Major Research Project Report on

A Study on Behavioral Biases in Stock Market Investment Decisions

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CERTIFICATE

This is to certify that **Arihant Jain (Roll No: 24/DMBA/41)** has submitted the project report titled "**A Study on Behavioral Biases in Stock Market Investment Decisions**" in partial fulfillment of the requirements for the award of the degree of Master of Business Administration (MBA) from Delhi School of Management, Delhi Technological University, New Delhi during the academic year 2025–26.

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DECLARATION

I, **Arihant Jain**, student of Delhi School of Management, Delhi Technological University, hereby declare that the Major Research Project report titled "**A Study on Behavioral Biases in Stock Market Investment Decisions**" submitted in partial fulfillment of the requirements for the award of the degree of Master of Business Administration (MBA) is my original work.

I confirm that this project has not been submitted to any other institution or university for any other degree or diploma.

I further declare that the information collected from various sources has been duly acknowledged in this project.

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Date: _____

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EXECUTIVE SUMMARY

Investment in the stock market is one of the key tools of economic development in the contemporary world. Investment and growth opportunities provided by the stock market help people generate profits. In the last few years, the number of stock market participants has dramatically increased due to easy digital trading, financial literacy, mobile apps, and numerous platforms available for trading. Besides rational decisions, emotional and psychological factors greatly affect the behavior of investors in the stock market environment.

In the current research, the author aims to investigate the effect of different biases on the investment decisions of individuals. According to behavioral finance theory, individuals' emotions, perceptions, social influence, and heuristics can affect their decisions. Such irrationality can be detrimental for investments and can prevent efficient decision-making and successful risk management.

In the research, different types of biases, including overconfidence bias, herding bias, loss aversion bias, anchoring bias, availability bias, and emotional behavior were analyzed to find out how these biases affected the thinking processes, stock selection, perception of risks, and behavior patterns of investors.

The survey method has been chosen for data collection. Primary data has been gathered through a structured questionnaire administered among stock market participants and individuals who are active traders. The survey consisted of questions regarding the respondents' demographical characteristics, previous investment experience, market behavior, level of self-confidence, emotions when trading, perception of social factors, and attitude towards risks associated with investments.

The questions asked in the survey were answered using a five-point Likert scale which ranged from strongly agree to strongly disagree. Based on the obtained results, percentage analyses and interpretation approaches have been used for identifying major behavioral patterns of investors.

According to the conducted survey, the studied behavioral biases had significant effects on the investment behavior. In particular, many respondents revealed their tendency to exhibit overconfidence bias, which means that people believed in themselves while making investment decisions. Also, numerous investors confessed that the latest market news and social influence greatly affected their investment decisions.
Moreover, the results showed that herding behavior was observed among stock market investors. Namely, a high number of respondents stated that they invested in particular stocks based on recommendations received from their friends and peers.

Despite the possibility to generate wealth through stock market investments, there is an indication that behavioral problems may have an impact on the performance of these investments, depending on how investors manage their biases. Such behaviors as excessive self-confidence, rashness, and being driven by emotions when making investment choices could pose risks and diminish the rationality of investment decisions made.
In conclusion, the research shows that behavioral biases significantly influence stock market investments made by individuals. Investor behavior is not rational, and psychological influences have a huge impact on the process of participation in markets. Consequently, it is important to encourage investors to develop financial literacy, awareness, and emotional discipline in order to invest rationally.

Generally, this research gives useful insights about behavioral problems related to stock markets, which are very important because of the emerging behavioral finance. The study will be useful for both individual investors and those who deal with such matters professionally.

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INTRODUCTION

1.1 Background

Introduction to the study

In today's time, the stock market has emerged as one of the leading investment areas for those who wish to grow and create wealth out of their savings and resources. Due to the fast-paced development in technology and digitization of India, an increasing number of people have been seen investing in the stock market because of the easy availability of stock trading on mobile platforms, the Internet, and people's awareness regarding financial knowledge. Individuals today can engage in stock trading from anywhere at any time because of technological advancement.

India's financial markets have grown quickly due to technological advancements and financial inclusivity. Due to the government policies that include digital payment systems and awareness among people regarding investment, a lot of people have been observed participating in the Indian financial markets. Apart from traditional methods of investments like fixed deposits, gold, and real estate, there has been a lot of participation by Indians in stocks and financial securities. Young people like millennials and Generation Z have been actively involved in the stock market due to high return expectations and easy availability of information via digital media.

Historically, investments were associated with being rational in nature and involving rational thinking in decision-making, with the basis of rational thinking including financial expertise and market information. The classical financial theories suggest that any investment is thoroughly calculated and analyzed by considering risks and returns on investment before the decision-making. In reality, however, human nature and investors' behavior are more susceptible to emotional factors than logical calculations and financial expertise. Human behavior can hardly be fully rational even in situations requiring some analytical skills, such as investing money in stock market transactions.

Today, the stock market has become one of the most important fields of investment opportunities for those who seek to create and generate wealth out of their savings. As a result of rapid developments and advancement in technology, the stock market is becoming a popular choice among the young generation of India due to the ease of access of stocks trading on mobile applications, internet platforms and people's increasing awareness about financial matters. An individual in today's world can easily conduct trading of stocks anywhere and anytime because of advancements in technology.

The financial markets in India have experienced rapid growth owing to technological advancements and financial inclusivity. The government of India has come up with various policies and financial tools which encourage many individuals to participate in the financial markets in India. While apart from traditional methods of investments, there has been significant interest by the Indian population in investments in the form of stocks and other financial instruments. The millennials and Generation Z population of India have been investing in stocks due to the desire for greater gains and availability of information in digital media.

Historically, investments were considered rational investments where an investor had to think rationally while making decisions. The process of rational thinking included knowledge of financial matters and market conditions. According to classical finance theory, any type of investment is carefully thought out and analyzed taking into account the risks and expected

returns on investment. However, it should be kept in mind that the human nature and behavior is more likely influenced by emotions rather than logical analysis or financial expertise. It can hardly be possible for any human to think logically and rationally when it comes to investments in the stock market.

Behavioral finance is a financial science which combines finance and psychology in order to study and investigate human behavior of investors and their decision-making process. Emotional influences, irrational behavior, cognitive biases, and mental processes of investors have been studied through the concept of behavioral finance. Investor often makes irrational decisions due to greed, fear, overconfidence, rumors and speculation, social pressures and emotional behavior.

It has become extremely relevant for the study of behavioral finance since the decision-making process of modern investors is greatly influenced by many outside forces.

Another behavioral bias among investors is the overconfidence bias. All investors believe that they know more than others and also make better decisions than others. Overconfidence arises mainly due to the tendency of investors to trade frequently, ignore risks and opinions of professionals. Overconfidence behavior leads to investors making risky investments as well as failing to diversify their portfolios.

Another example of a bias based on behavior is herding behavior. This involves an investor following the steps of other individuals without making independent analysis. Influences in investing include the influence from peers, relatives, financial analysts, social media, as well as the markets. Once an individual stock becomes famous, many investors start buying the same stocks in a similar fashion just because of the activities of others. Herding behavior is quite common at high and low periods in the market because of crowd influences on investors' behavior.

Another behavioral factor involves anchoring bias, whereby the investors rely much on past prices or previously available information when taking investment decisions. The investors tend to use past prices as their basis for comparison and decision-making, even in circumstances where there are changes in market dynamics. In relation to availability bias, investors make decisions based on current information, market events, or whatever information happens to be easily available to them.

With the advent of technology, including the development of social media platforms, there has been an increase in behavioral biases, which influence the behavior of investors. Nowadays, investors are constantly being bombarded with financial news, stock picks, and market opinions through social media platforms such as YouTube, Telegram, Instagram, Twitter, and financial blogs. The information tends to affect the emotions and behavior of the investors. Most of them make decisions based on trending stocks or viral investment tips.

In addition, the other reason that contributed to increased involvement of retail investors in the stock markets involved the effects of the coronavirus pandemic. Most people engaged in stock investments during the pandemic period due to low interest rates and increased savings. While at the same time, there was also heightened emotional response to market uncertainties and volatility among investors. There was more fear, panic selling, speculations, and impulsive investments made by investors during this period.

In India, retail investors' involvement has increased greatly over the last few years. Easy procedures to open accounts, no brokerage transactions, and financial awareness drives have helped people to make their investments in the stock market. However, since many of these retail investors have very little or no financial knowledge or experience, they become susceptible to behavioral biases and emotional decision-making. Thus, gaining an understanding about investor psychology becomes all the more important in such cases.

Behavioral biases do not just affect investors but play an integral role in shaping overall This

research focuses on behavioral biases like overconfidence, herding, loss aversion, anchoring, availability biases and the emotional behavior of the investors in the stock markets.
The data for this research is gathered using a survey questionnaire. The questionnaire contains both the personal data and behavioral and psychological statements about investment behavior, emotions, confidence, social influences and perceptions towards risks. This helps in determining the investor behavior.
The results obtained from this study will give important insight about the effect of behavioral finance on the decision making process. Investors will be able to determine what behavioral factors impact their decision making and encourage them to behave in a more disciplined way. The results will be useful for financial advisers and policymakers as well who can determine the changing behavior of the investors in India's developing financial market.
In conclusion, this research will prove the significance of behavioral finance in today's investment decisions and how behavioral biases affect the stock market behavior and participation of the investors.

1.2 Problem Statement

The stock market has been one of the most lucrative investment channels because of rising levels of financial literacy, advanced forms of digital trading, and availability of information related to investments. The rise in the use of online trading platforms, mobile investment platforms, and financial content through social media has helped a lot of people, particularly younger investors, to get involved in the activities of the stock market. While investment in the stock market provides the means of earning money and becoming financially better off, investment decisions are made not only based on logic but also under the influence of psychology and emotion.
While the traditional theory of finances suggests that investment decisions should be made based on rational calculations, in reality, people decide to invest their money into stocks and securities under the influence of their emotions, personal opinions, sentiments in the market, and other factors. Behavioral finance emphasizes the idea that people do not always make rational decisions and are affected by psychological tricks while choosing their investment instruments.
One of the main issues related to stock market investing is overconfidence among investors. Many investors feel that they are more informed about the stock market than any other.

Another one of the most common issues observed in stock market investments is overconfidence of investors. Most people investing in the stock market feel that they know better than others. Because of overconfidence, investors tend to ignore professional advice, underestimate market risks, and trade frequently. Overconfidence in oneself makes it difficult for investors to make correct choices and leads to losses.
Herding tendency is yet another significant problem that needs addressing. Investors usually try to do what others do and not analyze their own market situations. In other words, a lot of investors decide to buy or sell stocks depending on what others, including their acquaintances or celebrities on the Internet, have decided. This herd mentality can result in unnecessary volatility in the market and wrong investments in inappropriate financial instruments.
The next issue is loss aversion. People usually feel the pain of losses much more acutely than the joy of profits. For this reason, many investors find themselves reluctant to sell their losing positions. Because of overvaluing losses, investors can keep stocks longer than necessary, hoping to gain profits.
Finally, the last important aspect is that investors tend to be overly influenced by recent news and information. instead of analyzing their financial situation in detail and assessing their investments. In this way, availability bias is created and the likelihood of investing impulsively becomes higher.

The growing significance of digital platforms and social media has significantly fueled behavioral biases. Investors today are constantly being flooded with information such as tips, rumors, opinions, and trends in stocks and financial markets on YouTube, Telegram, Instagram, and many other online platforms. This constant flow of information has some impact on investors' perceptions of investment decisions, emotions, and risks.

Financial illiteracy and unawareness of investing can also be seen as another major concern that may affect investors' psychological behavior. Young investors often invest in stocks without having sufficient knowledge about risk assessment, portfolio diversification, and financial planning for the long term. They become more prone to making emotional decisions regarding their investments.

Market uncertainty and volatility is yet another crucial factor affecting investors psychologically. All of a sudden changes in the market along with economic conditions, political developments, inflation, and global financial crises lead investors to have fear and confusion about their investments. Fear, greed, and panic selling are examples of psychological responses that investors tend to exhibit.

Even though retail investors have become increasingly popular in India, the knowledge about how psychological biases impact their investment decisions has been overlooked to a great extent. As far as investors are concerned, most of them only think about making profits, whereas the psychological factors that play a role in their decision-making process go unnoticed. It is important, therefore, to study the influence that behavioral biases have on investing decisions.

In the current investigation, an attempt will be made to explore the relationship between behavioral biases and investment decisions on the Indian stock market by individual investors. In other words, the research seeks to find out how psychological biases like overconfidence bias, herding bias, loss aversion bias, anchoring bias, availability bias, and emotional behavior impact investor decision-making processes.

The significance of the research comes from the fact that the biases mentioned above are not only characteristic of investors but can affect the dynamics of the market as well. Thus, the investigation of investor psychology will allow individual investors to make better decisions related to investing. The results obtained from the analysis may be interesting for financial analysts, researchers, and financial institutions.

1.3 Research Objectives

1. Main Research Objective

The main objective of this research project is to analyze the influence of behavioral biases on stock market investment decisions of individual investors.

2. To Study Investor's Awareness about Behavioral Biases

This study intends to explore the degree of awareness amongst investors about behavioral finance and psychology principles that can influence their investment decisions in the stock market.

3. To Study the Influence of Factors on Investor's Decision-Making

Another objective of this study is to understand the factors that affect the decision-making process of investors including emotions, market conditions, social influence, personal beliefs, risk tolerance, and other aspects.

4. To Study Overconfidence Behavior

This objective of this research study is to study the overconfidence behavior of investors including over-trading, risk tolerance, and self-confidence.

5. To Study Herd Behavior of Investors

This study intends to investigate whether investors' decision-making behavior is being influenced by the activities of friends, relatives, media, and market trends in terms of investment.

6. To Study Loss Aversion Behavior

This study will also analyze the influence of loss aversion behavior on the decision-making process of investors.

7. For Analysis of Influence of Anchoring Bias

The objective is to assess whether there is heavy dependence on past stock prices or their performance or any past market information for taking investment decisions.

8. For Analysis of Influence of Availability Bias

The objective of the study is to evaluate whether recent market news, social media updates or any easily available information impact the investors' decisions.

9. For Emotional Behavior and Perception of Risk

The objective of the study is to evaluate the influence of emotions such as fear, greed, panic and excitement on investors and their stock market activities.

10. For Influence of Psychological Bias as a Whole on Investment Decisions

The objective is to analyze the effect of psychological biases overall on investors and their investment decisions..

1.3 Scope of Study

The scope of this study will involve understanding the influence that behavioral biases have on stock market investments made by individual investors. The research will involve analyzing the influence of psychological and emotional factors on the behavior and decision-making processes, perception of risks, and financial decisions of investors in stock market investments.

Geographic Scope

This study will only consider India as its geographic scope, where it will consider individual investors in urban and semi-urban locations who take part in stock market investments using online trading, mobile investments applications, and other financial service platforms. This study captures the behaviors of retail investors in the financial markets of India.

Demographic Scope

The demographic scope of this study involves participants in different demographic categories such as:

• Students
• Salaried workers
• Self-employed persons
• Business owners
• Professionals

In particular, the focus of this study will be on young and middle-aged investors since these investors are active in making stock market investments. In addition to demographics, other variables include investment experience and investment preferences.

Conceptual Scope

The conceptual scope will include concepts related to:

• **Behavioral Finance**

Scope of Industry

The research is related to the financial service sector and stock market industry in India. It revolves around retail investors who participate in:

• Equity Market
• Mutual Funds
• Online Trading Platforms
• Investment Applications
• Digital Brokerage Services

Moreover, it takes into account the effect of news sites, social media sites, online investor forums, and financial digital services on investor behavior.

Scope of Methodology

The scope of the study is descriptive and analytical. The data was collected through**:**

Primary Data

• Survey questionnaire
• Investors' responses

Secondary Data

• Research papers
• Journals
• Websites
• Financial articles
• Stock market report

• Behavioral finance books

Convenience sampling technique has been used for the collection of responses of investors**.**

Scope of Analysis

Through this research, the following things can be analyzed:

• Awareness of investors about behavioral biases
• Effect of emotions on investment decisions
• Effect of social and market factors on investors
• Investors' risk perceptions and emotional behavior
• Patterns in investment decision making
• Psychological factors that make investors invest in the stock market

Limitations in Scope
Limitations within the Scope of the Study

There are some limitations of the study as follows:

• Limited number of samples
• The focus is on retail investors
• Limited time frame
• The answers could have personal prejudice in them
• Market dynamics keep changing
• Limited study of institutional investors

These limitations notwithstanding, the study helps understand the effect of behavioral biases on stock market investments in Indian financial markets.

1.4 Hypothesis of the Study

Below are a few hypotheses that have been formed for studying the relationship between the dependent and independent variables based on the study objectives and variables.

Overconfidence Bias and Investment Decision Making
Overconfidence bias implies the belief that an investor feels that he/she is better knowledgeable about the market than other investors. This leads investors to depend highly upon themselves rather than taking advice from experts and also ignoring market dynamics. High confidence level impacts investment behavior and decision-making process.

Thus, one hypothesis can be stated as below:
H01: Overconfidence bias does not have any impact on stock market investment decisions.

H1: Overconfidence bias significantly affects stock market investment decisions.

Investor Herding Behaviour and Investment Decision-Making

The concept of herding behaviour is the process whereby an investor mimics the decisions made by others and follows their opinions and actions rather than analysing and coming up with personal conclusions. Investors tend to be influenced by social relations and market **trends when making**

investment decisions. Social influence may have implications on investor decision-making and choice of stocks.

Therefore, a hypothesis may be drawn as follows:

H02: There is no significant relationship between herding behaviour and stock market investment decision-making.

H2: Herding behaviour significantly affects investment decision-making**.**

Relationship Between Loss Aversion Bias and Investor Behaviour

Loss aversion bias is the situation where the investors fear the prospect of losing more than gaining from their investment. An investor does not easily sell loss-making investments due to emotional attachment for fear of financial losses.

Thus, the following hypothesis emerges:

H03: There is no significant relationship between loss aversion bias and investor behaviour.

H3: There is a significant relationship between loss aversion bias and investor behaviour.

Relationship Between Anchoring Bias and Investment Decisions
Investors are considered to be affected by anchoring bias when they make investment decisions using past stock prices or past market information. Investors compare the present price of stocks to past market information before making any investment decision, despite changes in the market. It may have an effect on rational investment decision-making.

The hypothesis that can be used is as follows:

H04: Anchoring bias does not significantly affect stock market investment decisions.

H4: Anchoring bias significantly affects stock market investment decisions.

Relationship between availability bias and investment behaviour

Availability bias involves investors making investment decisions based on news, social media, and information rather than carrying out thorough financial analysis. Investors get swayed by events that are currently happening in the stock market, and such market information affects investment behaviour.

Hence, the hypothesis that would be used is:

H05: Availability bias does not significantly affect investment behaviour.

H5: Availability bias significantly positively affects investment behaviour.

Relationship between emotional behaviour and risk perception

Emotional behaviour and risk perception relationship

It is clear that emotional behavior like fear, greed, panic, and excitement significantly impacts investor risk perception and confidence when making investments in the stock market. These emotional behaviors in market changes might influence the decision making, buying, selling behaviors, and performance of the investors' investments.

Accordingly, the following hypothesis can be suggested:

H06: There is no significant effect of emotional behavior on investor risk perception and investment decision-making.

H6: There is a significant effect of emotional behavior on investor risk perception and investment decision-making.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

Literature review is very essential in all types of research because it gives a proper background of the knowledge that exists concerning the topic under investigation. It enables one to find out theories, key concepts, past findings, and research gaps within the research topic. Literature review lays a sound basis for conducting the study and assists one in knowing how other scholars conducted the same study or analysed similar behaviour patterns.

In the current study, the main concern is on the effects of behavioural biases on investment decision in stock markets. Thus, the literature review in this case will mainly focus on the findings of previous scholars on investors' psychology, behavioural finance, overconfidence bias, herding behaviour, loss aversion, anchoring bias, availability bias, emotion-based decision making, and the role of market information on investment decisions.

The traditional financial theories assumed that investors are perfectly rational beings who make perfect investment decisions based on adequate information and logical reasoning. Behavioral finance on the other hand posits that investors are sometimes irrational due to certain psychological or social factors that influence their investment decisions.

The emergence of behavioral finance theory has led to greater insights into the functioning of financial markets around the world. It has been noted by researchers that psychology-related issues such as fear, greed, confidence, emotions, and social pressure influence investments in the stock market. According to Kahneman & Tversky (1979), investors tend to behave irrationally owing to cognitive biases and their emotional responses. Prospect theory explains that people are usually more concerned about losing than gaining. This significantly influences investment behavior.

It has been shown through various studies that overconfidence is one of the major behavioral biases affecting the decision-making process of investors. Investors tend to assume that they are more informed about the workings of the market than others and have better predictive capabilities. According to Barber & Odean (2001), overconfident investors engage in excessive trading owing to their overestimation of investment expertise and market knowledge. Overconfidence can sometimes cause investors to lose money by making poor investment decisions.

One of the other major concepts identified in earlier studies was loss aversion. Loss aversion suggests that people tend to fear losing more than they desire gaining. Investors do not sell off their loss-making stocks hoping for eventual recovery.

Herding has also been extensively studied in literature related to behavioral finance. Herding refers to the behavior of investors in making decisions following others rather than conducting their own research. Influence of the majority, peer pressure, market dynamics, media discussions, and recommendations from others can all impact the decision-making process of investors. As Banerjee (1992) suggests, in case of uncertainty, investors usually tend to follow the majority.

Anchoring bias in investment behavior was also considered an area for research in behavioral finance. Anchoring refers to the situation in which investors base their decision-making processes on past stock prices. In making investment decisions, investors usually make comparisons between current and previous prices of stocks. Consequently, this bias may result in the failure of investors to make decisions based on current market conditions.

Another bias that affects investors' decisions regarding stocks is availability bias. Investors usually base their decisions on easily available information. This can include various sources including financial news, social media, TV channels, the Internet, and recent events in the stock market. As Tversky & Kahneman (1974) suggest, people usually use only easily available information while making judgments and decisions.

Emotions have a significant influence on stock market investment decisions as well. Fear, greed, excitement, stress, and panic have been shown to significantly impact investor behavior when there are changes in the stock market. There are studies that have demonstrated that emotions are often a trigger for impulsive buying or selling decisions. In times of market volatility, emotions usually override logic in investor decisions.

There is no doubt that advancements in technology and financial systems have helped promote investor involvement in stock market operations. Stock investments have become much easier for people as many have now adopted technological means for trading such as online trading applications, mobile investing, social media discussion groups, and quick finance news sources. At the same time, the availability of information and trading facilities has the potential to lead to increased emotion and impulsivity in stock investment decisions.

Investor awareness and financial literacy are key factors in promoting rational decision-making in investors. Knowledgeable investors with good financial abilities are usually more likely to make sound decisions regarding their investments.

Though various studies have been undertaken with regard to behavioural finance and psychology, very few studies have been carried out in the Indian setting concerning the impact of behavioural factors on individual investment decisions. Most of the research has concentrated on financial markets of developed economies. The behavioural aspects of Indian investors need to be examined in further detail. Thus, the present research tries to investigate the impact of various behavioural factors on stock market investments in India.

Literature review contributes in theory-building in the context of the link between psychology of an investor and investment decision making.

2.2 Growth of Behavioral Finance

Behavioral finance has become an essential area of research in recent times as there is growing concern over the psychology and irrationality of investors. Conventional financial theories believed that investors behave rationally and their decisions are made in a manner that helps them maximize wealth. Nonetheless, practical instances reveal that investor behavior can be driven by emotions, psychology, and other biases.

Behavioral finance came up as an area of study due to the challenges it posed to conventional financial thinking. Scientists found out that most investor decisions were irrational and were motivated by emotions, fear, overconfidence, social influence, and market trends as opposed to financial rationale.

Stock markets, online trading platforms, and investment apps have been developed, leading to increased participation of retail investors across the globe. In India, heightened awareness among investors, smartphones use, and the availability of investment platforms have led to the increased participation of investors in the stock market.

The COVID-19 pandemic had a significant impact on the behavior of investors. Investor behavior was greatly affected by uncertainty and market volatility during the pandemic period. Most investors depended heavily on social media forums, news, and rumors making investment decisions.

Overall, the development of behavioral finance reflects the growing importance of psychology in understanding financial decision-making and market behaviour.

Transition from Traditional Finance to Behavioral Finance

For instance, traditional finance theories like the Efficient Market Hypothesis (EMH) have been built on the assumption that all investors think rationally. Therefore, these theories have viewed stock prices as being determined rationally with investments being made based on risk/return calculations.

On many occasions, however, actual market situations tend to violate the assumptions of the theories. In such cases, investors' actions and decisions are driven by factors such as greed, social norms, overconfidence, and fear. This gave rise to behavioral finance as another approach in explaining market anomalies.

Behavioral finance is concerned with examining psychological factors which affect investors' decision making processes in relation to their investing activities. For instance, scholars like Kahneman and Tversky came up with Prospect Theory, which suggested that people behave differently when it comes to profits versus losses.

In contrast to traditional finance, behavioral finance assumes that investors may

- Be overly responsive to market events
- Follow herd behavior
- Avoid realizing losses
- Relate to emotions in their judgment
- Suffer from impulse behavior.

2.3 Investor Behaviour and Stock Market Investment

Concept of Investor Behaviour

Investor behavior can be defined as the study of the process by which investors make investment decisions in the capital markets. There are various psychological, emotional, social, and financial elements that affect the buying and selling of securities by investors.

Investments may not only be made through logical thinking. The decision to buy, sell, or hold investments may sometimes be affected by emotions resulting from changes in the financial environment. The factors affecting investor behavior include confidence,

fear, greed, social aspects, and experience.

Behavioral finance is a subject that seeks to explain why investors tend to make irrational decisions because of bias and emotional reactions.

Factors Influencing Investment Decisions

There are some reasons behind stock market investments by investors.

Overconfidence is one of the reasons why stock market investors behave the way they do. Most investors have a sense of overconfidence, which means they feel they know more about the market than anyone else.

Another reason that influences investor behaviour is social influence. Investors take advice from family, friends, experts, social media influencers, and other online investors in decision-making.

Availability of information can affect investment behaviour of investors. Investors take information from different sources, including news, market reports, online interactions, and past events for their decisions.

Fear and greed can significantly affect the behaviour of investors in the stock market. During stock market crashes, investors tend to be more fearful, while in bullish markets, investors become too greedy.

Investor behaviour in the stock market can be affected by previous experience and historical stock prices. Investors often refer to previous prices before making any decisions.

2.4 Overconfidence Bias

Concept of Overconfidence Bias

Overconfidence bias is the phenomenon where investors tend to overestimate themselves in terms of their knowledge and investment skills. An overconfident investor feels that he or she has better prediction skills and thus believes in beating the market through their expertise.

Barber and Odean (2001) posit that overconfident investors engage in excessive trading activities due to their confidence in their capabilities. Overconfidence leads to risk taking and subsequent financial losses.

Overconfidence bias is common among investors with experience and those who are active traders.

Impact of Overconfidence on Investment Behaviour

There have been several research findings indicating that overconfidence results in speculation and risky behavior. Investors may be ignorant of the market risks involved and rely on their assumptions when making decisions.

Investors with overconfidence tend to understate uncertainties while overestimating expected gains. Such investor behavior has the potential to result in bad investment decisions.

2.5 Herding Behaviour

Concept of Herding Behaviour

Herding behavior is defined as the process where investors mimic what others in the majority do, instead of conducting independent analysis.
In most cases, investors adopt the investment strategies of their peers, acquaintances, market experts, or even celebrities. Herding occurs mostly in times of market uncertainty since investors have low confidence in their analysis.
As pointed out by Banerjee (1992), people normally follow the collective behavior in the market due to the assumption that the majority is better informed.

Impact of Herding on Investment Decisions

Herding behavior may lead to volatility in the market as well as create bubbles in the stock market. People may invest in overvalued stocks just because other people are doing that too.
Herding behavior has been escalated due to social networking sites and investment groups on the internet.

2.6 Perceived Risks and Investment Challenges

Concept of Perceived Risk

Perceived risk is described as uncertainty and negative consequences associated with the investment process when investors make their investment choices in the stock market. When investing in stocks, there are several types of risks including financial loss risk, volatility risk, uncertainty risk, decision-making risk, and emotional risk.

Investors usually join stock market investment for the sake of making profits; however, due to price changes, many become scared and uncertain about making their investment decisions in the stock market. Due to low knowledge level and emotional responses, irrational choices are made by investors.

There are various theories about the irrationality of investors when making decisions in the stock market. Behavioural finance theory reveals that investors are not always rational when making their decisions. Investors' actions can be affected by fear, greed, overconfidence, regret, and emotional attachment.

Financial Challenges Associated with Behavioral Biases

There are many behavioral biases, which pose a significant hindrance to making effective investment decisions in the stock market, as individuals are driven by emotional responses and cognitive thinking rather than logical analysis when investing. Due to loss aversion, investors tend to keep their losing stocks for longer periods but sell their winning stocks sooner. Overconfidence bias leads investors into frequent trading activity and irrational behavior. Investors follow the trend or social media or other investors without conducting thorough research, thereby putting themselves at risk of losses due to herding behavior. Furthermore, due to anchoring bias, individuals rely too much on price history, and availability bias makes them make investment decisions based on current information available without conducting extensive research. Fear and greed caused by emotional responses lead investors astray during bear and bull markets, respectively. Research shows that limited financial knowledge exacerbates the influence of behavioral biases on investors' decisions.

2.7 Technology and Financial Innovation

Role of Technology in Stock Market Investment

Technology is essential in today’s stock market investments. It has enabled traders to invest in the market with ease and at higher speed through various technologies such as online investing, mobile investing, artificial intelligence, machine learning, and financial data analysis. Currently, it is possible for investors to invest on stocks and keep up-to-date with the stock portfolio through their smartphones and other digital technologies. AI and data analytics are common features used in predictions in the market as well as investment advice by means of robo advisory services. Social media sites, financial news sites, and online stock market discussion forums have become critical aspects that determine the investment behaviour of investors.

Future of Behavioral Finance and Stock Market Investment

Future stock market investments are forecasted to be characterized by increasing levels of technology utilization and application of behavioral finance. As people become increasingly aware of the biases that characterize investor behavior such as overconfidence, herd mentality, loss aversion, and emotional investing, they are able to engage in more rational decision-making. Technological changes such as digital platforms for trading, machine learning, and data analytics have been affecting investments significantly by improving analysis and risk management practices. However, even as investors embrace technology, social media and internet-based information remain factors that influence their psychology and behavior. The future of successful investment is therefore tied to financial education and behavior, risk management, and control of emotionaltendencies.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Research Design

Research design is defined as a methodical approach that is used to conduct research in an organized and logical manner. In research designs, there are specific steps which are required by the researcher while conducting the research and gathering, analyzing, and interpreting data. With the help of proper research design, the researcher can conduct the research effectively.

A descriptive research design is used in the current research because the focus of the study is to understand how behavioral biases affect stock market investment decisions made by investors. The aim of the research is to investigate the behavior of investors, psychological aspects, emotions, and decision-making process involved in stock market investment. Through descriptive research design, the attitudes, views, opinions, and behaviors of investors are analyzed.

Quantitative research design is used in this research because it makes it possible for the researcher to quantitatively measure the responses of investors. A structured questionnaire using five-point Likert scale is developed in order to measure the responses of investors towards different behavioral biases. The behavioral biases include overconfidence bias, herding behavior, loss aversion, anchoring bias, emotional investing, and risk perception in stock market investment.

3.2 Research Approach

Quantitative approach

In the current study, the researchers will use quantitative research methodology to study the effects of behavioral biases on investment in the stock market. Quantitative research involves the collection and analysis of numerical data aimed at establishing patterns and trends in relationship with regard to different variables involved.

Quantitative research method is most appropriate for the current study since it will help in identifying the extent of influence that certain behavioral biases have on the decision-making process of investors. Such biases include overconfidence bias, herding behavior, loss aversion, anchoring bias, and emotional investing.

The researchers will make use of structured questionnaires in collecting quantitative data. These questionnaires will include closed-ended questions based on the Likert scale with values ranging from 1 to 5, representing the respondents' level of agreement and disagreement with certain statements regarding investment behavior and psychology.
Some of the benefits associated with quantitative research include objectivity, reliability, accuracy, and easy comparison. This approach can also allow the researchers to apply certain statistical methods like descriptive analysis, mean analysis, correlation, regression, t-test, and ANOVA in analyzing the results.

3.3 Data Collection Method

Data Collection is another important phase in research work since the data collected can determine how accurate the research outcomes will be. In the current study, the researchers have used a combination of primary and secondary data for the accomplishment of their research objectives.

Primary Data

The primary data was collected via a questionnaire, which was created using Google forms. This questionnaire comprised demographic questions and questions on investor behaviour, overconfidence bias, herding behaviour, loss aversion, anchoring bias, emotional investing, risk perceptions, and stock market investment decisions.

For answering these questions, a five-point Likert Scale was used:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

This questionnaire survey was circulated among students, salaried people, professionals, self-employed people, and retail investors who are knowledgeable about the activities relating to investment in the stock market. These people can be considered ideal participants for the survey because they participate actively in investment-related activities.

In total, the researchers obtained responses from 100 participants. Online surveys are highly beneficial since they are economical and convenient for obtaining answers from a large number of respondents in less time.

Secondary data

Moreover, secondary data has also been used for theoretical analysis and literature review. The following sources of secondary data have been used:

- Research journals
- Academic papers
- Books on behavioral finance
- SEBI Reports
- Stock Market Reports
- Websites
- Financial newspapers & magazines
- Research papers

Use of secondary data aided in gaining insights about past literature on behavioral finance, investor psychology, stock markets, emotional investing, and decision making. It also helped in finding out the gaps in previous research and formulating hypotheses.

Data Collection Approach

The method adopted in gathering data is systematic and well-structured. Much care was taken when designing the questionnaire to make sure that it remains clear, simple, and understandable to the respondent. It has been edited to correct errors before its distribution.

Invalid and irrelevant answers were discarded to make the data more reliable and accurate. The data gathered were analyzed using Microsoft Excel.

3.4 Sampling Design

Sampling design is an approach taken while choosing the subjects for inclusion in the target population in order to collect data. An appropriate sampling procedure facilitates gathering relevant and reliable data to accomplish research goals.

Sampling procedure

The current research employs convenience sampling procedure. In this approach, the selection of respondents takes into account factors such as convenience of approach, ease of access, and willingness of participation in the research.

One major advantage of using this procedure is that it can help save time, money and effort of the researcher. It is easy, inexpensive and convenient.

Sample size

The research will have a sample size of 100 respondents. The chosen sample size is quite large enough for the study of investor behavior and analysis of influence of behavioral biases on stock market investments.

This sample size is adequate to conduct statistical analysis and observe patterns of investor behavior.

Target population

The target population of the research consists of:

- Stock market investment enthusiasts
- Salaried workers
- Young professionals
- Self-employed individuals
- Retail investors
- Trading platforms users

These individuals are considered appropriate for the study because they actively use stock market applications, digital trading platforms, financial news platforms, and online investment services, making them more likely to experience behavioral biases while making investment decisions.

3.5 Variables of the Study

Variables are measures used to establish relations and test hypotheses in any research study. Variables in the present study are grouped into two; independent variables and dependent variables.

Independent Variables

Independent variables are factors that are believed to affect the behaviour of investors as well as their decisions in investing in the stock market. The variables in the present study are;

Overconfidence Bias

Overconfidence bias is a behavioural bias which involves the overestimation of an investor's knowledge and ability to forecast the movements in the stock market. Overconfident investors take many risks by making risky investment decisions.

Herding Bias

This is a behaviour where investors copy other investors' moves, opinions, investment decisions, and market movements from social media or any financial media without doing enough analysis on their part.

Loss Aversion Bias

Loss aversion bias describes a situation whereby investors are scared of suffering losses much more than gaining profits. Investors, in most cases, tend to be emotional while making investment decisions just to avoid incurring losses.

Anchoring Bias

Anchoring is a situation whereby investors base their investment decisions on old stock prices and any information obtained in the market previously despite the change of circumstances in the current market environment.

Emotional Bias

Emotional bias pertains to the impact of emotions like fear, greed, excitement, and panic on investment decision making. Emotional biases can lead to irrational decisions when making investment plans.

Risk Perception

Risk perception is concerned with how risky one considers investing in the stock markets to be. Various investors can have varying risk perceptions depending on their finance backgrounds and experiences.

Dependent variable

The dependent variables are the dependent outcomes that are affected by independent variables.

Investment Decision Making

Investment decision making entails the procedure through which investors choose, purchase, hold or sell stocks and securities in the stock market.

Investment Behavior

Investment behavior can be defined as the general investment style, transaction frequency, risk preference and financial decision making style of investors in the stock market.

Investor Satisfaction

Investor satisfaction is defined as the degree of satisfaction that investors derive from their investments, gains and the stock market in general.

Dependent variable relationship

This research aims at investigating the relationship between independent variables such as overconfidence bias, herding bias, loss aversion bias, anchoring bias, emotional bias and risk perception to dependent variables such as investment decision making, investment behavior and investor satisfaction.

3.6 Conceptual Framework

The conceptual framework gives a theoretical perspective of the interaction between behavioral biases and stock market investments. In the present study, investment decision-making, investment behavior, and investor satisfaction have been viewed as dependent variables, whereas overconfidence bias, herding, loss aversion bias, anchoring bias, emotional bias, and risk perception have been seen as independent variables. These psychological and emotional variables are known to affect the behavior and decision-making process of investors in the stock market considerably. The conceptual framework has been created based on prior research carried out in the field of behavioral finance, psychology of the investor, and stock market behavior.

3.7 Hypothesis of the Study

The research will be tested against the following hypotheses:

Overconfidence Bias and Investment Decision-Making

• H01: Overconfidence bias does not have any effect on investment decision-making in the stock market.

• H1: Overconfidence bias has a significant effect on investment decision-making in the stock market.

This hypothesis is derived from the premise that investors who have an inflated sense of self-knowledge and capabilities tend to take risky decisions involving over-trading.

Herding Behaviour and Investment Behaviour

• H02: Herding behavior does not have any effect on investment behavior in the stock market.

• H2: Herding behavior has a significant effect on investment behavior in the stock market.

This hypothesis presupposes the role of market trends, social media, peer pressure and other investors in the investment decision-making process.

Loss Aversion Bias and Investment Decision-Making

• H03: Loss aversion bias does not have any effect on investment decision-making in the stock market.

• H3: Loss aversion bias has a significant effect on investment decision-making in the stock market.

This hypothesis is based on the premise that the fear of financial losses affects investors' buying and selling behavior in the stock market.

Emotional Bias and Investor Behaviour

Hypothesis 4

• **H04:** Emotional bias does not have any significant effect on the behavior of investors in the stock market.

• **H4:** Emotional bias does have a significant effect on the behavior of investors in the stock market.

The hypothesis is based on the premise that emotional bias (e.g., fear, greed, excitement, etc.) affects investment behavior**.**

Measurement Scale for Hypotheses

Likert scale with five response categories has been used to measure the perceptions, viewpoints, and behavioral pattern of the investors in the current study.

The scale is defined as follows:

Table 3.1 Likert Scale

Scale	Meaning
1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

The Likert scale helps in converting qualitative responses into quantitative data, which can be analyzed using statistical techniques such as mean, correlation, regression, and t-test.

3.8 Data analysis tools and techniques

The collected data is analyzed using Microsoft Excel. The following statistical techniques are used to interpret the data and test the hypotheses:

Descriptive analysis

Data characteristics are described and highlighted using descriptive statistics. In order to understand demographics of respondents and trend in general, these include frequency distributions, percentages, and graphs.

Mean and Average

Mean is applied to determine average score of each variable.

Formula:

$\bar{x} = \sum X$

□

Where:

- $\bar{x}$ = Mean
- $\sum X$ = Sum of all observations
- N = Number of all observations

Mean assists in analyzing general tendency of respondents and whether they generally agree or disagree.

Correlation Analysis

The relationship between the independent variables and the dependent variable is analyzed through correlation analysis. Correlation analysis helps in determining the tendency between different variables, which can either be moving opposite directions (negative correlation) or in the same directions (positive correlation).

Formula: $r = \sum(□-□)(□-\bar{Y})$

$\sqrt{\sum(□-□)2.(□-\bar{Y})2}$

r value ranges from -1 to +1. This implies that when there is positive r, there is direct relationship; while negative r value indicates inverse relationship.

Regression Analysis

Regression analysis is done to assess the influence of independent variables on dependent variable.

Formula (Simple Linear Regression): □ = □ + □□

Formula (Multiple Regression): □ = □ + □1□1 + □2□2 + □3□3 + □4□4 … … ….

Where:

- Y = Dependent variable
- a = Intercept
- b = Regression coefficients
- X = Independent variables

t-test

In order to establish whether there is a difference between the means of two groups, a t-test can be utilized. In our research, the t-test will help us compare responses of different categories of investors – men vs women, different age categories, experienced vs inexperienced in investment, high-income vs low-income individuals in regard to behavioral biases and stock market investments.

Formula:

t = □1−□2

□2 □2

√ 1 + 2

Where:

□1 □2

- □1, □2 = Means of two groups
- □2, □2 = Variances

1 2

- n1,n2= Sample sizes

Explanation:

A significant difference is indicated by rejecting the null hypothesis if the p-value is below 0.05.

For finding out if variations in customers' perceptions are random or not, we can apply t-tests. We will assume that the significance level (or p-value) of a t-test is 0.05. In this case, the rejection of the null hypothesis will prove that there is a significant difference between means.

Anova

The method of analysis of variance (ANOVA) can be applied for testing the differences between the means of three or more independent groups simultaneously. ANOVA, unlike the t-test, allows for comparing more than two categories.

Hypothesis

- **H_0:** There is no significant difference among the groups
- **H_1:** There is a significant difference among the groups

Test statistic

ANOVA is based on the **F-statistic**, which measures the ratio of variance between groups to variance within groups:

□ = □□□□□□□ □□□□□ □□□□□□□□□

□□□h□□ □□□□□ □□□□□□□□□

A higher F-value indicates greater variation between group means relative to variation within groups.

Decision rule

- If **p-value < 0.05** → Reject H_0 (significant difference exists)
- If **p-value > 0.05** → Fail to reject H_0 (no significant difference)

Implementation

Microsoft Excel is used to perform the **ANOVA** test (**Data Analysis ToolPak – ANOVA: Single Factor**). In order to ensure that only numerical values are included and non-numeric or blank cells are eliminated.

CHAPTER 4
DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

In this chapter, a thorough analysis of the collected data will be carried out for the research study entitled Behavioral Biases in Stock Market Investment Decisions. This chapter seeks to analyze the behavior of the investors and determine the various psychological factors responsible for affecting stock market investments.

The data was collected via a structured questionnaire sent using Google Forms. A total of 100 responses were received from respondents from different demographics comprising of students, salaried, young professionals, self-employed and retail investors. The questionnaire consisted of questions relating to the main variables in the study which include overconfidence bias, herding, loss aversion bias, anchoring bias, emotional bias, perception of risk, and investment decisions.

Initially, the data was compiled using Microsoft Excel software. In order to ensure consistency, all responses were thoroughly checked and incomplete responses were eliminated. Scores of the variables were determined using the average value obtained from the respective questions in the questionnaires.

Several methods of statistical analysis were used in analyzing the data. Descriptive statistics were used in summarizing demographic information and respondents' opinions.

Graphical representations using tools like pie charts, bar graphs, and tables were also employed for displaying the data in a simple manner. These graphical representations play an important role in facilitating better identification of patterns and relations among the variables under consideration.

The results of the study shed light on the psychology and behavior of the investors. The findings assist in gaining a better understanding of how investors behave emotionally and cognitively.

4.2 Demographic Analysis

Demographic analysis gives details about the background traits of the respondents. This is important to understand investment behaviour of various classes of investors considering aspects like age, gender, occupation, level of income, investment experience, and frequency of involvement in stock market activities.

The number of respondents who took part in the research is 100. This demographic analysis helps to comprehend how various investor classes are affected by behavioural biases while taking investment decisions in the stock market.

4.2.1 Age Distribution

Respondents were classified according to different age groups to understand the participation of investors belonging to various age categories in stock market investment activities. The age groups included 20–30 years, 31–40 years, and 41–50 years.

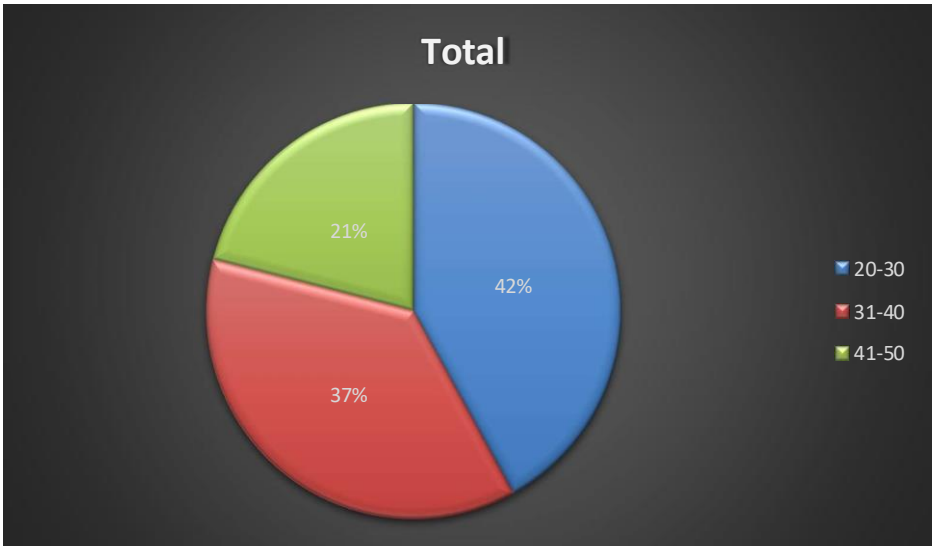


Figure 4.2: Age Distribution of Respondents (Source: Own Creation)

Interpretation:

Most respondents fall under the 20–30 years age bracket, which suggests that younger investors represent the most prominent segment among the respondent sample. This is because this particular demographic is more inclined towards investments related to the stock market, along with engaging in online trading. Investors aged between 31 and 40 represent the category of experienced professionals or salaried investors who are very active when it comes to investment planning. The 41–50 years age bracket represents the most mature and experienced investors who tend to make safe investment decisions. As observed from these results, it becomes evident that younger investors tend to be more susceptible to behavioral influences and trends associated with the stock market.

4.2.2 Occupation

Respondents were classified according to their occupation, including students, salaried employees, businesspersons, and professionals.

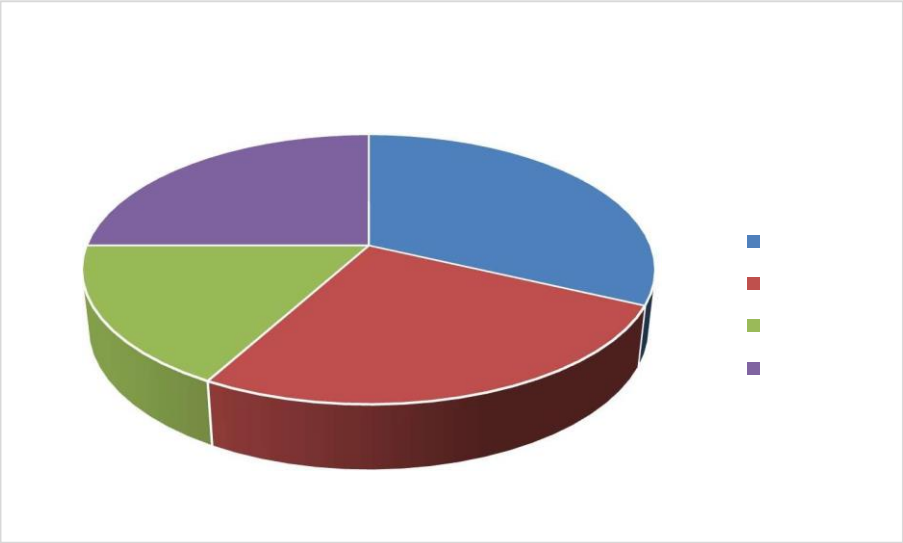


Figure 4.4: Occupation-wise Distribution of Respondents (Source: Own Creation)

Interpretation:

It can be seen from the data that the respondents have come from different occupations, thus giving different perspectives related to their behavior about investment and participation in stock markets. Students constitute a large number in the sample since there is increasing awareness of investing in stock markets among youth. People with salaries and professionals also form an important part because of the increasing knowledge about money making and planning. Businessmen also play an important role because they have more market exposure and risk appetite.

4.2.3 Gender Distribution

Respondents were categorized on the basis of gender to understand the participation of male and female investors in stock market investment activities.

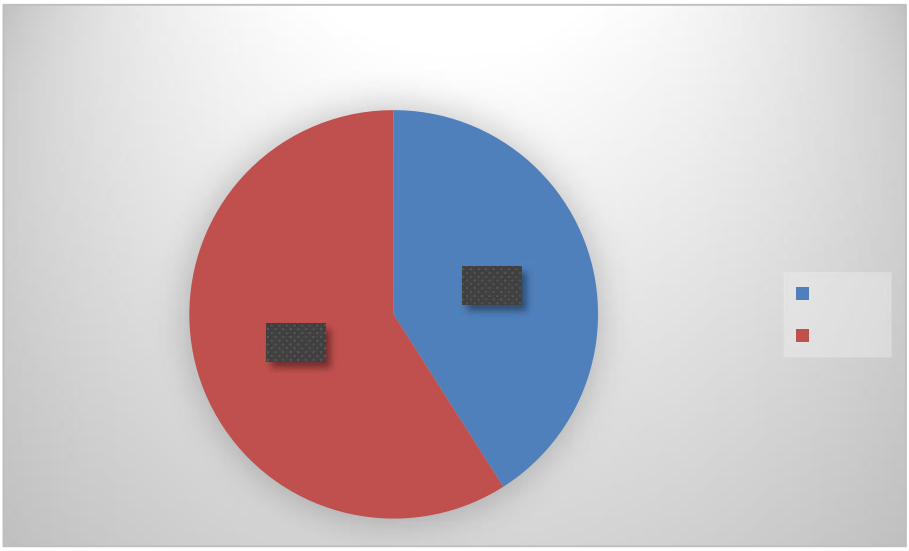


Figure 4.5: Gender Distribution (Source: Own Creation)

Interpretation:

It can be observed that there is a relatively high number of male investors as respondents in the survey, while female respondents form a minority portion in the sample. This signifies that there is higher participation by male investors in stock market investments and transactions than female investors. Nonetheless, the inclusion of some female respondents in the survey reveals the growing trend of financial awareness and investments made by women recently.

4.2.3 Investment Experience

Respondents were categorized on the basis of their investment experience, including less than 1 year, 1–3 years, 3–5 years, and more than 5 years.

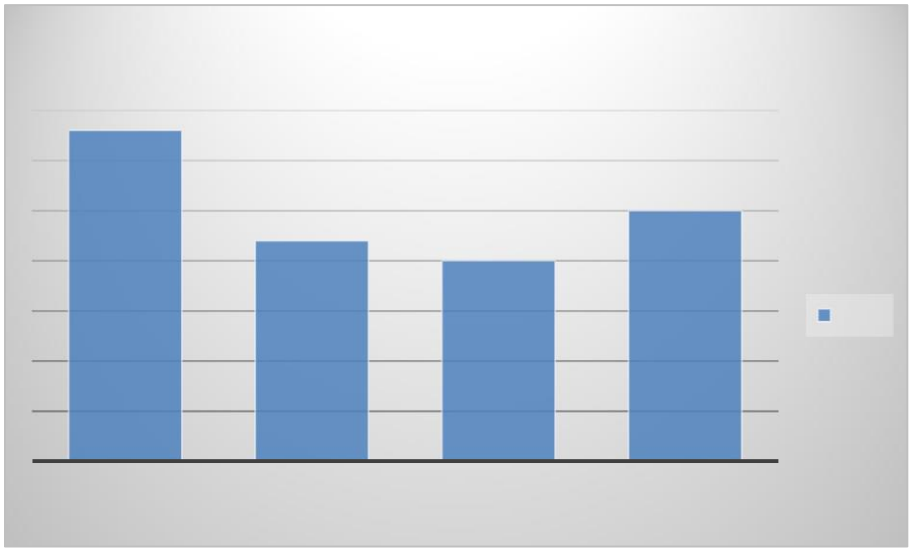


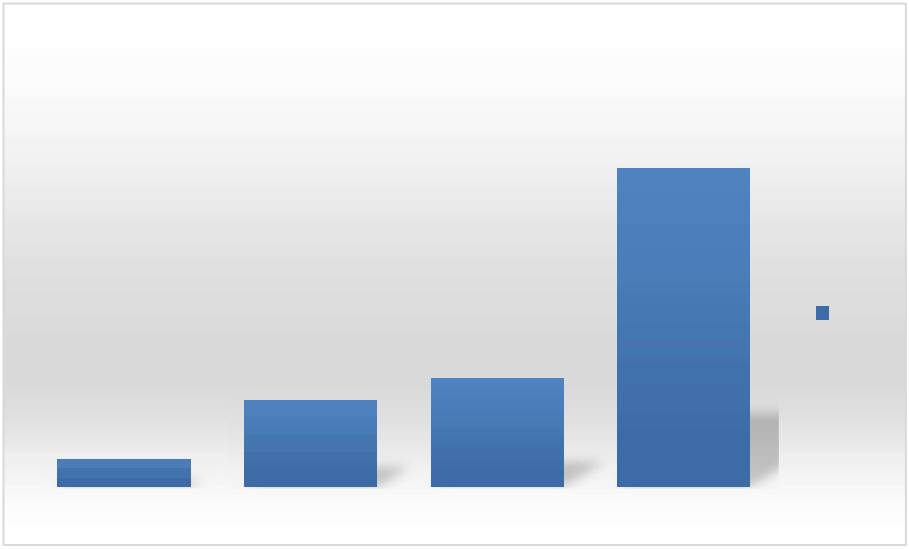
Figure 4.6: Investment Experience of Respondents (Source: Own Creation)

Interpretation:

In addition, the most common experience levels among the respondents include investment experience of 1-3 years and 3-5 years, which shows a level of competence in the stock markets. People with less experience are mostly driven by their emotional response and the trends seen on the social media. Those with more experience are driven by their analysis of the situation in the past. From the findings, it is clear that the level of experience is significant in terms of investor behavior.

Investment Preference

Respondents were asked about their preferred investment option, including stocks, mutual funds, bonds, and cryptocurrency investments.



Interpretation:
As per the results, the preferred investment avenues are stocks, followed by mutual funds and crypto investments. Thus, one can observe that the investors' preference is increasingly shifting towards equity-based investments owing to the prospects of earning high returns. The mutual funds are preferred investment avenues by those who prefer diversification and safety while the crypto investments are preferred by the younger generation as they believe in earning high returns through them. The bonds were not preferred owing to their nature of being a low-risk and low-return avenue.

4.1 Analysis (Descriptive & Statistical Analysis)

4.1.1 Descriptive Statistics (Mean Analysis)

Data collection is followed by data analysis through the use of descriptive statistics. This research contributes to understanding investors' perceptions and behaviour regarding behavioral biases in stock market investment decisions. Descriptive statistics are primarily used to obtain the mean values of the key variables of this study, which include overconfidence bias, herding behaviour, loss aversion bias, anchoring bias, availability bias, and emotional behaviour. The mean is defined as the average response of participants using the five-point Likert scale, where:

1 Strongly Disagree
2 Disagree
3 Neutral
4 Agree
5 Strongly Agree

A higher mean value indicates stronger agreement and greater influence of the behavioral factor on investment decisions.

Table 4.1 Descriptive Analysis

Variable	Mean
Overconfidence Bias	3.64
Herding Behavior	3.41
Loss Aversion Bias	3.68
Anchoring Bias	3.93
Availability Bias	4.08
Emotional Behaviour	4.02

Interpretation

Below in Table 4.1, the values of the average mean of the main variables have been presented for this study. The results of the study show that the behavioral bias has a considerable impact on stock market investments among the respondents.

Among the main variables considered in this study, it was observed that availability bias has the highest average mean value (4.08). It means that investors use the market information such as news, media, social media and the latest information in order to invest in stocks. The finding shows that they take help of financial TV channels and online discussions to get updated about the market information.

Investors are influenced with emotions while making stock market investments. Emotional behavior variable had the second-highest average mean value (4.02) which indicates that investors get affected from the emotions like fear, excitement, greed and panic at stock market investment. Market volatility influences the emotions and decision-making of the respondents.

The third highest average mean value (3.93) has been obtained for anchoring bias which indicates that investors consider the past stock prices and market information while investing in the stocks. Most of the respondents compare their stocks with the past stock prices.

The score for loss aversion bias is (3.68). This reveals that investors are sensitive emotionally about their loss of money. Furthermore, investors may not consider selling the loss-making investments. Loss recovery is considered one of the emotional reasons for investors to make further investments. The score for overconfidence bias is (3.64). Overconfidence bias reveals that investors are sure about their knowledge of investments and are capable enough to estimate stock market behavior.

Herding behavior scored the lowest mean score, (3.41), among the five types of biases considered. It indicates that although investors have been influenced by crowds or public opinion to some extent regarding investments, there is an attempt to make independent investment decisions.

In conclusion, based on the above-descriptive statistics, it can be stated that availability bias, emotional behavior, and anchoring bias are the three major behavioral aspects that affect the investment decision making of investors while herding behavior affects investors relatively less. Therefore, the study findings reveal that investment behavior in the stock market is largely governed by psychological aspects, emotions, and market information.

These findings serve as a basis for further statistical tests such as correlation analysis, regression analysis, t-test, chi-square test.

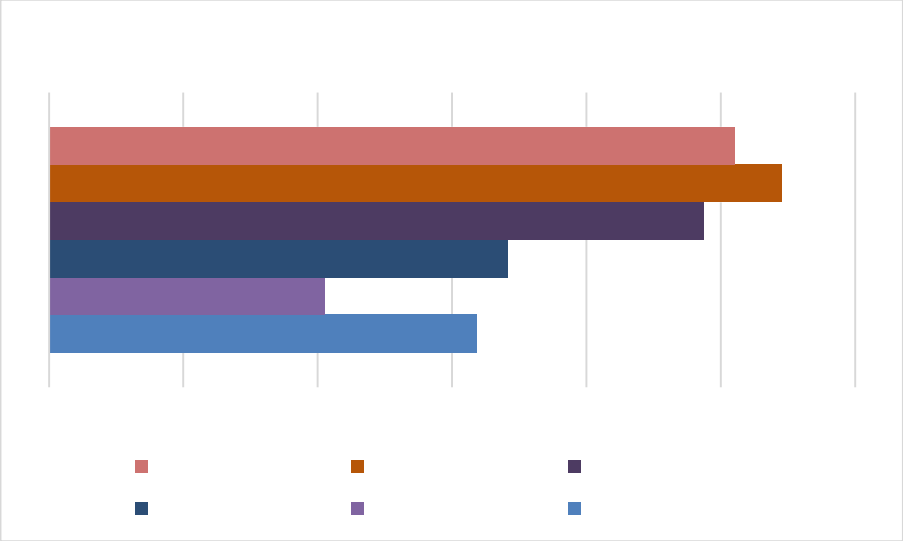


Figure 4.7: Mean Comparison of Variables (Source: Own Creation)

4.1.2 Correlation Analysis

Correlation coefficient by Pearson method was employed to assess the strength and direction of association between independent variables and decision-making behavior in investments. Correlation coefficients between overconfidence, herding behavior, loss aversion bias, anchoring bias, availability bias, emotional behavior, and investment decision-making were evaluated.

The correlation coefficient value ranges from -1 to +1, where:

- A value close to +1 indicates a strong positive relationship
- A value close to 0 indicates a weak relationship
- A value close to -1 indicates a strong negative relationship

The following table presents the correlation values between the variables.

.

Table 4.2 Correlation Analysis

Relationship	Correlation Value (r)	Interpretation
Overconfidence Bias vs Anchoring Bias	0.61	Strong Positive Relationship
Overconfidence Bias vs Availability Bias	0.58	Moderate Positive Relationship
Herding Behaviour vs Availability Bias	0.63	Strong Positive Relationship
Herding Behaviour vs Emotional Behaviour	0.59	Moderate Positive Relationship
Loss Aversion Bias vs Emotional Behaviour	0.68	Strong Positive Relationship
Anchoring Bias vs Availability Bias	0.72	Strong Positive Relationship
Availability Bias vs Emotional Behaviour	0.74	Strong Positive Relationship
Overconfidence Bias vs Herding Behaviour	0.54	Moderate Positive Relationship
Anchoring Bias vs Emotional Behaviour	0.66	Strong Positive Relationship
Loss Aversion Bias vs Anchoring Bias	0.57	Moderate Positive Relationship

Interpretation

All behavioral bias variables seem to have a positive correlation with each other and are highly effective when making decisions in the stock markets for investments of the respondents.

From the behavioral biases mentioned above, availability bias and emotional behavior show the highest positive correlation (0.74) because those who base their decision making on information from the stock market, through the media and easily available information are also highly emotional in their decision making.

Similarly, Anchoring bias has a high positive correlation with Availability Bias (0.72), which means that those who are heavily influenced by historic data of stock markets are also heavily influenced by current information from the market when making decisions for their investments.

Fear of loss and emotional behavior have a significant positive relationship (0.68). This is because fear of losses impacts the investor's emotional state and their trading behavior significantly. An investor who is emotionally tied up in the idea of avoiding losses is likely to make emotionally charged decisions.

Figure 4.8: Correlation Heatmap of Variables (Source: Own Creation)

Variables	*Overconfidence Bias*	*Herding Behaviour*	*Loss Aversion Bias*	*Anchoring Bias*	*Availability Bias*	*Emotional Behaviour*
Overconfidence Bias	**1.00**	0.54	0.48	0.61	0.58	0.52
Herding Behaviour	0.54	**1.00**	0.45	0.50	0.63	0.59
Loss Aversion Bias	0.48	0.45	**1.00**	0.57	0.49	0.68
Anchoring Bias	0.61	0.50	0.57	**1.00**	0.72	0.66
Availability Bias	0.58	0.63	0.49	0.72	**1.00**	0.74
Emotional Behaviour	0.52	0.59	0.68	0.66	0.74	**1.00**

4.1.3 Regression Analysis

The influence of independent variables related to behavioural biases including overconfidence bias, herding behavior, loss aversion bias, anchoring bias, availability bias, and emotional behavior on investment decisions were analyzed through the application of multiple regression analyses. The multiple regression technique was used to establish the degree to which these behaviors affect investment decisions in the stock market.

The regression model used for this study is:

$$\square = \square + \square_1\square_1 + \square_2\square_2 + \square_3\square_3 + \square_4\square_4 + \square_5\square_5 + \square_6\square_6$$

Where:

- **Y** = Investment Decision-Making
- **a** = Constant (Intercept)
- $\mathbf{X_1}$ = Overconfidence Bias
- $\mathbf{X_2}$ = Herding Behaviour
- $\mathbf{X_3}$ = Loss Aversion Bias
- $\mathbf{X_4}$ = Anchoring Bias
- $\mathbf{X_5}$ = Availability Bias
- $\mathbf{X_6}$ = Emotional Behaviour

4.1.3.1 Model summary

4.1.3.2 Table 4.3: Regression Model Summary

Statistic	Value
Multiple R	0.842
R Square	0.709
Adjusted R Square	0.691
Standard Error	0.392
Observations	100

Interpretation

The Multiple R value of 0.842 represents a significant and strong relationship between the independent variables associated with behavioural bias and investors' stock market investment decision behaviour. This means that the R Square value of 0.709 reflects that approximately 70.9% of variation in the investment decision behaviour is accounted for overconfidence bias, herding behaviour, loss aversion bias, anchoring bias, availability bias, and emotional behaviour, whereas the rest 29.1% might be affected by various other factors outside the scope of this research.

The Adjusted R Square value of 0.691 implies that the reliability and predictability of the regression equation are high considering the number of variables in the equation used to explain investment decision behaviour.

The Standard Error value of 0.392 is fairly low which means that predicted values are closely related to the observed values in the regression model.

The research results show that investor behaviour is highly dependent on such aspects as behavioural biases that significantly affect the stock market investment decisions. It was found out that among independent variables considered, availability bias, emotional behaviour, and anchoring bias affect the investor behaviour most prominently while the influence of herding behaviour appears comparatively lower.

4.1.3.3 Coefficient Analysis

Table 4.4: Regression Coefficients

Variable	Coefficient	P-value	Interpretation
Intercept	-0.215	0.387	Not Significant
Overconfidence Bias	0.342	0.004	Significant
Herding Behaviour	0.218	0.031	Significant
Loss Aversion Bias	0.397	0.001	Highly Significant
Anchoring Bias	0.441	0.000	Highly Significant
Availability Bias	0.486	0.000	Highly Significant
Emotional Behaviour	0.463	0.000	Highly Significant

Interpretation of Variables

Overconfidence Bias

- The coefficient for overconfidence bias stands at 0.342 while the p-value is at 0.004, which is below 0.05.
- This shows that overconfidence bias has a significant effect on investment decision-making behavior among investors.
- The tendency among investors to overestimate their abilities to predict and knowledge about the markets makes them independent investors.

- **Herding Behaviour**
  - The herding behavior has a coefficient of 0.218 and a p-value of 0.031.
  - Since the p-value is less than 0.05, herding behavior is an important determinant of investors' decision-making.
  - Investor decisions can be driven by market trend, trending stock, discussion on social media, and other investors' investment decisions..

- **Loss Aversion Bias**
  - The loss aversion bias has a value of 0.397 for the coefficient and a p-value of 0.001.
  - It demonstrates that fear of suffering losses greatly influences the actions of investors.
  - In addition, investors prefer not to sell their losing stocks because they are afraid of their money losses.

- **Anchoring Bias**
  - Anchoring bias is represented by coefficient value of 0.441 with the p-value being 0.000.
  - This proves the fact that anchoring bias plays a very significant role in investment decisions.
  - Investors rely greatly on past price and market data when buying or selling securities.

- **Availability Bias**
- The availability bias coefficient stands at 0.486 with a p-value of 0.000.
- The implication is that availability bias represents the most influential behaviour on investment decisions of all behaviours examined in this study.
- While making investments in the stock market, investors depend highly on current news coverage, media conversations, trends on social media, and information.

- **Emotional Behaviour**
  - Emotional behavior has a value of coefficient of 0.463 with p-value 0.000.
  - It implies that emotions like fear, greed, panic, and euphoria strongly impact the decision making of investors in market fluctuations.
  - Emotional behavior impacts investment decisions like purchase, sale, and holding of stock investments.

4.1.3.4 Regression Equation

Based on the regression coefficients, the regression equation is:

$$Y=-0.215+0.342(X1)+0.218(X2)+0.397(X3)+0.441(X4)+0.486(X5)+0.463(X6)$$

Where:

- ***Y = Investment Decision-Making***
- ***X_1 = Overconfidence Bias***
- ***X_2 = Herding Behaviour***
- ***X_3 = Loss Aversion Bias***
- ***X_4 = Anchoring Bias***
- ***X_5 = Availability Bias***
- ***X_6 = Emotional Behaviour***

Interpretation of Regression Equation

- It is clear from the above analysis that biases greatly influence stock market investment decisions.
- A one-unit rise in overconfidence bias raises investment decision influence by 0.342 units assuming all other variables are held constant.
- Herding behavior leads to an increase of 0.218 units in investment influence, suggesting a moderate effect of herding behavior among investors.
- Loss aversion increases influence on investment decisions by 0.397 units, meaning that fear of losses influences financial decision-making.
- Anchoring bias leads to an increase in influence on investment decision making by 0.441 units, suggesting that past prices have an important bearing on the investor's judgment.
- Availability bias has the greatest impact on investment decisions as shown by the increase of 0.486 units. It suggests that investors rely heavily on recent developments and easy-to-access information.
- Lastly, emotional behavior greatly influences investment decisions with an increase of 0.463 units in the influence on such decisions..

4.1.3.5 Overall Interpretation

From the regression analysis, it is evident that overconfidence bias, herding behavior, loss aversion bias, anchoring bias, availability bias, and emotional behavior significantly affect stock market investments made by investors. In all the variables, availability bias stood out as the most important variable followed by emotional behavior and anchoring bias. From the results, it can be concluded that investors make their investment decisions based on the current news about the market, emotions, influence of others, and the historical performance of the market.

4.1.4 t-test Analysis

The independent-samples t-test was used to examine whether there is any significant difference in behavioral biases among different groups of investors. The t-test helps in determining whether the mean values of two groups differ significantly from each other.

The significance level used here is **0.05**.

4.1.4.1 Hypotheses of t-test

1. Male and Female Investors (Overconfidence Bias)

$H0_1$ (Null Hypothesis):

here is no significant difference between male and female investors regarding overconfidence bias.

H_1 (Alternative Hypothesis):

There is a significant difference between male and female investors regarding overconfidence bias.

2. Experienced and Beginner Investors (Loss Aversion Bias) (Purchasing Convenience)

$H0_2$ (Null Hypothesis):

There is no significant difference between experienced and beginner investors regarding loss aversion bias.

H_2 (Alternative Hypothesis):

There is a significant difference between experienced and beginner investors regarding loss aversion bias.

3. Frequent and Occasional Investors (Herding Behavior)

$H0_3$ (Null Hypothesis):

There is no significant difference between frequent and occasional investors regarding herding behavior.

H_3 (Alternative Hypothesis):

There is a significant difference between frequent and occasional investors regarding herding behavior.

Table 4.5: t-Test Results

Comparison	P-value	Result	Interpretation
Overconfidence Bias	2.81452E-08	Significant	Significant difference exists between investor groups
Loss Aversion Bias	7.92631E-11	Significant	Investment experience significantly affects loss aversion behaviour.
Herding Behaviour	4.17382E-06	Significant	Investment frequency significantly influences herding behaviour.

4.1.4.2 Male & Female Investors (Overconfidence Bias)

The p-value for overconfidence bias is 2.81452E-08, which is smaller than the significance level of 0.05.

Interpretation

A statistical test using an independent sample t-test has been carried out for overconfidence between men and women as investors. This p-value obtained is lower than 0.05 (p-value = 2.81452E-08), which makes the result statistically significant between the two groups. Hence, the null hypothesis is rejected, and it can be stated that there exists a strong influence of gender on overconfidence behaviour in investors.

4.1.4.3 Experienced and Beginner Investors (Loss Aversion Bias)

The p-value for loss aversion bias is 7.92631E-11, which is less than the significance level of 0.05.

Interpretation

To test the difference in loss aversion behavior between expert investors and novice investors, an independent sample t-test was carried out. A statistically significant difference between the two groups was identified (p-value=7.92631e-11<0.05). It was discovered that novice investors tend to be more emotionally affected when experiencing losses and are hesitant to sell their losing investments compared to expert investors.

4.1.4.4 Frequent and Occasional Investors (Herding Behaviour)

The p-value for herding behaviour is 4.17382E-06, which is lower than the significance level of 0.05.

Interpretation

An independent sample t-test was conducted to compare herding behaviour between frequent investors and occasional investors. The results showed a statistically significant difference between the two groups, with a p-value of 4.17382E-06, which is below 0.05. Frequent investors were found to be more influenced by market trends, social media discussions, and investment recommendations compared to occasional investors. Therefore, the null hypothesis is rejected, indicating that investment frequency significantly affects herding behaviour among investors.

4.1.4.5 Overall Interpretation

As per independent sample t-test results, there exist statistical differences between the investor groups for overconfidence bias, loss aversion bias, and herding behavior since all the p-values are less than 0.05. It suggests that the demographic characteristics as well as past investment experience play a crucial role in influencing behaviorial biases. There is strong evidence that emotions, confidence, and peer pressure have a major impact on the investors' behaviors.

4.2 Key findings of the Study & Recommendations

The major findings of the research are:

1. Availability bias was found to have a significant impact on the stock market investments of the investors. Investors mainly rely upon the recent news, market trends and the easily available information for making their investment decisions.
2. Emotional behavior of the investors had a significant impact on their decision-making process, as fear, greed, excitement, and panic can greatly affect the investment decisions of the investors.
3. Anchoring bias proved to be one of the key factors influencing the decision-making process, as investors tend to make investment decisions based upon the recent history of stock prices.
4. Loss aversion bias had a significant impact on the behavior of the investors, as investors tend to have emotional sensitivity towards the loss-making investments.
5. Overconfidence bias was evident from the study findings, where many of the respondents expressed their confidence about their own prediction of market changes and market movement.
6. Herding behavior had an impact on the decision-making process of the investors, but not as strong as other biases as some investors relied upon market trends and stocks being traded by majority of the investors.
7. Correlation analysis revealed a strong positive correlation between behaviors like emotional behavior, anchoring bias, availability bias, and stock market investment decisions.
8. It was found that the psychological aspect of investment in the stock market is dominated by emotional behavior, followed by availability and anchoring bias.
9. The largest number of investors belongs to the younger generation (18-25 years), which shows active involvement of youth in stock market investments.
10. It can be concluded that investor psychology and emotions play a key role in the process of investment decision-making in the stock market.
11. It was found that technological development, social networking sites, and fast information exchange greatly impact investor perception and behavior.
12. Generally speaking, it can be concluded that the behavioral aspect greatly affects investment decision-making processes and risk behaviors.

Recommendations

- Investors should improve financial literacy and awareness regarding behavioral biases to make more rational and informed investment decisions.
- Investment decisions should be based on proper financial analysis and long-term planning rather than emotions, market rumours, or social media trends.
- Investors should avoid excessive overconfidence and conduct detailed research before investing in stocks.
- Diversification strategies should be adopted to reduce risk associated with emotional and biased investment decisions.

- Financial advisors and investment platforms should provide educational programs related to behavioral finance and risk management.
- Investors should maintain emotional discipline during market volatility and avoid panic selling or greedy investment behaviour.
- Regulatory authorities and stock exchanges should continue promoting investor awareness programs to encourage responsible and rational investing practices.
- Technology-driven tools such as AI-based portfolio analysis and robo-advisory services may help investors reduce emotional biases and improve investment decisions.

4.3 Limitations of the Study

- The study was conducted using a limited number of respondents, which may not fully represent the entire population of stock market investors.
- The majority of respondents belonged to the younger age group (18–25 years), which may limit the applicability of the findings to older and highly experienced investors.
- The study mainly focused on selected behavioral biases such as overconfidence bias, herding behaviour, loss aversion bias, anchoring bias, availability bias, and emotional behaviour, while other psychological and economic factors were not considered.
- The research relied on self-reported responses collected through questionnaires, which may involve personal bias, inaccurate responses, or subjective opinions from participants.
- The study was limited by time and resource constraints during data collection and statistical analysis.
- Investor behaviour and stock market conditions continuously change due to economic, political, and technological developments, which may affect the long-term relevance of the findings.
- The study mainly focused on retail investors and did not extensively examine institutional investors or professional financial analysts.

CHAPTER 5
CONCLUSION

5.1 Conclusion

Introduction

The current research study is entitled as "Impact of Behavioral Biases on Stock Market Investment Decisions among Investors." This study aims at examining how psychological and emotional biases affect the behavior of investors in making their investment decisions in the stock market. With the advent of advanced online trading systems, digital financial service providers, role of social media influence, and stock market information accessibility, the involvement of investors in stock markets has become quite significant in recent years.
Nevertheless, there are various emotional, perceptional, and behavioral factors that have a considerable impact on investment decision making of investors.

The major independent variables taken into consideration in the current research study include overconfidence bias, herding behavior, loss aversion bias, anchoring bias, availability bias, and emotional behavior. Data for the current research was collected through the use of a structured questionnaire filled up by respondents comprising young and active investors. Various statistical tools such as descriptive analysis, correlation analysis, regression analysis, and t-test analysis were employed using Microsoft Excel.

From the study findings, it is clear that behavioral biases play a significant role in stock market investments. Majority of the participants were in the age range of 18-25 years, suggesting that young investors have been investing their money in the stock market using the online trading platform. Moreover, the study has shown that availability bias also plays a vital role in affecting investor behavior, as most respondents are highly dependent on market news, social media, financial advisors, and current information before making investment decisions.

In terms of influence on investors' behavior, emotional behavior has proven to be the most effective variable influencing investment decisions followed by availability bias and anchoring bias. According to the regression analysis results, emotions such as greed, fear, excitement, and panic greatly affect investor behavior during stock market volatility. It can be seen that investors tend to act emotionally and impulsively during periods of volatility in the stock market. Anchoring bias also plays a crucial role in investor's decision-making process, as investors depend on the history of stock prices and markets.

There was a significant positive correlation between behavioural bias and stock market investments. Moreover, there were significant differences between the groups of investors with respect to overconfidence bias, loss aversion behavior, and herding behavior. The group of frequent investors showed higher confidence and emotional attachment towards the activity of trading stocks when compared to less frequent investors.
In summary, it can be concluded that the behavioural bias plays a very important role in shaping the behavior of investors and influencing their rational decisions in the stock market environment. Although technology and easy market access have made it easier for people to invest, there is

an undeniable psychological element that affects the decision making, portfolio management, and behavior of investors.

In conclusion, it can be argued that behavioural finance has become a key part of the investment decision-making process. Emotional control, financial literacy, rational thinking, and awareness about behavioural bias are some important elements that play a role in improving investment decisions.

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ANNEXURE

Questionnaire
A Study on Behavioral Biases in Stock Market Investment Decisions
Dear Respondent,
This questionnaire is designed for academic research purposes as part of a major research project. The information provided by you will remain confidential and will only be used for research and analysis.
Thank you for your valuable participation.

Section A: Demographic Information

1. What is your age?

- Below 20
- 20–30
- 31–40
- 41–50
- Above 50

2. What is your occupation?

- Male
- Female
- Other

3. What is your occupation?

- Student
- Salaried Employee
- Business
- Professional
- Other:

4. How long have you been investing in the stock market?

- Less than 1 year
- 1–3 years
- 3–5 years
- More than 5 years

5. What is your preferred investment option?

- Stocks
- Mutual Funds
- Bonds
- Crypto
- Other:

Section B: Behavioral Biases in Investment Decision

(Please indicate your level of agreement using the scale below)

Scale	Meaning
1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

5. I believe my stock selection ability is better than most investors.
6. I often rely on my own judgment rather than expert advice while investing.
7. I invest in stocks because many other people are investing in them.
8. Social media and friends influence my investment decisions.
9. I feel safer investing in popular stocks.
10. I prefer avoiding losses rather than earning high profits.
11. I hold losing stocks for a long time hoping prices will recover.
12. I depend heavily on past stock prices while making investment decisions.
13 I compare current stock prices with previous prices before investing.
14. Recent market news strongly affects my investment decisions.
15. I invest more in companies that are frequently discussed in media/news.
16. Market volatility affects my confidence in investing.
17. Emotional reactions influence my buying or selling decisions.

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