Behavioral Prospects of Individual Investor Decision Making Process: A Review

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Abstract

The bounded rationality of human behavior has become the most prominent issue nowadays for the researchers of applied economics and finance. A lot of evidence is available that shows the psychological and social patterns merging with individuals' capital markets investing behaviour that nullifies the well established theories and models of modern finance. The modern financial models like CAPM argue that the investors are fully rational, and the market is fully efficient as no individual can take the advantage of arbitraging. Studies advocating behavioral finance have confirmed social influences and psychological biases which deviate individual investors from their calculated and predetermined decisions, and reject the hypothesis of individuals being fully rational while taking decisions related to stock markets. Through this review paper, the concepts related to behavioral finance were illustrated by using various studies, and a conceptual framework showed the influential factors related to behavioral changes impacting the individual investors' decision making, that is, creating irrational investors and inefficient markets. Through the review of various studies, we observed that social factors like herding, emotional contagion, imitation, and information cascades along with psychological patterns like representativeness availability and anchoring heuristics are the basic key factors that determine individual decisions. This paper highlighted the common decisional errors made by investors, and the study will be useful for investors and portfolio managers as it will aid them in making their choices keeping the discussed behavioral biases in mind.

Keywords: **behavioral finance, stock markets, psychological biases, social influence, market efficiency**

JEL Classification: G1, G02, G14

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Human behavior is the main factor which transforms market action. Sometimes, markets react extremely with relatively little information and sometimes, they give an opposite reaction to the serious warnings, but ultimately, this volatility auto corrects itself and returns to normality (Seetharam & Britten, 2013). Undoubtedly, all this behavior is the replica of human behavior. Financial researchers incorporate human behavior in describing the actions of the financial markets. Behavioral finance finds it reasonable to account for investor thoughts, emotions, and actions rather than only accounting for the ideology of a rational investor, who acts in a preplanned manner at every point of time, and as a result, the behavior of a rational investor provides the foundation for an efficient market (Loewennstein, 2000 ; Seetharam & Britten, 2013).

Traditional finance is based on the hypothesis of the efficient market. Eugene Fama's (1970) influential paper argued that the participating agents are rational who, first, update their knowledge correctly on the basis of the available information and, secondly, make choices that are normatively acceptable; the securities prices incorporate all the relevant information as it is available to them and due to this, the securities prices reflect the inherent or intrinsic value at all times. Unfortunately, after years of efforts, it has become clear that individual

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trading behavior is not easily understood in this framework. According to Bernstein (1998), "evidence reveals repeated patterns of irrationality, inconsistency, and incompetence in the way human beings arrived at decisions and choices when faced with uncertainty"(p.281).

Daniel, Hirshleifer, and Subrahmanyam (1998) stated that investors overreact to private information and underreact to public information. Contrary to the findings of traditional finance, behavioral finance - a fairly new area in the field of finance - neglects the concept of rationality of its participating agents and the efficiency of the the markets. In behavioral finance, this information is manipulated by an individual's self attributes and cognitive biases.

Behavioural economists document a number of cognitive biases shown by investors. Behavioral economists mainly focus on the social and psychological factors of the investors. Moreover, neuroscience has also been implemented to show the irrationality of the investors, which has allowed economists (Tversky & Kahneman, 1973) to observe the limits of human cognitive ability and allow them to appreciate the extent to which human biases often result in making decisions that are simply at odd with those predicted by traditional financial models. A slight change in the pre - conceived states can arouse individual emotions, which can lead individuals to changing their decisions mostly abruptly - decisions that deviate them from their well planed rational choices. Even casual observations show that human beings behave, especially in stock markets, vastly differently from what is predicted by economic theories.

Based on these conceptions, behavioral economists have identified psychological biases like anchoring, representativeness, and availability biases (Tversky & Kahneman, 1974). Apart from the psychological factors, socio- cultural factors like herding (Grinblatt, Titman, & Wermers, 1995), contagion (Hatfield, Cacioppo, & Rapson, 1993), imitation, and cascades (Ghashghaie, Breymann, Peinke, Talkner, & Dodge, 1996) are the most prominent dimensions of behavioral finance, which have played a vital role in identifying the behavior of individual investors. The socio- cultural factors like income, education, marital status, gender, locality, and so forth have been ignored by traditional financial economists, but in behavioral finance, these factors are the key drivers of the investors to invest their savings in a deferent manner.

In this paper, we attempt to review the behavioral finance studies categorizing the psychological and socio-cultural dimensions with the objective of understanding the key determinants of an individual investor's behavior for investing in capital markets.

Background of the Study

Behavioral finance is a new way to approach financial markets (at least, in parts) as it responds to the difficulties faced by the traditional paradigms. In other words, some financial phenomena can be better understood using an investor's psychological model under uncertainty. According to Sewell (2001), behavioral finance is the study of the influence of psychology on the behavior of financial practitioners and the subsequent effects on the markets.

Behavioral finance picked up pace during 1990s when the inefficiency of the markets was examined based on socio-cultural and psychological aspects. Researchers began a central discussion in the field of finance, and this topic came to the forefront through many academic journal papers, business publications, and even with the help of local newspapers. The foundations of behavioral finance were laid in the 1950s. In 1956, Vernon Smith introduced, for the first time, the concept of behavioral finance when the idea that human behavior influences security prices was rejected by the investment community.

The concept of behavioral finance revolves around two basic tenets : social factors and psychological biases - this idea was proposed by Tversky and Kahneman in 1973 when they introduced the availability heuristic: a judgmental heuristic in which a decision maker relies upon knowledge that is readily available rather than examining other alternatives. The reliance on the availability heuristic leads to systematic biases. Again, in 1979, Kahneman and Tversky presented an idea called the prospect theory, which contends that people value gains and losses differently, and, as such, will base decisions on perceived gains rather than perceived losses. Thus, between

the two choices - one expressed in terms of possible gains, and the other expressed in terms of possible losses - people would choose the former, rather than considering the final outcome. Hence, going through various behavioral finance theories and concepts, this paper tries to summarize the variables that influence the investment decision making process.

Nagy and Obenberger (1994) suggested that classical wealth maximization criteria are important to investors, even though investors employ adverse criteria while choosing stocks. Two leading professors from Santa Clara University, Meir Statman and Hersh Shefrin conducted a research in the area of behavioral finance. Statman (1995) wrote an extensive comparison between the emerging discipline of behavioral finance vs. the old school thoughts of "standard finance." According to Statman, behavior and psychology influence individual investors and portfolio managers regarding the financial decision making process in terms of risk assessment (i.e., the process of establishing information with reference to suitable levels of risk) and the issues of framing (i.e. the way investors process information and make decisions depending upon how it is presented).

Contemporary concerns such as local or international operations, environmental track record, and firm ethical posture appear to be given only cursory consideration. Seven factors have been identified that influence the investors' behavior while selecting an equity. These factors are : neutral information, accounting information, self image, classic, social relevance, advocate recommendation, and personal financial needs. A number of studies have come out in the last few decades which have dealt with the various psychological and cognitive biases influencing decision making of individual investors. Some of these studies are discussed in the next section.

Literature Review

A number of studies have demonstrated the psychological and socio-cultural observable facts across the world to justify the presence of irrational behavior of the stock market investors. In this study, an attempt has been made to review these behavioral patterns especially based on socio-cultural and psychological background. Psychological patterns include factors like overconfidence, heard behavior, representativeness, availability biases, mental accounting, and so forth. Investors in their normal behavior tend to react irrationally to the available information.

In this regard, Daniel et al. (1998) developed a theory based on investors' overconfidence and on change in confidence resulting from biased self attribution of investment outcomes. They stated that investors overreact to private information signals and underreact to public information signals. It was also found that positive return autocorrelation could be a result of continuing overreaction ; and short run positive autocorrelation could be consistent with long run autocorrelation.

Daniel, Hirshleifer, and Teoh (2001) found that limited attention and overconfidence caused investors to be credulous about the strategic incentives of informed market participants. It was also found that underreaction to relatively shorter term forecasts (one year) was consistent with the post earnings announcement drift in stock returns and short term momentum in returns ; whereas, overreaction to longer term forecasts was consistent with long term reversals in returns. The authors also revealed that emotions and psychological biases in judgments and decisions seemed to have important effects on public discourses and political processes, leading to mass delusions and excessive focus on transiently popular issues.

On the grounds of investor psychology, Lo, Repin, and Steenbarger (2005) showed that extreme emotional responses are counterproductive from the perspective of trading performance. Giving that trading is likely to involve higher brain functions such as logical reasoning, numerical computation, and long term planning, automatic emotional responses such as fear and greed often trump more controlled or higher-level responses.

According to Lucey and Dowling (2005), a subject whose emotional reaction to monetary gains or losses was more intense on both positive and negative sides exhibited significant worse trading performance. Mood fluctuations induced by variations in weather and body biorhythms are argued to partially influence equity investment decisions. People who are in a good mood because of good weather are argued to make optimistic judgments about equity investments than people who are in a bad mood. According to Shu (2010), by slightly

modifying the Lucas model, his study bridged the gap between empirical findings and financial theories and showed how investors' mood variations affected equilibrium asset prices and expected returns. Both equity and bill prices positively correlated with investors' moods, with higher asset prices being associated with better moods. Overall, this analysis provided a theoretical interpretation of how mood fluctuations influenced asset pricing, and it was suggested that considering an investor's mood in asset-pricing models can help interpret the growing body of seemingly anomalous evidence in financial markets.

In an interesting paper, Kamstra, Kramer, and Levi (2013) showed investors' psychological changes and established a link between depression due to SAD (seasonal affective disorder) and equity market participation through the link between SAD and depression and risk aversion. The authors reported that seasonal variation in length of the day could translate into seasonal variation in equity returns. The authors, by considering stock market index data from countries on various latitudes on both sides of the equator, revealed results that strongly supported a SAD effect in the seasonal cycle of stock returns that was both significant and substantial even after controlling for well known seasonal and other environmental factors.

Along with the psychological aspects in the field of investors' behavior, socio-cultural influences are also allied with their decision making like peers' stock market participation, marital status, education, income, and so forth. In the stock market, herd like behavior has always been noticed, and is frequently discussed in studies. While displaying herd behavior, investors follow the trend of investing prevailing in the market - like they follow a particular group of investors without thinking over the outcomes. Hershliefer (2001) proposed that even as a simple form of social interaction, imitation offers a crucial benefit: it allows an individual to exploit information possessed by others about the environment. As a common practice, investors have a tendency of imitating the activities of their social groups. They follow the actions taken by their friend's family members and peer groups. De Bondt (1993) suggested that investors expected a recent trend to continue and had a tendency to make decisions that followed the trend.

Nofsinger (2005), on the basis of the hypothesis that the general level of optimism/pessimism in society affects the emotions of most of the financial decision makers at the same time, found that the social mood affected the decisions of consumers, investors, and corporate managers alike. High (low) social mood caused an increase in decisions biased by optimism (pessimism) and impacted the aggregate investment and business activity. It was also proposed that as stock market decisions are completed quickly, the stock market itself is a measure of social mood. Finally, as a measure of social mood, stock market changes help in forecasting future and economic activities.

Hong, Kubik, and Stein (2004) analyzed HRS data and proposed that social households - those who interacted with their neighbors or the ones that attended Church - were more likely to invest in the stock markets than other social households. The impact of sociability was much stronger in those States where stock market participation rate was higher. Finally, because of the participation of social and nonsocial households, the overall participation rate climbed up sharply.

Displaying the impact of peers on decision making, Brown, Ivkovic, Smith, and Weisbenner (2008) used an instrumental variable strategy that used the variation in the stock ownership of the non- local parents of one's local peers combined with individual fixed effects, and demonstrated that a 10% point increase in community stock ownership made an individual 4-5% points more likely to participate in the stock market.

Bogan (2008), after controlling a number of relevant factors, conclusively supported the idea that households that used the computer/Internet had an increased participation in the stock market than households that did not use the computer/Internet. The relation between online trading, lower transaction costs, and easier access to stock markets meant that all types of frictions had a significant effect on stock market participation.

Georgorakos and Pasini (2009) examined existing literature and showed that trust and sociability had a distinct and sizable positive effect on stock market participation, and sociability was likely to partly balance the discouraging effect on stock holdings induced by low generalized trust in a region of residents. Trust in the advice given by financial institutions represented a prominent factor for stock investing as compared to other tangible features in the banking environment.

Li (2009), using a panel study of income dynamics, observed that households' investors likelihood of entering the stock market within the next 5 years was about 30% higher if their parents or children had entered the stock market during the previous 5 years. It is indicated that information sharing is a two-way street, not only can children's investment decisions be influenced by their parents' action, but parents' investment decisions can be influenced by their children's actions as well.

Kaustia and Knupfer (2012) showed that the returns earned by existing investors in a neighborhood in a given month encouraged new investors to enter the market in the following month if the returns were positive. Two channels through which peer outcomes could have an impact on individual actions were - extrapolated expectations and selective communication with relative wealth concern. Shanmugham and Ramaya (2012) found that social interaction and media were found to have a positive relationship with an attitude towards trading ; whereas, the Internet did not seem to influence the investors' attitude towards trading.

Grinblatt and Keloherjle (2001) documented that investors were more likely to hold, buy, and sell the stocks of the firms that were located close to the investors, that communicated in the investors' native tongue, and whose CEOs were of the same cultural background. The influence of distance, language, and culture was more prominent among the most investment savvy institutions than among both households and less savvy institutions.

Love (2010) proposed that marital status and children could have important effects on optimal household decision making on the allocation of portfolios. Using the data from HRS and PSID, it was found that divorce and widowhood had a particularly strong effect on the allocation, and that these effects differed significantly by gender as well as by the number and age of children. It also indicated that men moved to riskier allocations and women to safer ones. Supporting this argument, Ranguid (2012) found that women increased the fraction of wealth invested in the stock market after marriage and decreased it after divorce ; whereas, men displayed an opposite investment behavior, which indicated that women were more risk averse than men, but also that the married couples adjusted the profile of their risky investments towards those of their partners. Marriage increased the likelihood of holding stocks for both men and women. It was further stated that households whose joint labor income risk reduced after marriage had a higher increase in their exposure to risky assets. Finally, it can be said that marriage acted as a financial risk reducer for a man and a financial risk increaser for a woman.

Bertocchi, Brunetti, and Torricelli (2008), based on the data set drawn from the 1989-2006 Bank of Italy survey of household income and wealth, showed that men and married household heads had a higher propensity to invest in riskier assets than women and single ones. It was also found that the factors like the divorce rate, the rate of female labor, and market participation also played a significant role in regional variations.

John, Kumar, and Vikkraman (2011) attempted to discover a relationship between dependent variables like risk tolerance and independent variables like age and gender of an individual investor. It was found that male investors (in the age group of 30-40 years) dominated in the stock market. Most of the investors possessed higher education and Central govt. employees were found to be investing more in the stock market among the various investor groups.

Conceptual Framework and Discussion

A market is said to be efficient with respect to a set of information, if the price of the stock fully reflects that information set. It means that the price would be unaffected by revealing that set of information to all participants. Again, the information incorporated with the price of the stocks, as it is made available in the market, depends on the rationality of the participants - the participants are rational, they are calculative, they grasp all the information correctly, and use the fundamental models for making the decisions. In such a case, no one can affect the price of a stock and cannot take the advantage of arbitraging. This concludes that the efficient market hypothesis is based on mainly two notions: (a) the market is efficient, (b) the participants are rational. But in reality, the whole market mirrors the mood of the society, which is the result of sharing and manipulating the information. This section deals with the social as well as the psychological factors that have a prominent impact on the decision making behavior

of individuals. Various patterns (by using the following framework) have been demonstrated to nullify the doctrine of traditional financial theories.

Social Influence and Stock Market Participation

When, why, and how people's behavior is affected by the presence of others? How do people influence the behavior of others? Social influence is all about how our thoughts, feelings, and behavior changes when we are in the presence of others. It refers to any effect that another person or group has on one's own attitude and behavior.

According to the many social scientists, social norms and culture are very important in shaping economic behavior and market outcomes. Society is an integral part of an economic system, it influences the economic activity with its behavior, whether the actions are rational or irrational. Much of the research illustrates that the individual investors' decision making is greatly impacted by the socio-cultural factors. People do not make decisions in isolation, they make decisions while interacting with others. In daily life, we use reference points or advice of others to make a decision, these references/advice further generate a level of optimism or pessimism ; again, this level of social mood impacts the financial decisions reflected in the stock market as a whole. The state of optimism/ social mood encourages more investment, fosters risk seeking behavior, all the economic participants - individuals, corporates, banks - try to extend their tentacles and create the situation of a market bubble, and then this situation washes out the optimistic social mood, the stock market begins to readjust itself, the investors/corporates withdraw their investments, banks call off their lending, and thereby, the whole market creates a situation of pessimism.

Relating economic equilibrium to social equilibrium, Pareto (1963) said "the state of an economic system may be regarded as particular cases of the general states of the sociological system" (pp. 1439 - 1440). Social interaction and societal presence of people have been incorporated into capital market investing. The personal attributes of people - like age, marital status, gender, education, income, and so forth, when intermingled with other social groups, influence the decision making ability of people, which is then converted into a social mood and the present mood of an economy. More the interaction, the more is inclination to make decisions frequently - the economic fundamentals can only provide the basic information, but decision making is ultimately influenced by the interaction with others. According to Nofsinger (2005), the physical approach to modeling stock market behavior is to examine it from the perspective of economic fundamentals that drive their actions. But, how investors think about stock market fundamentals is influenced by their interactions with others.

Social investors find it more attractive to invest in the market when the participation rate among social investors is more than among non-social investors. Hong et al. (2004) found that the relationship between interaction with community members and attending the Church lead to more participation in the stock market. More interaction leads to more market education among the social groups, and it also reduces the fixed cost, and these interactions also incline people towards making more money.

Jain and Mandot (2012) indicated the relationship between the level of risk and demographic factors of investors confined to the state of Rajasthan. The study revealed that there was a negative correlation between marital status, gender, age, educational qualification, and occupation of the investors, and there was a positive relation between cites, income level, and knowledge of the investors. The findings indicated a clear relationship between the investors' participation and social influences. Mehta and Aggarwal (2011) found that there was an association between demographic profiles and personality types of the investors with investment choices made by them. The authors further revealed that the female investors were found to be more conservative as compared to their male counterparts, and also, the investors preferred to consult their family members before making investment decisions.

Many researchers have found some prominent social factors which influence the decision making of individual investors, which are as follows :

(1) Herding : According to Hirshleifer, Subrahmanyam, and Titman (1994), this is the behavior when the

psychology of investors is influenced by animal behavior, where investors follow the action of a group, ignoring their self intuition and confidence. One reason is that people are sociable and want to be accepted and recognized by the society rather than stand alone. Under some conditions, investors will focus only on a subset of securities 'herding,' while neglecting other securities with identical exogenous characteristics.

(2) Information Cascades : Information Cascades is the phenomenon which rejects the hypothesis of incorporating information in the stock prices quickly; hence, there is always a chance of arbitraging in the market. According to Shiller (2000), the role of news or events in affecting the market seems often to be delayed, and have the effect of setting in motion a sequence of public attentions. These attentions may be to images or stories, or to facts that may already have been well known. The facts may previously have been ignored or judged inconsequential, but they can attain newfound prominence in the wake of breaking news. These sequences of attention may be called cascades, as one focus of attention leads to attention to another, and then another.

(3) Contagion Biases : Such type of biases show the investors' preference for local and inclination towards communism. In this phenomenon, investors tilt their portfolio toward local stocks. The local preference of funds provides a unique setting for studying the various explanations of home bias. One strand of research emphasized that local investments are based on value-relevant information, while another argued that the local preference simply stems from investors choosing companies they are familiar with, though not necessarily particularly informed about. Many studies provide evidence that investors hold mostly domestic securities, despite the significant benefit from international diversification (e.g., Ahearne, Griever, & Warnock, 2004 ; French & Poterba, 1991 ; Tesar & Werner, 1995).

(4) Imitations: This is a natural societal phenomenon where people follow the actions of others like those of friends, family members, and peer groups. Word of mouth and feedback theory is applied here in the individuals' decision making.

Psychological Influences and Stock Market Participation

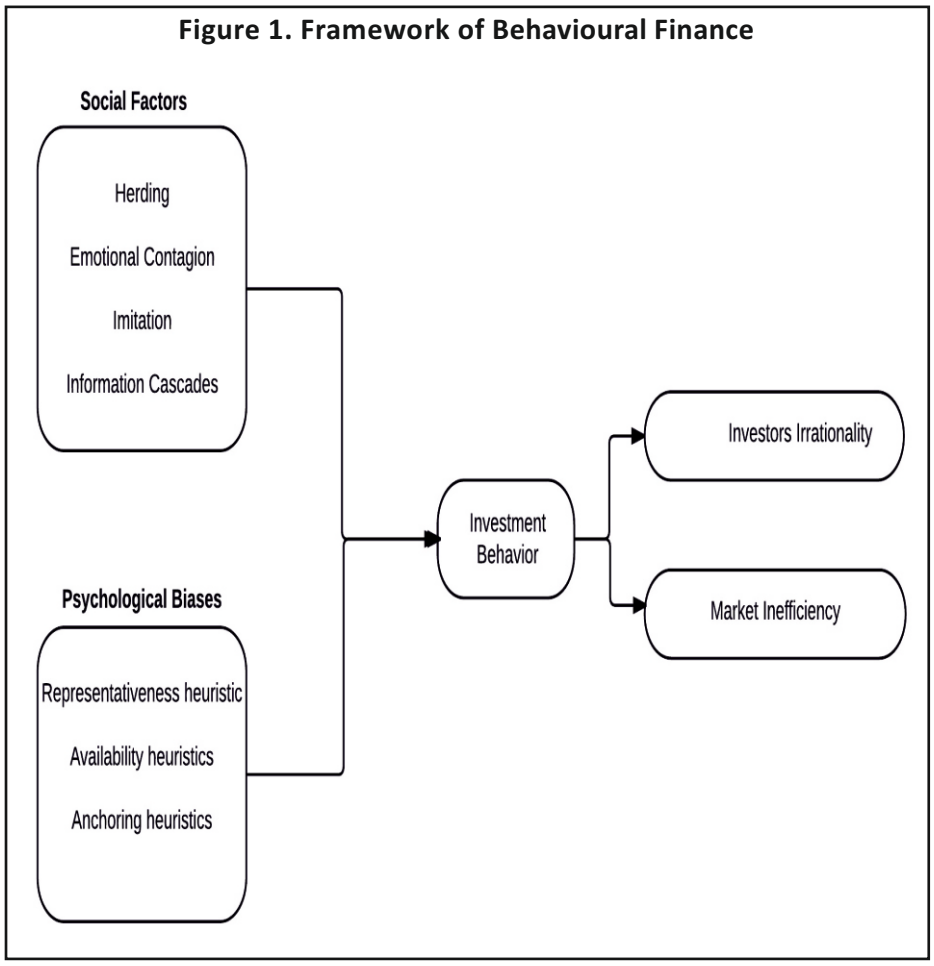
The human psychological process is a broad term which describes the way people encode processes, remember, and use information in decision making. In the previous section, it is discussed how social interaction influences people's decision making. This social information is the attribute of psychological change in the decision making. The psychological phenomenon that have been indicated in behavioral economics like overconfidence, anchoring, mental accounting, herd behavior, loss aversion, gambler's fallacy, and availability heuristics are basically the results of the influence of social interaction termed as social cognition. Since the inception of behavioral finance, psychological cognition has been linked to the stock markets to show the market inefficiency and the individual's irrationality.

Financial researchers in Western countries have observed more and more market anomalies since the end of the 1970s (for e.g., De Bondt, 1995 ; Kahneman & Tversky, 1979, 1982; Shiller, 2000; etc) which violated basic principals of neoclassical finance, such as the efficient market hypothesis. The most cited heuristics and the base of derived heuristics in behavioral economics are : representativeness heuristic, availability heuristic, and anchoring heuristic.

The representativeness heuristics is the tendency to allocate a set of attributes to someone if it matches the prototype of a given category (Kahneman & Tversky, 1973). Representativeness is essentially a stereotype which leads to overreaction. In most of the cases, if a sector of the market is doing well, then investors may begin to perceive past performance as being representative of future performance.

The availability heuristic is the tendency to judge the frequency or probability of an event in terms of how easy it is to think of an example of that event (Tversky & Kahneman, 1973). In such a heuristic, individuals rely on the

Figure 1. Framework of Behavioural Finance



knowledge that is readily available, rather than examining other alternatives and procedures. That leads to judgmental errors where the investors make nippy decisions based on the set of information available in their minds.

The anchoring heuristic is the tendency to be biased toward the starting value in making quantitative judgments (Wyer, 1976). With the effect of anchoring, individuals prefer relative thinking to absolute thinking. Anchoring can cause the stock markets to underreact to fundamental information. It is like such a mind- set where we think that if we are happy with the things which we have, then why should we try something new. This behavior is otherwise also called as conservatism.

The assumptions of market efficiency and the rationality of its participants are found to be totally false from the view point of behavioral finance. Behavioral finance deals with the social and psychological perspectives of individuals who argue against the concept of risk and return trade off and that there are so many other factors that impact the decision making of individuals.

On the basis of the review of studies presented in this paper, a framework (see Figure 1) was developed by us, which shows that individual investors confront many social and psychological factors. These factors influence their behavior where they take decisions against the fundamental theories. In the framework, the variables like age, income, gender, participation of peers, herding, imitation, and so forth, and psychological patterns like representativeness, availability biases, and anchoring influence the decision making behavior of individuals, and these factors lead to unpredictable and unstable decisions. Finally, because of such behavior, the whole process results in irrationality of the participants and inefficient market conditions.

Conclusion and Implications

The stock markets' sentiment is the replica of human behavior, which represents the unpredictable, unstable, and fickle societal mood, it reacts, to a great extent, even when getting a small set of information, and sometimes, it takes times to incorporate information in the stock processes and provides the investors an opportunity to take advantages of arbitraging against the fundamental hypothesis framed by traditional finance theories.

Behavioral finance promotes the concepts of psychology and social influences of the individuals to show the judgmental errors and relates it to the decision making ability of the participating agents of the stock markets. Behavioral finance presents the notion of bounded rationality, which says that the participants cannot be fully rational and the market cannot be fully efficient. With the influence of various behavioral factors, individuals utilize the modified version of rational choices, which is the result of individuals' diversified personal attributes and their cognitive biases. In this paper, from the perspective of behavioral finance, we have tried to show the limitations of traditional financial theories in ascertaining investor behavior. By understanding the behavioral patterns of the investors, the predictability of the investment outcomes can be more accurate for the fund managers. Therefore, it is essential that a competent fund manager should analyze the investors' behavior and understand their needs and expectations to gear up the performance of securities that can meet the investors' requirements (Vyas & Moonat, 2012).

Through the review of literature and by going through the findings of various studies on behavioral finance, it is found that the concept of individual's full rationality and the concept of full market efficiency is not real. The decision making ability of individual investors is mostly influenced by social influences like herding, contagion, imitation, and information cascades. At the same time, psychological factors like representativeness, availability, and anchoring heuristics are the most cited biases which deviate investors from their rational decisions.

The findings of behavioral finance cannot predict the future earnings and the actual movements of the stock markets, but these advocate the psychological biases which are repeatedly found in decision making of individuals. By understanding these common errors, people can avoid risky alternatives while investing their hard-earned money. These findings not only educate the individuals alone, but also enlighten the investment managers who can incorporate the sentiments of individuals with financial models for better performance of their portfolios.

Limitations of the Study and Scope for Further Research

An obvious limitation of the paper is its conceptual nature. On the basis of the literature review, this paper highlights some key behavioral factors affecting investors' decision making ability. Behavioral finance is a broad concept and due to limitations of time and resources, other psychological and social factors were overlooked. Another limitation the paper confronts is the lack of actual degree of variation in the traditional financial models and the lack of outcomes of behavioral decisions that can be figured out empirically.

Future studies can examine more related variables affecting investors' behavior, and these variables can be empirically tested to find out the effects of these factors. Based on such a study, a more comprehensive framework can be developed to highlight the scenario of the Indian stock market, where the concept of behavioral finance is still new.

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