# Chapter 3
## Review of Literature

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Chapter 3: Review of Literature

Investor’s Behaviour toward Equity Market and its Impact on Stock Price

3.1 Is individual investor rational?

In economics for purpose of the formal representation of an individual the term Homo Economus is used that acts as utility maximize under the given constraint and his preferences. An individual person follows the norms of rational choice theory. The hypothetical construct of rational choice theory has been extensively used in formation of economic theories and models though over the past years behavioural scientists and psychologists have found that individual person breach the norms of Bayesian Learning, Expected utility theory and rational expectation theory which creates question marks on their validity as decision making theory (De Bondt, 1998).

Allais Paradoxes (1953) have undertaken the initial work and found that market as well as individual investors do not act neatly. Kahneman and Tversky (1979), Machina (1982) and other researchers have worked on how people behave under uncertainty and their finding shows that human being is not always rational. Additionally, Herbert Simon highlighted the significance of constrained rationality with regards to the restricted ability of human to adjust optimally to complex environments (Simon, 1991).

3.1.1 Mental Accounting

Behaviour of individual in reference to assignment of activities to particular account is known as mental accounts. Human being usually labels the activities as sources of fund and use of funds in mental accounting process. Individual prepares group of categories for expenses and their spending is constraint by explicit or implicit budget. Normally individuals and households split their wealth into different mental accounts for the management of their economical or financial activities. If a person wins money on gamble in that case it is quite common that the money won by the person will be used for further gambling only. The study of mental accounting can provide better understanding of human psychology in terms of choice.
A strong insight regarding the preferences of the people has been documented; people react differently towards gain and losses. For example an investor holding 2000 shares each of two stocks X and Y and both the share is currently trading at market price of Rs.10 per share. X company’s stock was purchased at Rs.5 and the Y at Rs.13. If the investor is considering selling the stock separately, he may resist selling the loser stock because of loss aversion but if he sells the two stock simultaneously there will be net gain and there will be no feeling of loss.

As per the rational expectation hypothesis money is fungible that means Re.1 is exactly equals to any Re.1 but the finding of the experiment done by Kahneman and Tversky (1984) shows that Individuals do not consider money is fungible.

Situation 1. Suppose you have paid $10 for ticket of theater to see a play but after reaching at theater you have noticed that the ticket have been lost. Would you pay another $10 to see play? Yes or No?

Situation 2. Suppose you are on the way to see a play but you have not purchase a ticket of theater in advance. On arriving at the theater you have come to know that you have lost $10 cash in that case would you buy a ticket to see a play? Yes or No?

In their study, Kahneman and Tversky (1984) documented that 46 percent of the people were interested to buy another ticket of theater after losing the ticket previously bought by them but after losing the cash 88 percent of the people were ready to buy another ticket. In both scenarios the total cost to see a play is $20 but the behaviour of individual was different.

3.1.2 Overconfidence

Individual person usually believes that they have superior ability in compression to others and observe themselves more positively than they are viewed by other people (Greenwald, 1980; Svenson, 1981; Cooper et al., 1988; Taylor and Brown, 1988). It was found that individuals overweight their own forecasting in compression to those of others and undervalue their chances of mistake in making predictions (Alpert and Raiffa 1982; Fischhoff, Slovic, and Lichtenstein, 1977; Batchelor and Dua, 1992; Lichtenstein, Fischhoff, and Phillips, 1982; Yates, 1990). Individual investors believe that they have superior ability of valuing equity share price against the reality so they
undervalue the chances of their mistake or forecasting error variance which is in line with evidence that individuals become highly confident when public information is matching with his private information, but it does not drop along with the contradicting public information. The empirical research on psychology provides evidences which show that people gives credit themselves for the past success, and blame external factors for failure (Fischhoff and MacGregor, 1982; Langer and Roth, 1975; Miller and Ross, 1975; Taylor and Brown, 1988; Kent Daniel et al, 1998).

Barber and Odean (2001) have given supportive evidence that overconfidence generated excessive trading but such kind of behaviour is more profound in males than in females.

Barber and Odean (2002) analyse the trading behaviour of over 1600 individuals that switch to phone based trading to online trading during the 1990’s. This presents situation where individuals have greater access to information and lower transaction cost. After making such switch the result shows individuals trade much more frequently.

3.1.3 Home Biases

As per the traditional theory individual should hold a proportion of domestic assets that is equivalent to their country’s share of world market capitalization (Sharpe, 1964; Lintner 1965). Even though, many research show that investors tend to exhibit ‘Home Bias’ when making decision of portfolio of investment. Investors prefer to invest domestically as opposed to invest internationally due to that portfolio is remaining undiversified. According to Huberman and Sengmuller (2004) and Driscoll et al. (1995) home bias arises because individuals perceive their own country stock to be less risky than diversified portfolio.

Gehrig (1993) and Brennan and Cao (1997) have explained the reason of home bias that the phenomenon arises as a result of information asymmetries. It means information relating to the domestic stock is readily available than international securities. The other reason of home bias consists of (Adler and Dumas, 1983; Cooper and Kaplanies, 1994; Black, 1974; Stulz, 1981; Kang and Stulz, 1997, Brennan and Cao, 1997; Coval and Moskowitz, 1999; Huberman, 2000; Chan et al.

There is strong evidence exist that investors are more optimistic about their familiar national stock market and this optimism led to an increased investment (Strong and Xu, 2003; Kilka and Weber, 2000; Vanpée and De Moor, 2013; Levy and Levy, 2014). According to Graham et al. (2005), an individual’s competence level can be the cause of home bias. Those who are more aware about the benefit and risk resulting from diversification they prefer to make international investment otherwise do not.

Karlsson and Norden (2007) found that those who work under the public sector are more prone to home bias.

3.1.4 Regret

The empirical research in the behavioural finance shows that individual investor’s investment decision is significantly influenced by fear of regret for wrong decision. As per the theory of prospect (Kahneman and Tversky 1979), the degree of pain the person feel for the amount of loss resulted due to mistake is more than the degree of emotion of happiness gained by making profit through the right decision, which gives a same percentage of return. Shiller (1999) has documented the psychological feeling of regret due to wrong decision in equity market. Odean (1998a) and Shefrin and Statman (1985) have documented that individual investor usually sells the winner stock and hold on the looser stock till the purchase price is reached. By doing so, they can minimize the feeling of regret due to poor decision. Individual investor not only measures their purchase decision based on accrued return but also on the basis of realized return. So holding on the looser stock helps them to minimize the feeling of regret due to mistake. This kind of behaviour helps them to have positive self-appraisal as the feeling of loss is delayed. The empirical research shows that the feeling of regret is affecting one’s decision (Shefrin, 2002).
3.1.5 Risk Attitude

Kahneman and Tversky (1979) have experimented with several classes of choice problem in which preferences systematically violate the norm of expected utility theory. As per the rational expectation hypothesis an individual is risk averse and that person prefers certainty to uncertainty.

If a person is given two options:
Option 1: Receive $700 for sure or
Option 2: Win $1000 with probability of 70% and 30% chances of not winning anything.

In the above case both the options have same expected return of $700 even though most of the people prefer option 1 which shows risk aversion attitude of individual person. Individuals avoid risk and will bear it when they compensated for the same.

Kahneman and Tversky (1979) further tested risk attitude of individual person in loss making situation.

Suppose individual investor has two options:
Option 1: Loss of $700 for sure or
Option 2: Loss of $1000 with a probability of 70% and 30% chances of lose nothing.

Again in the above case both the options have the same expected return and Option 2 is more uncertain even though most of the people prefer the option 2. The above experiment revels that so called rational individual person shows inconsistent attitude towards risk.

Individual person becomes risk averse in profit making situation and risk seeker in loss making situation.

3.2 Is the stock market efficient?

The traditional equity valuation method assumes that individual investor is rational and human behaviour is not relevant in asset pricing process, so human behaviour is not considered in understanding financial market.
In equity market unexpected price behaviour is observed that is known as anomaly. In capital market anomaly is deviation from the prediction of the efficient market theory. The anomalies that have been documented in previous research might be reflected as deviation from the basic principles of market efficiency. If all the excessive volatility in stock market remains as undisclosed, then it would create question mark against the whole efficient market theory. The types of anomaly observed in the equity market includes small capitalization firm has earned higher average returns on the New York Stock Exchange (NYSE) during 1936-1975 which is known as “small-firm effect” (Banz, 1981; Reinganum, 1981).

Keim (1983) and Reinganum (1983) have documented that the small firms have earned abnormal returns in comparison to CAPM during the initial two weeks of January month in a year which is known as the “turn-of-the-year effect”. Roll (1983) has found that small capitalized firms are characterized with higher volatility caused most of them to experience short term fall due to investors desire to book short term losses for the income tax purpose before the end of the year. This creates huge selling pressure in small capitalized firm in December month, and again demands for buying position in January month causes them to recover the price.

French (1980) has documented that average return of the Standard and Poor’s (S&P) Index portfolio was consistently negative over week ends during the period of 1953–1977 which is known as “The weekend effect”. “Day of the week” effect has been documented by few researchers (Cross, 1973; French, 1980; Aggrawal and Rivoli, 1989; Brusa and Liu, 2004; Aboudou Maman Tachiwou 2010). They found that return of the stock differs as per the day of the week, and the average return on Monday is significantly lower than average return over the other days of the week. It has been observed that the majority of negative news arriving during the weekends and this negative news are significantly influencing investors. As a result, on Monday selling pressure is usually higher in comparison to other days of week and returns on stock market becomes negative.

Basu (1977, 1983) noted that firms with high earnings-to-price (E/P) ratio earn positive anomalous returns in comparison to the CAPM. DeBondt and Thaler (1985) found past losers stocks with low returns have higher average returns than past winners stocks with high returns in the past (sample period of three to five years),
which is a “contrarian” effect the unusual returns could be earned by purchasing out of favor stocks and maintaining stocks in portfolio for long term. Graham (1959) suggested the strategy based on investor’s psychology. According to his view, the price of out of favor stock is irrationally lower due to investors focus here and now. On the other side, Jegadeesh and Titman (1993) and Lewellen (2002) documented that recent past winners out-perform recent past losers (considering sample period of past one year returns), which is known as a “continuation” or “momentum” effect.

Baker and Wurgler (2000) have found that there was inverse relationship between the proportion of new securities issues and future equity returns over the period 1928–1997. The stocks characterized with higher return volatility, more transaction costs, and lower investor difficulty are more influenced by book-to-market (B/M) effect, in line with the market-mispricing clarification for the anomaly (Ashiq Ali et al. 2003). Under/over reaction of stock prices to the corporate news has been documented by few researchers (DeBondt and Thaler, 1985, 1987).

In the stock market even a weather effect is also examined on stock returns and it was found that stock return is negative when it is cloudy and positive when it is sunshiny (Saunders, 1993; Hirschleifer and Shumway, 2003).

The undisclosed instability and anomalies documented in equity market creates question against the base of EMH theory and forcing toward a new paradigm for modern financial theory. In the last few years, financial economists have tried to understand how investor’s psychology impacts their financial decisions. This evolution drives to the advent of a new paradigm of financial research.

3.3 Behavioural Finance and Investor’s Sentiment

The aim of this chapter is to understand how the individual investor is making decision. It throws light particularly on the heuristics and biases element of the behavioural finance literature. From the descriptive perspective, researcher wants to know under a real world setting how investors make their investment decisions, against the rational/ideal behaviour recommended by normative financial theories. Based on a review of existing studies, which themselves were conducted using various research methodologies, this chapter describes outcome of the research on investment decisions in the fields of behavioural finance and cognitive psychology. In
This chapter researcher reviews the existing literature in behavioural finance and present taxonomies proposed by different authors.

The major change which has taken place in the field of financial studies is the enhanced importance given to individual investors with the inclusion of psychology as important variable considered for the study. In spite of the existing discussion and deliberation, the fields of behavioural economics and behavioural finance have been established as sub-disciplines, further they can be also labeled as sub-fields of finance.

Behavioural finance is wider term of social science which includes sociology and psychology. It is now most vigorous research programme and it positions in severe contradiction to the assumption of efficient market theory, expected utility theory and narrowly described rational behaviour. Behavioural finance is experimental in nature and uses research methodology which rarely used in conventional finance and finance literature (Frankfurter and McGoun, 2000).

Behavioural finance is that branch of finance which applies psychology to understand the financial behaviour. It tries to examine why individual investors buy or sell the equity shares based on psychological reason. So it is not completely replacing the traditional finance but it plays a complimentary role in understanding the issues which the traditional finance is unable to explain the particular phenomena, for example, (1) what are the factors which influence most the investor’s sentiment in India? (2) Which types of information an individual investors look at when making investment decisions in developing country like India? Behavioural finance mainly focuses on how investors infer and react on information.

As per the efficient market hypothesis (EMH) theory given by Paul Samuelson and Eugene F. Fama in the 1960’s, market prices must reveal all available information. Meir Statman, the main contributor of behavioral finance appeal for considering market efficiency to outperform the markets but his view differs from the assumption of rationality. It means rational prices reveal only utilitarian characteristics, for example, risk but not value-expressive characteristics like sentiment (Statman, 1999).

According to Malkiel (2003) without accepting above-average risks markets do not allow investors to earn above-average returns. The psychological variable is significantly affecting the securities prices. Consequently, EMH is criticized by many
academicians. Kahneman and Tversky (1979) had given Prospect Theory which is known as one of the most prominent contributions to the theory of decision making under uncertainty and risk. The economic and financial theories have been significantly influenced by the strength and extensiveness of this cognitive-psychological research. Individual investors are subject to biases in judgment, dependent on mental frame and use several heuristics may lead to an anomaly in the stock market has been tested within the field of behavioural finance.

As per the earlier research of Kahneman and Riepe (1998) investors rely on fixed and intuition while making financial decisions and they propose some related cognitive biasness and illusion in decision making like overconfident, optimism and overreaction to chance event.

Behavioural finance constructed on the two supports: “limits to arbitrage” and “psychology” (Barberis and Thaler, 2003). The psychology provides documentation of many abnormalities and the limit to arbitrage as one of main reasons of deviations form rationality of the human being. The limit to arbitrage proposes that rational investor can’t take the benefit of opportunity created by irrational investors. If irrational investors create deviation in asset prices from its fundamental value or intrinsic value by trading on noise, the rational investor must be able to correct this mispricing through arbitrage. But in the real financial markets, the arbitrage strategy involves transaction cost, risk or many constraints. So the inefficiency may exist for the long period of time (Barberis and Thaler, 2003).

The behavioural finance is usable at different level of financial market, for example, on individual investor’s behaviour, on the total market level, on corporate finance and on the average returns (Barberis and Thaler, 2003). Tversky and Kahneman (1974) investigated and found that investors assume that the equity share price change would occur in too narrow range. Secondly, the investor’s perception about asset’s value is significantly influenced by socially shared tips from peers, tips from financial advisors, news in the media or on Internet portals, forums and news groups (Shiller, 1990).

Earlier research proves that investors are sensitive to recent stock market trend or volatility. It indicates that stock price is significantly influenced due to the
announcement of dividend change when the news, it is good or bad, relevant to the firms goes against the recent market trend during the market volatility. For example, if a company announces lower amount of dividends it will result into considerably larger reduction in equity share price when market yields have gone up. Likewise, announcement of higher amount of dividends tends to bring about a larger increase in stock price at the time of market earnings have been down or normal, even though this last one propensity lacks statistical significance. The clarification for such equity price behaviour finds its roots cause from the implication of a dynamic rational expectation equilibrium theory with behavioural aspects that tie the sensitivity of investors to market volatility and trend (Epstein and Turnbull, 1980; Robichek and Myers, 1966; Veronesi’s, 1999; Diane Scott Docking and Paul D. Koch, 2005).

3.3.1 Concept of Investor’s Sentiment

Barberis et al. (1998) had proposed model of investor’s sentiment in which investors form belief due to investors conservatism and the representative heuristic. In Daniel et al. (1998) Model of Investor’s sentiment, investors are overconfident and make biased self-attribution. According to the work done by Lemmon and Portniaguina (2006), Baker and Wurgler (2006) and Gao, Zhan (2008) “investor’s sentiment means investor’s optimism or pessimism towards market conditions which is not due to the economical or fundamental variable”. Individual investor’s sentiment means attitude and opinion towards investment in stock (Singhvi, 2001; Bennet et al. 2012). According to Sehgal, Sood and Rajput (2009) investor’s sentiment means “understanding of investor’s behaviour that influences stock market activity” and “a quantitative measure to gauge the levels of optimism or pessimism present in the market.”

3.4 Asset Pricing and Investor’s Sentiment

As per the efficient market hypothesis the value of the asset prices are equal to intrinsic value but in reality intrinsic value is not observable. Empirical evidences are presented to suggest that Investor’s Sentiment play important role in stock prices. Seyhun (1990) documented that insider can accurately predict a firm fundamental but cannot anticipate the crash. The evidence proves that something other than fundamentals is reason for crash. Siegel (1992) found that changes in consensus
corporate profits prediction and interest rate during 1987 could not reveal the rising pre-crash stock market or the crash afterward. He added that unusual volatility in prediction of profits in 1987 caused market to be affected by the Investor’s sentiment.

According to Shiller (1989) crash of 1987 is evidence of excessive stock market volatility to fundamentals measured through dividends. He had noted that fundamentals change slowly but investor’s sentiment changes quickly. The evidences of one day fall in Dow Jones Industrial average from 2246 to 1738 (22.6%) drop created doubt to him to rely on fundamentals to predict change in stock price in one day.

Close end funds are required to report the net asset value of underlying portfolio of stocks of the unit. Close end fund normally sell at discount from net asset value. Graham (1959) documented that this discount may be viewed as stupidity of stock holder. Lee, Shleifer and Thaler (1991) documented that the close end fund discount moves together with time so average discount can be seen as investor’s sentiment index.

Evidence reveals that IPO activities are significantly influenced by sentiment. For example, Lowry (2003) documented that investor’s sentiment explains the fluctuation of IPO volumes. The period of high IPO volumes followed by lower market returns suggesting firm success in raising capital on time to take benefit of investor’s over optimism. Cornelli et al. (2006) has analyzed high prices in gray markets predict post-IPO first day prices and long run price reversals. The findings show that IPO (Institutional) investors opportunistically trade (resale) to take advantage of small investor’s optimism.

3.5 Factors affecting individual investor’s sentiment towards equity market

3.5.1 Market Specific Factors

3.5.1.1 Herd Behaviour

According to Devenow and Welch (1996) investors disregard their prior beliefs and follow other investors blindly. The individual investors completely ignore their private information. Hoffmann et al. (2007) found that the individuals are linked in a
social network for example Facebook, Twitter, Google groups, Whats App and other online portals that have diverse information dissemination features. Rather than information, individual investors can also share their plans. This imitative infection of behaviour (herding) leads to market instabilities in the form of crashes and bubbles (Kirman, 1991; Topol, 1991). Investor can copy the strategy of other investor due to various reasons, for example, they are following strategies of wealthier investors (this is an evolutionary clue that more fruitful tactics only remain in the market). Investors can differ in their individual tendency to copy dominant behaviour of others in their social network. Social psychology and preference of people for simplifying or clarifying strategies were suggested as a clarification by Hoffmann et al. (2007), where simplifying means imitating the behaviour of others and clarifying means gathering information from others.

Chang Eric C. et al. (2000) documented partial proof of herd behaviour in Japan and significant proof of herd behaviour in South Korea and Taiwan.

A formal model with attention-constrained investors was constructed by Peng and Xiong (2006). They concluded that such investors tend to give more importance to market related information than firm related information. Therefore, market news may cause more variation in attention levels, leading to significant effects on price levels in market and trading patterns.

Hirshleifer and Teoh (2003) documented that individual investor copies action of other people or movement of market rather than relying on his own judgment and information.

Hwang and Salmon (2004) and Wang and Canela (2006) investigated the effect of herd behaviour in emerging and major developed financial markets. They found a greater level of herding in developing markets in comparison to developed markets. They also suggested that herd behavior indicates significant movements and persistence freely from market situations.

Tetlock Paul C. (2007) documented the evidence of when high media pessimism helps in prediction of downward movement in market prices tailed by return to
fundamental and unusually high or low pessimism forecasts high volume of market trading. Aman, H. (2013) finding shows that intensive media reports on firm result into extreme reaction in the market during the market fall.

Singhvi (2001) identified the variables of herd behaviour like everyone else is investing, perception of easy money among investors, get quick rich philosophy, stories of successful investors, greed among investors, media focus on stock market and performance of internet led stocks.

**3.5.1.2 Internet Led Access to Information and Trading**

It has been observed that the new generation is more using technology in their day to day activity. In the stock market internet usage is increased among individual investors to get all information about company to make more informed decision, for easy trade and low cost of trading. This is an arena of information age and mostly new generation prefers to have online trading as compared to traditional trading method (Singhvi, 2001; Bennet et al. 2012).

Freund and Diana (2001) documented that the Internet has significant stronger impact on trade for poor countries than for rich countries, but very few evidences are there to prove Internet has reduced the impact of distance on trade. The process of delivering information to the investors and the ways of acting on that information has been changed by Internet (Brad and Terrance, 2001).

**3.5.1.3 Best Game in Town Philosophy**

The return on investment avenues like bank, post office schemes and bonds is considered lower by individual investors to mitigate the future expenses so that they prefer to invest in the stock market because in long term Indian stock market has given very good returns as compared to other investment avenues. (Singhvi, 2001; Bennet et al. 2012)
3.5.1.4 Performance and Confidence level of Institutional Investors

Individual investors consider the performance of economy, stock market and corporate sector as highly important aspect at the time of making investment in stock market. This factor comprises variables like corporate earnings, confidence level of institutional investors, strength of financial sector and strength of country’s economy vs. other economies (Singhvi, 2001; Bennet et al. 2012).

3.5.1.5 Risk and Cost Factors

Individual investor considers the cost cutting at operations level and technological advancement at company level at the time of investment in company’s stock. Political stability Risk and investor’s risk tolerance is also significantly influencing the expectation of investors because they expect high returns for high risk (Singhvi, 2001).

3.5.1.6 Macro-Economic Factors

H.A.H. Al – Tamimi (2006) investigated company’s fundamental factors like “a change in board of directors, performance of the company, appointment of new management, creation of new assets, dividends and earnings,” and external factors like “Government rules and regulations, inflation, and other economic conditions, investor behaviour, market conditions, money supply, competition, uncontrolled natural or environmental circumstances” and his result showed that these variables are significantly affecting the asset prices.

Asprem (1989) investigated the association between macro economical factors and stock price for number of European countries and he found that there is direct relation between money supply and stock price.

Bulmash and Trivoli (1991) studied the relationship between the stock price and macro-economic variables. The result of their study indicated that interest rate and stock price have negative relationship. When the rate of interest increases the investors prefer the other investment option.

Tursoy et al. (2008) studied association between the macro-economic variables and Istanbul stock Market during time duration of 2001 to 2005. The outcome showed a
significant impact of term structure of interest rate, unanticipated inflation, risk premium and money supply on stock returns.

Macro-economic factors are important factors which are considered by investors while making investment in equity shares. This includes variables like interest rate, inflation rate, GDP, GNP, price of crude oil, valuation of country’s currency against the valuation of other currency and unemployment rate (Singhvi, 2001; Bennet et al. 2012).

3.5.2 Stock Specific Factors

3.5.2.1 Recommendations of Financial Community

Individual investor considers recommendations (tips) given by financial analyst, brokers and experts of financial markets (stock market gurus) while making investment decision (Singhvi, 2001; Hussein, 2006; Aregbeyen and Mbadiugha, 2011). Previous researchers (Sultana and Pardhasaradhi, 2012; Kliger and Kudryavtsev, 2010) have documented the strong positive association between stock price reactions and analyst recommendations for upgrade when supplemented by positive market returns. Krishnan and Booker (2002) has analyzed the impact of analyst’s recommendations on investment decision by individual investors to work out at a short term judgment to hold or sell the equity shares and his results revealed that it reduces the disposition error i.e. selling winner stock early and holding loss making stock for long time.

3.5.2.2 Psychological Factors

Psychological variables like gut feeling, intuition and rumors (Kiymaz Halil, 2001) are affecting individual investor’s investment decision (Singhvi, 2001; Hussein, 2006; Alleyne and Broome, 2010; Aregbeyen and Mbadiugha, 2011).

3.5.2.3 Who else is buying?

At the time of making investment, individual investors consider the action of institutional investors and other big investors to confirm their own decision of buying the stock. It is irrational and also harmful to the individual investor. Institutional and corporations buy large quantity of shares and when they decide to sell, the stock price reacts adversely. Moreover it is not possible to forecast the best timing for sell so
individual investor should not create their buying position in stock based on significant percentage of share purchased by Institutional investor. This factor includes two variables Major Institution currently buying the stocks and Insider Buying (Singhvi, 2001; Bennet et al. 2012).

3.5.2.4 Financial Characteristics of Stock

Baker and Haslem (1974) documented that the individual investors giving more importance to announced dividends, expected returns and the firm's financial stability. Gompers, Ishii and Metrick (2003) found that book value of the firm, Dividend per Share, Earnings per Share and Price Earning Ratio are significantly influencing the price of equity.

Hartono (2004) suggested that if positive earnings information occurs after negative dividend information, it has significantly positive impact on stock prices. Similarly, if positive dividend information is followed by negative earning information it has significantly negative impact on stock prices.

Financial characteristics include Financial ratios like Dividend per Share, Dividends Yield Ratio, Interest Coverage Ratio, Earning per Share, Turnover Ratio (Receivables, Inventory and Account Payables), Current Assets to Current Liability Ratio, Debt to Equity Ratio, Return on Investment, Return on Equity, Quality of Assets, Return on Assets and Cash flow per Share (Singhvi, 2001; Hussein, 2006; Bennet et al. 2013).

3.5.2.5 Quality of Management

Management capability is considered as very important factor while choosing stock for investment by investors. Investors consider track record of CEO, their expertise and quality of management (Singhvi, 2001; Merikas et al. 2003; Aregbeyen and Mbadiugha, 2011).

3.5.2.6 Past Price Performance and Sector Attractiveness

This factor contains variables like past price performance including any recent price overreaction and stock as well its sector viewed hot by Individual Investors (Singhvi, 2001).
3.5.2.7 Expected Events Surrounding the Stock and Book Value

This factor includes variables related to the different events happening surrounding the stock and stock characteristics that individual investor believing, it has impact on stock price so they consider it at the time of investment. This factor comprises the variables expected stock split, potential takeover target, merger and acquisition in the corporate sector and Book Value of share (Singhvi, 2001).

3.6 Different Models of Investor’s Sentiment

![Diagram](individual-investors-under-reaction-or-over-reaction-to-stock-prices-confidence-self-attribution)

Fig. 3.1

(Source: Model of Investor’s sentiment By Kent Daniel, David Hirshleifer and Avanidhar Subrahmanyam, 1998)

Daniel et al. (1998) constructed a model of investor’s sentiment with the objective of incorporating the empirical results of over-reaction and under-reaction. They have taken concept from psychology to provide back up to their model. The equity market under and over-reaction is based on two well-known psychological prejudices investor overconfidence for the accuracy of his personal information (De Long et al. 1991, Wang, 1997, Odean, 1998, Cheng, 2007) and biased self-attribution.

As per self-attribution theory (Bem, 1965), individuals too strongly attribute themselves for events that confirm the validity of their action to extraordinary talent and events that disconfirm the action to external noise or sabotage. If coin is tossed Heads I wins and Tails due to chance (Langer and Roth, 1975). The investors when get confirming public information their confidence increases but disconfirming information reasons confidence to decrease only modestly. Thus if any individual person initiates with the unbiased belief about his talent, new public signal about stock price will be viewed by him as checking validity of his private information. So public information can trigger further over-reaction to preceding private signal and continuing over-reaction reasons thrust in security prices but that thrust is sooner or
later reversed as further public information slowly drives the price back towards fundamental. This is happening due to biased self-attribution.

Daniel et al. (1998) developed the model of investor’s sentiment using only two psychological factors but this model lack other factors. So the model of investor’s sentiment should cover other factors to explain the over-reaction or under-reaction in stock prices.

![Diagram of Individual investor’s sentiment](Source: Model of Investor’s sentiment By Nicholas Barberis, Andrei Shleifer and Robert Vishny, 1998)

Barberis et al. (1998) has defined Model of Investor’s sentiment as under reaction or over-reaction of stock prices. Individual investor's sentiment is significantly influenced by conservatism and representativeness. Conservatism means individual is sluggish to alter their belief because of change in the face of new signal. Conservatism (Edwards, 1968) suggests the under-reaction. Individuals subject to conservatism might neglect the full information content of an earnings announcement and perhaps the individual investors consider that this number may be short-term in nature and they stick to at least moderately to their prior estimate of earnings. As a result, they might adjust their valuation of share only somewhat in reaction to the message.

The investors who use representativeness heuristic (Tversky and Kahneman, 1974) might neglect the truth that history of high earning progress is not likely to be repeated again. They over-estimate the company and may be frustrated in future as the actual earnings may be lower than the expected earnings.

The model of investor's sentiment By Barberis et al. (1998) is criticized on the ground that it covers only two variables and lacking the other variables documented by existing research that is reason behind the stock prices anomaly.
Fig. 3.3  

(Source: Model of Investor’s Sentiment by Robert J Shiller, 1999)

The Model of Investor’s Sentiment by Robert J Shiller (1999) states that investor’s sentiment means individual investor’s optimism or pessimism about stock market, investor’s participation and stock market outlook. The Model of investor’s sentiment by Robert J Shiller (1999) is a good measurement tool to predict the stock market movement in short run but this model does not cover the factors responsible for change in investor’s sentiment.
Vandana Singhvi has improved the Model of Investor’s Sentiment proposed by Robert J Shiller (1999) with the factors responsible for the change in investor’s sentiment.
Chapter 3: Review of Literature

![Individual Investor’s Sentiment](source)

![Stock Specific Factors](source)

Fig. 3.5

(Source: Model of Investor’s Sentiment by Malcolm Baker and Jeffrey Wurgler, 2007)

Baker and Wurgler (2007) found that the stocks of companies that are younger, smaller, more volatile, unprofitable, non-dividend paying, distressed, or with extreme growth potential, or stocks of firms in financial distress are most sensitive to investor’s sentiment.

The Model of Baker and Wurgler (2007) have considered only stock specific factors to assess impact on investor’s sentiment but this model is criticized on the ground that it lacks other factors like economic factors and psychological variables which the previous researchers have documented that they are having significant impact on investor’s sentiment.

Based on the in-depth review of literature on individual investor’s sentiment, researcher has used the pre validated model developed by Shiller (1999) and used by Singhvi (2001) with improvements in the present research because it is more comprehensive model as compared to the rest of the models of investor’s sentiment.

3.7 Conclusion

The Efficient Market Hypothesis assumes that market is efficient means share prices reflect all available information so there no possibility of earning abnormal return. It assumes that human being is rational, but review of literature in these chapter shows that human being is not always rational and market is not efficient as unexpected price behaviour in equity shares has been documented which is known as market anomaly. It leads to the development of the new field of behavioural finance which considers human behaviour in market pricing process. Investor’s sentiment is one of the important aspects of behavioural finance and understanding current investor’s sentiment can be helpful in short term investment decision in equity shares because fundamentals change slowly but prices fall drastically at the time of market crash and
market moves on sentiment. The present chapter contains definition of individual investor’s sentiment given by different researchers. It comprises different models of investor’s sentiment and their limitation. Researcher has specified reason for selection of particular model of individual investor’s sentiment for further study.