Major Research Project

"CONFIRMATION BIAS IN INVESTMENT DECISION MAKING"

Submitted By

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CERTIFICATE

This is to certify that Megha Bhat, 2K21/DMBA/71 has submitted the Major Research Project titled "Confirmation Bias in Investment Decision-Making" under guidance of Mr. Yashdeep Sir (Assistant Professor , DSM) for 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 2022-23.

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DECLARATION

I, Megha Bhat, student of Delhi School of Management, Delhi Technological University hereby declare that the Major Research Project on "Confirmation Bias in Investment Decision-Making" submitted for fulfillment of the requirements for the award of the degree of Master of Business Administration (MBA) is the original work conducted by me. I also confirm that neither I nor any other person has submitted this project report 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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ACKNOWLEDGEMENT

<u>Abstract</u>

The disposition effect and excessive trading are two common errors made by investors. Confirmation bias is one reason for these phenomena. People have a tendency to get emotionally invested in their investing thesis and are unable or reluctant to accept information to the contrary. So, they produce speculative wagers and keep them even when they are trending south. People may be guilty of confirmation bias if they choose to learn information that supports their initial beliefs. This suggests that investors exhibit selective information seeking, which could be a source of confirmation bias and is thus a plausible explanation for the investor mistakes previously discussed.

Investors make some errors that have been well-documented, like the disposition effect and excessive trading. Confirmation bias is one reason that could be given for these phenomena. Individuals have a tendency to get emotionally invested in their investing thesis and are unable or reluctant to accept information to the contrary. As a result, they place speculative wagers and hang onto them despite a declining trend. Those who gather information selectively in order to maintain their prior beliefs may be exhibiting confirmation bias. Through an experiment that provided participants the option to read an article in support of or opposition to an investment they had previously made, I looked into the selective information consumption of investors.

In this study article, I'll concentrate on how confirmation bias influences investors' decision-making about investment timing and investment choice. Confirmation bias is a psychological phenomenon that causes people to seek out and interpret information in a way that confirms their pre-existing ideas and prejudices. This research article examines the topic of confirmation bias in investing decision-making. Overviews of the cognitive biases that underpin confirmation bias and how they affect investing decisions are given in this study. It looks at the consequences of confirmation bias on investment performance as well as the causes and remedies of this bias.

The report ends with suggestions for financial experts and investors on how to identify confirmation bias in their decision-making processes, combat it, and ultimately enhance investment results. I discovered that readers are far more inclined to read an article that affirms their choice than one that criticizes the investment they have made. This demonstrates the selective information seeking behavior of investors, which may be a source of confirmation bias and, as a result, is a plausible explanation for the investor mistakes previously discussed.

Overall, the article emphasizes how crucial it is to recognize and deal with confirmation bias in order to make more logical and knowledgeable financial decisions.

Summary

Confirmation bias is a cognitive bias that refers to the tendency of people to favour information that supports their pre-existing beliefs, opinions, or values, while disregarding or discounting information that contradicts them. This often leads people to seek out information that confirms their beliefs and ignore information that challenges them. As a result, they end up with a distorted view of reality, and their beliefs become reinforced even if they are not based on accurate information. Confirmation bias can be seen in a wide range of situations, from politics and religion to personal relationships and daily decisions. It is important to recognize and attempt to overcome confirmation bias in order to make more informed and objective decisions.

Objectives

The objective of this research paper is to investigate the impact of confirmation bias on the investment decision-making process. Specifically, this paper aims to examine how confirmation bias affects the selection of investments and the management of investment portfolios, with a focus on identifying the underlying cognitive mechanisms that lead to biased decision-making.

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CHAPTER 1

1 Introduction

1.1 Behavioral Finance

Figure 1 : Bank Pedia Source (Bank Pedia Blog)

The ways that a person's psychology and feelings will be affecting their ability of financial decisions making is referred as behavioral aspects in finance. Investment choices, risk management, and other financial actions can be significantly impacted by these behavioral factors.

Cognitive biases , which are referred to as errors in thinking that can cause people to make irrational financial choices, are one of the most prevalent behavioral aspects of finance. Confirmation bias, which causes people to search for information supporting the preconceived notions, and overconfidence bias, which causes people to exaggerate their skills or the precision of their forecasts, are two examples of cognitive biases.

Emotionally-based decision-making, which can be influenced by fear, greed, and other potent emotions, is another crucial behavioral component of finance. Emotions have a variety of effects on financial decision-making, including leading people to act impulsively or excessively aggressively when making investments or to panic during market downturns.

Social influences like peer pressure, herd behavior, and groupthink can also have an impact on behavioral elements of finance. These social factors may influence people to base their choices on other people's behavior rather than their own independent investigation and assessment.

People need to be conscious of their own cognitive biases and emotional reactions to financial situations in order to address the behavioral aspects of finance. Individuals can also prevent making impulsive or irrational decisions by developing a disciplined and systematic strategy to financial decision-making. Additionally, using data-driven analysis and consulting with financial experts can assist in reducing the influence of social and emotional variables on financial decision making.

Behavioural Fianance mainly consists of 2 theories :

- Bounded Rationality Theory (1955) By Herbert Simon
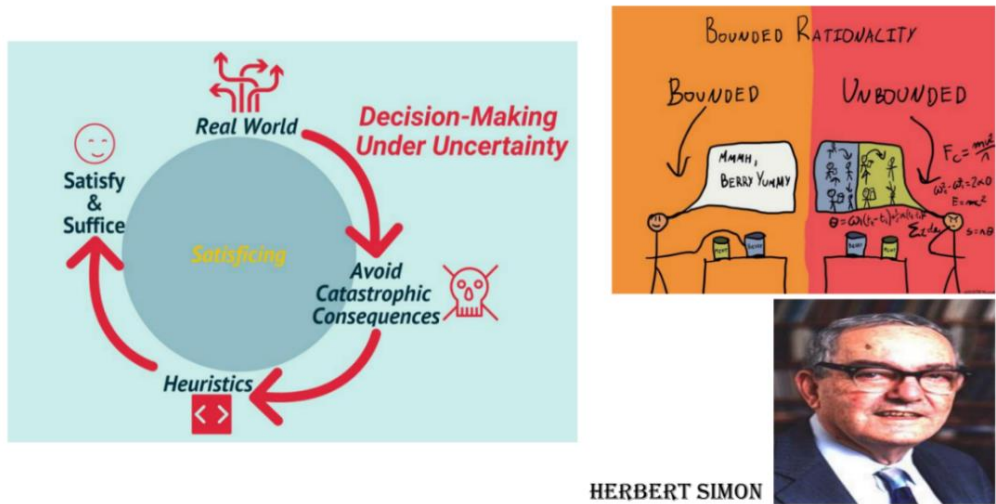
- Prospect Theory (1979) By Daniel Kahneman and Amos Tversky

Figure 2 : Herbert Simon
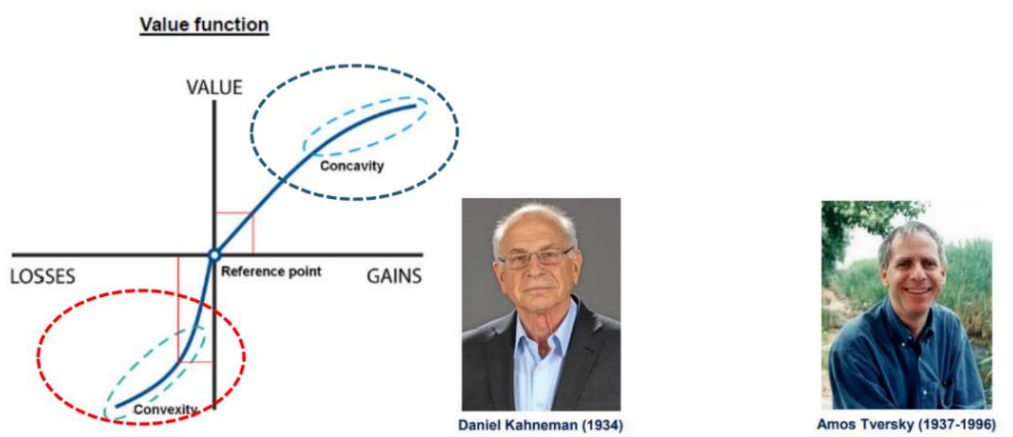
Figure 3 : Daniel Kahneman and Amos Tversky

BEHAVIORAL FINANCE ANSWERS QUESTIONS SUCH AS...

☐ Why do investors get subpar returns?

☐ Investors hold undiversified investments for what reasons?

☐ Why do traders and investors trade too frequently?

☐ Why do investors primarily look for information that supports their current opinions and choices?

☐ Why do investors frequently hold losing positions for too long and sell stocks with paper profits too soon?

☐ Why don't economic actors learn from their failures in the past?

Figure 4 : Credit Suisse Source (Credit Suisse Report)

1.2 Type Of Bias

There are several types of biases that are commonly observed in behavioral finance, including:

➢ **Cognitive biases**:

These biases occur when individuals make decisions based on incomplete or inaccurate information, or when they rely too heavily on certain heuristics or mental shortcuts. Examples include **confirmation bias**, anchoring bias, and overconfidence bias.

➢ **Emotional biases**:

Emotional biases occur when individuals allow their emotions to influence their financial decision-making. Examples include loss aversion, which refers to strongly avoiding losses over acquiring gains of equal value, which occurs when individuals follow the actions of others without considering their own independent analysis.

➢ **Social biases**:

Social biases occur when individuals allow social factors to influence their financial decision-making. Examples include groupthink, which occurs when individuals conform to the opinions of a group without considering alternative viewpoints, and the bandwagon effect, which refers to the tendency to follow the crowd without independent analysis.

➢ **Informational biases**:
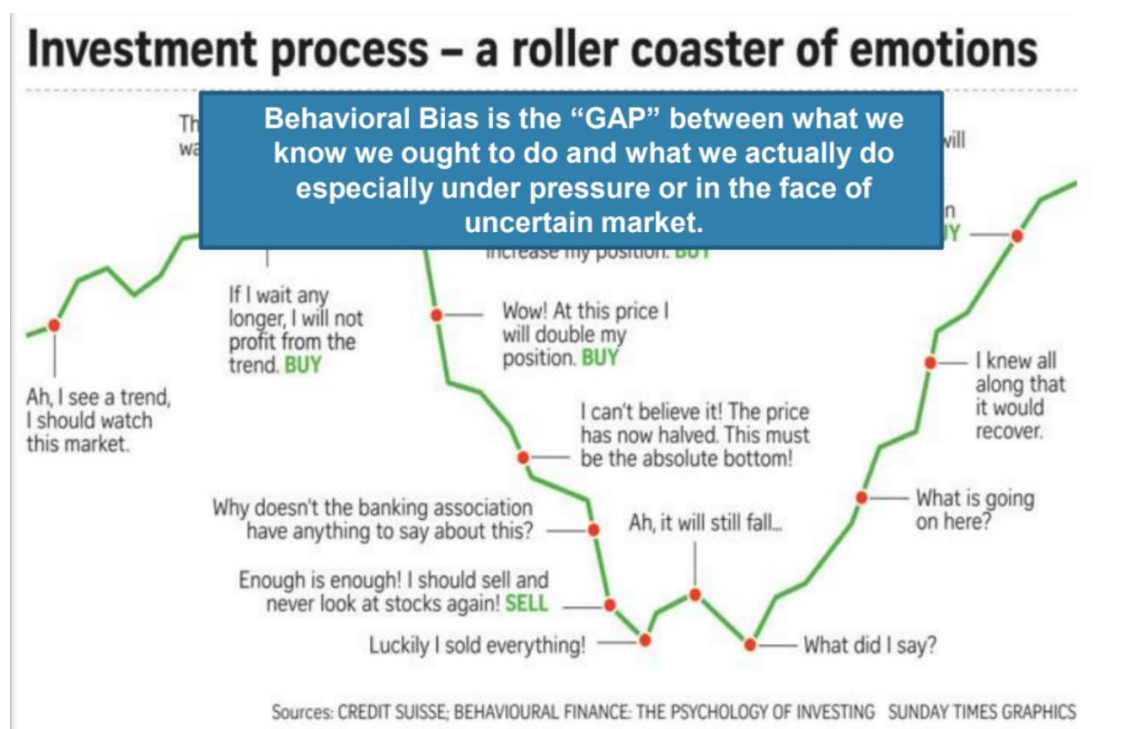
Informational biases occur when individuals rely too heavily on certain sources of information or when they fail to consider important information that is relevant to their financial decision-making. Examples include availability bias, which refers to the tendency to rely on easily accessible information, and framing bias, which occurs when individuals are influenced by the way information is presented.

➢ **Time-related biases**:

Time-related biases occur when individuals make decisions based on short-term factors or long-term effects of their choices are not taken into account. Examples include hyperbolic discounting, which refers to the tendency to place greater value on immediate rewards over future rewards, and the planning fallacy, which occurs when individuals underestimate the time required to complete a task or achieve a goal.

Question: Michel is single, open and very smart. She has a Master degree from philosophy. As a student she was interested a lot in topics such as discrimination and equality. What is more probable?

A – Michel works in a bank.
B – Michel works in a bank and is active in feminist movement.

Conjunction fallacy

Bank employees and at the same time activists in feminist move

Bank employees

Activists in feminist movement

`Conjunction Fallacy' is a fallacy or error in decision making where people judge that a conjunction of two possible events is more likely than one or both of the conjuncts

REPRESENTATIVENESS BIAS
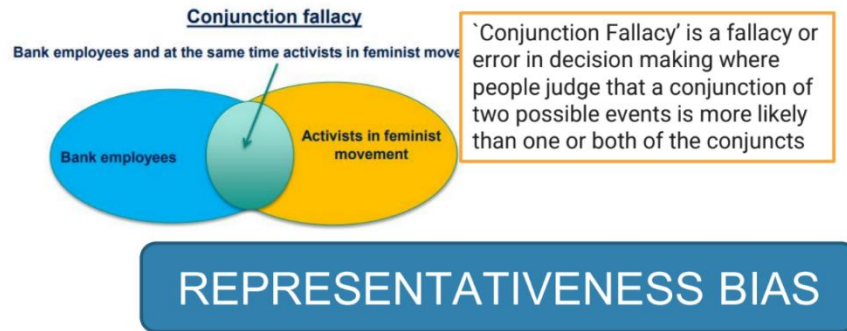
Figure 5 : Amos Tversky

The Hot-Hand Fallacy

- Suppose we look at the recent shooting by two basketball players named LeBron and Shaquille.

- Assume both of these players make half of their shots.

  - LeBron: **has just made** two shots in a row.

  - Shaquille: **has just missed** two shots in a row.

- Researchers have found that if they ask **basketball fans** which player has the better chance of making their next shot:

  - 91 out of 100 will say LeBron.

  - They say this because they think LeBron has a "hot-hand."

There is a universal disclaimer: "Past performance is no guarantee of future results." Nonetheless, investors chase past returns.

Figure 6 : Amos Tversky

Overall, these biases can have a significant impact on financial decision-making, leading to minimal outcomes and missed opportunities. Understanding and recognizing these biases can help individuals make more informed and rational financial decisions.

1.3 Confirmation Bias

Figure 7 : NN Group Source (NN Group Blog)

The financial markets regularly exhibit paradoxes that are difficult to understand using mathematical models and theories. The question "Why do exchanges occur?" is one that is simple yet interesting. According to Milgrom and Stokely's 1982 No Trade Theorem, speculation is inappropriate since information is disseminated as general knowledge together with private signals and contemporaneous changes in opinions. Because of undisclosed sources of information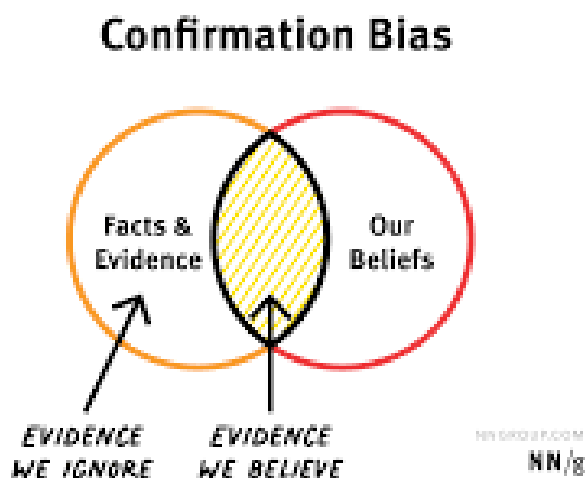, an investor may be preparing to sell his stocks in the market, which is a sign that the stock might collapse. The seller, on the other hand, could be hesitant to let go of a stock if a buyer is prepared to acquire it since this buyer signal signals that the stock may rise. Yet, trades do occur on a regular basis all over the world, and there also appears to be an excessive volume of trade activity. Terrence Odeon tested the hypothesis that overconfidence would result in more transactions, the problem of the high trading volume in the markets in 1999 was explored.

In a previous thesis from 1998, Odeon demonstrated the disposition effect, states that investors notice their losing stock condition at a significantly lesser rate than that of successful stocks. As a result, investors tend to sell their winning stocks well before they reach their peak and hang onto losing equities for a very long time after they first begin to decline. Hence, enormous financial losses are unavoidable. How and why does this arrogance start to develop? What leads to overconfidence and even ignorance of an investor's current situation?

Confirmation bias is one theory that could account for both the disposition effect and speculation. People's resistance to changing their initial opinions is known as confirmation bias. If new information affirms their preexisting ideas, people are more likely to consider and accept it. Confirmation bias can manifest itself in a variety of ways. What one could have experienced, like swiftly opposing a candidate's speech because that it upholds one's moral convictions or rejecting something that contradicts their thinking or beliefs. These actions are typically unintentional in nature of a person, and a third party who was not involved in the situation may be able to spot them before the person does.

When someone has a strong desire to have their ideas supported by the available data, this is known as motivated confirmation bias. For instance, a jury member who has already formed an opinion in a court case may be prone to overstating the importance of a piece of proof that supporting it. However, there are overlapping theories and concepts that are connected to confirmation bias that might provide an explanation for this kind of behaviour. Motivated confirmation bias, for instance, is analogous to belief consonance, which is the propensity to hold opinions that are in line with those of others and the consequent disruption of the opposing ideas. (2016) Golman, Loewenstein, Moene, & Zarri In fact, the stimulus for the manifestation of confirmation bias, which is the unintentional misinterpretation of data, may be belief consonance. On the other hand, when taking into account believe-based utility, info can be perceived as a hazard to the subject's present identity. As a result, the individual will decide to disregard the information through inattention, physical avoidance, and—most significantly—biased interpretation.

1.3.1 Traits Affecting Confirmation Bias

- **Personality traits:**
  Certain personality traits, such as a need for control, a desire for certainty, and overconfidence, can increase the likelihood of confirmation bias. These traits may lead a person to search for information confirming their beliefs and at the same time ignoring the info that contradicts it.

- **Risk tolerance:**
  Individuals with high risk tolerance may be more likely to engage in confirmation bias, as they may be more willing to take risks based on their beliefs, rather than objective evidence.

- **Emotion:**
  Emotions can strongly influence decision-making and increase the likelihood of confirmation bias. Individuals may seek out information that confirms their emotions or biases, while ignoring information that contradicts them.

- **Knowledge and expertise:**
  Individuals with more knowledge and expertise in a particular area may be more likely to engage in confirmation bias, as they may feel more confident in their beliefs and less likely to consider alternative perspectives.

- **Prior experiences:**
  Past experiences and successes can also affect confirmation bias. Individuals who have experienced success in a particular area may be more likely to selectively interpret information that confirms their prior successes, while ignoring information that contradicts them.

It's important to note that these factors do not always lead to confirmation bias and individuals can actively work to mitigate the impact of these traits on their decision-making processes. By being aware of these potential biases, individuals can take steps to consider alternative perspectives, seek out new information, and make more objective decisions.

1.4 Importance Of Research

Information that contradicts the previous views is generally not well received by people. When it comes to financial markets, investors may continue to hang onto their initial belief (such as that a stock will grow) long after it has started to decrease (producing the disposition effect) or after they have found a buyer for the stocks (creating speculation). Contrarily, speculation occurs when stock prices increase and investors are willing to adjust their opinions because it conforms to their beliefs. Selling the winning stocks is done more quickly than that of the losing stocks because individuals are more willing to embrace positive news. Recognizing one's beliefs and exercising caution when they can affect decisions one makes in the future may help one avoid financial loss and potentially reap gains.

1.5 Statement of problem

Confirmation bias can have significant consequences for investors, including the disposition effect and excessive trading. The disposition effect occurs when a person hold ons to a losing stocks for a long period in the hope that he will be avoiding a loss, while they sell their winning stocks too early to lock in gains. This phenomenon can result in poor investment performance and missed opportunities. Similarly, excessive trading can lead to unnecessary transaction costs, increased taxes, and reduced returns.

1.6 Objective Of Study

The purpose of this research paper is to examine how confirmation bias affects the investment decisions of individual investors, particularly in the context of the selection of investment and the time of investment. This paper will analyze the potential causes of confirmation bias and how it manifests in investment decision-making. Additionally, the paper will explore potential strategies and approaches to mitigate the effects of confirmation bias, ultimately leading to better investment outcomes.

1.7 Scope Of Study

By shedding light on the role of confirmation bias in investment decision-making, this paper aims to provide insights of the investor behavior and for investors looking to make more informed investment decisions. The study may also involve collecting new data through surveys, experiments, or other research methods to test the impact of confirmation bias on Investment Decision Making. We will be taking two Traits of Confirmation bias for further analyses in this research work . These two traits are Personality Trait and Risk Tolerance Trait in confirmation Bias .

CHAPTER 2

2. Literature Review

In the field of behavioral finance, confirmation bias in investment decision-making is a well-researched phenomenon. Many cognitive and behavioral biases that contribute to this phenomena have been uncovered by numerous research that have examined the effect of confirmation bias on investing outcomes.

In an early study, Nickerson (1998) discovered that people have a propensity to selectively remember and seek out information that supports the pre-existing ideas while ignoring that information. This tendency was further substantiated by a study by Klayman and Ha (1987), which discovered that people prefer to seek out information that supports beliefs as opposed to that which contradicts them.

Studies have demonstrated that confirmation bias can cause investors to overvalue information that confirms their pre-existing opinions while undervaluing or ignoring information that contradicts them while making investing decisions (Chen and Zhang, 2010; Rabin and Schrag, 1999). Investors may also display an anchoring bias, which causes them to place too much weight on the first piece of information they learn and interpret subsequent information in a way that supports their preconceived notions (Tversky and Kahneman, 1974).

Some studies have concentrated on figuring out what makes confirmation bias worse or lessens its impact. For instance, research by Zuchelkowski and Kamiski (2016) indicated that peer social support can reduce confirmation bias whereas financial incentives can increase it.

The disposition effect is a phenomenon where an individual person tend to sell off the winning stocks too soon and holding onto the losing stocks for too long. This behavior is thought to be driven by the desire to avoid regret, which can be amplified by confirmation bias. Investors may hold onto losing stocks because of their existing investment beliefs and are unwilling to accept information to the contrary, leading to a reluctance to sell even when the stock is clearly trending downwards.

Excessive trading is another error that can be attributed to confirmation bias. Investors who are overly confident in their investment thesis may trade excessively, leading to higher transaction costs and lower returns. This selective information seeking can perpetuate confirmation bias and lead to poor investment decisions.

Empirical studies have found evidence of confirmation bias in investment decision making. For example, a study by Odeon (1998) found that investors were more likely to buy stocks that were in the news, even if the news was negative, and were less likely to sell losing stocks. This behavior was attributed to confirmation bias, as investors were inclined towards the search for the info confirming their beliefs and ignored info that contradicted them.

Another study by Barber and Odeon (2001) found that overconfident investors traded more frequently and had lower returns than less confident investors. This behavior was also attributed to confirmation bias, as overconfident investors were also inclined towards the search for the information confirming their beliefs and ignored information that contradicted them.

Confirmation bias in investment decision making is a well-established phenomenon in the field of behavioral finance. It is one of many cognitive biases that can affect how individuals make decisions, particularly in complex and uncertain situations such as investing.

The role of confirmation bias in investment decision making has been studied in various contexts. For example, it has been explored in the context of individual investors, professional fund managers, and even corporate managers making strategic investment decisions. In all cases, confirmation bias has been found to be a significant factor that can lead to suboptimal investment decisions.

One possible explanation for why confirmation bias is so pervasive in investment decision making is that it is a natural human tendency. People are naturally inclined to filter out information and search for information confirming their beliefs and ignoring all the information contradicting them, as it provides a sense of validation and reduces cognitive dissonance. This tendency can be particularly pronounced in the context of investing, where emotions and biases can override rational decision making.

To mitigate the effects of confirmation bias, several strategies have been proposed. These include seeking out diverse sources of information, actively seeking out disconfirming evidence, and engaging in structured decision-making processes that involve multiple stakeholders. Also , increasing awareness of the potential for confirmation bias and other cognitive biases will be helping the investors to make rational decisions.

Confirmation bias is a significant factor that can influence investment decision making. Its very important for an investor to be aware of these bias and then take rational investment decisions.

In conclusion, confirmation bias is a common kind of cognitive bias that leading to errors in investment decision making, such as the disposition effect and excessive trading. Investors who are emotionally invested in their investment thesis may be reluctant to accept information that contradicts their beliefs, leading to a perpetuation of confirmation bias. Empirical studies have provided evidence of confirmation bias in investment decision making, highlighting the importance of awareness and mitigation of this bias in investment strategies.

2.1 In this Research we will be focusing on 2 major Traits that are

1. **Personality Traits ,and**

2. **Risk Tolerance .**
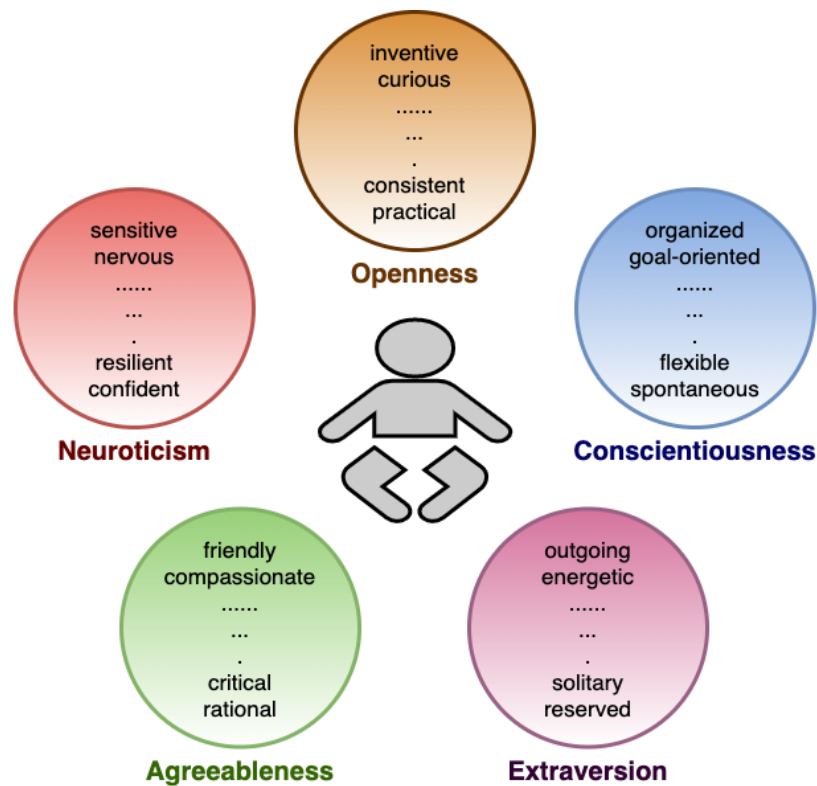
➢ Personality Trait

Figure 8 : Vahid Dejwakh source ([Vahid Dejwakh blog](#))

The stock market has always been a complex and ever-changing field. With so many factors influencing the performance of individual companies, entire industries, and the broader market, making informed investment decisions can be challenging. Investors often rely on a combination of quantitative and qualitative analysis, market trends, and other external factors to evaluate potential investments. However, they are not always aware of the cognitive biases that can affect their decision-making process. One such bias is confirmation bias, which can lead investors to filter out for the information that supporting the existing beliefs and ignoring all the contradictory information.

People often look for and interpret information in a way that supporting the pre - existing ideas or assumptions, known as confirmation bias. Confirmation bias can cause people to selectively search for evidences supporting the investing judgments and ignore the information that contradicts them while making investment decisions.

Overconfidence is a personality trait that has been connected to confirmation bias in financial decision-making. Those who are overconfident sometimes have an exaggerated view of their own skills and are more likely to take chances. They might look for evidence that supports their conviction in their own talents and disregard evidence to the contrary.

Other psychological traits that have been connected to confirmation bias in investing decision-making include overconfidence, a high need for control, and the need for closure (a need for certainty and a hate of ambiguity).

Consider a variety of potential outcomes, actively look for evidence that challenges your views and hypotheses, and be willing to change your opinions in the face of new information in order to avoid confirmation bias when making investment decisions. Self-awareness and a willingness to reflect on one's own prejudices and limits are prerequisites for this. Investigating other viewpoints and ideas can also assist in avoiding confirmation bias and result in better financial choices.
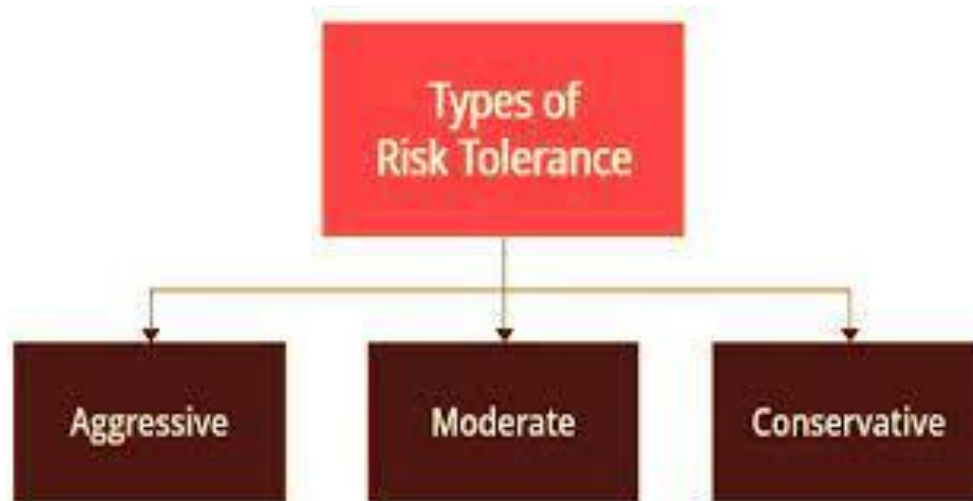
➢ Risk Tolerance Trait

Figure 9 : MSR Blog Source

Confirmation bias can cause investors to only look for information that confirms their present investment strategies or beliefs while ignoring evidence that might point to a riskier course of action. High risk-takers may be more prone to this bias because they are more likely to look for evidence to support their conviction that taking on risky ventures is the best way to generate high returns.

Investors must actively search out information that challenges their beliefs and weigh alternative viewpoints in order to avoid falling victim to confirmation bias when making investment decisions. Investors should also be open to changing their opinions if the proof shows that their current strategy is not working and should be prepared to modify their strategies in response to new information.

Investors can also gain from consulting with unbiased financial advisors, who can offer a fresh view on their investment approaches and assist them in avoiding widespread cognitive biases like confirmation bias. Investors can make more informed decisions that are based on the complete range of available information, rather than just the information that supports their pre-existing beliefs, by staying open-minded and willing to consider alternative perspectives.

Here are some Short caselets examples of Confirmation Bias For further in brief understanding about Confirmation Bias in Our Decision Making .

Caselet 1 :

Yash has been following a particular stock for some time and strongly believes that it is undervalued and likely to increase in value. He conducts research to support his belief and ignores information that contradicts his position.
How can Yash avoid confirmation bias in his investment decision-making process?

Answer :

Yash can avoid confirmation bias by actively seeking out and considering information that contradicts his beliefs about the stock. He can also consider seeking out the opinions of others who have a different perspective on the stock, and conducting a thorough analysis of the stock's financials and industry trends. Additionally, Yash can establish clear investment criteria before making a decision to avoid being swayed by his emotions or pre-existing beliefs.

Caselet 2 :

Simran is a marketer tasked with conducting a proper market survey to determine the best price point for a new product. She has a strong belief about what the market will bear for the product and ignores information that contradicts her beliefs.
How can Simran avoid confirmation bias in her market research?

Answer :

Simran can avoid confirmation bias by actively seeking out and considering data that contradicts her pre-existing beliefs about the product's marketability. She can also ensure that her research methods are sound and that she is not selectively interpreting data to confirm her beliefs. Additionally, Simran can consider seeking out the opinions of others with different perspectives on the product's marketability, and using objective criteria to determine the best price point.

Caselet 3 :

Harsh is a financial advisor who has a strong belief about the best investment strategy for his clients. He ignores information that contradicts his beliefs and selectively interprets data to confirm his position.
How can Harsh avoid confirmation bias in his investment advice?

Answer :

Harsh can avoid confirmation bias by actively seeking out and considering information that contradicts his pre-existing beliefs about the best investment strategy. He can also use objective criteria to evaluate different investment options and avoid being swayed by his emotions or pre-existing beliefs. Additionally, Harsh can consider seeking out the opinions of other financial experts with different perspectives on the best investment strategy for his clients.

Caselet 4 :

Rashmi is a manager who strongly believes that her team's proposed approach to a project is the most effective. She ignores feedback from team members that contradicts her position and selectively interprets data to confirm her beliefs.
How can Rashmi avoid confirmation bias in her decision-making process?

Answer :

Rashmi can avoid confirmation bias by actively seeking out and considering feedback from team members with different perspectives on the project's approach. She can also ensure that she is not selectively interpreting data to confirm her beliefs, and using objective criteria to evaluate different approaches to the project. Additionally, Rashmi can encourage her team members to provide constructive feedback and challenge her assumptions to ensure that all available information is considered.

CHAPTER 3
3. Methodology

With the help of Literature Review, first we will design a questionnaire which will consist of certain options with respect to given weightage, then we will do a survey with the sample size of 100 plus (expected) and age group of 18 to 35 years old. On the basis of the result, we will analyse the data and see how it correlates.

This review will include both academic and industry sources, such as peer-reviewed articles,books, and industry reports .

The data collected through the literature review will be analyzed using qualitative research methods to identify common themes and patterns in the ways that confirmation bias affects investment decision-making. This analysis will be used to develop a conceptual framework for understanding how confirmation bias influences investment decisions, and to identify practical strategies for mitigating its effects.

We will be taking 2 traits affecting Confirmation Bias for further indepth research that are Personality Traits and Risk Tolerance Traits in Confirmation Bias . Overall, the methodology for this research paper will be grounded in a rigorous and systematic approach to reviewing existing research in order to generate insights into the role of confirmation bias in investment decision-making.

3.1 Hypothesis:

The main motive of the current study is to investigate the connection between investor personality factors and risk-taking propensity. The alternative hypothesis postulates that personality traits have a direct impact on investors' risk-taking capability, while the null hypothesis is that there is no substantial link between personality features and risk-taking capacity. This study aims to add to the knowledge on investor behavior and decision-making with potential consequences for policymakers and financial advisors. Data on personality traits and tendency for taking risks will be gathered using standardized measures as part of the study's quantitative research approach. The ideas will be put to the test through statistical analysis, which will also reveal how strongly personality and risk-taking are correlated.

This hypothesis would be a more direct test toward whether the participants indeed displayed confirmation bias, which is tested by the reconsideration question they were given.

- **Tools:** SPSS & MS excel

- **Test**- Regression , Correlation , Component Factor Analysis , Reliability Test

- **Expected Outcomes**

The anticipated findings of this research are that "Yes, our preconceived beliefs, past information, and prior investment decision do help us in making final decision in an investmentwhether to purchase or to sell a stock.

CHAPTER 4

4.1) Analysis & Data Interpretation

Following are the observations have been taken on the basis of 3 major traits i.e Personality Traits, Risk Traits & Confirmation Bias .

4.1.1 Personality Trait
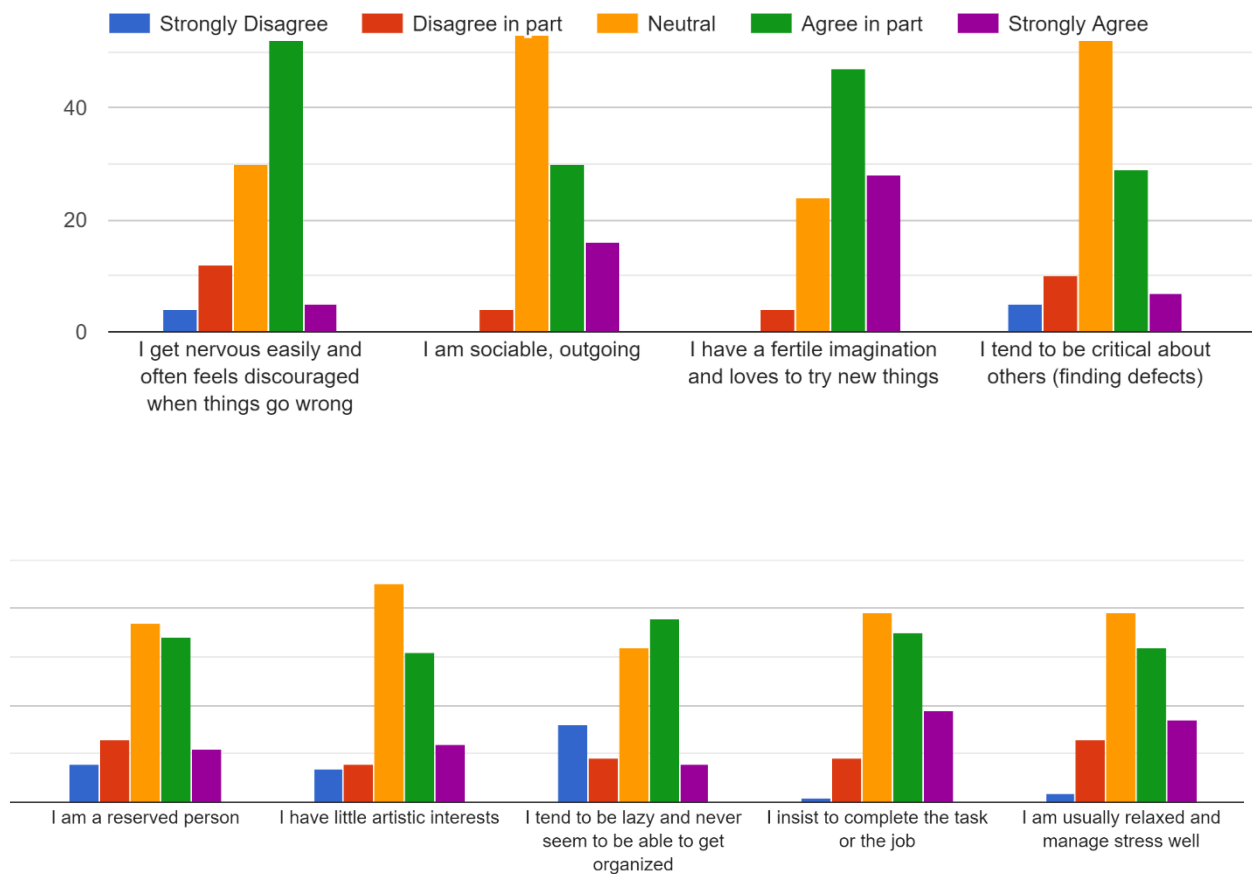
1. I get nervous easily and often feels discouraged when things go wrong.

No.1	Count	Percentage
Strongly Agree	5	4.85%
Agree in part	52	50.49%
Neutral	30	29.13%
Disagree in part	12	11.65%
Strongly Disagree	4	3.88%
Grand Total	103	100.00%

2. I am sociable, outgoing

No.1	Count	Percentage
Strongly Agree	16	15.53%
Agree in part	30	29.13%
Neutral	53	51.46%
Disagree in part	4	3.88%
Strongly Disagree	0	0.00%
Grand Total	103	100.00%

3. I have a fertile imagination and loves to try new things

No.1	Count	Percentage
Strongly Agree	28	27.18%
Agree in part	47	45.63%
Neutral	24	23.30%
Disagree in part	4	3.88%
Strongly Disagree	0	0.00%
Grand Total	103	100.00%

4. I tend to be critical about others (finding defects)

No.1	Count	Percentage
Strongly Agree	7	6.80%
Agree in part	29	28.16%
Neutral	52	50.49%
Disagree in part	10	9.71%
Strongly Disagree	5	4.85%
Grand Total	103	100.00%

5. I am a reserved person

No.1	Count	Percentage
Strongly Agree	11	10.68%
Agree in part	34	33.01%
Neutral	37	35.92%
Disagree in part	13	12.62%
Strongly Disagree	8	7.77%
Grand Total	103	100.00%

6. I have little artistic interests

No.1	Count	Percentage
Strongly Agree	12	11.65%
Agree in part	31	30.10%
Neutral	45	43.69%
Disagree in part	8	7.77%
Strongly Disagree	7	6.80%
Grand Total	103	100.00%

7. I tend to be lazy and never seem to be able to get organized

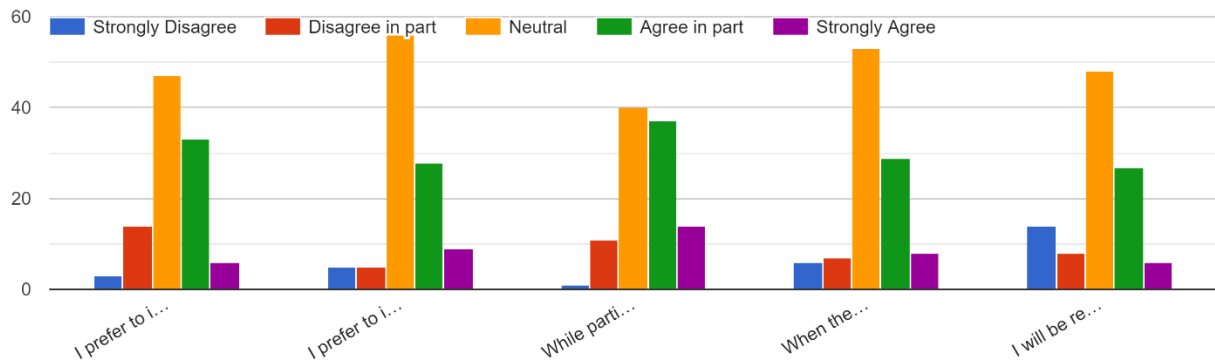| No.1	Count	Percentage
Strongly Agree	8	7.77%
Agree in part	38	36.89%
Neutral	32	31.07%
Disagree in part	9	8.74%
Strongly Disagree	16	15.53%
Grand Total	103	100.00%

8. I insist to complete the task or the job

No.1	Count	Percentage
Strongly Agree	19	18.45%
Agree in part	35	33.98%
Neutral	39	37.86%
Disagree in part	9	8.74%
Strongly Disagree	1	0.97%
Grand Total	103	100.00%

9. I am usually relaxed and manage stress well

No.1	Count	Percentage
Strongly Agree	17	16.50%
Agree in part	32	31.07%
Neutral	39	37.86%
Disagree in part	13	12.62%
Strongly Disagree	2	1.94%
Grand Total	103	100.00%

4.1.2 Risk Trait

10. I prefer to invest 10% of my annual earning in a very speculative security rather than a government bond.

No.1	Count	Percentage
Strongly Agree	6	5.83%
Agree in part	33	32.04%
Neutral	47	45.63%
Disagree in part	14	13.59%
Strongly Disagree	3	2.91%
Grand Total	103	100.00%

11. I prefer to invest 10% of my annual earning in a very in a conservative security.

No.1	Count	Percentage
Strongly Agree	9	8.74%
Agree in part	28	27.18%
Neutral	56	54.37%
Disagree in part	5	4.85%
Strongly Disagree	5	4.85%
Grand Total	103	100.00%

12. While participating in the stock market, I give more importance to 'safety' rather than 'return'.

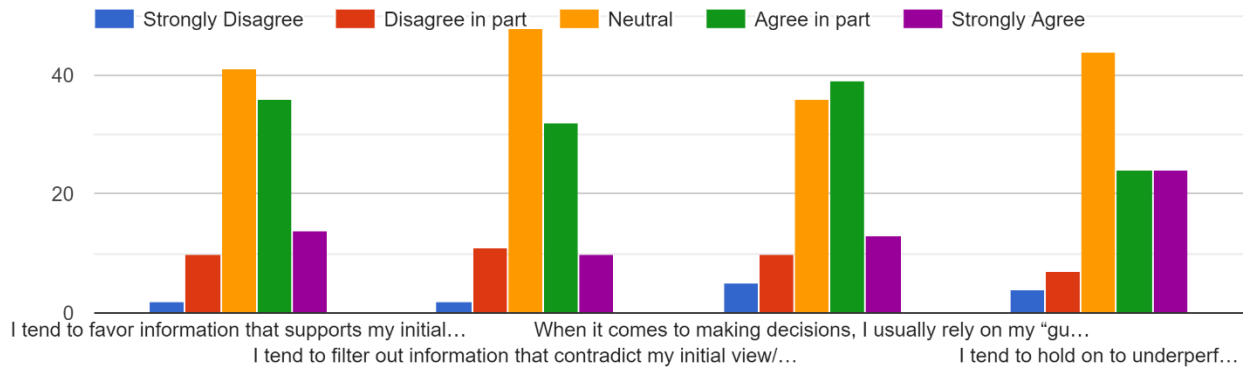| No.1	Count	Percentage
Strongly Agree	14	13.59%
Agree in part	37	35.92%
Neutral	40	38.83%
Disagree in part	11	10.68%
Strongly Disagree	1	0.97%
Grand Total	103	100.00%

13. When the market goes down, I prefer to sell some of my riskier assets and put the money in safer assets.

No.1	Count	Percentage
Strongly Agree	8	7.77%
Agree in part	29	28.16%
Neutral	53	51.46%
Disagree in part	7	6.80%
Strongly Disagree	6	5.83%
Grand Total	103	100.00%

14. I will be ready to lend to my friend an amount of money equivalent to one month's income.

No.1	Count	Percentage
Strongly Agree	6	5.83%
Agree in part	27	26.21%
Neutral	48	46.60%
Disagree in part	8	7.77%
Strongly Disagree	14	13.59%
Grand Total	103	100.00%

4.1.3 Confirmation Bias

15. I tend to favor information that supports my initial view/ beliefs

No.1	Count	Percentage
Strongly Agree	14	13.59%
Agree in part	36	34.95%
Neutral	41	39.81%
Disagree in part	10	9.71%
Strongly Disagree	2	1.94%
Grand Total	103	100.00%

16. I tend to filter out information that contradict my initial view/ beliefs

No.1	Count	Percentage
Strongly Agree	10	9.71%
Agree in part	32	31.07%
Neutral	48	46.60%
Disagree in part	11	10.68%
Strongly Disagree	2	1.94%
Grand Total	103	100.00%

17. When it comes to making decisions, I usually rely on my "gut feelings"

No.1	Count	Percentage
Strongly Agree	13	12.62%
Agree in part	39	37.86%
Neutral	36	34.95%
Disagree in part	10	9.71%
Strongly Disagree	5	4.85%
Grand Total	103	100.00%

18. I tend to hold on to underperforming stocks or funds because I believe that price will increase.

No.1	Count	Percentage
Strongly Agree	24	23.30%
Agree in part	24	23.30%
Neutral	44	42.72%
Disagree in part	7	6.80%
Strongly Disagree	4	3.88%
Grand Total	103	100.00%

4.2 Correlation Matrix analysis

	PT:1	PT:2	PT:3	PT:4	PT:5	PT:6	PT:7	PT:8	PT:9	Risk 1	Risk 2	Risk 3	Risk 4	Risk 5	CB:1	CB:2	CB:3	CB:4
PT:1	1																	
PT:2	-0.03601869	1																
PT:3	0.115106039	0.469393419	1															
PT:4	0.35962486	0.055355812	0.13274936	1														
PT:5	0.244761654	-0.31257802	-0.033280893	0.27686291	1													
PT:6	0.220832538	-0.091794805	0.110269663	0.298843766	0.430353357	1												
PT:7	0.126566603	-0.076169855	-0.168436513	0.112453262	0.23117034	0.204406384	1											
PT:8	-0.062315288	0.413082412	0.357402297	0.073071306	-0.012494258	0.264198023	0.073850648	1										
PT:9	0.01132974	0.21788664	0.355026058	0.112474041	-0.083113976	0.151491637	0.126075788	0.494510715	1									
Risk: 1	0.197949753	-0.113931433	0.138013561	0.194273232	-0.058805999	0.156086862	0.027278137	0.072880468	0.208864411	1								
Risk: 2	0.127488632	0.173855817	0.22040129	-0.023803134	-0.178209422	-0.097925698	-0.055714835	0.148491879	0.252235785	0.287086655	1							
Risk: 3	0.337705473	0.160340669	0.188249876	0.126987927	-0.037300392	0.155202622	0.152904485	0.174619499	0.170786815	0.496557639	0.252156099	1						
Risk: 4	0.230529732	0.11188047	0.065800913	0.086022404	-0.058436382	0.060026927	0.188526494	0.015681817	0.061637427	0.107178942	0.268775085	0.345496444	1					
Risk: 5	0.192409623	-0.042576856	-0.066633664	0.044644409	-0.032806505	0.055126765	0.177489537	-0.01809395	0.250801519	0.236874713	0.157783708	0.149454948	0.123558114	1				
CB: 1	0.185215995	0.078092371	0.353269536	0.069651235	-0.081321234	0.073777365	-0.120913952	0.114879551	0.209953581	0.429301909	0.168814855	0.367408141	0.226432546	-0.044898296	1			
CB: 2	-0.001088834	0.184756028	0.143740277	0.021788844	-0.038973488	0.290240101	0.079479122	0.203823684	0.165251517	0.142518121	0.201619603	0.129486258	0.155375563	0.126166004	0.257765636	1		
CB: 3	0.26898425	0.131004484	0.165797569	0.054362101	-0.025797741	0.10287088	-0.005678174	0.084425156	0.146658817	0.068832486	0.183145098	0.123948546	0.082115426	0.08052151	0.23769861	0.279858405	1	
CB: 4	0.351242083	0.104325592	0.059955205	0.118003796	-0.008285117	0.192222804	0.245424797	0.007013105	0.065967972	0.131373537	0.104472324	0.22234285	0.170230639	0.064855733	0.115909641	0.231281667	0.47137887	1

Table 1

The Pearson correlation coefficients, which gauge the linear relationship between two variables, are contained in the matrix.

Most of the relationships are rather weak, as we can see from the matrix. Some pairs of variables have modest correlations with one another, such as CB:1 and PT:3 (0.353), CB:1 and CB:4 (0.351), and CB:4 and PT:1 (0.351).
It's also important to note that some factors have rather strong connections with a variety of other variables. For instance, there are certain other variables with which PT:3 has moderate to strong relationships, such as PT:2 (0.469), PT:4 (0.133), and Risk:3 (0.188). Similar to CB:1, CB:4 exhibits moderate to strong associations with PT:3, Risk:1, and CB:1 (all 0.471, 0.353, and 0.209 respectively).

The risk variables and the other matrix variables have only sporadic relationships with respect to the risk variables. This implies that there may not be a substantial correlation between the risks and the other matrix variables.
Overall, the correlation matrix indicates that some pairs of variables may be related to one another, although the majority of the correlations are quite weak. The type and importance of these linkages would require additional investigation.

4.3 Analysis through Pivot Table

- **Relation between Personality Traits, Risk and Confirmation Bias with respect to income level**

Risk: avg by Monthly Income
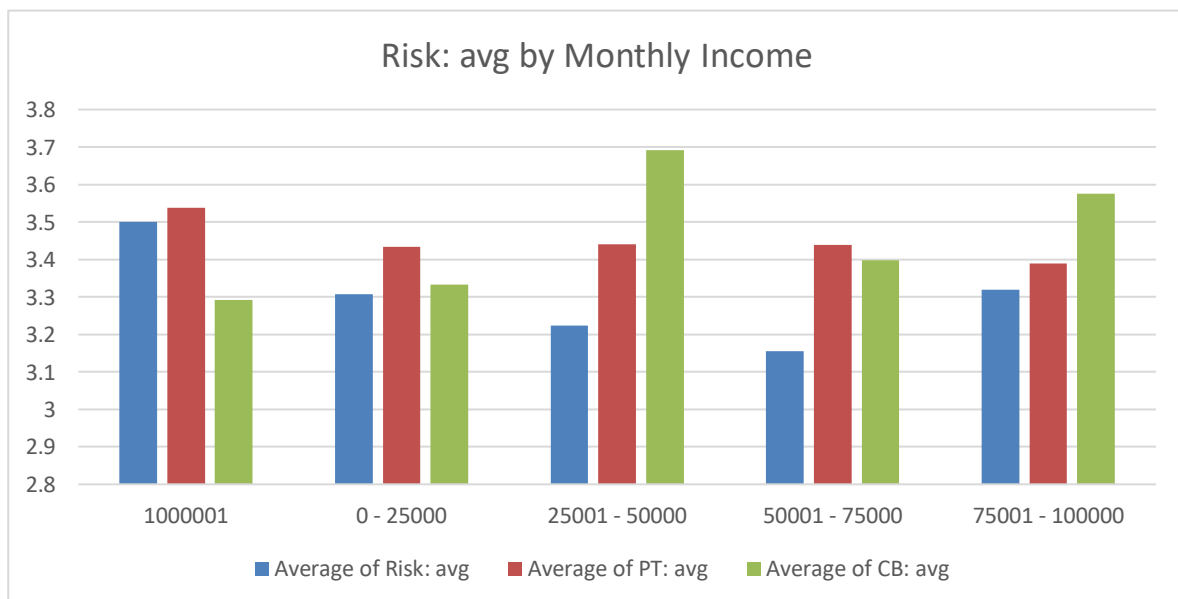
The graph demonstrates that Personality, Risk, and Confirmation Bias do not directly correlate. When income group is considered, a minor decline in risk-taking capacity is seen for individuals earning up to INR 75000, suggesting that greater income levels may result in less risk-taking behavior. It's interesting to note that the data reveals individuals with monthly incomes beyond INR 75000 exhibit a dramatic surge in risk-taking behavior. This result lends credence to the idea that experienced happiness levels off after a particular economic threshold is reached.

- **Relation between Personality Traits, Risk and Confirmation Bias with respect to**

Risk: avg by Monthly Income

Legend: ■ Average of Risk: avg ■ Average of PT: avg ■ Average of CB: avg
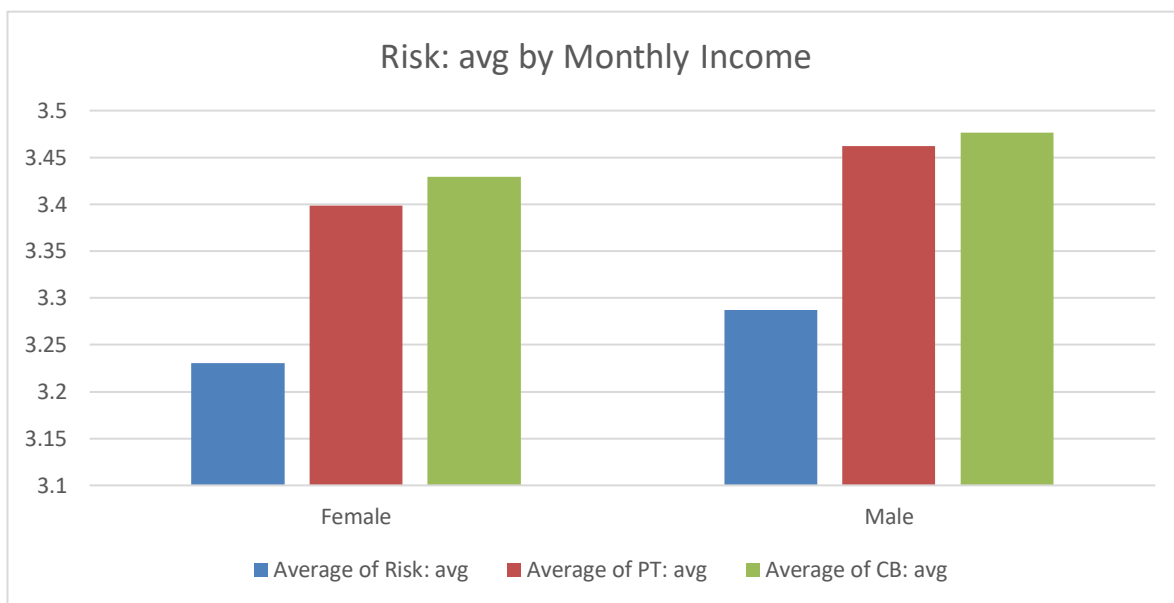
Gender

Based on the above information, it can be inferred that males tend to be more risk-loving compared to females, as well as in terms of personality traits and confirmation bias

4.4 Regression Analysis based on monthly Income

4.4.1 Income level 0 - 25,000

❖ Summary Output

- Multiple R: In this instance, a moderately positive correlation between the variables is indicated by a value of 0.349.
- R Square: A score of 0.122 implies that the independent variables in the model can only account for around 12.2% of the variation in the dependent variable.

Regression Statistics	
Multiple R	0.349229137
R Square	0.12196099
Adjusted R Square	0.112718474
Standard Error	0.547039032
Observations	97

Table 2

- Adjusted R Square: The value of 0.113 shows that only roughly 11.3% of the variation in the dependent variable can be explained by the model after adjusting for the number of independent factors.
- The model's predictions are often off by roughly 0.547 units, or what is known as the standard error, or 0.547.

26

- Observations: This shows how many data points were utilized to build the model. There are 97 observations in this instance.

❖ ANOVA

	df	SS	MS	F	Significance F
Regression	1	3.948820254	3.948820254	13.19564843	0.000454916
Residual	95	28.4289117	0.299251702		
Total	96	32.37773196			

	Coeff	SE	t Stat	P-value
Intercept	1.775548886	0.414037632	4.288375616	4.32296E-05
3.333333333	0.434149423	0.119515398	3.632581511	0.000454916

Table 3

The coefficients for the intercept and predictor variable are both statistically significant and positive, and the regression model seems to be statistically significant. The dependent variable (Personality Trait) is expected to be about 1.78 when the predictor variable is zero, according to the intercept, and it is estimated to grow by about 3.33 units when the predictor variable is increased by one unit, according to the slope coefficient.

4.4.2 Similarly for 25001 to 500000 INR

	df	SS	MS	F	Significance F
Regression	1	2.642453924	2.642453924	8.164879716	0.005281098
Residual	92	29.77456735	0.323636602		
Total	93	32.41702128			

	Coefficients	Standard Error	t Stat	P-value
Intercept	2.020856262	0.438937309	4.603974698	1.3255E-05
3.111111111	0.359015228	0.125642906	2.857425365	0.005281098

Table 4

The coefficients for the intercept and predictor variable are both statistically significant and positive, and the regression model seems to be statistically significant. The dependent variable (Personality Trait) is projected to be around 2.02 when the predictor variable is zero, according to the intercept, and 3.11 units higher when the predictor variable is increased by one unit, according to the slope coefficient.

4.4.3 For Income level 50,001 – 75,000

	df	SS	MS	F	Significance F
Regression	1	2.003871687	2.003871687	10.0197832	0.002142385
Residual	86	17.19927085	0.199991522		
Total	87	19.20314254			

	Coefficients	Standard Error	t Stat	P-value
Intercept	2.640595308	0.267798867	9.860367745	8.74315E-16
4	0.255056952	0.080576426	3.165404113	0.002142385

Table 5

The F-statistic's associated p-value is less than 0.05 (0.002), which shows that the regression model is statistically significant at the 0.05 level of significance.

The coefficients for the intercept and predictor variable are both statistically significant and positive, and the regression model seems to be statistically significant. The dependent variable (Personality Trait) is expected to be around 2.64 when the predictor variable is zero, according to the intercept, while the dependent variable (Personality Trait) is increased by about 4 units, according to the slope coefficient, when the predictor variable is increased by one unit.

4.4.4 For Income level 75,000 – 1,00,000

	df	SS	MS	F	Significance F
Regression	1	2.417397642	2.417397642	12.02986	0.000820189
Residual	86	17.28167643	0.200949726		
Total	87	19.69907407			

	Coefficients	Standard Error	t Stat	P-value
Intercept	2.547321736	0.266971304	9.541556343	3.89E-15
3	0.27875181	0.080368777	3.468409267	0.00082

Table 6

The independent variable (X) significantly affects the dependent variable (Personality Trait) in the linear regression model, which appears to be statistically significant. However, the model only explains a small portion of the variability (R-squared = 0.122).

4.4.5 For monthly Income level 1,00,000 +

	df	SS	MS	F	Significance F
Regression	1	1.868689	1.868689	5.56816	0.020666661
Residual	82	27.51941	0.335603		
Total	83	29.3881			

	Coefficients	Standard Error	t Stat	P-value
Intercept	2.15186101	0.471646	4.56245	1.75E-05
PT: avg	0.321060099	0.13606	2.359695	0.020667

Table 7

The null hypothesis may be rejected because the p-value is less than 0.05, which means that we can draw the conclusion that there is a substantial correlation between the predictor variable and the responder variable.

The regression equation's coefficients are displayed in the second table. In this instance, the intercept is substantially different from zero with a p-value of less than 0.05 and an intercept of 2.162.

The coefficient for the predictor variable (labelled "PT: avg") displays the predicted change in the response variable for a 1 unit increase in the predictor variable. Since the p-value is less than 0.05 and the coefficient is 0.321, the slope in this case deviates significantly from zero.

Reliability Analysis

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.727	.735	18

Table 8

The internal consistency reliability of the metric appears to be satisfactory based on the reliability numbers you gave. The degree to which a group of items consistently measures the same construct is indicated by Cronbach's alpha.

Since my measure's items have a Cronbach's alpha coefficient of.727, they are considered to be of moderate reliability.

Additionally, based on standardised items, Cronbach's alpha is.735, which is extremely similar to the prior coefficient. This shows that the reliability of the measure was not significantly impacted by standardising the components.

According to the Cronbach's alpha coefficients, our measure's internal consistency dependability is generally adequate.

So, to sum it up, The positive slope coefficient in all four income levels of the investigation demonstrates that there is a positive association between monthly income and personality attribute. However, the low R-square values in all four models, which range from 0.12 to 0.23, show that the relationship's strength is only moderate. This suggests that additional factors may be involved and that wealth alone cannot fully account for the difference in personality feature. In addition, the models' very large standard errors show that the data exhibit a great deal of variability that the model is unable to account for.

Noting that correlation does not indicate causation is crucial. Although the study points to a link between wealth and a particular personality attribute, it's also likely that other factors like education level, employment, or life events are what's causing the patterns to be seen. The causal processes behind the observed link between income and personality attribute must thus be explored in further research.

4.5   Analysis Between Personality Trait and Confirmation Bias

In this research study, risk tolerance and personality trait—both of which are regarded as key traits—are examined in connection to each other. Through the use of a survey questionnaire, the study gathered 103 replies. The relationship between personality attribute and risk was examined in the first stages of the study, and the results revealed that there is no connection between the two. Therefore, the current study's objective is to investigate, using the Statistical Package for Social Sciences (SPSS), the association between personality attribute and confirmation bias. Two new variables, MQPT and MQCB, have been developed specifically for this purpose. MQPT stands for the mean value of replies based on personality traits, while MQCB stands for the mean value of responses based on confirmation bias. MQPT is considered as the dependent variable in this study. Following the regression analysis of the new variables, the study provides an interpretation of the results.

Descriptive Statistics

	Mean	Std. Deviation	N
MQPT	3.4380	.46490	103
MQCB	3.4587	.64464	103

Table 9

The mean value of MQPT is marginally lower than the mean value of MQCB , Indicating that individuals may have reported somewhat greater levels of confirmation bias than their personality characteristic. The standard deviation for MQPT, however, is smaller than that for MQCB, indicating that responses for personality trait are less distributed than those for confirmation bias.

Correlations

		MQPT	MQCB
Pearson Correlation	MQPT	1.000	.324
	MQCB	.324	1.000
Sig. (1-tailed)	MQPT	.	<.001
	MQCB	.000	.
N	MQPT	103	103
	MQCB	103	103

Table 10

Confirmation bias and personality attribute are somewhat positively correlated, according to the correlation value of 0.324. According to this, those with higher personality characteristic scores are probably more prone to exhibit confirmation bias. The direction of the association between the two variables must be determined through further study because correlation does not always imply causation.

MQPT – Personality Trait (Dependent Variable)
MQCB – Confirmation Bias

ANOVAª

Model		SOS	df	MS	F	Sig.
1	Regression	2.320	1	2.320	11.880	<.001[b]
	Residual	19.725	101	.195		
	Total	22.045	102			

a. Dependent Variable: MQPT
b. Predictors: (Constant), MQCB

Table 11

With one degree of freedom (df) linked to the predictor variable, the regression model accounts for 2.320 units of variation in the result variable. The regression model's Mean Square value is 2.320. According to the F-statistic of 11.880 and the associated p-value of less than 0.001, the regression model is statistically significant of the analysis of this research work .

The "Residual" row displays that the outcome variable (MQCB) has 19.725 units of variance left after accounting for the variation explained by the regression model, and that this variation has 101 degrees of freedom. The residual variation's Mean Square value is 0.195.

As shown by the substantial F-statistic and p-value for the regression model, the regression analysis generally shows that there is a significant association between personality characteristic and confirmation bias. The R-squared value, which might shed light on the model's predictive ability, shows that the regression model explains a moderate percentage of the variation in confirmation bias.

Coefficientsª

Model		Unstandardized Coeff		Standardized Coeff			95.0% Confidence Interval for B		Collinearity Statistics	
		B	SE	Beta	t	Sig.	L.B	U.P	Tol	VIF
1	(Constant)	2.629	.239		11.009	<.001	2.155	3.102		
	MQCB	.234	.068	.324	3.447	<.001	.099	.369	1.000	1.000

a. Dependent Variable: MQPT

Table 12

The "Sig." column displays the p-value connected with the t-statistic, and the "t" column displays the t-statistic linked with the regression coefficient. Results demonstrate that the regression coefficient for MQCB has a statistically significant t-value of 3.447 and a corresponding p-value of less than 0.001.

Given that a tolerance number close to 0 indicates severe collinearity, the tolerance value of 1.000 for MQCB shows that there is no multicollinearity concern. Given that a VIF number greater than 1 denotes strong collinearity, the VIF value of 1.000 also suggests that there is no multicollinearity problem.

Coefficient Correlations

Model			MQCB
1	Correlations	MQCB	1.000
	Covariances	MQCB	.005

a. Dependent Variable: MQPT

Table 13

A complete positive correlation between the two variables is shown by the coefficient correlation value of 1.000, which means that when the predictor variable (MQCB) rises, so does its regression coefficient. This implies a substantial relationship between the predictor variable (MQCB) and the outcome variable (MQPT).

The two variables have a positive covariance, or tendency to change together in a positive direction, according to the covariance value of 0.005.

Chapter- 5

Conclusion-

This study has examined the subject of confirmation bias in investment decision-making. An outline of the cognitive biases that support confirmation bias and how they might influence investment decisions has been given. Additionally, the study looked at the effects of confirmation bias on investing success, as well as its origins and treatments. The selective information intake of investors was examined through an experiment where participants were given the opportunity to read an article in favors of or against a previous investment.

According to the research, confirmation bias is a widespread phenomenon that has a big influence on investing results. Investors frequently search and look for and analyze data in a way that supporting their preconceived notions and are hesitant to accept data that runs counter to their assumptions. The disposition effect, excessive trading, and other investment blunders might result from this selective information seeking behavior.

Personality factors might also have an impact on confirmation bias while making investment decisions. Confirmation bias may be more common in people with particular personality qualities, such as overconfidence or a need for consistency. Additionally, psychological qualities like risk aversion or impulsivity may influence the level of confirmation bias and investing choices.

Investors must thus be cognizant of their personality features and how they could affect their choice of investments. Investors may make better informed and unbiased choices by identifying and correcting any biases that may result from their personality features.

So, in overall in our findings we were able to find though Personality of an individual do not play an major role at their risk taking capacity, where as when we compare personality with confirmation bias they show a significant relation with each other.

In conclusion, while confirmation bias is a common phenomenon that can impact investment outcomes, it is important to consider the influence of personality traits on this bias. By recognizing and addressing both confirmation bias and potential biases stemming from personality traits, investors can improve their investment performance and make more informed and successful financial decisions.

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Appendix

Questionnaire

1. Name

2. Gender

- Male

- Female

- Other

3. Please, choose your age group

- Under 25 years
- Between 26-30 years
- Between 31-35 years
- Between 36-40 years
- Above 40 years

4. Please, choose your education group

- High school and lower
- Under-Graduate
- Bachelor
- Master
- Doctorate

5. Please, choose your profession group

- Student
- Executive, Senior technician, Employer, Manager
- Home-maker
- Self Employed
- Academic, Researcher, Director, Doctor
- Retired

6. Please   estimate   your   average   monthly   income

- Less than 25000
- 25001 - 50000
- 50001 - 75000
- 75001 - 100000
- More than 100000+

Please give your opinions about the levels of agreement for the following statements:

Personality

7. I get nervous easily and often feels discouraged when things go wrong

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

8. I am sociable, outgoing

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

9. I have a fertile imagination and loves to try new things

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

10. I tend to be critical about others (finding defects)

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

11. I am a reserved person

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

12. I have little artistic interests

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

13. I tend to be lazy and never seem to be able to get organized

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

14. I insist to complete the task or the job

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

15. I am usually relaxed and manage stress well

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

Risk

16. I prefer to invest 10% of my annual earning in a very speculative security rather than a government bond.

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

17. I prefer to invest 10% of my annual earning in a very in a conservative security.

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

18. While participating in the stock market, I give more importance to 'safety' rather than 'return'.

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

19. When the market goes down, I prefer to sell some of my riskier assets and put the money in safer assets.

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

20. I will be ready to lend to my friend an amount of money equivalent to one month's income.
- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

Confirmation Bias

21. I tend to favor information that supports my initial view/ beliefs

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

22. I tend to filter out information that contradict my initial view/ beliefs

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

23. When it comes to making decisions, I usually rely on my "gut feelings"

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree

24. I tend to hold on to underperforming stocks or funds because I believe that price will increase

- Strongly Disagree
- Disagree in part
- Neutral
- Agree in part
- Strongly Agree