<table>
<thead>
<tr>
<th>Section</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Introduction</td>
<td>16</td>
</tr>
<tr>
<td>2.2 Standard Finance</td>
<td>18</td>
</tr>
<tr>
<td>2.2 Behavioural Finance</td>
<td>19</td>
</tr>
<tr>
<td>2.4 Types of Investors</td>
<td>20</td>
</tr>
<tr>
<td>2.5 Evidence for Irrational Investor Behaviour</td>
<td>21</td>
</tr>
<tr>
<td>2.6 Decision Making Process of Individual Investors</td>
<td>22</td>
</tr>
<tr>
<td>2.7 Risk Tolerance of Individual Investors</td>
<td>27</td>
</tr>
<tr>
<td>2.8 Frequent Trading Behaviour</td>
<td>30</td>
</tr>
<tr>
<td>2.9 Theory of Reasoned Action (TRA) and Theory of Planned Behaviour</td>
<td>31</td>
</tr>
<tr>
<td>2.10 Personality Factors</td>
<td>33</td>
</tr>
<tr>
<td>2.11 Social Factors</td>
<td>35</td>
</tr>
<tr>
<td>2.12 Cognitive Factors</td>
<td>37</td>
</tr>
<tr>
<td>2.13 Conclusion</td>
<td>40</td>
</tr>
</tbody>
</table>
2.1 Introduction

Finance can be comprehensively characterized as the investigation of how scarce resources are managed by people, and how these resources are overseen, acquired and invested over time. There are twofold ideal models inside the traditional theory of finance: (i) Market operators are perfectly rational: perfect rational behaviour suggests that any newly available data is deciphered effectively and consistently yet all market specialists while upgrading their beliefs, and (ii) Markets are Efficient: The Efficient Market Hypothesis (EMH) expresses all significant data are reflected in the costs promptly and totally. At the point when the theory holds, costs are correct, and there is ‘no free lunch’. i.e. there is no investment strategy which can earn excess risk-adjusted average returns consistently. In the course of recent years, there has been a great deal of concentrate on the improvement and testing of different refined resource evaluating models.

Subrahmanyam (2007)\(^4\) categorises central paradigms of finance as (i) Portfolio allocation based on expected return and risk (ii) risk-based asset pricing models (e.g. Capital Asset Pricing Model) (iii) the pricing of contingent claims, and (iv) the Modigliani-miller theorem and its augmentation by the theory of agency. It is assumed that, since people give more importance for wealth, they behave wisely while making financial decisions. Even though these models developed the study of finance, many questions were left unanswered by these theories. Traditional finance plays a very limited role in explaining issues such as (i) why do individual investors trade? (ii) Why do returns vary across stocks for reasons other than risk?

While this was a situation in the financial field, researchers in psychology were discovered that people often behave in strange while making financial decisions. Psychologists opine that economic decisions are often made in a seemingly irrational manner. Cognitive errors and extreme emotions can cause investors to make bad investment decisions.

Shiller (2002)\(^5\) gave the theoretical and empirical evidence to support the fact that CAPM, EMH, and other traditional financial theories helped a lot in forecasting

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and explaining certain situations. But, academics also started to search anomalies and behaviours which these traditional theories could not support. Two popular examples are (i) The January Effect, an anomaly in the financial market where the prices of a security increase in the month of January without fundamental reasons (Rozeff and Kinney, 1976)\(^6\), (ii) The Winner's Curse where the winning bid in an auction tends to exceed intrinsic value of the item purchased, mainly due to incomplete information, and emotions leading bidders to overestimating the item's value. (Thaler, 1988)\(^7\). Academics were encouraged to look to cognitive psychology to account for irrational and illogical investor behaviour (Phung, 2002)\(^8\).

Behavioural finance is a relatively new paradigm of finance, which seeks to supplement the standard theories of finance by introducing behavioural aspects to the financial decision-making process. Early proponents of behavioural finance are considered by some to be visionaries. The awarding of the 2002 Nobel Prize in economics to psychologist Daniel Kahneman and experimental economist Vernon Smith vindicated the field. Kahneman studied human judgment and decision making under uncertainty while Smith studied alternative market mechanism through experimental research. This was the first time a psychologist was awarded the Nobel Prize and played a vital role in convincing mainstream financial economists that investors can behave irrationally.

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 practice, it has been found that investors are affected by a series of psychological biases in their buying and selling decisions. The evolution of behavioural finance led researchers to

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undertake various studies such as 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.

2.2 Standard Finance

Standard finance is the systematic 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, 1999). These theories consider capital markets to be efficient and are highly analytical and normative.

The modern financial economic theory is based on the assumption that the representative market in the economy is rational. The theory says market makes decisions according to the axioms of expected utility theory and makes fair forecasts about the future. The expected utility theory describes a person who is risk averse results the marginal utility of wealth decreases. Assets prices are set by rational investors and consequently rationality based market equilibrium is accomplished. In this equilibrium, securities are priced according to the efficient market hypothesis, which is explained in detail below.

2.2.1 The Efficient Market Hypothesis

According to the efficient market hypothesis, financial prices incorporate all available information and prices can be observed as optimal estimates of correct 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). Stock prices approximately defined on time, the price fluctuations are unpredictable since they happen only in response to genuinely new information, which by the very fact that it is new, is unpredictable.

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It is well known 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 additional risk.

**2.3 Behavioural Finance**

Behavioural finance is a new paradigm of finance which tries to add-on 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 they are under influence, as divergent to traditional finance (Matthew, 1998). Behavioural finance seeks to understand and ascertain systematic financial market implications of psychological decision processes. In addition, it focuses on the application of psychological and economic principles for the good financial decisions (Olsen, 1998).

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

Theories of behavioural finance provide a 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.

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2.4 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 several aspects to support their various goals. Investors are mainly categorized as retail investors and institutional investors.

Retail investors are also called as individual investors. They are large in number but their investable resources are comparatively lesser. They generally do not have sufficient skill to carry out extensive evaluation and analysis before investing. Besides, 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 a large amount of surplus fund to be invested in various profitable avenues. These institutional investors are less in number compared to individual investors, but their investable resources are much larger. The institutional investors involve 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 field dynamic (Kevin, 2006).14

2.4.1 Emergence of Individual Investors

The emergence of individual investors in the stock market is documented in many countries in terms of increase in a number of shareholders as a percentage of the adult population. The development is due to several reasons. A common interest towards investing in shares has emerged as a result of a large amount of information, easier access to online trading facilities, and good long-term price developments in the market. Moreover, the presence of individual investors has laid a basis for growing online trading services. The online trading service offers cost-efficient trading and information acquisition services, especially for individual investors. In general, lower

trading costs and increased transparency have supported the broader market participation (Markku et al, 2006)\textsuperscript{15}.

As individual investors trade for their own benefits with much smaller quantities of the 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)\textsuperscript{16}. Further, according to Riccardi and Simon (2000)\textsuperscript{17}, individuals are repeatedly inconsistent in their investment decisions.

2.5 Evidence for Irrational Investor Behaviour

A speculator has ₹100 and needs to choose between the following two choices, for example, Gaining ₹100 and afterward losing ₹50 or Gaining ₹50. In traditional finance the possibility of gaining ₹50 is equivalent to the possibility of gaining ₹100 and afterward losing ₹50 as in both choices, the net impact is a gain of ₹50. In behavioural finance, financial specialists prefer a single gain of ₹50 than gaining ₹100 and afterward losing ₹50. The suggestion is that investor willing to resolve for a sensible level of additions and forsake the possibility of acquiring progressively and in the meantime, they will take part in hazard looking for practices intending to constrain their misfortunes. At the end of the day, the heaviness of misfortunes makes a more prominent sentiment trouble contrasted with the delight created by the comparable measure of additions.

This is enlightened by the fact that investors are generally risk averse. This implies on the off chance that they need to pick between two resources with a similar esteem, they lean toward the advantage with the lower hazard. Hazard avoidance causes financial specialists to respond apprehensively to market changes. For example, if the market's decay is over seven days, financial specialists expect that these drops connote more honed decreases and they don't recognize these decreases as a chance to purchase great stocks at lower costs. Speculators like to enter the


alternatives markets and purchase cautious puts as opposed to expanding their stock positions in a declining market while exploiting low stock prices. Hence, risk aversion is the prime psychological factor that influences investment decision-making.

2.6 Decision Making Process of Individual Investors

The decision making process of individual investors is depend on many things. They depend on political information, personal information including sentimental information, restorative decisions and vocation information, and money-related information which may likewise incorporate a few or alternate sorts of information and judgments. Frequently, the basic leadership process is genuinely particular to the decision being made. Some decisions are very clear, while others are confusing and need a multi-step way to deal such decision. Considering how individuals touch base at their decisions is a territory of psychological brain science that has gotten consideration today. Speculations have been produced to clarify how individuals settle on choices and what sorts of elements impact basic leadership in the present and future. Also, heuristics have been looked into to comprehend the basic leadership handle.

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.

2.6.1 Factors influencing Decision Making Process

There are several important factors that influence decision making process. Important factors include past experiences, escalation of commitment, cognitive biases and ruined outcomes, individual differences including age, gender and socioeconomic status, and a faith 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 process. Jullisson et al (2005)\textsuperscript{18} specified 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, in a similar situation. At the same time, people tend to avoid committing past mistakes. It is also important to understand 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).16

Along with 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 incorrect judgments, memory errors and faulty logic.

Cognitive biases incorporate, however, are not limited to conviction predisposition, the over-reliance on earlier learning in moving base at choices, knowledge of the past inclination, individuals tend to promptly clarify an occasion as inescapable, once it has happened oversight predisposition, on the whole, individuals have an affinity to exclude data saw as dangerous; and affirmation predisposition, in which people watch what they expect in perceptions. Intellectual inclinations empower people to settle on effective choices with help of heuristics (Shah and Oppenheimer, 2008).19

Notwithstanding past encounters and intellectual inclinations, basic leadership might be impacted by an acceleration of responsibility and sunk results which are unrecoverable expenses. inferred that individuals settle on choices in light of a nonsensical heightening of responsibility, that is, people contribute bigger measures of time, cash and exertion into a choice to which they feel submitted; facilitate, individuals will tend to keep on making unsafe choices when they feel in charge of the sunk costs, time, cash, and exertion spent on a venture. Subsequently, basic leadership may on occasion be affected by how the individual feels himself or herself.

Some people behaviour may also influence decision making process. Research has indicated that socioeconomic status, gender, age and mental abilities influence decision making. Further, established a significant difference in decision making

through gender and age that is, as cognitive functions decline as a result of age, decision making process may decline as well. Besides, older people may be more overconfident about their ability to make decisions, which prevents their ability to apply strategies. Finally, as age is concern, there is evidence to support the view that older adults prefer fewer choices than younger adults. Further, according to (de Bruin et al., 2007), people in poorer socio-economic status groups may have less access to education and resources, which may influence them more vulnerable to experiencing negative life events beyond their control, thus, low socio-economic status individuals may make poorer decisions, based on past experiences and decisions.

2.6.2 Heuristics

Heuristics are general decision-making strategies people use that are based on the lesser information. Heuristics are mental short cuts that ease the cognitive burden associated with decision making process (Shah and Oppenheimer, 2008). Heuristics make the user the ability to examine few signals and alternative choices in decision making. Moreover, 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. Heuristics range from general to very specific and serve several functions. The price heuristic, in which people judge higher priced items to have higher quality than lower priced things, is specific to consumer patterns, whereas the outrage heuristic, in which people consider how contemptible a crime is when deciding on the punishment. According to Shah and Oppenheimer, three important heuristics are the representative availability, anchoring, and adjustment heuristics.

In decision making, people depend 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). If one of two things is recognisable, people will tend to choose the recognised thing, using or arriving at a decision with the least amount of effort or information (Goldstein and Gigerenzer,
Hilbig and Pohl stated that it is difficult to research and answer definitively if an individual is using the RH alone, or if the individual 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 debated that less recognition leads to 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 combination with the RH.

Another highly researched heuristic is the availability heuristic. As per this heuristic, people are inclined to retrieve information which is readily available in making a decision (Redelmeier, 2005). Remarkably, this is an important heuristic, as it is the basis for many of individual judgments and decisions. For example, when people are requested 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). In the medicine field, Redelmeier said that missed medical diagnoses are often attributable to heuristics and the availability heuristic is one of the responsible factors for such diagnoses. Redelmeier described that heuristics are beneficial as they are cognitively economical, but advised clinicians and practitioners need to recognise 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). In this particular heuristic, individuals first use an anchor that surfaces initially and adjusts their estimates until a satisfactory level is touched. For example, if a person is asked to answer the question, “In what year did the anchoring and adjustment heuristics would be used and then make an estimate based on the known information. The practical application of the anchoring and adjustment heuristic is in negotiation,

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people make counteroffers based on the anchor that is delivered to them. Epley and Gilovich explained that often people try to make estimates which tend to settle towards the anchor side, where actual values tend to be away from the initially established anchor.

### 2.6.3 Investment Decisions and Behaviour of Individual Investors

According to traditional finance, investment decisions are influenced by the net effect of the gains and losses experienced in the portfolio. Investors estimate the net effect by considering value in each possible option and by ascertaining a weighted average based on the probability of each option. This is based on the assumption that investors always behave in a manner that maximises their return or individuals act rationally. The Efficient Market Hypothesis (EMH) rested on the assumption of rationality (Fama, 1970)\(^27\). 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 (1999a)\(^6\), an ordinary investor is confused by cognitive errors, makes judgments that are directed by moods and affects and is susceptible to different frames.

Behavioural finance further proposes that investors tend to clutch failing to meet expectations stocks and offer good performing stocks. Commonly being danger unfriendly, speculators consider that by offering rapidly the shares that have over-performed, they can ensure their portfolio for the misfortunes brought about by the shares that have failed to meet expectations. This impact is clarified by prospect hypothesis that holds that investors construct their investment decisions more with respect to perceived gains rather than perceived losses. Therefore, losses have a more grounded passionate effect than an equivalent amount of gains. Additionally, investors are often over-confident believing that they have all the necessary data to purchase 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, equity

analysts, stock market theorists, finance managers and others involved in stock market analysis can identify how investors assess certain events and respond to stock market changes. Also, investors can understand and assess market changes effectively by gaining a broader knowledge of the factors that drive their behaviour.

2.7 Risk Tolerance of Individual Investors

The individual’s perception of risk plays an important role in influencing the individual decision-making process. In turn, the perception of risk determines the investing behaviour. The term investor risk tolerance denotes to an investors’ comfort level associated with investment variability or volatility. Generally, one can expect individuals with low risk tolerance to act differently with respect to risk compared to individuals with a high risk tolerance. Somebody 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 somebody with a low level of risk tolerance (MacCrimmon and Wehrung, 1986)28.

2.7.1. Meaning and Definition of Risk

The term risk has different meanings to different individuals. Among experts (academicians or professionals) and society (novices or the public), there is no complete or formally established meaning of risk. Rohrmann and Renn (2000)29 given the following viewpoint of risk:

‘There is no universally accepted definition for the term risk, neither in the sciences nor in public understanding. In the field such as physics, pharmacology, engineering, toxicology or epidemiology, formal definitions based on the probability and physical measurements or corresponding utilities of negative results are preferred, quantification of probabilities and results fall 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 simple definition of risk generally carries a ‘negative connotation’ such as the possibility of harm, loss, destruction, or an adverse event. The definition of risk

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usually differs in regards to the specific activity, circumstance or situation. Brehmer (1987)\textsuperscript{30} writes, ‘how risk is judged depending on the context in which the judgments take place’. For example, risk assessments about hazardous activities like nuclear power might induce concerns over imminent hazard or danger. While, in another circumstance such as investing in a stock or mutual fund, the risk might be considered a decision tailored to realise or failure to reach a possible investment objective.

Risk includes a systematic set of prospects and statistical chances that include gains (upside risk) and losses (downside risk). Lane and Quack (1999)\textsuperscript{31} offer the following view 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. The risk is therefore seen to differ from uncertainty where the probabilities are unknown’.

The technical definition of 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)\textsuperscript{32}.

In the area of finance, first proposed that investment portfolios could be assessed 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)\textsuperscript{33} stated an extended application of the largely accepted view of risk.

‘Risk is the other side of the 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’.

Most of the academic research in finance ignores the subjective notion of risk. As an alternative, the risk is measured based on the objective representation of

statistical measures, numerical data, and distribution of possible outcomes. But, according to Frankfurter, McGoun, and Chiang (2002)\textsuperscript{34}, two approaches to risk exist, the ‘traditional’ approach using historical relative frequency distributions and the emerging ‘behavioural’ approach regarding the findings from psychological experiments.

### 2.7.2 The Standard Finance View of Risk

The standard finance describes risk as a one-dimensional concept and the measurement of risk as objective in nature. The basic description of how standard finance approaches the risk is given below:

‘In this manner, different business analysts have attempted to evaluate investment with the guide of pointers in view of the distribution of profits. Generally, one index reflects the profitability of the investment whereas the other depends on the scattering of the distribution of profits and reflects the investment’s risk. The most well-known productivity record utilised is the normal return that is the mean of the likelihood distribution of profits, the risk index is typically in view of the change of the distribution, its range, etc’.

Shan (1997)\textsuperscript{35} described the following summary of the main topics relating to financial and investment risk in the academic finance.

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

2) The risk of derivative securities is dependent on the option volatility.

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

4) The variety of different categories of asset risk based on the type of financial instrument contains interest rate risk, credit risk, and bankruptcy risk.

5) The financial risk management tools comprise hedging strategies, volatility, bond duration and portfolio insurance.


2.7.3 The Behavioural Finance - View point of Risk

Behavioural finance takes a different perspective of risk and decision-making when compared to academicians of standard finance. The ‘modern research in the behavioural finance area claims that investors do not look for the highest return for a given level of risk, as portfolio theory assumes’.

Behavioural finance assumes a vibrant aspect of the investment decision-making which is the subjective aspect of perceived risk by the investors instead of exclusively the ‘objective risk’ emphasised by the standard finance experts. According to Hanna and Chen (1997)\textsuperscript{36}, financial risk tolerance is a subjective quality and hence it is generally believed to be a genetic predisposition. As an attitude towards risk, it refers to the level of financial risk that individual desires to accept. Selto and Cooper (1990)\textsuperscript{37} describe subjective risk ‘as the perception of the attributes of objective risk, the perception may be imperfect and which may be influenced by many attributes of the selection’.

The risk is inherently subjective. Human beings have identified the concept ‘risk’ in order to help them in understanding and handle themselves with the dangerous and uncertain situations of life. Even though these dangers are real, there is no such thing as real risk or objective risk. The simplest, most straightforward risk calculations are based on theoretical models, whose structure is subjective and assumption-laden and whose inputs are based on the judgment.

The role of subjective risk affects the decision-making process of investors by shaping their perceptions and reactions. In some cases, subjective risk measurements have even overtaken objective risk variables (Farrelly and Reichenstein, 1984)\textsuperscript{38}.

2.8 Frequent Trading Behaviour

As individual investors’ trading behaviour has developed over time and has gained the attention of academicians. Financial advisors have been suggesting individual investors to abstain from frequent trading, as individual investors pay an


excessive price for trading actively which may reduce their profits or even may result in large losses. Previous studies on individual investors’ performance have also provided support for financial advisors suggestions. Individual investors could participate in the 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.

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

Icek Ajzen and Martin Fishbein developed the Theory of Reasoned Action, which described ‘attitude’ and ‘subjective norms’ to be two factors of behavioural intention (Ajzen and Fishbein, 1980\(^{39}\); Fishbein and Ajzen, 1975\(^{40}\)). Attitude refers to individual’s favourable or unfavourable feelings toward performing a target behaviour, which 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. In other words, opinion leaders, friends, family members and social norms may play a vital role in affecting individual’s intention. The theory showed that attitude and subjective norms jointly determined people’s intention, which in turn determined people’s behaviour. Figure 2.9.1 illustrates the TRA model.

![Fig 2.9.1: Theory of Reasoned Action (TRA) Model](image)


As an extension of TRA, The Theory of Planned Behaviour (TPB) deals TRA model’s drawback in dealing with behaviour upon which people had incomplete volitional control (Ajzen, 1991) and hence has been found to be more valid to forecast behaviour. As same as TRA, the intention in TPB is depicted as a dominant factor to influence a behaviour, which directed ‘how hard people are willing to try, or how much of an effort they are planning to apply, in order to perform the behaviour’ (Ajzen, 1991). But, not all behaviours could, in fact, be performed under people’s volitional control, and most of the time, the performance of behaviour depended on non-motivational factors, such as time, money, skills, and cooperation with others. The availability of requisite opportunities and resources represented individual’s actual control over the behaviour, namely ‘perceived behavioural control’ (PBC). TPB has been mainly used and successfully applied to forecast individual’s intention and behaviour (Ajzen, 1991) Figure 2.9.2 below describes the TRB model.

Fig 2.9.2: 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

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timing’ etc. Hence, perceived behavioural control is also considered along with attitude and subjective norms to study the trading behaviour of individual investors.

2.10 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{42}, and Costa and McCrae (1997)\textsuperscript{43} amongst others. Since the current research is about individual investors’ trading behaviour, a description of select factors pertinent to personality is presented below.

2.10.1 Self Esteem

Self-esteem is a term used in psychology to reflect a human's general assessment or evaluation of his or her own value. Psychologists usually regard self-esteem as a fixed personality characteristic. In the mid1960s, Morris Rosenberg and social-learning scholars defined self-esteem in terms of a steady feeling of individual worth or value. Numerous Psychologists recommended that self-esteem is a fundamental human need or motivation. Abraham Maslow included self-esteem in his hierarchy of essentials. Increase and decrease in self-esteem by and large bring forceful enthusiastic responses. Also, these fluctuations are regularly coincident with significant success and failures in life. High self-esteem refers to a highly favourable assessment of the self. Low self-esteem, by definition, refers to an unfavourable definition of the self.

2.10.2 Emotional Experience

The James-Lange theory states that emotional experience is largely due to the experience of bodily changes. Izard (1993)\textsuperscript{44} stresses that the experiential component of emotions like the experience of pain, anger, and joy is central and manifests itself

\textsuperscript{42}Allport, Floyd H. and Allport, Gordon W., (1921), “Personality Traits: Their Classification and Measurement”, \textit{Journal of Abnormal and Social Psychology}, Vol. 16, Pp. 6-40.


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.

2.10.3 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.

2.10.4 Self-Efficacy

According to Bandura (1995)\textsuperscript{45}, 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{46}. 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.

2.10.5 Internal Orientation

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.

2.10.6 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. It becomes important for everyone to manage stress because it can cause serious health problems too.

2.10.7 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.

2.11 Social Factors

Individuals, by nature, are sociable. They depend on society for gathering information to support their decisions. Media, the internet, social interactions with friends and relatives 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.

2.11.1 Media

The media is a crucial factor in influencing the individuals’ decisions. 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. Important market events usually occur only if there is similar thinking among large groups of people and the news media are important means for the spreading of ideas. The news media are in continuous competition to capture the public attention in order to survive.

The media dynamically shape public attention and group the thought, and they make 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 viewers. They sometimes remind the public about the past market incidents or of the likely trading strategies of others. Hence, 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.

2.11.2 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. This means that the parties to the social interaction must be aware of each other. Social interaction is not defined by the 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.
2.11.3 Internet

The Internet has not only provided a platform for electronic commerce but has also simplified 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.

2.12 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, the 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.

2.12.1 Availability Heuristics

Availability heuristics means that individuals assume some event to be more likely than some other when the event has taken place quite recently or is just more easily brought to mind. Individuals also fall victims of presumed association which mean 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.

2.12.2 Mental Accounting

Mental Accounting refers to 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 with respect to time. 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.
2.12.3 Herd Behaviour

A fundamental observation about the human society is that people who communicate regularly with one another think similarly. The social influence has a huge power on the individual decision. In day to day life, it is learned that when a large group of people is common in its judgments they are certainly right (Shiller, 2000)\(^3\). 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 a manner. When gathering information, people generally trust friends, relatives, and working colleagues more than media.

2.12.4 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 self-confidence a person has in him, the more is the risk of overconfidence. This relates, in particular, those areas where people are not well-informed. Self-confidence usually bears no relation to their actual knowledge.

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

2.12.5 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 the 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.

2.12.6 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 be 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.

2.12.7 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)\(^{(47)}\). 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.

2.12.8 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. 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.

2.12.9 Excess Sensitivity to Rumours

Kapferer (1990)\(^{(48)}\) 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.

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.

2.12.10 Familiarity Bias

Familiarity Bias is characterized as judging occasions as more regular or critical in light of the fact that they are better known in memory. This is helpful in light of the fact that it spares time for the subject who is attempting to make sense of the fitting conduct for a circumstance they have encountered some time recently. People naturally accept that their past conduct will yield similar outcomes when a comparable circumstance emerges. Be that as it may, certain conduct can be unseemly when the circumstance is not the same as the time sometime recently.

2.13 Conclusion

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.