CHAPTER II

BEHAVIOURAL FINANCE: CONCEPTUAL FRAMEWORK

The study of investor behaviour has attracted researchers with a variety of backgrounds. Economists, sociologists and psychologists have all attempted to explain investor behaviour in various ways. Economists' enquiries into investor behaviour have focused largely on the "rationality" or "irrationality" of investor decision-making processes. Sociologists explain investor behaviour by focusing on investors' social environments. Psychologists explain investor behaviour by focusing on individual characteristics.

Investor behaviour is originally assumed to be rational. Later in the process, it has been discovered that investors are affected by a series of psychological biases in their buy-and-sell decisions. The evolution of behavioural finance led researchers to examine the psychological traits of investors and how they influence their investment decision-making strategies in stock selection. In this context, behavioural finance evolved to investigate the factors that contribute to capital market efficiency and explain portfolio allocations that are inconsistent with the paradigm of the expected utility of wealth. This chapter presents the important concepts related to the study in the area of behavioural finance in depth.

2.1 Standard Finance

Standard finance is the body of knowledge built on the pillars of the arbitrage principles of Miller and Modigliani, the portfolio principles of Markowitz, the capital asset pricing theory of Sharpe, Lintner and Black and the option-pricing theory of Black, Scholes, and Merton (Statman, 1999a). These approaches consider capital markets to be efficient and are highly analytical and normative.
Modern financial economic theory is based on the assumption that the representative market actor in the economy is rational in two ways: the market actor makes decisions according to the axioms of expected utility theory and makes unbiased forecasts about the future. According to the expected utility theory, a person is risk averse and the marginal utility of wealth decreases. Assets prices are set by rational investors and consequently rationality based market equilibrium is achieved. In this equilibrium, securities are priced according to the efficient market hypothesis, which is explained in the following section.

2.1.1 The Efficient Market Hypothesis

According to the efficient market hypothesis, financial prices incorporate all available information and prices can be regarded as optimal estimates of true investment value at all times. The efficient market hypothesis is based on the notion that people behave rationally, maximize the expected utility accurately and process all available information (Shiller, 1998)\(^2\). Stock prices approximately describe random walks through time; the price changes are unpredictable since they occur only in response to genuinely new information, which by the very fact that it is new, is unpredictable (Shiller, 2000)\(^3\). Due to the fact that all information is contained in stock prices it is impossible to make an above average profit and beat the market over time without taking excess risk.

2.2 Behavioural Finance

Behavioural finance is a new paradigm of finance which seeks to supplement the standard theories of finance by introducing behavioural aspects to the decision-making process. The main approach of behavioural finance is that the investors are not rational and that they are under influence, as opposed to traditional finance (Matthew, 1998)\(^4\). Behavioural finance seeks to understand and predict systematic financial market
implications of psychological decision processes. In addition, it focuses on the application of psychological and economic principles for the improvement of financial decision-making (Olsen, 1998)⁵.

There have been a number of studies pointing to market anomalies such as abnormal price movements in connection with IPOs, mergers, stock splits, and spin-offs. Investors have been shown not to react “logically” to new information but to be overconfident and to alter their choices when given superficial changes in the presentation of investment information (Olsen, 1998)⁵. During the past few years, media dominates the trend of stocks. The positive bias in media assessments might have lead investors in making incorrect investment decisions. These anomalies suggest that the underlying principles of rational behaviour of the efficient market hypothesis are not entirely correct and that other models of human behaviour also have to be studied (Shiller, 1998)².

Theories of behavioural finance provide reasonable explanation to investors’ decision making and trading behaviour. Recent theoretical work in finance suggested that different beliefs or different opinions across investors might be able to explain excessive trading and high levels of trading volume.

2.3 Types of Investors

An investor is a party who makes an investment into one or more categories of assets like equity, debt securities, real estate, currency, commodity, derivatives, and other assets with the objective of making a profit. Investors in the stock market comprise a range of participants who rely upon its various aspects to support their separate goals. Investors are primarily categorized as retail investors who are private individuals with savings and institutional investors like banks, pension funds and insurance companies (Brentani, 2004)⁶.
Retail investors are also called as individual investors. They are large in number but their investable resources are comparatively smaller. They generally lack the skill to carry out extensive evaluation and analysis before investing. Moreover, they do not have the time and resources to engage in such analysis.

Institutional investors are the organisations with surplus fund who engage in investment activities. Mutual funds, investment companies, banking and non-banking companies and insurance companies are the organisations with large amount of surplus fund to be invested in various profitable avenues. These institutional investors are fewer in number compared to individual investors, but their investable resources are much larger. The institutional investors engage professional fund managers to carry out extensive analysis and evaluation of different investment opportunities. As a result, their investment activity tends to be more rational and scientific. They have a better chance of maximizing returns and minimizing risk. The professional investors and the unskilled individual investors combine to make the investment arena dynamic (Kevin, 2006)\(^7\).

2.3.1 Emergence of Individual Investors

The emergence of individual investors in stock market is documented in many countries in terms of increase in number of shareholders as a percentage of adult population. The development is due to several reasons. A common interest towards investing in shares has emerged as a result of large amount of information, easier access to online trading facilities, and favourable long term price developments in the market. Further, the presence of individual investors has laid a foundation for growing online trading services. The online
trading service offers cost efficient trading and information acquisition services especially for individual investors. On the whole, lower trading costs and increased transparency have facilitated the broader market participation (Markku et al, 2006).8

As individual investors trade for their own benefits with much smaller quantities of fund and limited knowledge, their trading behaviour differs significantly from that of institutional investors. The difference of trading behaviour between individual investors and institutional investors is reflected in the trade size. (Charles, 1992).9 Further, according to Riccardi and Simon (2000), individuals are repeatedly inconsistent in their investment decisions.

2.4 Evidence for Irrational Investor Behavior

An investor has $1,000 and needs to choose between the following two options such as Gaining $1,000 and then losing $500 or Gaining $500. In traditional finance, the possibility of gaining $500 is equal to the possibility of gaining $1,000 and then losing $500 as in both options, the net effect is a gain of $500. In behavioural finance, investors prefer a single gain of $500 than gaining $1,000 and then losing $500. The implication is that investors are willing to resolve for a reasonable level of gains and abandon the chance of earning more and at the same time they are willing to engage in risk-seeking behaviours aiming to limit their losses. In other words, the weight of losses creates a greater feeling of distress compared to the enjoyment generated by equivalent amount of gains.

This is explained by the fact that investors are generally risk averse. This means that if they have to choose between two assets with the same value, they prefer the asset with the lower risk. Risk aversion causes investors to react nervously to market changes. For instance, if the market’s decline is over a week, investors fear that these drops signify
sharper declines and they do not identify these declines as an opportunity to buy good stocks at lower prices. Investors prefer to enter the options markets and buy defensive puts instead of increasing their stock positions in a declining market while taking advantage of low stock prices. Therefore, risk aversion is the prime psychological factor that influences investment decision-making.

2.5 Decision Making Process of Individual Investors

People make decisions about many things. They make political decisions; personal decisions including medical choices, romantic decisions, and career decisions; and financial decisions which may also include some or the other kinds of decisions and judgments. Quite often, the decision making process is fairly specific to the decision being made. Some choices are simple and seem straightforward while others are complex and require a multi-step approach to making the decisions. Understanding how people arrive at their choices is an area of cognitive psychology that has received attention today. Theories have been generated to explain how people make decisions and what types of factors influence decision making in the present and future. In addition, heuristics have been researched to understand the decision making process.

Heuristics serve as a framework in which satisfactory decisions are made quickly and easily. Many types of heuristics have been developed to explain the decision making process; essentially, individuals work to reduce their effort in making decisions. Together, heuristics and factors influencing decision making are significant aspects of critical thinking.

2.5.1 Factors influencing Decision Making

There are several important factors that influence decision making. Significant factors include past experiences, cognitive biases, escalation of commitment and sunk
outcomes, individual differences including age and socioeconomic status, and a belief in personal relevance. All these factors affect the decision making process and the decisions made by the individuals.

Past experiences can influence future decision making. Jullisson et al (2005)\textsuperscript{11} indicated that past decisions influence the decisions people make in the future. It is because when something positive results from a decision, people are more likely to decide in a similar way, given a similar situation. On the other hand, people tend to avoid repeating past mistakes (Sagi and Friedland, 2007)\textsuperscript{12}. This is significant to the extent that future decisions made based on past experiences are not necessarily the best decisions. In financial decision making, highly successful people do not make investment decisions based on past sunk outcomes, rather by examining choices with no regard for past experiences. This approach conflicts with what one may expect (Jullisson et al., 2005)\textsuperscript{11}.

In addition to past experiences, several other cognitive biases also influence decision making process of individuals. Cognitive biases are thinking patterns based on observations and generalizations which lead to memory errors, inaccurate judgments and faulty logic (Evans, Barston and Pollard, 1983\textsuperscript{13}; West, Toplak and Stanovich, 2008\textsuperscript{14}).

Cognitive biases include, but are not limited to: belief bias, the over dependence on prior knowledge in arriving at decisions; hindsight bias, people tend to readily explain an event as inevitable, once it has happened; omission bias, generally, people have a propensity to omit information perceived as risky; and confirmation bias, in which people observe what they expect in observations (Marsh and Hanlon, 2007\textsuperscript{15}; Nestler and von Collani, 2008\textsuperscript{16}; Stanovich and West, 2008\textsuperscript{17}). Cognitive biases enable individuals to make efficient decisions with assistance of heuristics (Shah and Oppenheimer, 2008\textsuperscript{18}).
In addition to past experiences and cognitive biases, decision making may be influenced by an escalation of commitment and sunk outcomes which are unrecoverable costs. Jullisson et al (2005)\textsuperscript{11} concluded that people make decisions based on an irrational escalation of commitment, that is, individuals invest larger amounts of time, money and effort into a decision to which they feel committed; further, people will tend to continue to make risky decisions when they feel responsible for the sunk costs, time, money, and effort spent on a project. As a result, decision making may at times be influenced by how the individual feels he or she is (Jullisson et al., 2005)\textsuperscript{11}.

Some individual differences may also influence decision making. Research has indicated that age, socioeconomic status, and cognitive abilities influences decision making (de Bruin et al, 2007\textsuperscript{19}; Finucane et al, 2005\textsuperscript{20}). Further, Finucane et al., (2005)\textsuperscript{20} established a significant difference in decision making across age; that is, as cognitive functions decline as a result of age, decision making performance may decline as well. In addition, older people may be more overconfident regarding their ability to make decisions, which inhibits their ability to apply strategies (de Bruin et al., 2007)\textsuperscript{19}. Finally, with respect to age, there is evidence to support the notion that older adults prefer fewer choices than younger adults (Reed, Mikels and Simon, 2008)\textsuperscript{21}. Further, according to de Bruin et al., (2007)\textsuperscript{19}, people in lower socio-economic status groups may have less access to education and resources, which may make them more susceptible to experiencing negative life events beyond their control; as a result, low socio-economic status individuals may make poorer decisions, based on past decisions.
2.5.2 Heuristics

Heuristics are general decision making strategies people use that are based on little information; heuristics are mental short cuts that reduce the cognitive burden associated with decision making (Shah and Oppenheimer, 2008)\textsuperscript{18}. Heuristics offer the user the ability to scrutinize few signals and alternative choices in decision making. In addition, heuristics diminish the work of retrieving and storing information in memory; streamlining the decision making process by reducing the amount of integrated information necessary in making the choice or passing judgment (Shah and Oppenheimer, 2008)\textsuperscript{18}.

Heuristics range from general to very specific and serve various functions. The price heuristic, in which people judge higher priced items to have higher quality than lower priced things, is specific to consumer patterns; while the outrage heuristic, in which people consider how contemptible a crime is when deciding on the punishment (Shah and Oppenheimer, 2008)\textsuperscript{18}. According to Shah and Oppenheimer, three important heuristics are the representative, availability, anchoring and adjustment heuristics.

In decision making, people rely on a host of heuristics for convenience and speed. One important heuristic is the Representative Heuristic (RH), which is an extremely economical heuristics (Pachur and Hertwig, 2006)\textsuperscript{22}. If one of two things is recognizable, people will tend to choose the recognized thing; utilizing or arriving at a decision with the least amount of effort or information (Goldstein and Gigerenzer, 2002\textsuperscript{23}; Hilbig and Pohl, 2008\textsuperscript{24}). Hilbig and Pohl remarked that it is difficult to research and answer definitively if an individual is using the RH alone, or if the person is using other information in drawing a conclusion. Goldstein and Gigerenzer mentioned that recognition memory is perceptive, reliable, and more accurate than chance alone; they argued that less recognition
leads to more correct decisions. On the other hand, according to Hilbig and Pohl, people often use additional information when using the RH; that is, they do not rely solely on recognition alone in decision making. Further, Hilbig and Pohl concluded that even when sound recognition is established, people use additional information, in conjunction with the RH.

Another highly researched heuristic is the availability heuristic. According to this heuristic, people are inclined to retrieve information which is readily available in making a decision (Redelmeier, 2005)25. Interestingly, this is an important heuristic, as it is the basis for many of our judgments and decisions (McKelvie, 200026; Redelmeier, 200525). For example, when people are asked to read a list, then identify names from the list, often, the names identified are names of famous individuals, with which the participants are familiar (McKelvie, 2000)26. In the field of medicine, Redelmeier charged that missed medical diagnoses are often attributable to heuristics and the availability heuristic is one of the responsible factors for such diagnoses. Redelmeier explained that heuristics are beneficial as they are cognitively economical, but cautioned clinicians and practitioners need to recognize when heuristics need to be over-ridden in favour of more comprehensive decision making approaches.

The anchoring and adjustment heuristic are decision making heuristics in situations where some estimate of value is needed (Epley and Gilovich, 2006)27. In this particular heuristic, individuals first use an anchor that surfaces initially and adjusts their estimates until a satisfactory answer is reached. For example, if a person is asked to answer the question, “In what year did John F. Kennedy take office?”, the anchoring and adjustment heuristics would be used. The person may start with a known date, such as the date he was shot, November 22, 1963; then make an estimate based on the known information
The practical application of the anchoring and adjustment heuristic is in negotiation; people make counter offers based on the anchor that is provided to them. Epley and Gilovich explained that often people try to make estimates which tend to gravitate towards the anchor side, where actual values tend to be away from the initially planted anchor.

### 2.5.3 Investment Decisions and Behaviour of Individual Investors

According to traditional finance, investment decisions are subject to the net effect of the gains and losses incurred in the portfolio. Investors calculate the net effect by considering utility in each possible option and by constructing a weighted average based on the probability of each option. This is based on the assumption that investors always act in a manner that maximizes their return or individuals act rationally. The Efficient Market Hypothesis (EMH) rested on the assumption of rationality (Fama, 1970). But results from the growing field of behavioural finance seem to indicate neither the investor’s decisions are rational nor that markets are effective. According to Statman, a normal investor is confused by cognitive errors, makes judgements that are guided by moods and affects and is susceptible to different frames.

Behavioural finance further suggests that investors tend to hold on to under-performing stocks and sell over-performing stocks. Typically being risk adverse, investors consider that by selling quickly the shares that have over-performed, they can protect their portfolio for the losses incurred by the shares that have under-performed. This disposition effect is explained by prospect theory that holds that investors base their investment decisions more on perceived gains rather than perceived losses. Consequently, losses have
a stronger emotional impact than an equivalent amount of gains. Besides, investors are often over-confident considering that they have all the necessary information to buy or sell a stock.

Thus, it is found that the investor behaviour is irrational as a result of psychological factors. Risk aversion, fear or over-confidence, socio-economic characteristics, personality factors, cognitive bias and social interactions are considered to be the major factors that have an influence over the investment and trading decisions of individual investors. With the help of behavioural finance, stock market theorists, finance managers, equity analysts, and others involved in stock market analysis can identify how investors evaluate certain events and react to stock market changes. Also, investors can understand and evaluate market changes effectively by gaining a broader understanding of the factors that drive their behaviour.

2.6 Risk Tolerance of Individual Investors

The individual’s perception of risk plays a vital role in influencing individual decision making process. In turn, the perception of risk determines the investing behaviour (Mayfield et al, 2008\textsuperscript{29}). The term investor risk tolerance refers to an investors’ comfort level associated with investment variability or volatility (Schaefer, 1978\textsuperscript{30}). In general, one can expect individuals with low risk tolerance to act differently with regard to risk than individuals with a high risk tolerance. Someone with a high level of risk tolerance would be expected to accept a higher exposure to risk in the sense of taking sole responsibility, acting with less information, and requiring less control than would someone with a low level of risk tolerance (MacCrimmon and Wehrung, 1986\textsuperscript{31}).
2.6.1. Meaning and Definition of Risk

Risk can have different meanings to different individuals. Among experts (academicians or professionals) and society (novices or the public) there is no absolute or formally established meaning of risk.

Rohrmann and Renn (2000)\textsuperscript{32} provided the following perspective of risk:

‘There is no commonly accepted definition for the term risk - neither in the sciences nor in public understanding. In disciplines such as engineering, physics, pharmacology, toxicology or epidemiology, formal definitions based on the probability and physical measurements or corresponding utilities of negative outcomes are preferred; quantification of probabilities and outcomes lie at the core of this approach. In the social sciences, the meaning of risk is a key issue and qualitative aspects of risk are seen as crucial facets of the concept’.

The basic definition of risk generally carries a ‘negative connotation’ such as the possibility of harm, loss, destruction, or an undesirable event. The definition of risk usually differs in regards to the specific activity, situation, or circumstance. Brehmer (1987)\textsuperscript{33} writes, ‘how risk is judged depends upon the context in which the judgments take place’. For instance, risk assessments about hazardous activities like nuclear power might evoke concerns over imminent hazard or danger. While, in another circumstance such as investing in a stock or mutual fund, risk might be considered a decision tailored to realize or failure to reach a potential investment objective.

Risk incorporates a systematic set of prospects and statistical chances that include gains (upside risk) and losses (downside risk). Lane and Quack (1999)\textsuperscript{34} provide the following perspective of risk:
‘A dictionary definition of risk is that of a state in which the number of possible future events exceeds the number of actually occurring events and some measure of probability can be attached to them. Risk is thus seen to differ from uncertainty where the probabilities are unknown’.

The technical definition of risk is as follows: ‘the word risk refers to situations in which a decision is made and whose consequences depend on the outcomes of future events having known probabilities’ (Lopes, 1987).35

In the area of finance, Markowitz (1952) first proposed that investment portfolios could be evaluated in terms of their expected return and the riskiness of that return. Over the years, the standard definition of risk that developed within academic finance is based on complex statistics and mathematics, in which risks are narrowed to purely objective measurements and figures. Haslem (2003) provided an extended application of the widely accepted view of risk:

‘Risk is the other side of return. Returns comprise two elements, the periodic payment of interest or dividends (yield) and change in asset values over a period of time (capital gains/losses). The capital asset pricing model states that return and risk are positively related; higher return carries higher risk’.

Much of the academic research finance disregards the subjective notion of risk. Instead, risk is measured based on objective representation of numerical data, statistical measures, and distribution of possible outcomes. However, according to Frankfurter, McGoun, and Chiang (2002), two approaches to risk exist; the ‘traditional’ approach using historical relative frequency distributions and the emerging ‘behavioural’ approach concerning the findings from psychological experiments.
2.6.2 The Standard Finance View of Risk

The standard finance literature treats risk as a one-dimensional concept and the measurement of risk as objective in nature. Levy and Sarnat (1972) provide a basic description of how standard finance approaches the issue of risk:

‘Subsequently, various economists have tried to evaluate investments with the aid of two (or more) indicators based on the distribution of returns. Generally, one index reflects the profitability of the investment while the other is based on the dispersion of the distribution of returns and reflects the investment’s risk. The most common profitability index used is the expected return that is the mean of the probability distribution of returns; the risk index is usually based on the variance of the distribution, its range, and so on’.

Shan (1997) provided the following summary of the main topics concerned with financial and investment risk within academic finance.

1) Individual preferences and attitudes towards risk of the decision maker are classified into three main groupings including: risk averse, risk neutral, and risk seeker.

2) The main assumptions of Modern Portfolio Theory are risk as variance of return, risk reduction through diversification, the importance of beta risk, and the Capital Asset Pricing Model.

3) The significance of option volatility and the risk of derivative securities.

4) The tools of financial risk management include hedging strategies, bond duration, volatility, and portfolio insurance.

5) The variety of different categories of asset risk based on the type of financial instrument includes interest rate risk, credit risk, and bankruptcy risk.
2.6.3 The Behavioural Finance Viewpoint of Risk

Behavioural finance scholars take a different viewpoint of risk and decision-making when compared to standard finance academicians. Sortino (2001)\textsuperscript{41} wrote ‘recent research in the behavioural finance area claims that investors do not seek the highest return for a given level of risk, as portfolio theory assumes’.

Behavioural finance assumes a vital aspect of the investment decision-making which is the subjective aspect of perceived risk by the investors rather than exclusively the ‘objective risk’ emphasized by the standard finance scholars. According to Hanna and Chen (1997)\textsuperscript{42}, financial risk tolerance is a subjective attribute and as such is generally believed to be a genetic predisposition. As an attitude towards risk, it refers to the level of financial risk that an individual prefers to accept. Selto and Cooper (1990)\textsuperscript{43} describe subjective risk ‘as the perception of the attributes of objective risk, which perception may be imperfect and which may be affected by many attributes of the choice’.

Slovic (2000)\textsuperscript{44} provides the following description of risk: Risk is inherently subjective. Human beings have invented the concept ‘risk’ to help them understand and cope with the dangers and uncertainties of life. Although these dangers are real, there is no such thing as real risk or objective risk. Even the simplest, most straightforward risk assessments are based on theoretical models, whose structure is subjective and assumption-laden and whose inputs are dependent upon judgment.

The role of subjective risk influences the decision making process of investors by shaping their perceptions and reactions. In some cases, subjective risk measurements have even outperformed objective risk variables (Farrelly and Reichenstein, 1984)\textsuperscript{45}. 

30
2.7 Frequent Trading Behaviour

Individual investors’ trading behaviour has grown over time and has attracted the attention of academicians. Financial advisors have long been recommending individual investors to refrain from frequent trading, as individual investors pay an exorbitant price for trading actively which may erode their profits or even result in systematic and economically large losses. Previous studies on individual investors’ performance have also provided support for financial advisors suggestions. As illustrated by Schlarbaum, Lewellen, and Lease (1978a)\textsuperscript{46} and Brad and Terrance (2000)\textsuperscript{47}, individual investors could participate in financial market with better performance by following a simple buy-and-hold strategy, such as holding diversified portfolios. As an alternative choice, individual investors could diversify and enjoy market rates of returns by investing in equity mutual funds.

2.8 Theory of Reasoned Action (TRA) and Theory of Planned Behaviour (TPB)

In the 1970s, Icek Ajzen and Martin Fishbein developed the Theory of Reasoned Action, which depicted ‘attitude’ and ‘subjective norms’ to be two determinants of behavioural intention (Ajzen and Fishbein, 1980\textsuperscript{48}; Fishbein and Ajzen, 1975\textsuperscript{49}). Attitude refers to individual’s favourable or unfavourable feelings toward performing a target behaviour, which Fishbein and Ajzen (1975)\textsuperscript{49} claimed as ‘an individual’s positive or negative feelings about performing the target behaviour’. Subjective norms refer to ‘the person’s perception that most people who are important to him think that he should not perform the behaviour in question’ (Fishbein and Ajzen, 1975)\textsuperscript{49}. In other words, social norms, opinion leaders, family members, and friends may play an important role in affecting people’s intention. The theory showed that attitude and subjective norms jointly
determined people’s intention, which in turn determined people’s behaviour. Figure 2.1 illustrates the TRA model.

![Fig 2.1: Theory of Reasoned Action (TRA) Model](image)

As an extension of TRA, The Theory of Planned Behaviour (TPB) addresses TRA model’s limitation in dealing with behaviour over which people had incomplete volitional control (Ajzen, 1991) and thus has been found to be more valid to predict behaviour. Same as TRA, intention in TPB is depicted as a central factor to influence a behaviour, which indicated ‘how hard people are willing to try, or how much of an effort they are planning to exert, in order to perform the behaviour’ (Ajzen, 1991). However, not all behaviours could in fact be performed under people’s volitional control, and most of the time, performance of behaviour depended on non-motivational factors, such as time, money, skills, and cooperation of others (Ajzen, 1985). The availability of requisite opportunities and resources represented people’s actual control over the behaviour, namely ‘perceived behavioural control’ (PBC). TPB has been largely used and successfully applied to predict people’s intention and behaviour (Ajzen, 1991). Figure 2.2 below describes the TRB model.
Fig 2.2: Theory of Planned Behavioural Model (TPB) Model

The assumption that individuals may encounter unexpected or uncontrolled obstacles that impede the execution of intention in the Theory of Planned Behaviour can be valid in predicting investors trading behaviour. Most of the time, individual investors suffer from the obstacles of ‘lack of money’, ‘delayed information’, ‘bad timing’ etc. Hence, perceived behavioural control is also considered along with attitude and subjective norms to study the trading behaviour of individual investors.

2.9 Personality Factors

Individuals possess different personality traits. These traits have been developed over time. Decisions of any kind would be influenced by the presence or absence of specific personality traits in individuals. The influence of personality factor on investment decision making has been empirically tested by Allport and Allport (1921)\textsuperscript{52}, Goldberg...
(1981)\textsuperscript{53}, and Costa and McCrae (1997)\textsuperscript{54} amongst others. Since the current research is about individual investors’ trading behaviour, a description of select factors pertinent to personality is presented below.

2.9.1 Self Esteem

Self-esteem is a term used in psychology to reflect a person's overall evaluation or appraisal of his or her own worth. Psychologists usually regard self-esteem as an enduring personality characteristic. In the mid 1960s, Morris Rosenberg and social-learning theorists defined self-esteem in terms of a stable sense of personal worth or worthiness. Many psychological theories suggested that self-esteem is a basic human need or motivation. Abraham Maslow included self-esteem in his hierarchy of needs. Increase and decrease in self-esteem generally bring strong emotional reactions. Moreover, these fluctuations are often coincident with major successes and failures in life. High self-esteem refers to a highly favourable evaluation of the self. Low self-esteem, by definition, refers to an unfavourable definition of the self.

2.9.2 Emotional Experience

The James-Lange theory states that emotional experience is largely due to the experience of bodily changes (Langer, 1983)\textsuperscript{55}. Izard (1993)\textsuperscript{56} stresses that the experiential component of emotions like the experience of pain, anger, and joy is central and manifests itself as an action tendency, a biasing of perceptions, or a feeling state. Individuals who know what they are feeling might be able to deal better with emotional issues and therefore, experience greater psychological well-being than individuals who are less clear about their feelings. Neuroticism is the tendency to experience negative emotions, such as anger, anxiety or depression. It is sometimes called emotional instability. Those who score high in
neuroticism are emotionally reactive and vulnerable to stress. At the other end of the scale, individuals who score low in neuroticism are less easily upset and are less emotionally reactive. They tend to be calm, emotionally stable and free from persistent negative feelings.

2.9.3 Ambitious

Individuals who set both high aspirations and high probabilities of achieving those aspirations are said to be ambitious. Familiarity leads them to be ambitious. Investors who mainly invest as a hobby or to speculate might have very high conviction, make bold forecasts, tolerate risk, and set ambitious targets. Investors with the most information have the highest convictions in their stock picking skills, make bolder forecasts, and set the most ambitious goals.

2.9.4 Self Efficacy

According to Bandura (1995)\textsuperscript{57}, self-efficacy is “the belief in one’s capabilities to organize and execute the courses of action required to manage prospective situations”. In other words, self-efficacy is a person’s belief in his or her ability to succeed in a particular situation. Bandura described these beliefs as determinants of how people think, behave, and feel (Bandura, 1994)\textsuperscript{58}. A strong sense of efficacy enhances human accomplishment and personal well-being in many ways. People with high assurance in their capabilities approach difficult tasks as challenges to be mastered rather than as threats to be avoided. In contrast, people who doubt their capabilities shy away from difficult tasks which they view as personal threats. They are slow to recover their sense of efficacy following failure or setbacks. They fall easy victim to stress and depression.
2.9.5 Internal Orientation

Rotter's original (1966)\textsuperscript{59} locus of control formulation classified generalized beliefs concerning who or what influences things along a bipolar dimension from internal to external control. ‘Internal control’ is the term used to describe the belief that control of future outcomes resides primarily in oneself while ‘external control’ refers to the expectancy that control is outside of oneself, either in the hands of powerful other people or due to fate. Those with a high internal locus of control have better control of their behaviour, tend to exhibit more political behaviours, and are more likely to attempt to influence other people than those with a high external locus of control. Those with a high internal locus of control are more likely to assume that their efforts will be successful. They are more active in seeking information and knowledge concerning their situation.

2.9.6 Stress Management

Stress management refers to controlling factors that require a response or change within a person by identifying the stressors, eliminating negative stressors, and developing effective coping mechanisms to counteract the response constructively. Examples include progressive muscular relaxation, guided imagery, biofeedback, breathing techniques, and active problem solving (Mosby’s Medical Dictionary, 2009)\textsuperscript{60}. It becomes important for everyone to manage stress because it can cause serious health problems too.

2.9.7 Active Involvement

The more people participate in a task, the greater their feeling of being in control. People feel they have a greater chance of winning a coin toss if they flip the coin. Modern investors have high participation in the investment process. Investors generally conduct their
own investment decision-making process; they must obtain and evaluate information, make trading decisions, and then place the trades. This is an example of active involvement.

2.10 Social Factors

Individuals, by nature are sociable. They depend on society for gathering information to support their decisions. Media, social interactions with friends and relatives and internet have become essential vehicles for spreading and sharing information and ideas. The following section describes the select social factors that have an influence on the trading behaviour of individual investors.

2.10.1 Media

The media is a key factor in influencing decisions of individuals. Though the news media presents themselves as unbiased observers, they are an integral part of the market events because they are interested in getting as many viewers and readers as possible. Significant market events generally occur only if there is similar thinking among large groups of people, and the news media are essential vehicles for the spreading of ideas. The news media are in constant competition to capture the public attention in order to survive.

The media actively shape public attention and categories of thought, and they create the environment within which the stock market events are played out. The news media are fundamental propagators of speculative price movements through their efforts to make news interesting to their audience. They sometimes remind the public of the past market episodes or of the likely trading strategies of others. Thus, the media can sometimes foster stronger feedback from past price changes to further price changes. As a consequence, the media can also foster another sequence of events.
The news media are naturally attracted to financial markets because there is a perpetual flow of news in the form of daily price changes and company reports. The media actually plays two roles; they not only set the stage for market moves but they also instigate the moves themselves (Shiller, 2000)\(^3\).

2.10.2 Social Interactions

Social interactions are the acts, actions, or practices of two or more people mutually oriented towards each other's selves, that is, any behaviour that tries to affect or take account of each other's subjective experiences or intentions (Rummel, 1976)\(^6\). This means that the parties to the social interaction must be aware of each other. Social interaction is not defined by type of physical relation or behaviour, or by physical distance. It is a matter of a mutual subjective orientation towards each other. Thus, even when no physical behaviour is involved, as with two rivals deliberately ignoring each other's professional work, there is social interaction.

2.10.3 Internet

Internet has not only provided means for electronic commerce but has also facilitated sharing of information and knowledge with others. These are found in the form of chat rooms and discussion rooms where individuals can share their opinion on their subject of interest. In fact, this has turned to be a biggest socializing media as one can share information with anyone across the world.

2.11 Cognitive Factors

Cognition refers to the way people think in their decision making process. Psychologists have proved that people possess cognitive biases. As individual investors
commit cognitive errors, they influence price changes, volume of trading and finally disturb market efficiency. The following section briefly describes the select cognitive factors which have an influence on the trading behaviour of individual investors.

2.11.1 Availability Heuristics

Availability heuristics means that people assume some event to be more probable than some other when the event has taken place quite recently or is just more easily brought to mind. People also fall victims of presumed association which means that they tend to assess wrongly the likelihood of two events occurring together. Overall, when the event is fresh in memory it seems like it is more probable to take place than some other event, even if that is not true.

2.11.2 Mental Accounting

It describes the tendency of people to place particular events into different mental accounts based on superficial attributes (Shiller, 1998)\(^2\). The main idea underlying mental accounting is that decision-makers tend to separate the different types of gambles they face into separate accounts, and then apply prospect theory decisions rules to each account by ignoring possible interaction between the accounts. Mental accounts can be isolated not only by content, but also in respect to time (Goldberg and von Nitsch, 2001)\(^6\). Mental accounting can result in “good money being thrown after bad money” by a continuous operation of non-profitable ventures in the hope that recovery will somehow take place.

2.11.3 Herd Behaviour

A fundamental observation about the human society is that people who communicate regularly with one another think similarly. The social influence has an immense power on individual judgment. In everyday living, it is learned that when a large group of people is
unanimous in its judgments they are certainly right (Shiller, 2000). Even completely rational people can participate in herd behaviour when they take into account the judgments of others, and even if they know that everyone else is behaving in a herd like manner. When gathering information, people generally trust friends, relatives, and working colleagues more than media.

2.11.4 Overconfidence and Conservatism

People tend to exaggerate their talents and underestimate the likelihood of bad outcomes over which they have no control. The greater, the confidence a person has in him, the more is the risk of overconfidence. This applies, in particular, to areas where people are not well-informed. Self-confidence usually bears no relation to their actual knowledge (Goldberg and Von Nitsch, 2001).

Conservatism refers to a phenomenon according to which people mistrust new data and gives too much weight to prior probabilities of events in a given situation. It takes anywhere from two to five observations to do one observation’s worth of work in inducing a subject to change his opinions (Edwards, 1968). According to this principle, people are slow to change their opinions.

2.11.4 Anchoring

Anchoring refers to the decision-making process where quantitative assessments are required and where these assessments may be influenced by suggestions. People have in their mind some reference points (anchors), for example of previous stock prices. When they get new information they adjust this past reference insufficiently (under reaction) to the new information acquired. Anchoring describes how individuals tend to focus on recent behaviour and give less weight to longer time trends.
2.11.5 Self-Attribution and the Illusion of Control

Individuals have a tendency to attribute success to their skills, while blaming failure on bad luck. People become even more overconfident when they feel they have control over the outcome. For example, if people are asked to bet on whether a coin toss will end in heads or tails, most will bet larger amounts if they are asked for the bet before the coin has been tossed. If the coin has already been tossed and the outcome is concealed, people would offer lower amounts when asked for bets. People act as if their involvement will somehow affect the outcome of the toss. In this case, the idea of control over the outcome is clearly an illusion. The key attributes that foster the illusion of control are choice, outcome sequence, task familiarity, information, and active involvement.

2.11.6 Over Optimism

The Oxford English dictionary defines optimism as having ‘hopefulness and confidence about the future or successful outcome of something; a tendency to take a favourable or hopeful view’. Psychologists have shown that most people tend to overestimate the likelihood of positive outcomes and underestimate the likelihood of negative outcomes. Optimistic individuals exaggerate their abilities and skills and believe that they are likely than their peers to develop serious diseases (Kahneman and Riepe, 1998). Assuming that individual investors are not exceptionally different from the rest of the population, one could expect them to be overly optimistic in their financial forecasts. Investors tend to form overly optimistic forecasts when they are more emotionally involved.
2.11.7 Disposition Effect

Disposition effect refers to the tendency of investors too quickly selling the shares whose prices have increased and hold on for too long to shares that have dropped in value (Shefrin and Statman, 1985)\textsuperscript{65}. The reason for this is that people do not want to recognize the losses but do want to recognize the gains they have made. By selling the shares whose value has dropped the investor would have to admit that he made a bad investment. As long as the losses are not recognized, they exist only in theory. People find it uncomfortable to “close the account” in negative. It causes feelings of regret to them.

2.11.8 Excess Sensitivity to Rumours

Kapferer (1990)\textsuperscript{66} defines a rumour as the emergence and spreading of information in a society that either has not been publicly confirmed or been denied by official sources. Rumours are typically transmitted orally, by e-mail or by media as information services or television. The first action of the participants after hearing a rumour is to approach other people for further verification of the received news, and to follow the price movement of the rumour. If the price moves then most likely there is some relevance to the rumour.

Rumours are spread because they are believed. If the market participants contact other people in the market they are already biased towards the rumour and consider it important. They are looking for confirmation of their opinion. Knowing more than other market participants can lead to making profits. As one trader mentioned, ‘The traders jungle drums are amongst the most sensitive in the world’ (Koenig, 1985)\textsuperscript{67}.
Financial markets are an ideal medium for rumours for several reasons: the number of participants is limited, the actors are all experts in the field and flooded with news, time is crucial, and a financial risk is always involved.

2.11.9 Familiarity Bias

Familiarity heuristic is defined as judging events as more frequent or important because they are more familiar in memory (Ashcraft, 2006). This is useful because it saves time for the subject who is trying to figure out the appropriate behaviour for a situation they have experienced before. Individuals automatically assume that their previous behaviour will yield the same results when a similar situation arises. However, certain behaviour can be inappropriate when the situation is different from the time before.

This chapter has explored the various factors that have been proven to influence the trading behaviour of individual investors. Trading behaviour has invited a great deal of interest among the researchers, where they have tried to understand its complex phenomenon. This study attempts to study the combined effect of all the factors that influence individual investors trading behaviour. A review of existing research studies and other relevant material is made in the next chapter.
References


Redelmeier, D.A., (2005), ‘The cognitive psychology of missed diagnosis’, Annals of Internal Medicine, 142, 2, 115-120.


47


60 Mosby’s Medical Dictionary, 2009.


