Pacific Business Review International
Volume 12 issue 12 June 2020

# Do Individual Equity Investors behave Rationally: A Literature Review

Dr. Bhavna Sharma
Assistant Professor, Department of Commerce,
Bhagat Phool Singh Mahila Viswavidyalya,
Khanpur Kalan, Sonipat, Haryana

Sushila
Research Scholar, Department of Commerce,
Bhagat Phool Singh Mahila Vishwavidyalaya,
Khanpur Kalan,
Sonipat

**Abstract**

Standard finance, also known as Academic Finance, Modern Portfolio Theory, etc., evolved in the 1950s and early 1960s. Under this theory, investors were considered as fully rational decision making entities. But in 1957, Herbert Simon coined the term 'Bounded Rationality' and stated that human being are not fully rational in their decision making rather they are bounded by their abilities and available information. In 1970s Amos Tversky and Deniel Khaneman also challenged the rationality concept in decision making under uncertainty and applied psychological biases to economic decision making. A bias is an irrational assumption or prejudice. It is a human psychological shortcoming and since investors are also human beings they can be affected by it as well. Behavioural finance is a sub-field of behavioural economics, which integrates psychology with finance. It explains how investors' cognitive and emotional biases affect their investment decisions. In 2002, Daniel Kahneman (psychologist) was awarded the Nobel Memorial Prize in economic sciences for his research on applying psychological insights to economic decision making, particularly in the areas of judgement and decision making under uncertainty. In 2017, Richard Thalar, an American economist also won Nobel Prize in economics for his contribution in behavioural economics. Therefore, in this study, contribution of various researchers is explored regarding major behavioural biases and their impact on investment decisions of individual equity investors. On the basis of this collection and review of relevant studies, a conceptual model of behavioural biases is developed to provide future research direction.

**Keywords:** Behavioural finance, Behavioural biases, Investment decision

## Introduction

The financial markets were not considered as appropriate markets by economists in the early periods. It was considered to be analogous to casinos where returns were determined by pure speculative activities. It was Williams (1938) who was first to challenge the casino concept, through his book entitled the theory of investment value. He was of the firm view that the price of financial asset was reflected in the intrinsic value of an asset, measured in terms of the discounted stream of future cash flow from the asset. Extending the view of Williams regarding future expectations, Markowitz (1952, 1959) included a new element of 'risk 'or 'uncertainty'. Thus, the fundamental idea in Markowitz theory is the combination of risk and returns. He contended that asset selection happens in the context of a trade-offs between returns and risks. In his theory, the term 'return' is often equated with discounted future cash flow and 'risk' with uncertainty of expected outcome. This formed the basis of the 'Modern Portfolio Theory'. Standard finance is also known as Academic Finance and Modern Portfolio Theory and evolved in the 1950s and early 1960s. Under this theory, investors were considered as fully rational decision making entities. But in 1957, Herbert Simon39 coined the term 'Bounded Rationality' and stated that human being are not fully rational in their decision making rather they are bounded by their abilities and available information. In 1970s Amos Tversky and Deniel kahneman also challenged the rationality concept in decision making under uncertainty and applied psychological insights to economic decision making. In 1973, Daniel Kahneman and Amos Tversky explored a judgmental heuristic called availability which leads systematic biases in decision making.44 In 1974, Daniel Kahneman and Amos Tversky discussed three biases namely representativeness, adjustment and anchoring and availability in decision making under uncertainty.45 Prospect theory was also developed by Daniel Kahneman and Amos Tversky in 197946. In 2002, Daniel Kahneman (psychologist) was awarded the Nobel Memorial Prize for economic sciences for his work in applying psychological insights to economic decision making, particularly in the areas of judgement and decision making under uncertainty. Behavioural finance is a sub-field of behavioural economics which integrates psychology with finance. It also explains how investors' cognitive and emotional biases affect their investment decisions. In the process of decision making, a number of biases arise. Michael M. Pompian (2006)33 classified these biases into cognitive and emotional biases. Cognitive biases arise due to the errors in information processing or due to the use of heuristics while emotional biases arise due to the emotions of an individual during decision making. Major cognitive biases are conservation, confirmation, mental accounting, hindsight bias, anchoring and adjustment etc. Major emotional biases are loss-aversion, overconfidence, regret-aversion and status-quo bias etc.

## Objectives

·To identify the various behavioural biases affecting investment decisions of individual equity investors.

·To develop a conceptual model of behavioural biases to provide future research direction.

## Research Methodology

The present paper is a conceptual paper based on review of relevant/related studies in behavioural biases. Research papers reviewed in this study were collected from esteemed databases such as PROQUEST, Google Scholar, Emerald Insight, Science direct etc. Research studies describing impact of behavioural biases on investment decisions of individual equity investors are included in this paper.

## 4. Literature Review

| Sr. No. | TOPIC | Author(s)/ Year | Place (Country) | Type of study | Data used sampling technique and sample size | Behavioural biases studied | Statistical techniques used | Findings |
|---|---|---|---|---|---|---|---|---|
| 1. | Behavioural Biases and Investment Performance: Does Gender Matter? Evidence from Amman Stock Exchange | Alrabadi, D., Al-Abdallah,S., & Aljarayesh, N. (2018) | Jorden | Descriptive research | Random sampling 242 individual investors of Amman Stock Exchange | familiarity bias, overconfidence bias, availability bias loss aversion bias, disposition effect, herding bias, representativeness bias and confirmation bias | ordered logistic regression ,Chi-square test and t-test | Findings of the study revealed the presence of all examined behavioural biases in Amman Stock Exchange. The investment performance significantly affected by familiarity bias, availability bias, representative bias, overconfidence bias, confirmation bias disposition bias, loss aversion bias and herding bias. |
| 2. | Impact of psychological biases and personality traits on Investors' Trading Behaviour | Anjum, Z. et al .(2019) | Pakistan | Descriptive survey | 216 investors | Loss-aversion, Overconfidence and self-control | Structure equation modelling (SEM) | Findings revealed that all the three biases have influence on trading behaviour of investors and cause them make irrational investment decisions. |
| 3. | Impact of Financial Literacy on the Behavioural Biases of Individual Stock | Ateş, S., Coşkun, A., Şahin, M. A., & | Turkey | Descriptive survey method | Random sampling 596 individual | cognitive dissonance bias, representativeness bias, confirmation | ordinal regression | Results of the study suggested that 50% of the investors have a low financial literacy level |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Investors: Evidence from Boras Istanbul | Demircan, M. L. (2016). | | | stock investors | bias, hindsight bias, self-attribution bias, anchoring bias, conservatism bias, over optimism bias, availability bias, framing bias, , loss aversion, illusion of knowledge illusion of control and overconfidence bias | | because they rely on advice from parents or friends for financial information and theyhave a high level of behavioural biases. |
| 4. | Effect of Behavioural Biases on Investment Decisions of Individual Investors in Kenya | Authur, A.(2014) | Kenya | Descriptive research | snow-ball sampling technique 30 investors | Representativeness, Cognitive Dissonance Bias, Over-optimism Bias, Herd Instinct Bias, Illusion of Control Bias, Loss Aversion Bias, Hindsight Bias, Self Attribution Bias, Regret Aversion Bias | Spearman's Rank Correlation coefficient and Regression Analysis | Major findings showed that representativeness bias, illusion of Control bias, Cognitive Dissonance bias, Herd Instinct bias and Hindsight bias significantly affect individual investor decisions. |
| 5. | The Impact of Psychological Factors on | Baker & Chui Yi | Malaysia | Descriptive survey method | A combinati | Overconfidence, Conservation, | Multiple regression | The findings showed that overconfidence, |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Investors' Decision Making in Malaysian Stock Market: A Case of Kelang Valley and Pahang | (2016) | | | on of convenience sampling, quota sampling, and snowball sampling, 200 investors | herding and Availability bias | analysis | conservatism and availability bias have significant impacts on the investors' decision making while herding behaviour has no significant impact on the investors' decision making. |
| 6. | How Financial Literacy and Demographical variables relates to Behavioural biases | Baker, H. K., Kumar, S., Goyal, N., & Gaur, V. (2019) | India | Descriptive survey | 500 individual investors | Overconfidence, mental accounting, disposition effect, herding, | Factor analysis, ANOVA, Regression analysis | Findings showed presence of behavioural biases among individual investors in India. Financial literacy has no association with overconfidence and emotional biases, negative association with herding and disposition effect and positive correlation with mental accounting bias. |
| 7. | Factors Influencing Indian Individual Investor Behaviour: Survey Evidence | Chandra, A., & Kumar, R (2012) | India | Descriptive survey method | 355 individual investors | Overconfidence, Anchoring bias, Representativeness, Gambler's fallacy, , Loss aversion, Regret aversion, Availability bias Mental accounting, | Principal Component Analysis | The results of the principal components revealed five psychological axes that appear driving the sample Indian individual investor behaviour. These five pertinent axes on the basis of the underlying variables are named as, self regulation, financial |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Information through media Market share and reputation, Accounting and financial information, Personal financial needs and Recommendation from family and friends | | heuristics, prudence and precautious attitude, informational asymmetry and financial addiction. |
| 8. | Trading Performance, Disposition Effect, Overconfidence, Representativeness Bias, and Experience of Emerging Market Investors | Chen, G., Kim, K., Nofsinger, J., & Rui, O (2007) | China | Empirical study | Secondary data from brokerage firm, 46,969 individual investor accounts and 212 institutional investor accounts are used as sample of the study | Disposition Effect, Overconfidence, Representativeness Bias | Regression analysis | The study concluded that Chinese investors have all the three behavioural biases i e disposition effect, overconfidence and representativeness bias. |
| 9 | Confirmation bias in Investments | Cheng, C. X. (2019) | U.S.A | Experimental study | 125 participants divided into two groups | Confirmation bias | Z test | The results confirmed that participants have confirmation bias. They consider only that information which |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | confirms their belief, considering that they have taken right decision. |
| 10. | Establishing a link between risk tolerance, investor personality and behavioural finance in South Africa | Dickason, Z., & Ferreira, S. (2018) | South Africa | Descriptive survey method | Random sampling 1171 investors of a investment company of South Africa | Overconfidence, Anchoring bias, Availability bias, Loss aversion, Regret aversion, Mental accounting, self control Representativeness and Gamblers fallacy | ANOVA | The findings of the study revealed that Medium-risk tolerant investors were categorised as moderate-to-growth investors' subject towards anchoring, regret aversion, representativeness, overconfidence, gamblers fallacy and the availability bias. Investors within this category will make investment decisions based on previous incorrect financial decisions. Investors with a low-risk tolerance level and categorised as conservative investors were subject towards the loss aversion and mental accounting bias. Investors subject towards the self-control bias were the only investors to fall in the aggressive personality category and have a high-risk tolerant level |
| 11. | Factors Affecting Investment Decision | Forooq, A., Afzal, M., | Pakistan | Descriptive survey method | Stratified random | Heuristics and risk aversion | Correlation and | The study concluded that Risk aversion has negative |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Making: Evidence from Equity Fund angers and Individual Investors in Pakistan | Sohail, N., & Sajid, M. (2015) | | | sampling, 100 Individual investors from different cities like Islamabad, Faisalabad, Karachi and Toba Tek Singh | | regression analysis | and significant impact on investment decision making whereas Use of financial tools, Heuristics and Firm level corporate governance have positive and significant Impact on investment decision making. |
| 12. | Overconfidence, Loss Aversion and Irrational Investor Behaviour: A Conceptual Map | Igual and Santamaría (2017) | Spain | systematic review | Secondary data, 53 studies | overconfidence, loss aversion, herding and other irrational biases | Systematic Literature review | The study classify the behavioural models based on , loss aversion, overconfidence, herding and representativeness that explain the lack of correlation between risk and return in the financial markets. |
| 13. | A qualitative inquiry into the investment decision behaviour of the Malaysian stock market investors | Jaiyeoba and Haron (2016) | Malaysia | Exploratory qualitative research | Primary data | Herd behaviour | Content analysis | Findings of the study concluded that Malayian stock investors are patriotic in nature and their investment decisions are based on feelings of comfort or convention rather than quantitative analysis, they rely much on their findings while making investment decisions, they |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | are influenced by the psychological biases |
| 14. | Impact of Cognitive Biases on Individual Investor Behaviour: A Literature Review | K and Aggarwal (2018) | Chennai (India) | Literature Review | Secondary data | Representativeness, Anchoring, Mental Accounting, Availability, Cognitive Dissonance, Hindsight, Illusion of control, Framing, Conservation | Literature review | Based on the literature review of the cognitive biases, a conceptual model of cognitive biases was developed by the authors. |
| 15. | Effect of Cognitive Biases on Investment Decisions among Retail Investor at the NAIROBI securities exchange. | Kamande. A.M. (2017) | Kenya | Descriptive survey | 96 retail investors were selected using random sampling technique | Overconfidence, Herding, Accounting Information and Excessive Optimism | Regression Analysis | The study discovered that Overconfidence bias had the most significant impact on the retail investors' decisions. Majority of investors overestimate their ability and believe in their knowledge and experience to manipulate the investment success. |
| 16. | Psychological Traits and Demographic Factors do they affect Investor's Behaviour? | Kaur, P., Virani, S., & Fazalbhay, S.(2016) | Pune (India) | Descriptive survey method | Convenience sampling method 200 salaried investors | Allusion, Self Reliance, Regretful, Reluctant, Belief, Rational choice, Constructive and Risk Aversion | Chi-square test, correlation analysis and Regression analysis | The model revealed that the psychological factors such as Allusion, Self Reliance and Risk Aversion are significantly associated with the investment decision making process. But behavioural factors such as Regretful, |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Reluctant, Belief, Rational choice and Constructive are not statistically significant. So it can be concluded that financial behaviour of the respondents is influenced by their psychological traits namely risk aversion, self reliance and belief. |
| 17. | Behavioural factors influencing investment decisions among individual investors in Nairobi Securities Exchange. | Kimeu, C., Anyango, W., & Rotich, G. (2016). | Kenya | Descriptive survey method | 34 operations managers and business development managers selected from 17 investment banks of Kenya | Risk aversion, herding, prospecting and anchoring | Multiple regression analysis | The study found that the investors in their organizations invest due to herding effect, this has resulted the investment banks to experience emotional biases and congruity. Further the study recognized that prospecting influences the investment decision making in stock market, however, most of the organizations engage in advising inventors' on the ways to invest. The study finally found that anchoring influences the investment decision in Kenyan stock market. Availability of the information about stock market investment facilitates inventors' to |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | reach investment decision. |
| 18. | The Effect of Behavioural Finance Factors on Stock Investment Decisions in Kenya | Kisaka, E. (2015) | Kenya | Descriptive survey method | 60 investors was selected randomly from 3 stock brokerage firms of Machakos Country | certain-return bias, loss aversion, regret aversion and random walk framing | Multiple regression analysis | The analysis evidenced that certain-return bias has a negative relationship with stock investment decisions whereas loss aversion, regret aversion and random walk framing have a positive correlation with stock investment decisions on the NSE. |
| 19. | An Empirical research on investor biases in financial decision-making, financial risk tolerance and financial personality | Kubilay, B., & Bayrakdaroglu, A. (2016) | Turkey | Empirical study | 536 individual investors | Overconfidence, Anchoring, Availability, Over-Optimism, Representativeness and Regret Aversion | Logistic Regression Analysis | Findings showed that there is a relationship between personality traits and behavioural biases of investors. |
| 20. | Behavioural biases in investment decision making – A systematic literature review | Kumar and Goyal (2015) | India | Systematic Literature review | Secondary data,117 selected articles published in peer review Journals between 1980 and 2013. | Herding, Home bias, Overconfidence, Disposition effect | Systematic Literature review | The study concluded that there was limited research in developing countries (emerging markets) on behavioural biases. |
| 21. | An Analysis of | Madaan, | India | Descriptive | 243 | Overconfidence, | Regressio | The study revealed that |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Behavioural biases in investment decision making | G.,& Singh, S. (2019) | | survey | investors | herding, anchoring and disposition effect | n analysis | herding and overconfidence bias have significant impact on investment decision making but anchoring and disposition effect have no significant impact on investment decision making of investors. |
| 22. | Gender based study on the Implications of Behavioural Biases in Investment Decision making | Mahalakshmi T.N & Anuradha N (2018) | India | Literature review | Secondary data | mental accounting, familiarity, local/home bias, representativeness, overconfidence, over optimism, over trading, loss aversion, disposition effect, regret, anchoring & herding | Literature review | Various studies support that men are more overconfident in investing than women. That is male trade frequently than women. |
| 23. | Behavioural Finance: A Study on Gender Based Dilemma in Making Investment Decisions. | Mahapatra and Mehta (2015) | India | Descriptive survey method | convenience and purposive sampling 64 individual households' investors of | Risk appetite and anchoring bias | Chi-square test | The empirical results of the study suggested that both male and female investors are very clear and focused about their financial goals while investing and both genders get influenced by anchoring bias when they invest. But female investors are more risk averse than |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Hyderabad - Secunderabad region | | | male investors. |
| 24. | Impact of Cognitive Biases in Investment Decisions of Individual Investors in Stock Market | Manuel and Mathew (2017) | Kerala ( India) | Descriptive survey method | convenient sample of 62 respondents | Cognitive Dissonance Bias, Representativeness Bias, Over-optimism Bias, Illusion of Control Bias, Hindsight Bias, Self-attribution Bias, Herding Bias, Regret Aversion Bias and Loss Aversion Bias | Descriptive analysis and Correlation analysis | Findings revealed that among the cognitive biases Over-optimism and Self attribution biases have high impact on investors' decision making, where as Cognitive-dissonance has least impact on investors' investment decisions. All emotional biases have very high impact on individual investors' investment decision. |
| 25. | Investment management and personality type | Mayfield, C., Perdue,G.,& Wooten, K(2008) | USA | Exploratory | Primary data 197 Students | Risk aversion Big five personality traits | Structural equation modelling (SEM) | The study found a relationship between big five personality traits and investment intentions of potential investors (graduate students) of USA. The findings in the present study suggested that personality influences or contributes to the intentions of investors is not without practical applications. |
| 26. | Personality traits and | Mehtab, F., | India | Descriptive | 1000 | Overconfidence | Regressio | Findings concluded that |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Behavioural biases of Indian Investors | & Nagaraj, H. (2019) | | research | individual investors | and Herding bias | n analysis | overconfidence bias has negative relationship with introversion personality type but herding bias has negative relationship with extroversion personality type. |
| 27. | Does Irrationality in Investment Decisions Vary with Income? | Mittal and Vyas (2009) | Indore (India) | Descriptive survey method | Primary data was collected from 428 individual investors with the help of structured questionnaire | Overconfidence, Loss /regret avoidance, self attribution bias, framing effect, and tendency to use purchase price as reference point. | ANOVA | The findings revealed that Income was found to be a significant factor impacting the overconfidence level (tendency to overreact) and loss/regret avoidance. But income has no significant effect on self-attribution bias, framing effect, and tendency to use purchase price as reference point. |
| 28. | Investment Decision Making and Hindsight Bias | Monti, M., & Legrenzi, P. (2009). | Germany | Experimental | Primary data | Hindsight bias | Regression analysis | Results concluded that bankers having low hindsight bias have obtained better performance; even experience cannot reduce this bias. |
| 29 | A study on investors' personality characteristics and behavioural biases: Conservatism bias and availability bias in the | Moradi, M., Mostafaei, Z., & Meshki, M. (2013) | Iran | Descriptive survey method | Primary data | Conservation bias and Availability bias | Chi-square test and phi-test | The results showed that extraversion-introversion personality type have no relationship with conservation bias but have relationship with |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Tehran Stock Exchange | | | | | | | availability bias. |
| 30. | Impact of Behavioural Finance on investment decision making: A study of investment banks in Nigeria | Ogunlusi, O. E., & Obademi, O. (2019 | Nigeria | Descriptive survey | 180 investors | Heuristics and prospect variables | Correlation analysis | The study found that there is a strong negative relationship between behavioural biases and investment decision making. |
| 31. | Impact of Select Behavioural Factors Influence on the Investment Decision Making | Padma & Rani(2018) | Andhra Pardesh (India) | Descriptive survey method | Simple random sampling 172 equity investors of Andhra Pradesh | self-efficiency, locus of control and achievement motivation | Bi-variate correlation and structure equation modelling (SEM) | The study found that the Achievement Motivation has the strong correlation with the Investors investment decision making. However, Self-efficacy and Locus of control are moderately correlated with the investment decision making. The impact has been studied with the SEM and the result indicated that the Self-efficacy influence is having the higher impact on the investors' investment decision making. |
| 32. | The Impact of the Sunk Cost Fallacy and Other Behavioural Biases on Individual Irish Investors | Percival.S. (2016) | Ireland | Descriptive survey method | Purposive sampling technique 42 investors | sunk cost fallacy, overconfidence, Regret aversion, mental accounting and Hindsight bias | Descriptive statistics | Findings of the study revealed that sunk cost fallacy and other behavioural biases are present in Irish investors while making investment decisions in stock market |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 33. | An Empirical Study of Overconfidence and Illusion of Control Biases, Impact on Investor's Decision Making: An Evidence from ISE | Qadri and Shabbir (2014) | Pakistan | Descriptive survey method | 107 investors of Islamabad Stock Exchange (ISE) | overconfidence and Illusion of control | Regression analysis | Findings revealed that (overconfidence and Illusion of control) these two biases have a lot of impact on investors' decision making. Investors think that their knowledge, experience and wealth have a great importance on the investment decisions. Overconfidence Investors in ISE trade more rapidly due to their skill, knowledge and experience. |
| 34. | Factors influencing investor's decision making in Pakistan | Rasheed, M., Rafique, A., Zahid, T., & Akhtar, M. (2017) | Pakistan | Descriptive survey method | 227 investors operating at Islamabad, Lahore, and Sargodha in Pakistan | Representativeness bias and Availability bias | Structural equation modelling (SEM) | The results of the study suggested that investors at the PSX are influenced by both representativeness and availability bias. The investors prefer to buy only those stocks for which more information is available to them instead of doing a complete analysis of all the available and relevant information and they invest in stocks only on the basis of the similarity of their characteristics with their |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | expected performance. |
| 35. | Extending the Theory of Planned Behaviour: Impact of Past Behavioural Biases on the Investment Decision of Indian Investors | Raut, R.K., Das, N &Rohit Kumar,R (2018) | India | Descriptive survey method | 396 individuals of Eastern India | Theory of Planned behaviour | Structural equation modelling (SEM) | The findings of this study revealed that behavioural biases are inseparable from normal human beings' decision making. This study indicates that attitude toward behaviour, subjective norms and perceived behavioural control are significantly associated with behavioural intentions. |
| 36. | Investors'Expertise, Personality Traits and Susceptibility to Behavioural Biases in the Decision Making Process | Rzeszutek, M., Szyszka, A., & Czerwonka, M. (2015) | Poland | Descriptive survey method | Convenience sampling 200 respondents out of them 100 retail investors of Warsaw Stock Exchange and 100 students of the Warsaw School of | certainty effect, the sunk cost fallacy, and mental accounting | logistic regression analyses and Chi-square test | The study found that not only that frequent retail investors are susceptible to various behavioural biases when making decisions but also that the degree of susceptibility is stronger among students and demonstrated that susceptibility to behavioural biases depends on the level of expertise in stock market investing |

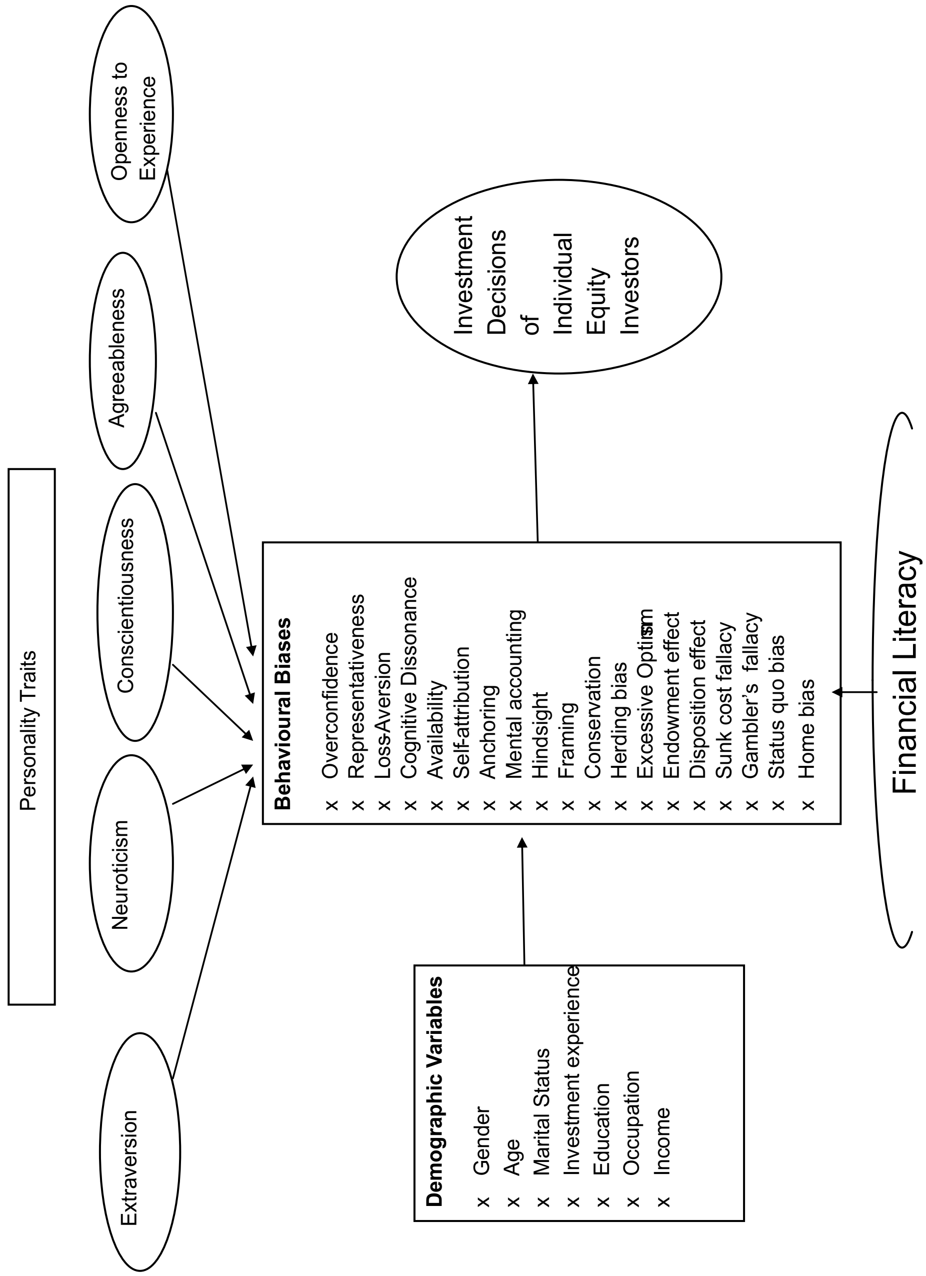
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Economics | | | |
| 37. | Individual investors and local bias | Seasholes, M. S., & Zhu, N. (2010) | U.S.A | Empirical study | Secondary data | Home bias | Regression analysis | The study found that investors purchase maximum number of stocks of those companies whose headquarter is situated locally. |
| 38. | What factors affect behavioural biases? Evidence from Turkish individual stock investors | Tekçe, B., Yılmaz, N., & Bildik, R. (2016) | Turkey | Empirical study | Secondary data, Over 200000 investors accounts | Disposition effect, familiarity bias, representativeness bias and status quo bias | PGR-PLR analysis, Correlation analysis | Study concluded that investors do not behave rationally. Male investors have more disposition effect and familiarity bias and disposition effect increases with age. Representativeness bias has no difference on the bases of gender, age and experience. |
| 39. | Investor Behavioural Pattern: An Empirical study of the Ghana stock market | Tetteh and Hayfron (2017) | Ghana | Descriptive survey method | convenience sampling method 250 investors | Availability, mental accounting, risk aversion, representativeness, anchoring and overconfidence | Descriptive statistics | The study reported that behavioural biases of availability, mental accounting, risk aversion, representativeness, anchoring and overconfidence prevail in various proportions among investors of Ghana. Representativeness, risk aversion and availability were the most prevalent biases in Ghanian stock |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | market. |
| 40. | Impact of Behavioural Biases on Investment Decision: With special Reference to Gwalior City | Vishnoi, S. (2015) | Gwalior (India) | Descriptive survey method | 100 retail investors is selected from Gwalior city using purposive sampling method | Representativeness , Anchoring, Overconfidence, Gamblers Fallacy, Availability, Loss aversion, Mental accounting , Regret aversion and Self-control | Factor Analysis | Two factors were identified from all behavioural factors using factor analysis namely Heuristics and Prospect. |

## Identification of Behavioural Biases and Conceptual Model

Behavioural biases are those cognitive and emotional errors which deviate investors from rationality in investment decisions. Various behavioural biases are identified by researchers in previous studies conducted in different countries through various statistical techniques such as Exploratory Factor Analysis and Confirmatory Factor Analysis. It is found that big five personality traits, demographic variables, financial literacy, behavioural biases and investment decisions are related with each other. Behavioural biases of individual equity investors vary on the basis of their personality traits, their demographic profiles and their financial literacy levels which are collectively responsible for their irrational investment decisions. On the basis of review of literature on behavioural biases, a conceptual model is developed and presented below (figure 1).

FIGURE I: Conceptual Model based on Review



References


Alrabadi, D. W. H., Al-Abdallah, S. Y., & Aljarayesh, N. I. A. (2018). Behavioral biases and investment performance: Does gender matter? Evidence from Amman Stock Exchange. Jordan Journal of Economic Sciences, 5(1), 77-91.

Anjum ,Z., Phulpoto ,N, H ., Memon, S, A., Pahore, R, M., Imran ,M., & Bhutto, Z. (2019). Impact of psychological biases and personality traits on Investors' Trading Behaviour. IJCSNS International Journal of Computer Science and Network Security, 19(8), 115-122.

Ateş, S., Coşkun, A., Şahin, M. A., & Demircan, M. L. (2016). Impact of Financial Literacy on the Behavioral Biases of Individual Stock Investors: Evidence from Borsa Istanbul. Business & Economics Research Journal, 7(3), 1-19.

Athur, A. D. (2014). Effect of behavioural biases on investment decisions of individual investors in Kenya. Unpublished MSC Project. University of Nairobi.

Bakar, S., & Yi, A. N. C. (2016). The impact of psychological factors on investors' decision making in Malaysian stock market: A case of Klang Valley and Pahang. Procedia Economics and Finance, 35, 319-328.

Baker, H. K., Kumar, S., Goyal, N., & Gaur, V. (2019). How financial literacy and demographic variables relate to behavioral biases. Managerial Finance, 41(1), 124-146.

Chandra, A., & Kumar, R. (2012). Factors influencing Indian individual investor behaviour: Survey evidence. Decision, 39(3), 141-167.

Chen, G., Kim, K. A., Nofsinger, J. R., & Rui, O. M. (2007). Trading performance, disposition effect, overconfidence, representativeness bias, and experience of emerging market investors. Journal of Behavioural Decision Making, 20(4), 425-451.

Cheng, C. X. (2019). Confirmation Bias in Investments. International Journal of Economics and Finance, 11(2), 50-55.

Dickason, Z., & Ferreira, S. (2018). Establishing a link between risk tolerance, investor personality and behavioural finance in South Africa. Cogent Economics & Finance, 6(1), 1519.

Farooq, A., & Sajid, M. (2015). Factors Affecting Investment Decision Making: Evidence from Equity Fund Managers and Individual Investors in Pakistan. Research Journal of Finance and Accounting, 5(8),62-69.

12. Igual, M. G., & Santamaría, T. C. (2017). Overconfidence, Loss Aversion and Irrational Investor Behavior: A Conceptual Map. Journal of Economic & Management Perspectives, 11(1), 273-290.

Jaiyeoba, H. B., & Haron, R. (2016). A qualitative inquiry into the investment decision behaviour of the Malaysian stock market investors. Qualitative Research in Financial Markets, 8(3), 246-267.

Kamande. A.M. (2017). Effect of Cognitive Biases on Investment Decisions among Retail Investor at the NAIROBI securities exchange. Unpublished MBA Project. University of Nairobi.

Kanagasabai, B., & Aggarwal, V. (2018). Impact of Cognitive Biases on Individual Investor Behaviour: A Literature Review, International Journal of Research and Analytical Review,5(3), 392-407.

Kaur, P., Virani, S., & Fazalbhoy, S. (2016). Psychological Traits and Demographic Factors Do they Affect Investor's Behavior?. Indian Journal of Management Science, 6(1), 46-53.

Kimeu, C., Anyango, W., & Rotich, G. (2016). Behavioural factors influencing investment decisions among individual investors in Nairobi Securities Exchange. The strategic journal of business change, 4(3), 75-92.

Kisaka, E. K. (2015). The effect of behavioural finance factors on stock investment decisions in Kenya (Doctoral dissertation). Retrieved from South Eastern Kenya University Digital Depositary.

Kubilay, B., & Bayrakdaroglu, A. (2016). An empirical research on investor biases in financial decision-making, financial risk tolerance and financial personality. International Journal of Financial Research, 7(2), 171-182.

Kumar, S., & Goyal, N. (2015). Behavioural biases in investment decision making–A systematic literature review. Qualitative Research in financial markets, 7(1), 88-108.

Legrenzi, P., & Monti, M. (2009). Investment Decision-Making and Hindsight Bias. In Proceedings of the Annual Meeting of the Cognitive Science Society 31(31), 768-772.

22. Madaan, G., & Singh, S. (2019). An Analysis of Behavioural biases in investment decision making. International Journal of Financial Research, 10(4), 55-67.

23. Mahalakshmi, T. N., & Anuradha, N. (2018). Gender based study on the Implications of Behavioral Biases in Investment Decision making. International Journal on Global Business Management & Research, 7(1), 35-43.

24. Mahapatra, M. S., & Mehta, S. (2015). Behavioral finance: a study on gender based dilemma in making investment decisions. SUMEDHA Journal of Management, 4(1), 4-16.

Manuel, J., & Mathew, G. (2017). Impact of Cognitive Biases in Investment Decisions of Individual Investors in Stock Market. International Journal of Engineering Technology, Management, and Applied Sciences, 5(3), 74-77.

Mayfield, C., Perdue, G., & Wooten, K. (2008). Investment management and personality type. Financial Services Review, 17(3), 219-236.

Mehtab, F., & Nagaraj, H. (2019). Personality Traits and Behavioral Biases of Indian Investors. UNNAYAN : International Bulletin of Management and Economics, XI, 144-150.

Mittal, M., & Vyas, R. K. (2009). Does Irrationality In Investment Decisions Vary With Income?. IUP Journal of Behavioral Finance, 6(1), 26.

Moradi, M., Mostafaei, Z., & Meshki, M. (2013). A study on investors' personality characteristics and behavioral biases: Conservatism bias and availability bias in the Tehran Stock Exchange. Management Science Letters, 3(4), 1191-1196.

Ogunlusi, O. E., & Obademi, O. (2019). The Impact of Behavioural Finance on Investment Decision-making: A Study of Selected Investment Banks in Nigeria. Global Business Review. https://doi.org/10.1177/0972150919851388

Padma, S., & Rani, T. S. (2018). Impact of Select Behavioural Factors Influence on the Investment Decision Making. Sumedha Journal of Management, 7(4), 163-170.

Percival, S. (2016). The impact of the sunk coast fallacy and other behavioural biases on individual Irish investors (Doctoral dissertation, Dublin Business School)

Pompıan, M. M. (2006). Behavioral Finance and Wealth Menagement. John Wiely and Sons.

Qadri, S. U., & Shabbir, M. (2014). An empirical study of overconfidence and illusion of control biases, Impact on investor's decision making: an evidence from ISE. European Journal of Business and Management, 6(14), 38-44.

Rasheed, M. H., Rafique, A., Zahid, T., & Akhtar, M. W. (2018). Factors influencing investor's decision making in Pakistan: Moderating the role of locus of control. Review of Behavioral Finance, 10(1), 70-87.

Raut, R. K., Das, N., & Kumar, R. (2018). Extending the Theory of Planned Behaviour: Impact of Past Behavioural Biases on the Investment Decision of Indian Investors. AJBA, 11(1), 265-291.

Rzeszutek, M., Szyszka, A., & Czerwonka, M. (2015). Investors' expertise, personality traits and susceptibility to behavioral biases in the decision making process. Contemporary Economics, 9(3), 237-352.

Seasholes, M. S., & Zhu, N. (2010). Individual investors and local bias. The Journal of Finance, 65(5), 1987-2010.

Simon, H. A. (1957). Models of man; social and rational. John Wiely and Sons.

Sulphey, M. M. (2014). Behavioural finance. PHI Learning Pvt. Ltd..

Tekçe, B., Yılmaz, N., & Bildik, R. (2016). What factors affect behavioral biases? Evidence from Turkish individual stock investors. Research in International Business and Finance, 37, 515-526.

Tetteh, J. E., & Hayfron, A. E. (2017). Investor behavioural pattern: An empirical study of the Ghana stock market. Journal of Applied Business and Economics, 19(8), 69-78.

Tversky, A., & Kahneman, D. (1971). The judgment of frequency and probability by availability of instances. Oregon Research Institute Research Bulletin, 11(6).

Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. Cognitive psychology, 5(2), 207-232.

Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. Science, 185(4157), 1124-1131.

Tversky, A., & Kahneman, D. (1979). Prospect theory: An analysis of decisions under risk. Econometrica, 47, 278.

Vishnoi, S. (2015). Impact of Behavioural Biases on Investment Decision: With special Reference to Gwalior City. International Journal in Management & Social Science, 3(10), 255-261.