REVIEW OF THE INDIVIDUAL EQUITY INVESTOR'S BEHAVIOR IN THE INDIAN CONTEXT

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ABSTRACT

The individual investor's behavior is affected by several factors, both external and internal with respect to the investor. Most studies have taken either the external factors or the internal factors, to study the behavior of the investors. The findings of several studies done in each of these factors are brought together in this review paper. This paper brings together all the factors affecting investor behavior, including internal factors like the behavioral biases, namely, Representativeness, Anchoring, Gambler's fallacy, and Availability bias. The external factors include, Neutral information, Accounting information, Self-image/Firm-image coincidence, Classic wealth maximization, Social relevance, Advocate recommendation and Personal financial needs. In addition to these factors, the paper also covers the demographics and the investment strategy like fundamental/technical analysis which also determine the individual investor's behavior in terms of stock selection decision. The paper concludes that an extensive empirical study encompassing all these factors in the Indian context is necessary to understand the individual investor.

KEYWORDS: Biases, External Factors, Internal Factors, Investor Behavior, Indian Investor

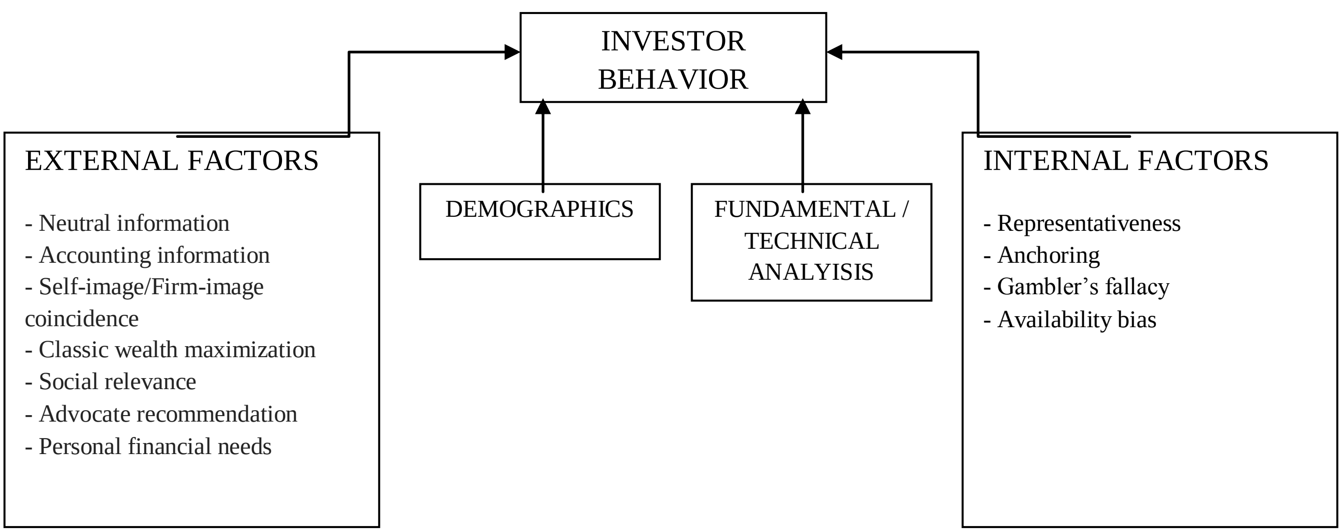
1. INTRODUCTION

Psychology provides a platform to comprehend the individual investors in the equity market better in terms of their unreasonable decisions. Kahneman (1973) rightly pointed out that individuals have a limited attention capacity, working memory and limited computational capabilities. Hence in an ever-changing financial world filled with abundant information, decision making for the average investor becomes a big challenge.

A good understanding of the investors' behavior will help financial analysts manage the investor's portfolio (Gupta, 1991). By understanding the psychology of the investors and overcoming their influences, profitable investments can be made, (Iyer and Bhaskar, 2002). Harlow and Brown (1990) observe a biological connection unique to every investor which explains their investment behavior. Hence, the individual specific characteristics play an important role in decision making.

This review paper brings together all the studies done so far on the factors affecting investor behavior. The behavioral biases are termed as internal factors as they are internal to the investor. The contextual factors are termed external, as there are external with respect to the investor. In addition, the demographics and investing techniques like fundamental/technical analysis which affect the stock selection decision of the investor is also discussed.

2. PROPOSED FRAMEWORK



3. EXTERNAL FACTORS

The 1970s marked the first empirical studies on individual investor behavior. The first studies of investor behavior came out in the Wharton study in 1970s where the influence of demographic variables on the selection of investment and the process of portfolio composition were studied. Blume and Friend (1978) give an elaborate description of the study and its results. Lease, Lewellen and Schlarbaum (1974) were the first to empirically examine the transaction data of individual investors in order to determine the transaction pattern of the investors, their decision methodology, the demographics and their portfolio composition.

Nagy and Obenberger (1994) were among the first to determine the factors affecting the behavior of individual equity investors through a survey of around 500 experienced equity investors. His factors were adapted and tested in several countries which are elaborated below. The factors include, accounting information, advocate recommendation, neutral information, social relevance, wealth maximization, personal financial needs and self-image/firm image coincidence.

3.1 Accounting Information

The Accounting information factor includes factors like, Financial Statements, Annual Reports, Prospectuses, Valuation Techniques, and Expected Earnings, (Nagy and Obenberger, 1994).

Baker and Haslem(1973) stress the importance of accounting information among investors during the stock selection process. They also stress the importance of improving the quality of the financial reports which caters to the needs of all classes of investors. Hodge (2003) find that when investors perceive the quality of the reported earnings as low, they tend to rely more on the firm's financial statements and hence more into fundamental analysis.

Al-Ajmi (2009) found that accounting information was considered more important that qualitative information for the Bahrain investors during the process of buying, selling and holding of stocks. The attention given to the profits and dividends draws concern to the balance sheet and income statement. Al-Razeen and Karbhari (2004) found that the income statement and the balance sheet are the most essential sections of the annual report for the investors in Saudi Arabia. Alattar and Al-Khater (2007) find that the annual reports are the main sources of information for the investors in Qatar for making investment decisions. Alzarouni. et al (2011) studied the investors in UAE and found that the corporate annual reports are the most important factors for investment decisions but however the level of information disclosed does not seem satisfactory.

Merikas et al. (2004) studied the factors influencing the individual Greek investors in the Athens stock exchange. The accounting information has the highest influence on the Greek investor's behavior among other factor categories.

Mirshekary and Saudagaran (2005) show that investors in developing countries like Iran mainly employ information from the published annual reports in order to make investment decisions when compared to peer recommendations. Moreover, the parts of the annual report which were most important was ranked as income statement, followed by auditor's report and the balance sheet.

Al-Tamimi (2006) studied the factors influencing the individual investor behavior of investors in the UAE equity market. The most influencing category was accounting information which included factors like expected corporate earnings, past performance of the firm's stock, condition of financial statements, expected dividends, stock marketability and dividends paid with high rankings.

Maditinos et al. (2007), in his study of the behavior of Greek investors found that among all the accounting measures, they consider the P/E first to take an investment decision, followed by the earnings per share (EPS), then the net operating profit after taxes (NOPAT), and finally the return on equity (ROE). When compared to the professional investors who depend more on technical and fundamental analysis, the individual investors were found to be driven by media and the noise in the market.

Chong and Lai (2011) examined the factors influencing the equity selection process in Malaysia and found that the accounting information is the second most important influential factor category. It was also found that investors with 5 to 10 years and 15 to 20 years of stock market experience utilize accounting information in assisting their investment decision and those with more than 20 years of stock market experience were less likely to use accounting information. They also show that accounting information is negatively correlated with expected return.

GnaniDharmaja et al. (2012) examined the factors influencing the investment behavior of individual investors in Geojit BNP Paribas Financial service limited in Coimbatore. The study revealed that accounting information is the most influencing. In addition it was found that the behavioral factors like financial literacy, emotional risk tolerance and investor's financial tolerance also influence investor behavior.

Sultana and Pardhasaradhi (2012) studied the factors influencing the Indian individual equity investors while choosing a stock for investment. The decision variables under Accounting information category were found to be the most significant. The most influencing stock attributes include, recent price movement in a firm's stock, expected corporate earnings, fluctuations/developments in the stock index, stock marketability, and past performance of the firm's stock. The least influencing stock attributes include, religious factor, opinion of family members, friend or co-worker's opinion and attractiveness of non-investment stock.

3.2 Advocate Recommendation

The Advocate Recommendation factor includes factors like Recommendations from Brokerage House, Individual Stock Broker and Friends/Coworkers, (Nagy and Obenberger, 1994).

In the study of Nagy and Obenberger (1994), it was found that the respondents seem to be more self-reliant and ignore the recommendations of others including the stock brokers.

Krishnan and Booker (2002) studied the impact of analysts' recommendation on the proposition of investors to commit the error of disposition which is the sale of winning stocks at the earliest and the postponement of the sale of losing stocks. The study revealed that the presence of the recommendation report reduces the disposition error for gains but not for losses. The disposition error for losses and gains is reduced only with more information justifying the position of the analysts.

Advocate recommendation is the last but one influencing factor category in the study of UAE investors, (Al-Tamimi, 2006) and Greek investors, (Merikas et al. 2004). It is the least influencing factor category in the study of behavior of Malaysian investors, (Chong and Lai, 2011).

Iqbal and Usmani (2009) factored the variables influencing the individual equity investors to purchase stocks by surveying equity investors in Karachi, Pakistan. The findings suggest that the respondents do consider stock broker recommendations though the majority is self reliant while making purchase decisions. Recommendations of friends, family and co-workers go unheeded.

Baker and Haslem (1973) find that the common stock investors consider stock brokers and advisory services as the most important sources of information necessary to make the stock selection decision. Shiller and Pound (1989) propose that the individual investors find interpersonal communication as an important determinant of investor decisions. Also they find that those who bought stocks with immediate price rise tend to follow friends and relatives more compared to the stock broker's advice.

Stock broker's opinion is the only attribute in the advocate recommendation category which does not fall under the ten least influencing attributes in the study of Sultana and Pardhasaradhi (2012) of Indian individual investors' behavior.

3.3 Neutral Information

Neutral information factor includes factors like Financial Press Coverage, General Press Coverage, Recent Price Movements and Information from Investment Advisory Services, (Nagy and Obenberger, 1994).

Neutral information is the third influencing factor category in the study of UAE investors, (Al-Tamimi, 2006) and Greek investors, (Merikas et al. 2004).

Oberlechner and Hocking (2004) find that investors consider the pace with which the news travels and its foreseen effect as more important compared to the truthfulness of the news. Tetlock (2007) proposes that too much pessimism in the media translates to reduced share prices. He also elaborates that huge volumes in the market are the result of abnormally high or low pessimism in the media. Winsen (1976) proves that there is a misconception of the publicly available information by some investors which thereby leads to an investor behavior which is not in line with the expected reaction.

Chong and Lai (2011) examined the factors influencing the equity selection process in Malaysia and found that the neutral information is the most important factor among others. They also found that this factor is positively correlated with expected return.

GnaniDharmaja et al. (2012) examined the factors influencing the investment behavior of individual investors in Geojit BNP Paribas Financial service limited in Coimbatore. The study revealed that neutral information is the least influential.

3.4 Social Relevance

The Social Relevance factor includes factors like Environmental Record, Local Operations, and International Operations, (Nagy and Obenberger, 1994).

In the study of Nagy and Obenberger (1994), the secondary factors given only cursory attention were environmental record and international operations which constitute the social relevance factor head. The usage of valuation models are also discounted for stock evaluation.

Iqbal and Usmani (2009) factored the variables influencing the individual equity investors to purchase stocks by surveying equity investors in Karachi, Pakistan. The local and international operations, environmental record and firm's ethical posture are not considered as decision variables by the respondents. Though the valuation models are ignored for stock evaluation, the current economic indicators are considered.

Chong and Lai (2011) examined the factors influencing the equity selection process in Malaysia and found that the social relevance was the last but one influential category. The social relevance factor was found to be significant for female investors compared to their counterparts.

3.5 Wealth Maximization

The Wealth Maximization factor includes factors like Expected Dividends, Share Price Affordability, Tax Consequences and Risk Minimization, (Nagy and Obenberger, 1994).

Nagy and Obenberger (1994) found that among the decision variables surveyed, the wealth maximization criteria which include minimizing risk, diversification needs and expected earnings were the most significant but only for less than half the respondents. Wealth maximization criteria which include expected corporate earnings and get rich quick also seem to be the most influential factor affecting the behavior of UAE investors (Al-Tamimi, 2006). Merikas et al. (2004) studied the factors influencing the individual Greek investors in the Athens stock exchange. In this study as well, the wealth maximization criteria which include factors like firm status in the industry, expected corporate earnings and condition of financial statements were ranked high.

3.6 Personal Financial Needs

The Personal financial needs factor includes factors like Competing Financial Needs, Time before Funds are Needed and Diversification Needs, (Nagy and Obenberger, 1994).

Personal financial needs is the last influencing factor category in the study of UAE investors, (Al-Tamimi, 2006) and Greek investors, (Merikas et al. 2004).

3.7 Self-Image/Firm-Image Coincidence

The Self-Image/Firm-Image Coincidence factor includes factors like Firm Reputation, Film Status, Feelings about Products/Services, Perceived Ethics of Firm, (Nagy and Obenberger, 1994).

Al-Tamimi (2006) studied the factors influencing the individual investor behavior of investors in the UAE equity market. The second influential category was self-image / firm-image coincidence which include factors like get rich quick, reputation of the firm and perceived ethics with high scores.

Merikas et al. (2004) studied the factors influencing the individual Greek investors in the Athens stock exchange. The second highest factor category is subjective/personal with the get rich quick factor with the highest loading.

4. INTERNAL FACTORS – BEHAVIORAL BIASES

Psychologists have identified that more complex the decisions become, more is the probability of the decisions to be affected by emotions (Cianci, 2008). Moreover, Miller (1956) points out that only seven plus or minus two pieces of information can be simultaneously processed by the human mind. Hence, in order to cope with the cognitive load which exceeds people's data processing capability, people are forced to access heuristics to facilitate decision making, hence leading to irrational decision making, (Gabaix and Laibson, 2000; Simon and Newell, 1971; Simon, 1979; Tversky and Kahneman, 1974;).

Kumar (2009) proves empirically that when the stocks are more difficult to value and when the market level uncertainty is on the rise, investors tend to be affected by stronger biases. Hence investors have the tendency to make larger financial blunders when valuation anxiety is high. Sahi. et al (2013) suggest that understanding the investor's psychology would help to better understand the way the investment decisions are made. They refer to the biases as "*designs of the investor's mind*" rather than "*flaws of the mind*" (p.94). Waweru N M et al. (2008) found that behavioral factors play an important role in the decision making process of the investor in the highly overloaded information environment.

4.1 Representativeness

"*Representativeness is a cognitive bias in which an individual categorizes a situation based on a pattern of previous experiences or beliefs about the scenario*" (Jayaraj, 2013, p.24).

The classic example of the representativeness bias in the financial world is the winner-loser effect by Bondt and Thaler (1985). The investors with the representativeness bias are found to overweigh recent information and make predictions accordingly. This overreaction leads to mispricing, making the past winners overvalued and the past losers undervalued. However in the long run, the market corrects itself and the loser portfolios outperform the winner portfolios.

The presence of the representativeness bias is tested in the Indian market (Mittal, 2010; Chandra and Kumar, 2011, 2012; Jayaraj, 2013). An Indore based research found that business class investors significantly have a larger propensity to overreact than the salaried investors (Mittal, 2010).

A Delhi-based study proves that a significant majority of the investors consider the recent past performance of a stock as the best representative of the future return and finds it worthwhile to invest in such 'hot' stocks (Chandra and Kumar, 2011, 2012).

4.2 Anchoring

The phenomenon in which different starting points yield different estimates, which are all biased towards their respective initial values, is anchoring (Tversky and Kahneman, 1974). "*Anchoring bias occurs when investors are influenced by purchase points or arbitrary price levels,* *and tend to cling to these numbers when facing questions like "should I buy or sell this investment?"* (Pompian, 2008, p.66).

The Indian market has significant proof of the presence of the anchoring bias among individual investors (Mittal, 2010; Chandra and Kumar, 2011, 2012; Jayaraj, 2013). The Indian investors were proved to have a propensity to use the purchase price of the share as a reference while making trading decisions and are also influenced by recent price experiences in the market (Chandra and Kumar, 2011, 2012; Jayaraj, 2013).

An Indore based study by Mittal (2010), proves that the salaried class investors have shown a higher tendency to use the purchase price of a stock as a reference for trading decisions when compared to the business class investors.

4.3 Gambler's fallacy

Ray(2008, p.53) refers to gambler's fallacy as "*a pervasive belief in regression to the mean*".That is, an upward (downward) trend should be completed by a downward (upward) trend. Hence, investors develop a propensity to anticipate the end of a series of good (bad) returns.

In the context of the equity market, Montier (2003) explains that the prime example of gambler's fallacy is the bullish belief that the stock markets cannot decline for four years continuously. The annual return in the equity market is a random event just like the toss of a fair coin. Hence, the returns are unpredictable and independent.

Jayaraj (2013) explains that due to the heuristic, gambler's fallacy, investors think that the probability of occurrence of a certain random event is less likely to happen following a series of events. Hence, investors tend to liquidate (hold on to) their stock position after a series of ups (downs) thinking that further ups (downs) are not possible, not realizing that each event is random. He proves that the Indian investors are affected by Gambler's fallacy by asking the respondents if they anticipate the end of good or poor returns at the stock market. A similar study done in Delhi by Chandra and Kumar (2011, 2012) however proved that the Indian investors are not affected by Gambler's fallacy.

Rakesh(2013) conducted a questionnaire survey on the Indian investors in the Bombay stock exchange in order to prove the impact of Gambler's fallacy on their trading decisions. He showed that, with no additional information provided about the stocks' past performance, the investors made rational choices. But, when provided a stock's history, they tend to see trends in the past performance and make irrational choices, proving the presence of this fallacy.

4.4 Availability Bias

Tversky and Kahneman (1973, p.207) explain the availability bias as the "*phenomenon of illusory correlation*". According to them, one is said to employ the availability heuristic when one estimates the probability of an event by the ease with which occurrences and associations come to the mind.

In the financial world, the availability bias serves to explain several stock market anomalies. Frieder (2004) documents that investors tend to buy after a series of positive earnings surprises and sell after a series of negative earnings surprises because of the availability heuristic. This thus leads to an unequal amount of buying and selling activity in the market. Chiodo et al. (2004) document heuristic explanations for various stock market anomalies. They explain the excess stock price volatility with the availability heuristic explanation. The stock price volatility is explained by the subjective expectation of future dividends. High (low) dividends accompanied by high (low) stock prices will tend to recall the good (bad) episodes of the bull (bear) market, because of the availability heuristic. This leads to hype (depress) the expectation of future dividends making the stock prices highly volatile. Marciukaityte et al. (2005) explains how the availability bias is employed in private equity placements. They explain that after a series of good firm performances, the investors project the same on placing firms due to the availability bias and hence overstate the success probability resulting in over optimism. As a result, the placing firms underperform post the private equity placement.

The availability bias was studied in India in several studies (Chandra and Kumar, 2011, 2012; Jayaraj, 2013). Indian investors affected by the availability bias are found to be lured by the media hype for the growth stocks and have a propensity to choose to buy those stocks than the stocks with less media attention (Chandra and Kumar, 2011, 2012).

5. DEMOGRAPHICS

Mittal M and Vyas RK (2008) examined the relation between the demographic factors and the investor personality. They classified the Indian investors into four personality types namely, casual, informed, technical, and cautious based on demographics like occupation, annual income, qualification and age which were found to affect the investment decision. Sung and Hanna (1996) find variations in risk tolerance in terms of education, gender, ethnic groups and marital status.

Cohn. et al (1975) provide evidence to show that risk aversion reduces relatively as the wealth levels increase. Kannadhasan (2006) surveyed the retail investors in Chennai and found that age did not determine their investment behavior whereas the income level of the retail investor plays an important role in determining their behavior. Pålsson (1996) also shows that risk aversion rises with age. Riley and Chow (1992) put forth that risk aversion depends on several demographic characteristics. They showed that risk aversion decreases with rise above the poverty line but however decreases tremendously for the very rich. Risk aversion is also found to reduce with age but however increases after the age of 65 (retirement age).

5.1 Gender

Gender is an important determinant of investor behavior (Mayfield. et al, 2008). The differences in gender exist right from management styles (Claes, 1999) to money styles, their perception of money and the way money is handled (Prince, 1993). The differences are also found in terms of item-specific confidence judgments depending on the content (Lundeberg. et al, 1994).

Gender has an important impact on the aversion to risk taking, (Felton. et al 2003; Jianakoplos and Bernasek, 1998; Byrnes.et al, 1999; Barber and Odean, 2001). Kabra.et al (2010) proposes that both gender and age determine the risk taking capacity of the investor.

Bajtelsmit and Bernasek (1996) find that men and women have different investment behavior. Women are found to be more cautious in their investment decisions and also more risk averse compared to men. Graham et al. (2002) indicates that female investors have less confidence in their investment decisions compared to men in similar cases. They also show that women more exhaustively process financial information compared to men but trade less often than men. The variation in information processing capability might account for the difference in risk-taking and confidence levels, (Graham et al. 2002). Schmidt and Sevak (2006) find difference in wealth accumulation on the basis of gender and marital status in the US households.

Bajtelsmit. et al (1999) find that women display higher aversion to risk when compared to men in the wealth distribution of their pension plans. The not so willing attitude of women to invest in high risk investments compared to men are found in several studies (Olsen and Cox, 2001; Hariharan. et al, 2000). In financial literacy also, the female investors were found to be lesser than men, (Worthington, 2006). Hallahan. et al (2004) also provide evidence for women having lower risk tolerance than men. The female professional investors insist on reduction of risk more than men during portfolio assignment, (Olsen and Cox, 2001). Sjöberg and Engelberg (2006) find that women were lower than men in terms of risk preferences but women have higher emotional intelligence compared to men.

6. Fundamental Analysis versus Technical Analysis

Fundamental analysis seem to anticipate changes even before the changes take place in the charts, unlike technical analysis, as it involves analyzing the fundamentals to determine the expected return. When new information comes in, the expected return changes, this in turn impacts the share prices (Sureshkumar and Elango, 2011).Compared to fundamental analysis, technical analysis is the only technique suitable for an individual investor as fundamental analysis demands the use of extensive information which is too expensive and time consuming, (Mitra, 2002).

Hayat. et al (2010) study technical analysis in terms of past prices, active trade volume, charts, historic patterns, trends and daily price fluctuations. Among these, daily price fluctuations and active trade volume are given more importance by the investors. They propose that technical analysis is mostly preferred by investors who are actively involved in the investment process. They study fundamental analysis in terms of management quality, financial ratios, government regulations and company information. Among these, financial ratios are given more importance by the investors. They also propose that the attitudes of overconfidence and risk are associated with fundamental analysis.

Sehgal and Gupta (2007) find that technical analysis is more beneficial for small stocks and for high value stocks compared to bigger stocks and lower value stocks.Technical analysis is more useful for shorter time horizons and fundamental analysis for longer horizons, (Lui and Mole, 1998; Taylor and Allen, 1992; Kumar.et al, 2013). Wong and Cheung (1999) find that technical analysis and fundamental analysis are better techniques of stock analysis compared to portfolio analysis among the investors. Venkatesh and Tyagi (2011) find that more than 85% of the surveyed respondents used fundamental and technical analysis for forecasting the prices. The study shows that in a bullish market investors depend on technical analysis and depend on fundamental analysis in a bear market. Tripathi (2008) finds that the Indian investors have moved from a purely technical analysis approach to a combination of fundamental and technical analysis. Lewellen. et al (1977) found that majority of the investors use either fundamental or technical analysis in isolation or in combination as a common stock evaluation procedure.

7. CONCLUSION

This review paper would serve as a foundation to build an extensive empirical study on the behavior of the Indian individual investor. The individual investors are the worst hit during market swings and understanding their behavior would serve to build a stronger capital market. A study encompassing all these factors would help to draw a complete picture of the behavior of the individual investor. Governments would learn about the investor's behavior and propose better investor friendly policies. Financial advisors would devise better asset allocation strategies based on the investor's behavior. The individual investor, himself, would be able to better understand the process of stock selection in this world of uncertainty where information is unlimited. There are however more than thirty behavioral biases studied around the world, which is beyond the scope of this paper. However, as a direction of future work, they could be considered.

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