), .825 ($p > 0.05$), 2.060 ($p > 0.05$) and 1.232 ($p > 0.05$) respectively. These values authenticate the homogeneity of variance for all the variables. Therefore, independent sample t-test can be processed here.

The value of *t*-statistics for overconfidence is -1.152 ($p > 0.05$). This value shows that null hypothesis is accepted here i.e. there are no differences among male and female. There are no significant differences proved among the perception of male and female investors with respect of overconfidence. Although, table 6 shows that female investor are more overconfident but the mean value of overconfidence for male customers are quite close to each other and mean difference is quite nominal. Male and female investors are having an almost equal level of overconfidence about making investment in the market.

The value of *t*-statistics for security risk is 2.439 ($p < 0.05$). This value shows that null hypothesis is rejected here i.e. there are no differences among male and female. There are significant differences proved in inclination of male and female investors towards glamorous stocks. Table 6 shows mean value of glamour stock for male is 2.53 and for female this value is 2.88. By looking at these two values, it quite clear that both male and female are not much attracted towards glamour stock but female investors still have a higher inclination towards glamour stocks as compared to male investors.

Table 5: Independent Sample T-Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Overconfidence	Equal variances assumed	.002	.967	-1.152	156	.251	-.111	.096	-.302	.079
	Equal variances not assumed			-1.090	68.134	.280	-.111	.102	-.314	.092
Glamour Stock	Equal variances assumed	1.037	.155	2.439	156	.016	-.357	.089	.041	.394
	Equal variances not assumed			2.497	79.026	.015	-.357	.087	.044	.391
Religious Beliefs	Equal variances assumed	.825	.365	-2.279	156	.024	-.243	.106	-.453	-.032
	Equal variances not assumed			-2.497	91.583	.014	-.243	.097	-.436	-.050
Herd Like Behaviour	Equal variances assumed	2.060	.082	-1.213	156	.003	-.364	.130	-.413	.099
	Equal variances not assumed			-1.259	81.325	.004	-.364	.125	-.406	.091
Stock Returns	Equal variances assumed	1.232	.314	-3.774	156	.000	.298	.079	-.454	-.142
	Equal variances not assumed			-4.198	94.858	.000	.298	.071	-.439	-.157

The value of *t*-statistics for religious beliefs is -2.279 ($p < 0.05$). This value shows that null hypothesis is rejected here i.e. there are no differences among male and female. There are significant differences proved among the religious beliefs of male and female investors. The table 6 shows that male investors have more strong religious beliefs as compared to male investors. The mean value of religious beliefs for male investors is 2.69 whereas this value is 2.93 for female investors.

Table 6: Groups Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Overconfidence	Male	115	2.61	.521	.049
	Female	43	2.72	.588	.090
Glamour Stock	Male	115	2.53	.506	.047
	Female	43	2.88	.481	.073
Religious Beliefs	Male	115	2.69	.624	.058
	Female	43	2.93	.510	.078
Herd Like Behaviour	Male	115	3.28	.740	.069
	Female	43	3.64	.682	.104
Stock Returns	Male	115	3.93	.466	.043
	Female	43	3.63	.368	.056

The value of *t*-statistics for herd like behaviour is -6.213 ($p < 0.05$). This value shows that null hypothesis is rejected here i.e. there are no differences among male and female. There are significant differences proved among herd like behaviour of the investors. The table 6 shows that female investors have a higher tendency to follow herd like behaviour. The mean

value of herd like behaviour for male investors is 3.28 whereas this value is 3.64 for female investors. Female investors tend to follow others while deciding their investment pattern.

The value of *t*-statistics for stock returns is -3.774 ($p < 0.05$). This value shows that null hypothesis is rejected here i.e. there are no differences among male and female. There are significant differences proved among the returns earned by male and female investors. The table 6 shows that male investors are earning higher returns in the market. The mean value of stock returns for male investors is 3.93 whereas this value is 3.63 for female investors.

The overall results of the independent sample t-test shows that female investors have higher sentiments as compared to male investors. Especially, they have a higher tendency to follow other investors while making their investment decision. The male investors are earning higher returns but they have lower inclination towards sentiments. Thus, it points out that people with high involvement of their sentiments in investment activities are likely to earn lower returns in the market.

5.5. ONE WAY ANOVA (AGE)

One way ANOVA has been computed to evaluate the differences in sentiments of investors for various age groups. Age has been used as a categorical variable in this analysis. This analysis has been performed as people gain more experience with their age. Therefore, age is an important factor in investment decision.

The ANOVA has been computed with the extension of Post Hoc Tuckey Test. ANOVA provide the information if there are significant differences in various groups with respect to variables and Post Hoc Tuckey Test provides the details of the nature of these differences and helps to rank different groups as per their sentiment measured with the help of mean values. However, before applying one way ANOVA, homogeneity of variance was tested as it is a primary assumption for all of parametric tests.

Table 7: One Way ANOVA (AGE)

		Sum of Squares	Df	Mean Square	F	Sig.
Overconfidence	Between Groups	14.451	3	4.817	23.662	.000
	Within Groups	31.351	154	.204		
	Total	45.802	157			
Glamour Stock	Between Groups	9.462	3	3.154	15.720	.000
	Within Groups	30.897	154	.201		
	Total	40.359	157			
Religious Beliefs	Between Groups	12.554	3	4.185	14.433	.000
	Within Groups	44.650	154	.290		
	Total	57.204	157			
Herd Like Behaviour	Between Groups	10.328	3	3.443	7.318	.000
	Within Groups	72.450	154	.470		
	Total	82.778	157			
Stock Returns	Between Groups	4.193	3	1.398	7.428	.000
	Within Groups	28.975	154	.188		
	Total	33.168	157			

The results of ANOVA with age group have been reported in Table 7. The value of *F*-Statistics for overconfidence, glamour stock, religious beliefs, herd like behaviour and stock returns are 23.662 ($p < 0.05$), 15.720 ($p < 0.05$), 14.433 ($p < 0.05$), 7.318 ($p < 0.05$), and 7.428 ($p < 0.05$) respectively. These values show that significant differences are found in age groups

with respect to all variables. Therefore, it is important to evaluate to results of Tuckey's HSD to understand the nature of these differences.

The results of Post Hoc Tuckey Test have been reported in Table 8. This table shows that investors from the age category of 21-30 have a higher level of overconfidence whereas people from age category of above 50 have lowest level of overconfidence. The results show that young people are more overconfident. The people with higher age are experienced people. They are not much overconfident. They take utmost care while taking the investment decision. Moreover, young investors have a higher tendency to take risk but old age people want to preserve their hard earned money and they don't want to take higher risk.

The results of Post Hoc Tuckey test for the variable of glamour stock show that people with higher age have a low inclination toward glamour stock. The people from the age category of 21-30 have the highest inclination towards glamour stock. Young people are of the view that easily attracted by the glamorous characteristics of a stock. They feel that these stock with generate higher returns for them. The old people have experience of dealing with these stocks. Therefore, they do not take their decision merely on the basis of glamorous features of the stock.

The results of Post Hock Tuckey Test for variable of religious beliefs are very interesting. Here the situation has been reversed as compared to other variables. The people with high age have more strong religious beliefs. Young people are quite enthusiastic and they are of the view that religion should be included in the investment activities. Therefore, people from the age category of 21-30 have the lowest value of religious beliefs.

Table 8: Tuckey's HSD (AGE)

Dependent Variable	(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Overconfidence	21-30	31-40	.780*	.126	.000	.45	1.11
		41-50	1.014*	.130	.000	.68	1.35
		Above 50	1.063*	.140	.000	.70	1.43
	31-40	21-30	-.780*	.126	.000	-1.11	-.45
		41-50	.234*	.086	.036	.01	.46
		Above 50	.283*	.100	.027	.02	.54
	41-50	21-30	-1.014*	.130	.000	-1.35	-.68
		31-40	-.234*	.086	.036	-.46	-.01
		Above 50	.049	.105	.966	-.22	.32
	Above 50	21-30	-1.063*	.140	.000	-1.43	-.70
		31-40	-.283*	.100	.027	-.54	-.02
		41-50	-.049	.105	.966	-.32	.22
Glamour Stock	21-30	31-40	.529*	.125	.000	.20	.85
		41-50	.773*	.129	.000	.44	1.11
		Above 50	.854*	.139	.000	.49	1.21
	31-40	21-30	-.529*	.125	.000	-.85	-.20
		41-50	.244*	.085	.024	.02	.47
		Above 50	.325*	.099	.007	.07	.58
	41-50	21-30	-.773*	.129	.000	-1.11	-.44
		31-40	-.244*	.085	.024	-.47	-.02
		Above 50	.081	.104	.864	-.19	.35
	Above 50	21-30	-.854*	.139	.000	-1.21	-.49
		31-40	-.325*	.099	.007	-.58	-.07
		41-50	-.081	.104	.864	-.35	.19
Religious Beliefs	21-30	31-40	.838*	.151	.000	.45	1.23
		41-50	.498*	.155	.009	.10	.90
		Above 50	.938*	.167	.000	.51	1.37
	31-40	21-30	-.838*	.151	.000	-1.23	-.45
		41-50	-.339*	.103	.006	-.61	-.07
		Above 50	.101	.119	.834	-.21	.41
	41-50	21-30	-.498*	.155	.009	-.90	-.10
		31-40	.339*	.103	.006	.07	.61
		Above 50	.440*	.125	.003	.12	.76
	Above 50	21-30	-.938*	.167	.000	-1.37	-.51
		31-40	-.101	.119	.834	-.41	.21
		41-50	-.440*	.125	.003	-.76	-.12

		31-40	.808*	.192	.000	.31	1.31
	21-30	41-50	.389	.197	.203	-.12	.90
		Above 50	.575*	.212	.037	.02	1.13
		21-30	-.808*	.192	.000	-1.31	-.31
	31-40	41-50	-.419*	.131	.009	-.76	-.08
Herd Like		Above 50	-.233	.152	.420	-.63	.16
Behaviour		21-30	-.389	.197	.203	-.90	.12
	41-50	31-40	.419*	.131	.009	.08	.76
		Above 50	.186	.159	.648	-.23	.60
		21-30	-.575*	.212	.037	-1.13	-.02
	Above 50	31-40	.233	.152	.420	-.16	.63
		41-50	-.186	.159	.648	-.60	.23
		31-40	-.263	.121	.137	-.58	.05
	21-30	41-50	-.535*	.125	.000	-.86	-.21
		Above 50	-.266	.134	.200	-.61	.08
		21-30	.263	.121	.137	-.05	.58
	31-40	41-50	-.272*	.083	.007	-.49	-.06
		Above 50	-.003	.096	1.000	-.25	.25
Stock Returns		21-30	.535*	.125	.000	.21	.86
	41-50	31-40	.272*	.083	.007	.06	.49
		Above 50	.269*	.101	.041	.01	.53
		21-30	.266	.134	.200	-.08	.61
	Above 50	31-40	.003	.096	1.000	-.25	.25
		41-50	-.269*	.101	.041	-.53	-.01

The results of Post Hoc Tuckey Test for herd like behaviour shows that people from the age category of 21-30 have the higher tendency to follow others. They are new comers in the market and they are of the view that other people who are investing before them have better knowledge of the market. Therefore, it is better to follow them in investment. The value of herd like behaviour is lowest for the age category of Above 50. These are experienced people and they have a sound knowledge of the market. Therefore, they don't need to follow others for their investment decisions.

The results of Post Hoc Tuckey Test for herd like behaviour are very interesting. Although, the results shows that people from the age category of 21-30 are earning lowest stock returns but people from the age category of Above 50 are not generating highest returns. The

highest returns are generated by the people from the age category of 41-50. Young people are more enthusiastic and they have higher tendency to take risk in the market. They take high risk in quest of earning high returns. Many a times they take uncalculated risk that results in higher losses. On the other hand, old people do not want to take high returns but they want to preserve their investment. Therefore, they don't earn higher returns in the market. The people from the age category of 41-50 are quite mature people and they have a very good experience of the market. They have the ability to make a proper assessment of the market before making the investment decision. They take risk but a calculated one. Therefore, they earn highest stock returns in the market.

5.6. ONE WAY ANOVA (EDUCATION)

One way ANOVA has also been computed to evaluate the differences in sentiments of investors for various groups of people having diverse education. Education has been used as a categorical variable in this analysis. This analysis has been performed as people education is very important in investment activities. The people having a good education, especially financial education, have the ability to perform a thorough analysis before making the investment decision. The people with higher education may not rely on their personal sentiments but their decisions are based on concrete analysis.

The results of ANOVA with education have been reported in Table 9. The value of *F*-Statistics for overconfidence, glamour stock, religious beliefs, herd like behaviour and stock returns are 2.389 ($p > 0.05$), 1.546 ($p > 0.05$), 1.445 ($p > 0.05$), .064 ($p > 0.05$), and .482 ($p > 0.05$) respectively. These values show that there are insignificant differences various education groups with respect to all variables. Therefore, it is become irrelevant to evaluate to results of Tuckey's HSD. This is quite surprising but the results show that people from different educational backgrounds have almost similar sentiments.

Table 9: One Way ANOVA (Education)

		Sum of Squares	Df	Mean Square	F	Sig.
Overconfidence	Between Groups	2.037	3	.679	2.389	.071
	Within Groups	43.765	154	.284		
	Total	45.802	157			
Glamour Stock	Between Groups	1.180	3	.393	1.546	.205
	Within Groups	39.179	154	.254		
	Total	40.359	157			
Religious Beliefs	Between Groups	1.566	3	.522	1.445	.232
	Within Groups	55.638	154	.361		
	Total	57.204	157			
Herd Like Behaviour	Between Groups	.103	3	.034	.064	.979
	Within Groups	82.675	154	.537		
	Total	82.778	157			
Stock Returns	Between Groups	.309	3	.103	.482	.695
	Within Groups	32.859	154	.213		
	Total	33.168	157			

5.7. REGRESSION ASSUMPTIONS

There are six core assumptions of regression tested in this study. The results of these regression assumptions are provided below and explained briefly.

5.7.1. Normality of Data

Normality is the primary assumption for all parametric tests. Regression analysis is also a parametric test; therefore, normality has been tested before applying regression. The results are provided in Table 10. The table shows the values of skewness and kurtosis. The values of these two measures of normality are within the acceptable range of -1/+1 for all variables. Therefore, normality is proved here.

Table 10: Normality Testing

	N	Skewness		Kurtosis	
Overconfidence	158	.623	.193	-.225	.384
Glamour Stock	158	.718	.193	-.778	.384
Religious Beliefs	158	.731	.193	-.153	.384
Herd Like Behaviour	158	.011	.193	-.529	.384
Stock Returns	158	-.053	.193	-.746	.384

5.7.2. Linearity

Linearity is the second important assumption of regression. According to this assumption there must be a linear relationship between all IVs and DV. This assumption has been tested through correlation matrix. The results are provided in Table 11. The results reported here shows that correlations values of overconfidence, glamour stock, religious beliefs and herd like behaviour with stock returns are .017 ($p > 0.05$), .077 ($p > 0.05$), .180 ($p < 0.05$), .and 467 ($p < 0.05$). These results show that variables of religious beliefs and herd like behaviour have significant relationship with stock returns of the investors. The linearity assumption has been proved for two variables out of four independent variables taken in this study.

Table 11: Linearity Testing

	Overconfidence	Glamour Stock	Religious Beliefs	Herd Like Behaviour	Stock Returns
Overconfidence	1				
Glamour Stock	.820**	1			
Religious Beliefs	.698**	.593**	1		
Herd Like Behaviour	.294**	.321**	.426**	1	
Stock Returns	.017	.077	.180*	.467**	1

5.7.3. Homogeneity of Variance

Homogeneity of variance has been tested with the help of Levene statistics. The results are provided in Table 12. The results show that significance value for the variables religious beliefs and herd like behaviour is above 0.05. Therefore, homogeneity of variance has been proved for two variables here.

Table 12: Test of Homogeneity of Variances

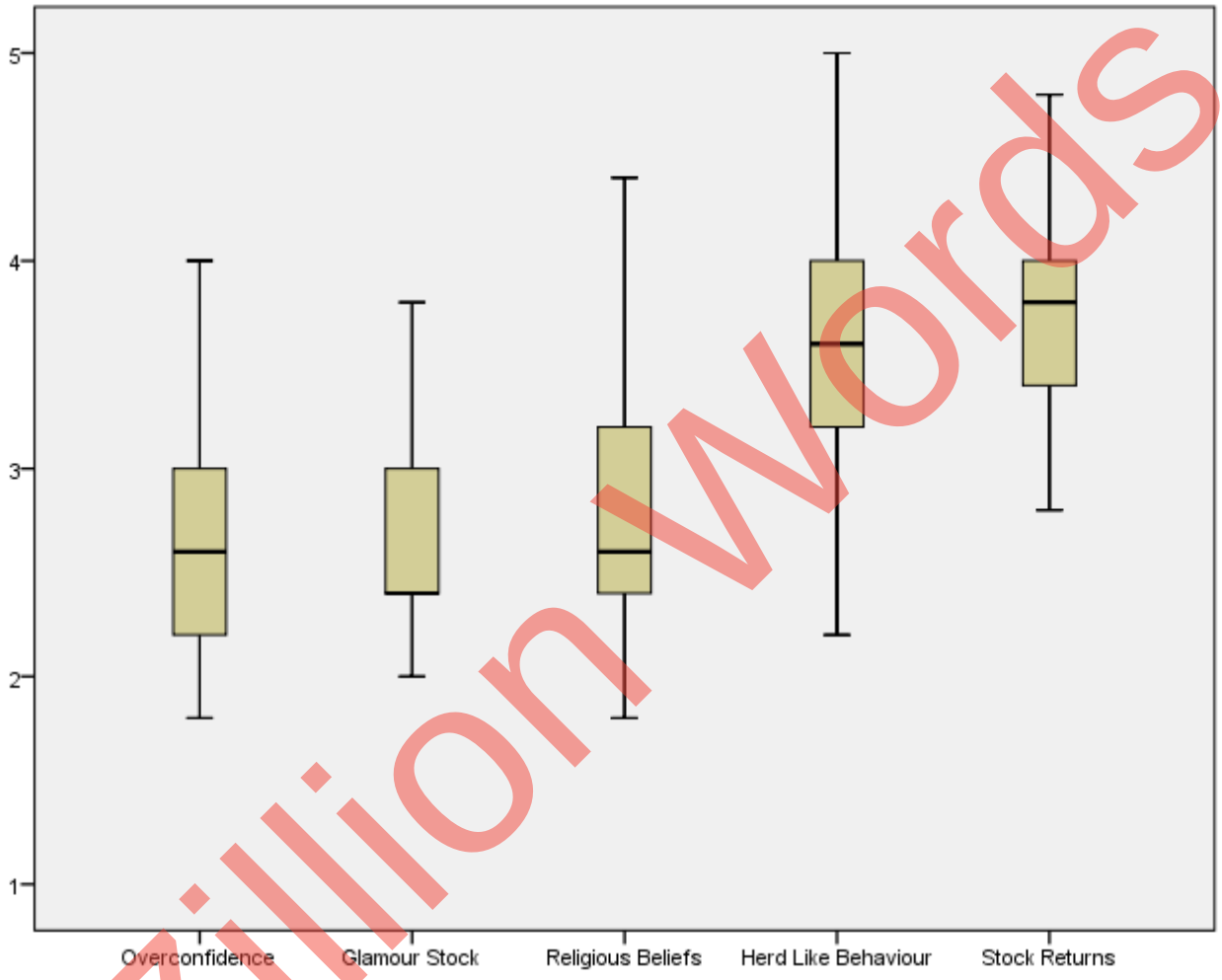
	Levene Statistic	df1	df2	Sig.
Overconfidence	7.416	9	147	.000
Glamour Stock	9.570	9	147	.000
Religious Beliefs	1.899	9	147	.354
Herd Like Behaviour	1.233	9	147	.547

5.7.4. Absence of Outliers

According to this assumption, there should be no outliers in the data. The outliers in the data creates disturbance in the analysis. This assumption is tested through box plot shown in

Figure 3. This figures shows that there are no outliers in the data. The smoothness of data has been confirmed by this figure. The possibility of any outliers in the data set used in this study has been ruled out by this figure.

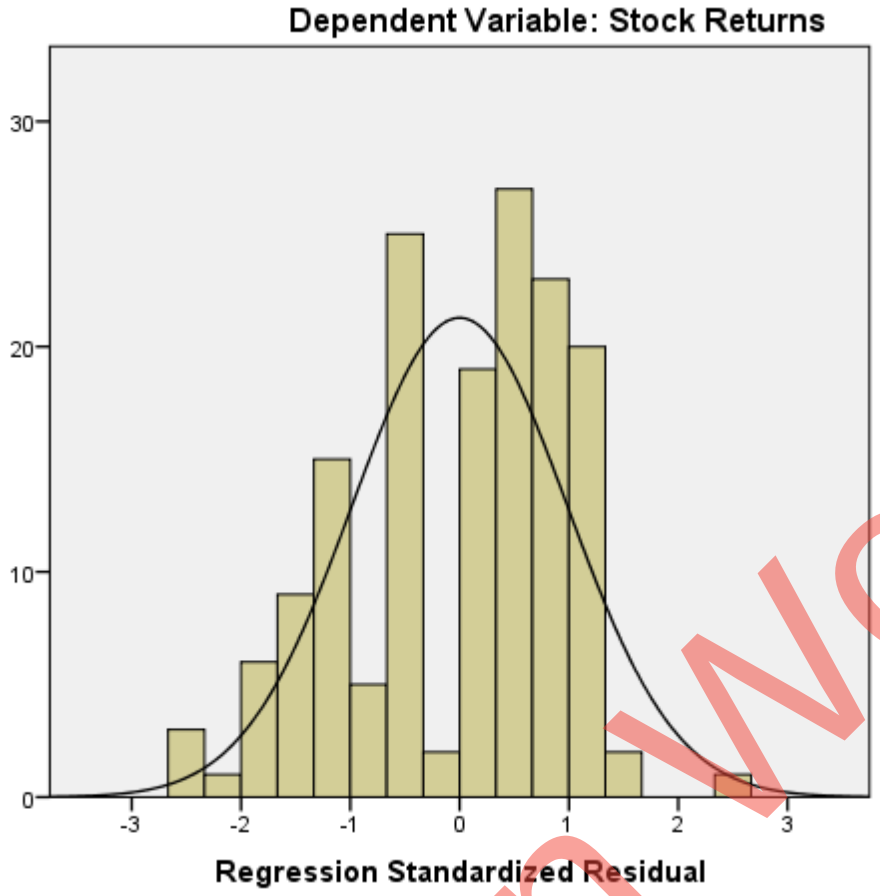
Figure 3: Outliers Testing



5.7.5. Normal Distribution of Errors Terms

The errors terms computed during the regression analysis must be normally distributed according to this assumption. The assumption has been tested with the help of histogram provided in Figure 4. This figure confirms the normal distribution of error terms. The data is neither positively nor negatively skewed as per this figure.

Figure 4: Normal Distribution Testing



5.7.6. Absence of Multicolinearity

Multicolinearity is a very serious problem for regression. The111 reliability of the regression results becomes seriously questionable when multicolinearity is detected among independent variables. Therefore, it is the foremost regression assumption in case of multiple regression analysis. The presence of multicolinearity is tested with help of VIF and Tolerance values. The results are provided in Table 13. The acceptable value of VIF is less than 4 and acceptable value for tolerance is above 0.25. The results reported in Table 13 that all the values are within acceptable ranges. Therefore, it can be concluded that multicolinearity is not a problem in the regression analysis performed here. The absence of multicolinearity among the set of IVs has been negated by these results.

Table 13: Multicolinearity Testing

	Collinearity Statistics	
	Tolerance	VIF
Overconfidence	.256	3.907
Glamour Stock	.320	3.121
Religious Beliefs	.460	2.176
Herd Like Behaviour	.803	1.245

5.7.7. Regression Analysis

Regression analysis has been performed to test the relationship between the selected variables. The hypotheses of the study have been tested on the basis of regression analysis. There are four independent and one dependent variable in this study. Therefore, researcher has performed multiple regressions in this study.

Table 14 is the model summary table. This table provides the summary of the model tested through regression analysis. This table shows that R has a value of 0.492. The value shows that sentiments of the investors are moderately correlated with stock returns earned by these investors. Therefore, role of sentiments cannot be ignored in determining the stock returns of the investors. The value of R Square in this table is .242. This value shows the magnitude of relationship. There is a variation of 24.2% in stock returns because sentiments of the investors. The value of Adjusted R Square shows this variation in stock returns after adjusting the errors in the regression. Standard error of the estimate shows the variation in the dependent variable of stock returns because of extraneous variables. This variation in the dependent variable is unexplained and it is because of the variables that are not part of the present study.

Table 14: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.492[a]	.242	.223	.40526

a. Predictors: (Constant), Herd Like Behaviour, Overconfidence, Religious Beliefs, Glamour Stock

b. Dependent Variable: Stock Returns

Table 15 is ANOVA Table. This table tests the model fitness. The value of F Statistics shown in this Parametric test: Multiple Linear Regression Table is 12.237 ($p < 0.05$). This value shows that null hypothesis is rejected here and at least there is one variable having a significant impact on the dependent variable. Therefore, we proceed further towards the coefficient table.

Table 15: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.039	4	2.010	12.237	.000[b]
	Residual	25.128	153	.164		
	Total	33.168	157			

a. Dependent Variable: Stock Returns

b. Predictors: (Constant), Herd Like Behaviour, Overconfidence, Religious Beliefs, Glamour Stock

Table 16 is the coefficient table. This table shows the individual coefficients of all independent variables of the study. The coefficient value for the constant is 2.766. Constant value shows the value of stock returns when there are no sentiments of the investors.

The coefficient for the variable of overconfidence is -.226. The negative sign shows that overconfidence has negative impact on stock returns. The value of t-statistics for this

variable is -2.907 and significance value is less than 0.05. These results show that overconfidence of the investors has a significant negative impact on stock returns of the investors. This results support first hypothesis.

H1: Over confidence of the investor has a significant impact on stock returns. (Supported)

The coefficient for the variable of glamour stock is .065. The positive sign shows that glamour stock has positive impact on stock returns. However, the value of t-statistics for this variable is .573 and significance value is greater than 0.05. Hence, these results show that inclination of investors towards glamour stock does not have a significant negative impact on stock returns of the investors. These results do not support the second hypothesis of the study.

H2: Investment in glamorous stocks yields returns for the investors. (Not Supported)

Table 16: Coefficients of Regression

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.766	.211		13.099	.000
	Overconfidence	-.226	.118	-.265	-2.907	.008
	Glamour Stock	.065	.113	.071	.573	.567
	Religious Beliefs	.097	.082	.123	1.185	.238
	Herd Like Behaviour	.310	.052	.470	5.980	.000

The coefficient for the variable of religious beliefs is .097. The positive sign shows that religious beliefs have positive impact on stock returns. However, the value of t-statistics for this variable is 1.185 and significance value is greater than 0.05. Hence, these results show that inclination of investors towards religious beliefs is irrelevant in determining the stock returns of the investors. These results do not support third hypothesis of the study.

H3: Religious and social beliefs have a significant impact on stock returns. (Not Supported)

The coefficient for the variable of herd like behaviour is 310. The positive sign shows that herd like behaviour has positive impact on stock returns. The value of t-statistics for this variable is 5.980 and significance value is less than 0.05. These results show that investors following herd like behaviour generate higher returns in the market. These results support last hypothesis.

H4: The herd behaviour has a significant impact on stock returns. (Supported)

5.8. FINDINGS OF THE STUDY

The researcher has performed a comprehensive analysis in the present study to evaluate the role of investors' sentiments in determining the stock returns. The results of the present study highlight that most of the investors are not obsessed with their sentiments while making the investment decision. They most take the decision after a thorough analysis or taking the advice of the market experts. However, herd like behaviour is quite common in the market. There are many investors who tend to follow other during their investment activities.

The present study also finds that most of the female investors are quite obsessed with their sentiments as compared to male investors. They are more overconfident and they are more attracted towards glamorous stocks. They also have stronger religious beliefs as compared to male investors. Their tendency to follow others for investment decision is also higher as compared to male investors. But it is pertinent to note that female investors are earning lower returns from their investment. This is perhaps because of their higher obsession with their personal sentiments.

The present study has also found that aged people are less obsessed with their sentiments, except religious beliefs. Aged people are more religious as compared to young people. Age people are not taking risk as shown by the results provided above. They have a

higher inclination towards saving their current investment and they want to earn stable returns. On contrary, young people seem more enthusiastic as they are more overconfident. However, young people are getting lowest returns because of their tendency to take higher risk as they are more overconfident.

The present stud finds that overconfident investors are likely to earn lower returns. The overconfidence of the investors leads them to take wrong decisions. Their decisions are based on their overconfidence. They are of the view that they have the ability to deal with the risk involved in the investment decision taken by them. Because of this overconfidence, they take higher risk to earn more returns. Most of the times, this risk is not properly assessed. The inappropriate market analysis before making the investment decision proves disastrous for the investors and they have to bear losses because of their overconfidence (Trinugroho & Sembel, 2011). The investors with overconfidence often give birth to adverse trading practices in the market. They often purchase the overvalue stock and sell undervalued stock. This is actually contrary to an actually desirable practice. The overconfident investors are actually unable to make a proper prediction of the future prices. They fail to evaluate that which stocks will experience an upward trend and which one will be following a downward trend (Graham et al., 2006). Most of the times, market is in a slum and people hesitate to trade in the market. The overconfident investors will jump in this market in this situation and they will perform over trading in the market. The belief of these investors that they have more knowledge and ability to trade in the market increases the frequency of transactions. Most of these transactions are performed in an inappropriate manner. Thus, they had to experience the aftershocks of this adverse trading and negative returns are yielded by their investments in poorly evaluated stocks (Grinblatt & Keloharju, 2009).

The present study finds that inclination of an investor towards the glamour stocks is not related to stock returns. Glamour stocks are stocks that have higher market value as compared

to book value. The investors are attracted because of the current value of the stock. They invest in these stocks with a view that price of the stocks will go even further. Some times their expectations really come true (Chen et al., 2004) and they earn higher returns but many a times the situation is reversed (John et al., 2002).. However, there is no consistent behaviour of these stocks. Therefore, an insignificant relationship has been identified in the present study.

The present study also finds that religious beliefs of the investors are irrelevant of determining the stock returns. Most of the investors in the market are of the view that religious beliefs should be kept separate from the investment decisions. The stocks that are regarded as sin stock often generate higher returns but their generation of returns is not linked with the religious properties of these stocks. Therefore, the present study finds an insignificant relationship.

The present study finds that herd like behaviour has a positive relationship with stock returns. The people often tend to follow others in the market. They tend to show a correlated behaviour (Avery & Zemsky, 1998; Sias, 2004). This correlated behaviour drag the market to a specific pattern. When the investors start purchasing the price goes up and when they start selling, the prices in market go down. Thus, market moves with the behaviour of the investors. The investors following such behaviour earn collective returns and collective losses as well. However, many a time investors are successful in creating a specific trend in the market. This trend is helpful to them in generating positive returns.

6. CONCLUSION, IMPLICATIONS, LIMITATIONS AND RECOMMENDATIONS

6.1. PROLOGUE

This chapter of the study provides the conclusion, implications, limitations and recommendations for the future study. Researcher has provided a conclusion on the basis of the findings of the study obtained through a thorough analysis. The researcher has provided both academic and theoretical implications of the study. At the end of this chapter limitations of the study have been provided and some important recommendations for future researchers have been given.

6.2. CONCLUSION

This study was an endeavour to evaluate the role of investors' sentiments in the stock returns earned by them. The investors may take many decisions under their investments. The results of the present study have manifested that these sentiments have a significant role in the market. Although, most of the investors are not much obsessed by the personal sentiments and they have the requisite understanding that results of decision taken under sentiments may not be very good but still these sentiments are playing a significant role in investment activities. Therefore, the sentiments of investors cannot be ignored while studying the stock market. The present study emphasized that investors should not base their decision on the basis of their sentiments. They must perform a deep market analysis and should understand the various factors that control the market before making the investment decision. Otherwise, they must remain ready for facing the negative consequences of the results taken under the sentiments. The investors who are very much obsessed with their personal sentiments ignore the analysis that is required before making the investment decision in a particular security.

The investors showing overconfidence in the market face serious losses. The investors feeling that they have better market knowledge than others and they have the ability to control the vested risk in the investment activity are the overconfident investors. These investors are actually running the risk of getting higher negative returns. Their overconfidence may prove to be a slayer for these investors. Overconfident investors are least bother about the market analysis as they have the confidence in their personal assessment. They feel that their experience in the market have enabled them to take the right decision and they don't need to rely on any of market analysis. They also have the feeling that they will lose many of precious market opportunities if they base their decision on the basis of market analysis. This overconfidence is quite common among female and young investors in the market. Based on the findings of the present study, the investors must refrain from showing overconfidence in the market.

Many of the investors have very strong religious beliefs and they follow their beliefs in the stock market even. The study finds that old people and female investors have more strong beliefs about the religion and religious beliefs often govern their investment decision. The results of the present study have proved that such beliefs do not play any role in the stock returns. Market operates independent of these beliefs. These are the market forces and company specific factors that determine the returns in market. Therefore, religions should not be involved in the investment decisions.

There are many companies who are known as blue chip companies in the market. Many of the investors are attracted towards these companies because of their repute in the market. Many investors have the belief that they can earn higher returns by investing in these companies. This is because of their fame in the market. Moreover, sometimes company show higher performance in a specific period in order to generate a positive signal in the market. The investors who catch this signal are got attracted towards the company. However, such beliefs

of the investor are irrelevant of generating higher returns. The investors attracted towards the stock of such company may not be generating higher returns all the time. They may get positively higher returns in some situation but this situation may not be prevalent.

Another important behaviour in the market that is observed quite often is herd like behaviour. The investors may have a higher tendency to follow what other investors are doing. They observe the market trend and take the decision according to this ongoing trend. Such behaviour shows the inability of investors to take decisions. This behaviour often proves beneficial, especially in an uncertain situation when market analysts fail to perform a proper analysis. However, the investors must exhibit this behaviour in precautious way and they should perform their own analysis as well while making the final decision of the investment in some particular stock.

The stock market is quite unpredictable. There are number of forces that play an important role in performance of the market. Every investor has his/her own understanding of the market factors and interprets these market forces in his/her own way. The investors may have own understanding of the market situation and take the actions as per this understanding. Many a times the investors take their investment decisions under their personal investments. They have certain beliefs about some investment options and their decisions are based on them. But the decisions taken under the sentiments may prove to be wrong. The investors may lose their hard earned money by taking wrong decisions under their sentiments.

6.3. IMPLICATIONS OF THE STUDY

The researcher provides the both practical and academic implications of the present study below:

6.4. PRACTICAL IMPLICATIONS

The study finds that most of the investors are not much obsessed with their sentiments. The investors are of the view that they should keep their sentiments away from their investment decisions. This shows that they realize that market performs independent of investors' sentiments. The investors are well educated and they are making appropriate analysis before making the investment decisions. Especially, investors do not show a high level of overconfidence because they feel that adverse results may welcome them because of the high level of overconfidence. The investor should show overconfidence in the market. They should avoid over trading in the market, especially when trading activities are quite slow in the market.

The investors also realize that religious issues should not be involved in the activities of the stock market. The religious sentiments of investors are not related to the returns generated by the stocks. The study has negated the concept of sin stock. The investors do not think that there are any sin stocks in the market and they make their investment decision irrespective of the religious position of the stock. The other investors should also understand that religious issues are not related with the returns of stock. The company should also not worry about the religious position of their stock as it is irrelevant to returns of the stocks.

The study finds that there are many investors who tend to show herd like behaviour. They have the tendency to follow other investors in the market. They feel that they have limited knowledge about the market. Therefore, it is better to follow other investors rather than making own decision. Such behaviour may found quite common among new investors. This behaviour may also be found quite common in the market when the situation is quite uncertain and market analysts are quite unable to make an appropriate prediction of the market. The investors follow the ongoing trend in the market in this situation. Although, the study finds that this behaviour has proved beneficial for many of the investors but this situation may not prevail forever. Many a times some large investors keep on investing in some stocks to create an artificial bubble.

The small investors may have to suffer when this bubble bursts. The investors should avoid such behaviour under all circumstances.

Female and young investors need to control their sentiments. They must understand the dynamics of the market. They should comprehend the overall mechanism of the market. The role of market forces must be evaluated before making the investment decision. The investment decision should not be based on investors' personal sentiments only. The investor must make an appropriate analysis before taking the final decision.

6.4.1. Academic Implications

Investors' sentiments come under the field of behavioural finance that is a relatively new field. There is dearth of empirical studies in this field. Some of the investors have worked on investors sentiments but most of the work done by the researchers is theoretical in nature. There is lack of empirical studies on investors' sentiments. Moreover, many of the investors who have provided some empirical evidence have used the proxies for measuring investors' sentiments. The proxies cannot be true measure of investors' sentiments. Therefore, this study is distinctive from other study as it is measuring the investors sentiments with the help of an instrument and market proxies have not been used in this study. The study has also evaluated the role of investors' sentiments in stock returns earned by the investors. The study provided a foundation for the new researchers to perform a deeper analysis of investors' sentiments and their role in the stock market. The study has highlighted that investors' sentiments play a significant role in the market. Therefore, the researchers must work further on this important topic.

6.5. LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCHERS

The researcher fairly reports all the limitations of the study and provides some recommendations for future researchers working on the same topic.

i. The study has not evaluated the forces that control the investors' sentiments. The future researchers may work on determinants of investors' sentiments. This will provide a deeper knowledge of the situation and further work can be performed for controlling these sentiments of the investors.

ii. The researcher in the present study has only focused on a developed economy (i.e. UK). The investors of developing economy may different sentiments and results may vary from this study. The future researchers should perform a comparative study of developed and developing economies.

iii. The present study has not evaluated that how much investors' decision are controlled by the sentiments of the investors. The future researchers may work on this aspect and they can evaluate that either investors' decisions are affected by their sentiments or not. This will enhance the understanding about the role of sentiments in stock market.

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RESEARCH QUESTIONNAIRE

Dear Respondents,

This research is being conducted, to understand Investors behavioural aspects while taking investment decision and influence of those factors on stock returns in London Stock Exchange. For that important objective researcher seeks your vital response in this questionnaire for successful completion of this research. It is ensured that the data provided by you shall be kept confidential and it will be exclusively used for research purpose. The researcher will not identify you in individual capacity. The researcher is highly obliged for your kind cooperation.

Kindly mark tick against appropriate option.

1a. Gender: Male _____ Female _____

2a. Age

a) 21 – 30
b) 31 – 40
c) 41 – 50
d) 51 – 60
e) Above 60

3a. Education

a) PhD
b) Post Graduate Level
c) Graduate Level / CA / ACCA
d) Intermediate Level
e) Matriculation
f) Other _____

4a. Source of Information

a) Brokers
b) Company Websites, Stock Exchange, Other Websites
c) Television, Newspapers & Business Journals
d) Financial analysts& Forecasting Professional
e) Family, Friends, Colleagues & Other Investors

5a. Investment Experience

a) Less than 1-year
b) 1-5 years
c) 6-10 years
d) 11-15 years
e) More than 15 years

6a. I trade in Market:

a) Very Frequently
b) Frequently
c) Sometimes
d) Infrequently
e) Very Infrequently

Kindly show the frequency of the behaviour that you exhibit while trading in the market by encircling the appropriate option from below:

1: Never 2: Sometimes 3: Often 4: Most of the times 5: Always

A. Overconfidence

A1	My willingness to take risk is mainly dependent on my personal attitude toward risk while stocks trading.	1	2	3	4	5
A2	Security prices in stock market are predictable in the short run.	1	2	3	4	5
A3	I rely more on my personal beliefs rather than on forecasts & analysis while taking investment decision in stocks market.	1	2	3	4	5
A4	I prefer to purchase overpriced stocks of companies.	1	2	3	4	5
A5	I believe personal sentimental decision of investors influences the stock market performance.	1	2	3	4	5

B. Religious Beliefs

B1.	I believe that religious values should be given preferences while taking investment decision.	1	2	3	4	5
B2.	I am always selective while taking investment decision on the basis of Religious teachings.	1	2	3	4	5
B3.	I do not prefer to invest in Alcohol; Tobacco & Commercial Banks even higher risk adjusted returns are expected.	1	2	3	4	5
B4.	I think that investment decision should be taken on the basis of returns instead of religious beliefs.	1	2	3	4	5

C. Glamour Stocks

C1.	I tend to purchase stocks of reputed companies at high price because of company's popularity.	1	2	3	4	5
C2.	I am optimistic about reputed companies stocks because I expect future growth in earnings to past good earnings.	1	2	3	4	5
C3.	I tend to rate high future growth of popular companies stocks as compared to unpopular companies stock.	1	2	3	4	5
C4.	I believe popular companies display better performance compared to other companies in terms of risk & return.	1	2	3	4	5
C5.	I believe good performing companies will maintain good performance in near future.	1	2	3	4	5

D. Herd Like Behaviour

D1	While taking Investment decision, I prefer stock in which many investors are currently investing.	1	2	3	4	5
D2	I tend to swim with flow of Stock market, to avoid the risk involved in investment.	1	2	3	4	5
D3	I follow other investors because I feel others investors are better knowledgeable than me.	1	2	3	4	5
D4	I pay particular attention to positive information after having made an investment decision.	1	2	3	4	5
D5	I tend to follow other investors due to un-availability of correct information in market, related to the stocks.	1	2	3	4	5

E. Stock Returns of Investors

E1	Most of the investment decision taken by me yield positive returns.	1	2	3	4	5
E2	The options in which I usually invest are profitable.	1	2	3	4	5
E3	I rarely face negative returns in the market.	1	2	3	4	5
E4	The stock returns earned by me are quite healthier.	1	2	3	4	5