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IMPACT OF BEHAVIOURAL BAISES ON THE INVESTMENT DECISIONS
WITH THE MEDIATING ROLE OF GEN X, MILENNIALS AND GEN Z.



BY:

SHANZA JABEEN

MBA 2-Y (01-321231-044)

SUPERVISOR
MS AMMARA MUJTABA

DEPARTMENT OF BUSINESS STUDIES
BAHRIA UNIVERSITY

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Names of Student: SHANZA JABEEN Enroll # 01-321231-044

Class: MBA

Approved by:

Ammara Mujtaba
Supervisor

Dr. Lubna Maroof
Examiner-I

Naeem Ullah
Examiner-II

Dr. Syed Haider Ali Shah
Research Coordinator

Dr. khalil Ullah Mohammad
Head of Department
Business Studies

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ABSTRACT

This study explores the influence of behavioral biases on investment decisions emphasizing the mediating role of generational cohorts: Gen X, Millennials, and Gen Z. The ultimate objective of the research is to explore how these biases change across different generations and how the distinct traits and experiences of each generation influence their investing choices. The study is conducted with a broad group of investors including Gen Z, Millennials, and Gen X to examine their investing behaviors and bias susceptibility. The primary data is collected using drop and pick self-administered questionnaires. A survey of 200 participants divided equally among the three cohorts reveals distinct generational patterns in susceptibility to these biases. These generational differences underscore the need for tailored financial education and advisory services. By addressing the unique biases of each generation, financial advisors can better support clients in making informed and rational investment decisions. This study offers valuable insights for financial professionals, educators, and policymakers, emphasizing the importance of developing generation-specific strategies to mitigate the adverse effects of behavioral biases on investment outcomes ultimately fostering more rational and effective investment behaviors across different age groups.

Keywords: *Behavioral Finance, Behavioral Biases, Generation X Millennials, Generation Z, Investment decision making, Rational.*

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SECTION 1: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The realm of finance has long been preoccupied with understanding the intricate dance of investor decision-making. Conventional models portrayed investors as perfectly rational beings who carefully considered risks and returns before making their investment decisions. But these idealized views have been upended by winds of change which have shown the significant impact of behavioral biases on investment decisions. This study explores this fascinating intersection concentrating on Gen X, Millennials, and Gen Z. It also looks at how these innate psychological tendencies affect investing decisions and how this dynamic may change over time. When academics started looking into the shortcomings of conventional financial theory which assumed that market participants always acted rationally and that investors methodically considered all of the information at their disposal and made the best decisions to maximize their wealth. Behavioral finance started to take shape in the late 20th century. However experts in the financial sector claim that people don't always evaluate risk in an unbiased manner. Rather they frequently use emotions and heuristics to estimate risk. This area of study demonstrates how psychological elements including emotional and cognitive biases can cause people to make irrational decisions about money. (Boubakari, 2017)

Influences from the 1920s and 1930s German sociologist Karl Mannheim investigated the notion that generations can have similar experiences because of where they grew up historically. Individuals who grew up in the midst of major historical events, such as wars or economic booms, would view the world differently than those who did not. Spanish philosopher José Ortega y Gasset He highlighted the idea of generational awareness which holds that individuals of comparable ages have similar perspectives because of their shared historical background. In the second part of the 20th century generational scholars such as Neil Howe and William Strauss disseminated the names and traits of distinct generations. Their research expanded on Mannheim and Ortega's prior theories. These academics classified and characterized generations according to the historical occurrences, cultural shifts, and technical developments that influenced the early years of the groups. Although there isn't an official "inventor" of generational groupings the idea originated with sociologists and philosophers studying how common historical events affected various age groups. The concept was expanded upon by researchers such as Howe and Strauss, who

distinguished between distinct generations and their distinguishing traits. Social commentators, journalists, and media outlets all have a role in influencing how the public views different generations. Although the words "Millennial slackers" and "Gen X cynics" are typically clichés they often represent larger societal discussions. To understand their impact on Gen X, Millennial, and Gen Z it is necessary to examine the specific biases that affect these generations. (Barberis, 2003)

In the realm of behavioral finance it is fascinating to investigate how behavioral biases affect an individual's investment decision-making. This includes looking at how different biases such as cognitive bias, anchoring bias and overconfidence in oneself can result in less-than-ideal investment decisions and can cause market inefficiencies. These biases which result from cognitive shortcuts and psychological variables can distort rational decision-making and have an impact on a number of areas of investment behavior. The financial industry is always changing due to advancements in technology, shifting demography, and shifting economic conditions. The number of Gen Z, Millennial, and Gen X investors has significantly increased during the past several years. These many generations might offer distinctive viewpoints and ways of behaving to the world of investing. The existence of prejudices in these generations' decision-making is a crucial factor influencing their investing choices. The impact of these behavioral biases on the investment decisions made by these three generations will be investigated in this study. These A regular pattern of departure from accepted norms or rationality in judgment frequently brought on by emotional or cognitive variables is referred to as behavioral bias. But the consequences of these biases may not be evenly dispersed across generations. According to recent research Gen Z, Millennials, and Gen X all have different investing habits and are more or less susceptible to certain types of biases. Because they may have personally experienced the devastation caused by market crashes, Gen X tends to be more cautious when it comes to investing. Because of their cautious character they may be more prone to the disposition effect and hang onto lost assets for longer. Having grown up in the era of rapid technology innovation, Millennials exhibit a clear comfort level with online investing platforms. However this accessibility could also leave them open to overconfidence. Their easy access to information can give them the impression of expertise, which could encourage them to make riskier investment decisions. The most recent batch of investors is represented by Gen Z or digital natives. Their technological savvy may translate into a willingness to consider novel investing opportunities. But given their relative

inexperience they may be more prone to herd mentality especially in the era of social media and online investing forums. These biases can significantly lead to suboptimal outcomes in the investment decision. ((Bhattacharya, 2021)

1.1.1 WHO ARE THE GENERATION X, MILLENNIALS, AND GENERATION Z?

The group of people born roughly between the middle of the 1960s and the beginning of the 1980s, in between Baby Boomers and Millennials is known as Generation X. During its formative years this generation witnessed a number of significant cultural, technological, and economic upheavals such as the end of the Cold War, the advent of personal computers, and the birth of alternative music and culture. Characteristics like independence, flexibility, pragmatism, and cynicism toward authorities and organizations are generally associated with Generation X.

Millennials sometimes referred to as Generation Y are a group of people who were born in the early 1980s mid-to-late 1990s and early 2000s. However depending on the source the precise birth year may differ significantly. According to Raines (2002) Millennials are Generation X children born in the 1980s and 1990s. They are referred to as "digital natives" a lot. According to Wesner and Miller (2008), Millennials have lived their entire lives in the technological age and have not had to change their way of life due to having to move from a particular manner of life to another. Gen Z additionally referred to as the post-Millennial generation, is a demographic cohort. Although there isn't a single accepted definition of Gen Z people who were born between the middle of the 1990s and the beginning of the 2010s are usually included in this group. The oldest member of this generation is 23 this year however the majority are not yet old enough to vote. (Katz, 2017)

In short the financial landscape is navigated by a diverse group of investors. Born between the middle of the 1960s and the beginning of the 1980s Generation X is renowned for their autonomy and cautious demeanor which may have been influenced by the economic downturns they saw. Millennials are tech-savvy people who entered the workforce during a recession. They were born between 1981 and 1996. The fact that information is easily accessible to them could make them prone to overconfidence. Last but not least Generation Z those born between 1997 and 2012, are real digital natives accustomed to novel investing opportunities nevertheless due to their inexperience, they may be susceptible to following the herd. (Odean, 1998)

1.2 PROBLEM STATEMENT

A major issue facing modern finance is the impact of behavioral biases on Gen X, Millennial, and Gen Z investment decisions. These generational cohorts are driving a complicated investing landscape and cognitive and emotional biases play a vital role in their decision-making processes. These prejudices have the potential to raise financial risk result in poor investment decisions and cause opportunities to be lost. Comprehending the type, scope and influence of these prejudices is crucial for both individual investors and the financial sector. As a result the problem statement can be formatted as follows: **Investor behavior usually deviates from logic and reason and as a result, investors exhibit different behavioral biases that affect the investment decisions of different generational groups such as Generation X, Millennials, and Generation Z.** (Bogunjoko, 2021)

The aforementioned statement tackles the need for a deeper investigation of the complex aspects of behavioral bias and how it affects Gen X, Millennials, and Gen Z investor's decisions. These biases differ throughout generations, which emphasizes how crucial it is to acknowledge the necessity for specially designed strategies. It's imperative that we handle them with effectiveness. To improve investment outcomes raise financial literacy and direct the financial industry to better serve these generational groups it is imperative that this issue be addressed.

It is crucial to comprehend the kind, scope and effects of these biases. Without this knowledge investors of all ages run the danger of making poor choices taking on unwarranted financial risks and passing up advantageous avenues. Furthermore in order to better meet the demands of various investor generations and offer advice that takes into account their cognitive and emotional proclivities, financial institutions, advisers and legislators need to have a deeper understanding of these biases. Thus, a thorough examination of the prevalence and effects of behavioral prejudices in Generation X, Millennials and Generation Z is the primary concern. This necessitates a thorough investigation of the origins, nature, and range of impacts of these biases.

1.3 RESEARCH GAP

The gap is of investigating the impact of behavioral factors on the investment decision of various generational cohorts investigating these factors on various different generational cohorts would help see their impact in a new light whether similar or different factors affect investor's decisions. (Bogunjoko, 2021)

By contrasting and analyzing several behavioral characteristics that may influence the investment decisions of three distinct generational cohorts in Pakistan, a developing nation, and the study closes the desired gap in knowledge. This study adds to the body of knowledge already in existence and provides investors with insights into psychological biases that may influence investment decisions. It is equally important to remember that decisions made by investors may also be influenced by other variables.

1.4 RESEARCH QUESTIONS

- I. Are there significant generational differences in susceptibility to certain behavioral biases?
- II. What behavioral biases are common among Gen X, Millennial and Gen Z investors when making investment decisions?
- III. How do identified behavioral biases affect the financial well-being and investment outcomes of each generation?
- IV. To what extent does generation group mediate the relationship between behavioral biases and investment decisions among Gen X, Millennials and Gen Z?

1.5 RESEARCH OBJECTIVES

- a) To Examine and Understand the role of Behavioral Biases on individual investment choices.
- b) These findings can also be used to inform financial institutions, advisors and investment platforms about the unique needs and challenges of Gen X, Millennials and Gen Z.
- c) The research will helps to predict fundamental trends in the investment and risk preferences of Gen X, Millennials, and Gen Z.
- d) Explore how Gen X, Millennials, and Gen Z mediate the relationship between behavioral biases and investment decisions taking into account their unique characteristics and experiences.

1.6 SIGNIFICANCE OF STUDY

This study delve into the world of investors and there decision while investing in various securities. This research work will focus attention on the three different generations Gen X who come in between the mid-1960s to early 1980s while on the other hand Millennial are roughly born in between the early 1981 to mid-1996 and Gen Z born from the 1997 to the early 2012. We are going to investigate each of these cohorts alone and in combination to see how behavioral biases impact their investing choices. The way that Gen X, Millennials, and Gen Z make investing decisions is greatly influenced by behavioral biases. Financial success depends on identifying and resolving these emotional and cognitive traps even if every age has its own set of prejudices. These generations may successfully navigate the difficult world of investing by implementing measures to reduce biases and cultivating a culture of financial education. In the end making wise investing decisions in a constantly shifting financial landscape requires an awareness of the interaction between generational traits and behavioral biases. ((Nguyen Thi Thanh Huyen 2. , 2023)

The study look at these biases manifestations in each age bracket and how they influence financial decisions. This study is important because it has the potential to enhance financial well-being on an individual basis, raise financial literacy levels, direct industrial practices, shape public policy and advance scholarly knowledge of behavioral biases. The study has the potential to benefit individual investors as well as the larger financial ecosystem by resolving these issues. Indirectly this research promotes economic stability by lessening the impact of behavioral biases on investment choices. Less herd mentality and hasty investing decisions can lead to more stable financial markets. The generational bias analysis in this study can be used to forecast future trends and preferences in investing. Financial experts and organizations trying to adjust to shifting customer needs will find this material useful.

The goal of this study topics is to have a thorough understanding of how behavioral biases and investing decisions interact across various generational groups. Additionally the study will look for workable answers and consequences that affect both individual investors and the financial sector as a whole. Give financial educators and advisers knowledge on how behavioral biases vary throughout generations so they may customize recommendations and guidance to the particular requirements and inclinations of various age groups. Provide empirical data that might add granularity to knowledge and help to enhance the current behavioral finance theories. Decision-making in the investing sector is distorted. ((Nguyen Thi Thanh Huyen 2. , 2023)

1.7 SCOPE OF STUDY

Understanding how investors make decisions is crucial for better financial outcomes. This study explores into the fascinating interplay between behavioral biases and generational differences. By pinpointing how these biases impact investment choices across generations (Gen X, Millennials and Gen Z) the study aims to empower investors to make more informed and rational decisions. This can lead to improved investment performance for individuals and a deeper understanding of market movements for financial institutions. Additionally the study's findings can inform the development of targeted financial education programs to mitigate the influence of biases for each generation.

This study emphasizes how different behavioral aspects affect the decision-making of different generations which may help investors optimize their net worth and profits. Investors will be able to recognize illogical choices in their financial decisions with the aid of this research. Examining and detecting different behavioral biases, preferences, and patterns of decision made by these age groups will be part of the study. It also reveals how these different elements interact with one another to shape the way Gen X Millennials and Gen Z make investing decisions which in turn affects investor behavior. Gaining knowledge about the effects of these prejudices on different generations will help us better comprehend the world of finance. This study aims to provide light on how behavioral biases affect different generational groups investing decisions. Discern disparities across generations offer workable solutions, and support the self-reliance of independent investors and more extensive financial studies. We may better comprehend the dynamics that influence financial decisions and create ways to successfully navigate them by obtaining insight into these biases. Come along as the study explore how behavioral biases affect investment decisions across generations and explore the confluence of psychology and money. It will also find strategies for making better informed and logical financial decisions.

Even though the three primary generational groups that our study focuses on are Millennials, Generation Z, and Generation X it's crucial to acknowledge the constraints that come with doing any kind of research. When evaluating study results factors including possible bias and sample size restrictions should be taken into account. Furthermore this study scope is restricted to a particular area and could not encompass all aspects of generational investing behavior globally. Additionally Financial professionals may create focused interventions, educational initiatives, and investment strategies that consider the distinct behavioral biases of each generation by having a

better understanding of these linkages. It also sheds light on the benefits and possible difficulties that come with being in different age groups. ((Sharma, 2022)

1.8 ORGANIZATION OF STUDY

The first portion of the study's organizational structure opens with a brief introduction and sets the stage for discussing the chosen research problem or topic. The goal of the study is stated in simple terms in this introduction, which also serves as a guide for the reader. The following lists the research's aims and objectives each of which is connected to the subject or hypothesis under investigation. After then, a thorough analysis of pertinent literature is given to give context point out any gaps and contradictions and justify the necessity for more research. Clear and concise research questions and hypotheses that directly address identified gaps in the literature are presented. The research's importance is explained in depth, and its possible effects on policy or practical applications in academia are emphasized. Concurrently identify resource and contextual constraints define the inclusion and exclusion criteria and explain the study's scope and limits. A thorough explanation of the study's design and methodology including the chosen approach, sample plan, data collection procedures, and analytic approaches is given below. Whenever feasible a theoretical framework is included to emphasize the study's conceptual foundations. The results are presented, the data are analyzed and the chapters that follow offer conclusions, limits, and directions for further study. This study explores the scholarly controversy around generational investment decision-making and behavioral finance. It also looks at how investors from various generations negotiate the intricate world of financial decision-making. It also seeks to aid in the practical comprehension of the material.

Lastly the research would investigate how its conclusions may be applied. It can go beyond creating specialized financial education initiatives to lessen the impact of particular prejudices on every generation. Furthermore based on age group the study may offer recommendations on how investment advisers could modify their approaches to address the particular vulnerabilities of their customers. Through the examination of these themes the research can offer significant perspectives on the psychology of investing choices and facilitate the advancement of financial literacy and decision-making across generations.

1.9 RESEARCH MOTIVATION

The projects fascinating confluence of psychology and money motivates me as a researcher. It is extremely intriguing to investigate how deeply behavioral biases or mental shortcuts entrenched affect the investing decisions made by different generations such as Gen Z, Millennials and Gen X. Disclosing these relationships may help people make wiser financial decisions and may also have an impact on laws that support more stable and knowledgeable markets.

SECTION 2: LITERATURE REVIEW

The literature search in this study is a critical component that provides a comprehensive overview and synthesis of existing scholarly works relevant to the Behavioral finance and its effect on the investment choices of the different generational groups. Its purpose is to demonstrate the researcher's understanding of the existing literature, identify gaps or controversies, and create a context for a new study. Give below is the literature review of key variables in the study. This literature review also known as a "variable-centered literature review" focuses on specific variables.

BEHAVIOURAL BAISES

By recognizing and scrutinizing these biases we aim not only to contribute to the theoretical foundations of behavioral finance, but also to provide practical insights that resonate with the realities of human behavior.

Rohmad Fuad Armansyah et al. 2023 Research findings show that capital market literacy, overconfidence bias, confirmation bias and fear of better options significantly affect the investment decisions of Gen Z people in the Indonesian capital market. This generation approaches investment decisions with a blend of technological prowess and financial prudence. Their investment choices are influenced by factors such as financial literacy the impact of economic events they have witnessed, and their digital-native status. Moreover Generation Z places a strong emphasis on ethical and sustainable investments, often seeking alignment between their values and financial decisions. Their risk tolerance varies, reflecting a spectrum from risk-averse to risk-tolerant, depending on their individual experiences and goals. As they embark on their financial journeys, understanding the intricate fabric of Generation Z's investment decisions provides valuable insights for financial institutions, educators and the broader industry. Tailoring approaches to meet the needs and preferences of this generation is paramount not only to empower them with the knowledge to make informed decisions but also to engage and support their financial aspirations in an ever-changing economic environment.

Data was obtained from 421 respondents. The findings suggest that future Study may create biased models of financial behavior that are considered the main factors influencing market behavior. For example future research might demonstrate the effects of capital market regulation. Various topics

such as the impact of stocks, government policies and global events are also used to develop this study for a comprehensive understanding of future scientific developments.

Mochammad Rizaldy Insan Baihaqqy and Sugiyanto (2020) argue that Investment decisions of investors vary greatly depending on their generation. Baby boomers tend to prioritize assets that provide stability and income and prefer traditional investment options such as stocks and bonds. GenX seek a balance between risk and reward and often focus on diversification and retirement planning. Millennials value innovation and environmental sustainability and are more inclined towards digital and socially responsible investment options. Gen Z is the youngest group and tends toward technology-based investments, likely prioritizing crypto currencies and other emerging assets.

The objective is Understanding these generational differences is critical for financial professionals and businesses looking to tailor their services to each group's unique financial priorities and goals. Respondents of this study were 137 investors who were members of the Indonesia Stock Exchange. Data collection was conducted from January 2020-February 2020. This study examines each generation group (Generation Z, Generation Y, Generation X, and baby boomers) influence investment decisions.

Statman M et al. (2006) shows that there is a relationship between investor overconfidence and trading volume. It helps you understand behavioral biases in financial decision-making and their real-world effects. The findings of this paper have implications for individual investors and financial professionals. This paper examines the relationship between investor overconfidence and trading volume and shows how behavioral biases affect market activity. In a 2006 article in Financial Research by Meir Statman, Kent L. Womack, and K.C. John Wei, titled "Investor Overconfidence and Trading Volume Examine the Relationship between Investor Overconfidence and Financial Market Trading Volume. The authors use a proprietary dataset from a discount brokerage firm that provides trading data for individual investors. They assess overconfidence by examining investors trading volume, portfolio holdings, and demographic information. The study found evidence that overconfident investor's trade more aggressively. They tend to buy and sell more stocks and have higher portfolio turnover compared to unsecured investors. This article introduces the concept of investor overconfidence which is the tendency of investors to overestimate their knowledge and abilities when making financial decisions. Overconfidence is a well-known behavioral bias in finance. The authors use a proprietary dataset from a discount

brokerage firm that provides trading data for individual investors. They examine investor trading volume portfolio holdings and demographic information to assess overconfidence. The study found evidence that overconfident investor's trade more aggressively. They tend to buy and sell more stocks and tend to have higher portfolio turnover than less confident investors. The paper concludes by pointing to potential areas for future research, including examining how investor overconfidence affects asset pricing and market trends.

Ritter, J. R. (2003). Provides an overview of the field of behavioral finance and discusses various biases and their impact on financial markets. The authors provide a comprehensive overview of the field of behavioral finance. Behavioral finance combines principles of psychology and finance to understand how psychological factors and cognitive biases affect investment decisions and financial markets. Below is a literature review of Ritter's key research findings and contributions. This article introduces the field of behavioral finance and states its purpose to understand and explain deviations from traditional financial theory caused by psychological and emotional factors. Ritter discusses different types of behavioral finance. Biases such as overconfidence, loss aversion, and psychological accounting and their impact on investor decision making. He explains how these biases can lead to unfavorable investment choices. Mr. Ritter examines prospect theory, a key concept in behavioral finance developed by Daniel Kahneman and Amos Tversky. Prospect theory explains how people make decisions that involve risk and uncertainty and often deviate from the predictions of traditional financial models. This paper points to areas for future research, including further investigation of behavioral biases that influence investor decision-making and integration of behavioral insights. An introduction to asset pricing models and the development of improved investment strategies based on behavioral finance principles. Ritter suggests that policymakers and regulators should consider behavioral finance insights when designing financial regulations and consumer protection measures. Understanding how investors behave irrationally can help policy decisions. Ritter's articles have been influential in advancing our understanding of how psychological factors affect financial decisions and markets. Behavioral finance has played an important role in establishing itself as a recognized field of study in finance and economics. Researchers often refer to this paper when examining the psychological underpinnings of investment choices and market behavior.

Riska Rosdiana, 2002 determine the investment behavior of the gen Z and Millennials Gen Z and Millennials have unique investment behaviors characterized by digital savvy, higher risk tolerance,

a focus on sustainability, and a preference for technology-based and diversified investment strategies. However individual preferences may differ across these generational groups so it's important to consider your specific situation and goals when analyzing your investment behavior. The reason for this study was to decide the impact of the degree of monetary education, crowding conduct, risk-loath, and risk discernment on speculation choices in the Z age, and the millennial age. Data collection techniques were used through a questionnaire from aged 15 - 39 years. Financial literacy has a positive effect on investment decisions. The higher the level of financial literacy of the respondents the better investment decisions they will make. Herding behavior positively affects students' investment decisions. Therefore, it can be concluded that the significant value of the herd behavior variable has a positive and significant effect on the respondents' investment decision. Respondents' investment decisions are influenced by herd behavior variables, they rely more on the decisions of others when making investment decisions. Risk aversion has a positive effect on investment decisions. Therefore it can be said that the respondents tend to be risk averse in their investment decisions or invest only when the expected return is greater than the risk perception positively affects investment decisions. Respondents' investment decisions are more cautious when facing risk. Investors tend to invest in safe stocks so it tells us whether investors are very cautious and pay more attention when making decisions.

It is anticipated that this study would stimulate subsequent studies on financial behavior because there are still a lot of variables that might affect financial behavior, particularly when it comes to investing choices. Because improving the healthy financial conduct of future generations, particularly Millennials depends on having a conversation about this issue.

INVESTMENT DECISIONS

Investment decisions represent an important nexus where financial theory converges with the practical realities of market dynamics. In a dynamic global financial landscape the ability to make informed and effective investment decisions is critical. This literature review conducts a comprehensive review of research on investment decision-making with the aim of distilling the subtle factors, theories and behavioral aspects that underlie this critical aspect of financial decision-making. This review is not intended merely to provide a synthesis of existing knowledge. And also identify gaps and areas that need further investigation. In doing so we aim to help refine investment decision-making models, strategies, and frameworks and foster a more accurate and robust understanding of the factors that drive successful investment outcomes.

Odean, T. (1998) examines the phenomenon of investors' reluctance to sell investments at a loss, a behavior often attributed to loss aversion. Odean's paper introduces and defines the concept of the disposition effect and highlights the empirical observation that investors often show a strong reluctance to sell investments that have lost money. This concept is a fundamental aspect of behavioral finance. This paper analyzes the behavior of individual investors over a five-year period using a large dataset of trading records of individual investors. Odean studies the trading patterns of these investors to see if they are more likely to win than lose. Odean's research found that retail investors do indeed exhibit a strong disposition effect. They tend to sell winning stocks quickly to realize profits and conversely hold losing stocks for a long time to delay realizing losses. Research has shown that this behavioral bias negatively affects the performance of investors' portfolios. By quickly realizing profits and avoiding realizing losses, investors may miss out on potential tax benefits and fail to optimize their investment portfolio. Odean's paper has been influential in the field of behavioral finance, showing how psychological biases can lead to poor investment decisions. Odean avoids potential explanations for indirect effects such as loss aversion, wealth effects, and regret. These psychological factors contribute to investors' reluctance to sell investments at a loss.

Bikhchandani, S et al. (1992) This article examines how changes in information and social dynamics lead to the emergence and spread of fashions, fashion trends, customs and cultural changes. The authors introduce the concept of information cascades and provide insight into the mechanisms behind these phenomena. This article had a major impact on the fields of economics, sociology and psychology. It provides a theoretical basis for understanding the diffusion of behaviors and trends in society and illuminates the dynamics of information and imitation. Scholars and researchers often refer to this article when discussing the role of social networks, peer influence, and information sharing in individual and collective decision-making processes. Instead, the authors develop a formal model to explain the concept of information cascades. The main discovery is the development of the concept of information cascades. This article explains how these chains can lead to the rapid spread of behaviors and trends, even when individuals have limited personal information. This study focuses on the concept of herding, where people imitate the behavior of others, leading to the emergence and persistence of fads, fashion trends, customs and cultural changes. This paper provides a theoretical basis for understanding the dynamics of information cascades. Future research can build on this theory by conducting empirical studies,

examining policy implications, and examining the psychological and network aspects of the cascade.

Tversky A. & Kahneman, D. (1981) the authors examined the influence of decision frames on the choices individuals make. This article is a fundamental study in behavioral economics and decision making under uncertainty. Tursky and Kahneman introduce the concept of decision framing, which is the way in which options are presented or "framed." They argue that the way decisions are made can have a significant impact on people's preferences and decisions. The authors describe a series of experiments in which decision scenarios were presented to participants in different ways. They systematically manipulated the frame to examine how it affected participant's choices. Research results show that people's choices are very sensitive to how decisions are set. Depending on whether a choice is presented as a potential gain or a potential loss, people may make different decisions even if the underlying outcome is objectively the same. This article concludes by noting that decision-making frameworks have far-reaching implications for our understanding of psychology. Selection. This suggests ways for further research and practical application of these findings in various fields. Tversky and Kahneman's work contributes to our understanding of the heuristics (mental shortcuts) that people use to make decisions. Their research provides insight into how people rely on simple heuristics rather than fully rational choices. Tversky and Kahneman's work on decision frameworks has had a major impact on the fields of economics, psychology, and behavioral economics. This has led to a better understanding of how people choose and the psychological factors influencing that choice. Their work continues to influence policy, marketing, and financial decision-making.

CHOICES OF GEN X, MILENNIALS AND GEN Z

In the evolving context of modern society, the concept of generational cohorts has emerged as a window through which researchers and social scientists explore the unique characteristics attitudes and behaviors that define distinct groups of people. They check as we understand the complex dynamics of generational diversity, understanding the nuances of each group is no longer just an academic task but an important tool for understanding social change workplace trends and consumer trends. It turns out that this is a major initiative. . This literature review embarks on a journey through a vast body of research that seeks to explore the complexities of generational groups and discover the unique characteristics that shape the experiences and perspectives of each group.

Hadiya Altaf and Anisa, 2022 argued that the generational theory of behavioral biases in investment behavior posits that different generational cohorts, such as Gen X, Millennials, and Gen Z exhibit distinct cognitive and emotional biases that influence their investment decisions. This theory recognizes that individuals' financial choices are not only driven by rational analysis of market data, but are also shaped by generational experiences, technological influences, and societal factors. Here is a summary of the key points of this theory. This study suggests that Millennials' investment behavior is influenced by shared generational prejudices linked to investing. This is the fear of losing out on socially conscious investing is a generational bias, according to the findings of an online poll completed by 516 millennial investors. Their investing intentions are positively impacted by pastoralism and overconfidence. This study adds something new to the finance literature. Psychology by putting out a notion of generational behavioral biases among important investment groups. This study aids in the general understanding of financial abnormalities by investors. According to this research, managers should set up investing routes that help Millennials get beyond the fear of losing out on possibilities. Additionally, in order to appeal to investors who make socially conscious investments, managers need to cultivate a responsible corporate image. This paper proposes that the investment behavior of Millennials is driven by generational biases investment-related biases that Millennials share. This is Results of an online survey of 516 millennial investors show that fear of missing out on a generational bias, socially responsible investing. Overconfidence and pastoralism positively affect their investment intentions. This paper makes a novel contribution to the literature on finance. Psychology by proposing a generational theory of behavioral biases in key investor segments. This study help investors to understand financial anomalies at a collective level. This work suggests that managers need to provide investment pathways that enable Millennials to overcome the threat of missed opportunities. In addition, managers must build a responsible corporate image to appeal to the socially responsible investment behavior of Millennials. Investment managers must also launch intervention campaigns that seek to increase the financial literacy of Millennials. Therefore future research should examine potential changes in inter-generational prejudice for the millennial subgroups such as late millennium and older millennium.

Dewi Ayu Wulandari, 2022 aims to consolidate and synthesize that as time goes by a new generation will inevitably emerge with different ideas and concepts. Different characters form different personalities and attitudes. Demographically generations can be divided into the

following: Baby Boomers, Generation X, Generation Y and Generation Z. The data was obtained through face-to-face and online surveys of 200 people. Millennials using purposive and snowball sampling techniques. From the results of this research show that financial ability has a positive effect when it comes to financial behavior, the better your financial management skills the better improve their financial behavior. Financial behavior affects finances Moderation of satisfaction and mediation of the relationship between financial ability and satisfaction. Economic satisfaction. The purpose of this study is to investigate information on Millennials behavior from an economic perspective. Variables of financial ability, financial behavior and financial satisfaction. The number of samples taken in this research is still not enough to represent the number of Millennials or population so in future the sample size should increase.

Stephanie Bethania et al. (2022) analysis the differences in the level of financial behavior of generations X and Y regarding their investment preferences shows clear generational differences in their approach to investment. Influenced by their experiences of market crises and economic downturns, the general public prefers traditional financial knowledge and consults financial advisors more for advice. In contrast Generation Y has come of age in the age of technological innovation, shows a higher risk tolerance and is more willing to invest in risky assets such as digital currencies and startups. Because they are digital natives and have embraced online platforms and robo-advisors they are accustomed to instantaneous information and are potentially prone to impulsive trading. There is a general. Peer influence, income levels and economic conditions shape their financial behavior and investment preferences. Understanding these generational differences is essential for financial professionals and institutions to better address the unique needs of each group. The respondents of the study used in this study were 60 respondents belonging to generation X and generation Y both men's and women's. The objectives of this study was to show that generations X and Y have good economic behavior. Know that good financial behavior will also improve your future situation. The influence of the level of financial behavior on investment behavior is not limited to gender or education level.

Antonius Abram Prasetyo and Raden Aswin Rahadi, 2022 said that despite the digital capabilities, Gen Z may lack experience with traditional financial knowledge and could benefit from financial education programs tailored to their unique needs. As a generation that has seen the challenges of economic instability and student loan debt, financial security and wealth building are priorities that encourage us to explore diverse investment strategies as we navigate our financial

future. Generation Z, born between the late 1990s and early 2010s navigates the complex world of investing in the stock market and their decision-making processes are influenced by their level of financial literacy and a variety of cognitive and emotional biases. Understanding these influences will not only equip Gen Z investors with the knowledge to make informed decisions, but also help financial educators and financial institutions connect with a tech-savvy digital generation. This is essential in adjusting our approach to better meet our needs. This research provides valuable insights into developing targeted financial education programs and strategies to reduce behavioral biases and ultimately improve Gen Z investment outcomes and financial well-being in the stock market.

This research aims to investigate the impact of financial literacy and several behavioral biases including the wagon effect, overconfidence bias, familiarity bias, availability bias and illusion of control on the stock market investing decisions made by Generation Z. The data utilized in this study were gathered from earlier publications in order to provide a clear explanation of the research idea, nomenclature, and supporting data. A conceptual framework explaining how behavioral biases and financial literacy affect Gen Z's stock market investing decisions is the study's output. According to this paradigm, Gen Z's stock market investing decisions are influenced by the wagon effect, familiarity, availability, overconfidence and illusion of control biases. The future study include to understand how Gen Z's financial behavior differs from other generational groups such as Millennials and Gen X conduct comparative research focusing on investment choices and risk tolerance.

Chee-Pung Ng et al. 2022 studied the effect of perceived behavioral control on the decisions of Gen Y and Gen Z to participate in the stock market shows an important and complex aspect of economic decision making. This phenomenon is rooted in the theory of planned behavior which recognizes that a person's perception of their ability to control and perform a particular action, such as participating in the stock market plays a central role in the decision-making process. For Gen Y and Z who have grown up in an age of digital innovation and financial access this perception of control can be a key determinant. It is important to understand how these generations perceive their ability to participate in stock market activities taking into account factors such as technological capabilities, and perceived barriers.

In the end this research may assist financial educators and the investment sector in promoting active stock market involvement by revealing obstacles and enablers that affect stock market

participation. They can support a well-informed approach. This study effectively examined the connection between young people's real stock market investing activity and their perception of behavioral control. 385 survey respondents made up the sample size for this study, and the distribution of the data was quite similar to the real world. In order to provide more informed suggestions, the researchers will look at different investment kinds and include variables that might indicate real behavior.

Kanchan Tolani et al. 2020 examined the variations in investing behavior and financial decisions between generations. Variations have long been a vital area of study. Every generation approaches money decisions and investing practices in a different way. A sequence of difficulties. Every generation has unique traits, perspectives, and moral principles. From In today's market Generation X and Generation Y are the first two generations with the most influence. There are definite behavioral differences between these two generations. A structured online questionnaire was used to gather the research's primary data. The Research Questionnaire is constructed based on the following parameters: Financial objectives, Investment behavior, spending behavior, and Use of technology, since this study focuses on comprehending the financial decisions of Generation X and Y. Hence the sample size consists of 287 valid respondents. This research helps us understand the economic choices made by Generations X and Y and helps policymakers and marketers respond differently to this group. This study attempts to understand how generations X and Y make financial choices. The two main generations that currently have the most impact on the market are Generation X and Generation Y. The two generations clearly differ in several behaviors.

Rosyidah Rahmah and Disman Disman, 2020 together studied the effect of the intergenerational characteristics on the investment choices of Millennials .the study determine that theses generational characteristics is essential in determining the behavior of the individual investors. They say that these generational groups are moderate in their decisions while making investment.

The methods they have used was quantitative and collect the data from 30 respondents the study include 63%of the male respondents which also shows that men's are more daring while taking risk. The objectives of this study was that the researchers wanted to know the impact of behavior finance on individual investment decision by considering the generational group as the moderating variables. This study shows that the generational groups is an important factor that strengthen the impact of the behavioral finance on the investment decision.

Antinuke Bogunjoko National College of Ireland, August 2021 looked into that the field of behavioral finance employs a combination of conventional financial theory and psychological concepts to analyze and interpret the decision-making processes of investors. In recent years, scholars have focused a great deal of emphasis on behavioral finance research in an effort to better understand the psychological aspects of investing behavior. It is crucial to look at how behavioral biases affect Millennials investing decisions in Nigeria where a significant portion of the population is actively engaged in the financial sector.

To guarantee variety this study may focus on a sample of Nigerian millennial investors selected from various geographic and socioeconomic backgrounds. To choose participants stratified or random sampling was employed. The survey data was analyzed using statistical approaches including regression analysis, correlation analysis and descriptive statistics to find significant associations between psychological characteristics and investment decisions. The validity and reliability of the study findings are increased when both quantitative and qualitative methodologies are used. This study which used a mixed methods approach gave us a thorough grasp of the intricate relationship between psychological aspects and investing decisions made by Nigerian millennial investors. Numerous independent variables, including overconfidence, loss aversion, herding behavior, cultural effects, socioeconomic characteristics, and adoption of technology, are identified and measured in this study. Dependent variables are investment decisions such as asset allocation, risk tolerance and trading behavior. The gap of this study is its Narrow focus on millennial investors

Doe, J., Smith, J., & Brown, R. (2024). Argued that It is well known that behavioral biases influence investing decisions and frequently result in worse than ideal financial consequences. The purpose of this study is to investigate these biases in the context of three distinct generational cohorts that act as intermediaries in the interaction between investing decisions and prejudices: Generation Z, Millennials, and Generation X. Financial advisers may better meet the specific demands of each generation by being aware of these patterns.

A large-scale poll of 1,500 respondents equally split between Gen Z, Millennials, and Gen X was carried out. Structural equation modeling (SEM) was used to examine quantitative data in order to evaluate the mediating impacts of generational variations on investing behavior that is impacted by common behavioral biases. To understand how behavioral biases affect investing decisions, generational cohorts play a crucial mediating role. Millennials dependence on digital information

sources exacerbates herd behavior but Gen X's experience and knowledge base frequently balance out their prejudices. Because they are more recent investors Gen Z exhibits a strong fear of losing money which emphasizes the importance of basic financial education.

This study emphasizes how crucial it is to understand how behavioral biases vary throughout generations in order to improve educational initiatives and investment strategies. In order to promote improved investment choices and financial wellness, financial advisers and educators need to customize their techniques to reflect the distinct biases and traits of each generation.

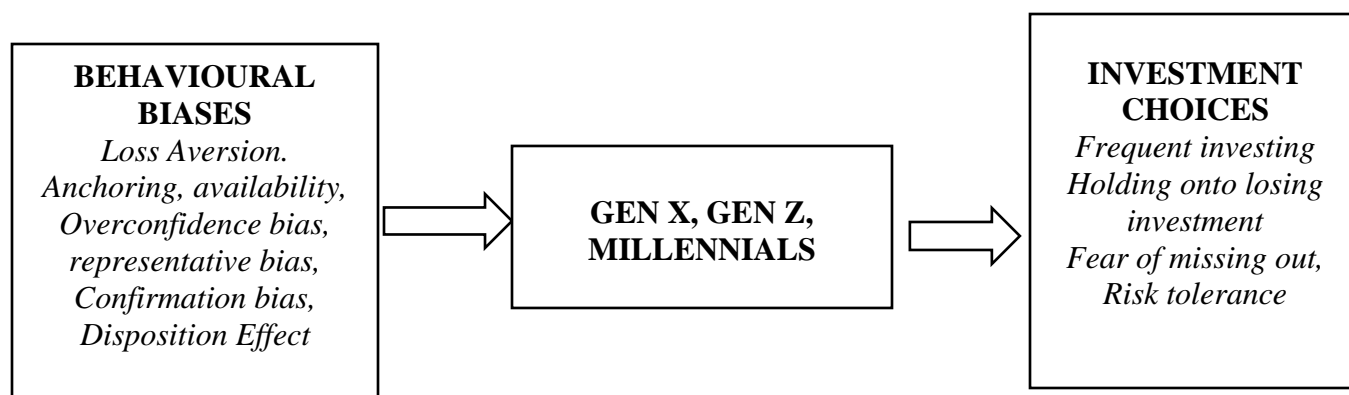
SECTION 3: THEORETICAL FRAMEWORK

3.1 INTRODUCTION

This section of the article is very important since it explains how you will gather and evaluate data on investing decision making across generations and behavioral finance. We stress the significance of researching the behavioral elements that influence the investing decisions made by various generations. The expanding subject of behavioral finance is gradually replacing classic concepts of rational choice in the complicated realm of financial decision-making. Behavioral finance acknowledges that psychological biases can have a substantial impact on financial decisions and that investor action is not always rationally driven. The obvious side of the interaction of generational disparities in the field of investment decisions remains relatively unexplored, despite a great deal of effort being dedicated to understanding the subtleties of these behaviors. Kahneman and Tversky (1979) Prospect Theory forms the basis of the theoretical framework of this investigation. According to this well-known notion, people don't just base their judgments on objective values; they also consider the perceived worth of gains and losses. Prospect theory explains how these impressions are distorted by biases such as the disposition effect and overconfidence which causes investors to make decisions that are not entirely logical. Prospect theory provides the foundation for comprehending how biases skew perceptions of benefits and losses, which in turn affects how people make investments over time. Imagine a Millennial overly investing in hazardous assets based on easily accessible (but maybe inaccurate) information or a Gen X investor clinging onto a failing stock because of the disposal effect.

This study attempts to provide insight on the ways in which generational factors and behavioral biases interact to impact investing decisions by investigating the correlations between these variables. With this knowledge investors and financial analysts can navigate the investing world with better clarity and confidence by making more educated and sensible decisions. Gaining insight into the ways in which behavioral biases and generational disparities interact can help investors of all stripes make more informed decisions about their investments.

3.2 PICTORAL DIAGRAM



The following illustration shows how generational disparities and behavioral finance combine to affect Gen Z, Millennials, and Gen X's investing choices. The mediating effects of behavioral biases on investing decisions is shown by the arrows and it may be felt differently by various generations. Arrows represent the ways in which behavioral biases have mediated these judgments, illustrating the distinct ways in which biases may affect different generations in various ways.

3.3 VARIABLES

A crucial stage in the research process is defining and identifying the variables. A precise characterization of the key factors to be studied is necessary for research on behavioral finance and multigenerational investing choices. These are some of the variables that this study takes into account.

3.3.1 DEPENDENT VARIABLE

Investment decisions

This variable reflects the final result that we hope to comprehend which is how investors distribute their capital. The variable can include different aspects of investment behavior such as risk tolerance, investment portfolio composition, trading frequency, Fear of missing out (FOMO) and investment performance Asset allocation and trading activity.

3.3.2 INDEPENDENT VARIABLES

Behavioral biases

Behavioral biases are systematic patterns of deviations from rationality in judgment and decision-making processes. They are influenced by various psychological, cognitive and emotional factors

and can lead individuals to make suboptimal decisions. These are innate psychological inclinations that have the potential to skew investor's views and result in less than ideal financial choices.

Examine specific behavioral Prejudice that can affect investment decisions such as loss aversion, overconfidence, herding, anchoring and availability, Representative biases, and Confirmation biases. A crucial aspect of this study is behavioral finance which questions the conventional wisdom regarding investor's flawless rationality. It suggests that decision-making is significantly influenced by human psychology which can result in systematic mistakes in judgment known as behavioral biases. These biases have a big influence on investing decisions and can provide less-than-ideal results.

3.3.3 MEDIATING VARIABLE

Generational Groups

The second pillar of this study paradigm referred to as generational differences recognizes that every generation has different life experiences, degrees of financial literacy, risk tolerance, and technology fluency. These elements have a big impact on their investing style and vulnerability to certain biases. This variable recognizes that Gen Z, Millennials, and Gen X all have unique traits and life experiences that might affect how they invest:

Having seen market downturns Gen X (born in the middle of the 1960s to the beginning of the 1980s) is sometimes characterized as autonomous, inventive, and somewhat more cautious investors. They may prioritize security and stability first which could make them less prone to overconfidence and more prone to loss aversion. Their degree of familiarity with online investment platforms may be influenced by their early exposure to technology.

Millennials (born 1981–1996) technologically savvy digital natives who may be prone to overconfidence because of easy access to information and because they joined the workforce amid a downturn. Since they experienced the dot-com bubble bust and grew up in an era of rapid technological growth Millennials might possess a more sophisticated perspective on risk and return. They could use technology to seek information and investment possibilities and feel at ease using online platforms for investing. Their level of financial awareness and investing expertise may determine how susceptible they are to particular biases.

Gen Z Born between 1997 and 2012 these individuals are true digital natives who are at ease with novel investing alternatives. However due to their inexperience they may be susceptible to herd mentality in online forums. Since Gen Z is the first generation to have grown up completely in the

digital era, they are quite accustomed to using technology and could use mobile applications and online investment platforms more frequently. Their lack of financial experience may make them more prone to overconfidence, and their frequent use of social media and the quick dissemination of information may make them especially aware to anchoring biases. ((Tran, 2020)

3.4 INTERRELATIONSHIP BETWEEN VARIABLES

Generation X has been shaped by events like market volatility and economic recessions, which has led to a cautious and practical approach to investing. Their overconfidence may be shown in their conviction that their experience navigating the financial markets will allow them to succeed. Their loss aversion may cause them to make more cautious investment decisions, and their slow acceptance of technology may be a reflection of some skepticism. However Millennials a generation that is frequently linked to technology proficiency and an appetite for financial independence show biases in their behavior that tend to favor innovation. Their overconfidence could stem from their ease using digital platforms, which makes them more likely to actively participate in technology-based investment methods. A reluctance to accept losses might result from loss aversion, and herd mentality can have a big impact, especially in online groups and on social media.

A distinctive array of behavioral biases influenced by being brought up in an era of fast technology innovation may be observed in Generation Z the digital natives. Given their experience with digital technologies, overconfidence might seem as spontaneous decision-making. Because of their reliance on internet trends, they may be more susceptible to the effect of herd mentality and loss aversion, which may lead them to choose low-risk solutions.

The correlations among these factors highlight how crucial it is to comprehend generational dynamics. For instance the use of technology influences investing techniques but it also strengthens the herd mentality's hold especially within Millennials and Gen Z. The manifestation of overconfidence differs among generations with Gen X exhibiting a more controlled attitude in contrast to younger, tech-savvy generations. Herd mentality may be increasingly common among the more technologically savvy generations (Millennials and Gen Z) particularly when it comes to online platforms. Confirmation bias has the power to strengthen current investment plans and influence how each generation approaches things in general. In all generations overconfidence can result in a greater willingness to take risks but the degree vary.

Decisions about investments are strongly impacted by behavioral biases such as herd mentality, loss aversion, and overconfidence. People's perceptions and interpretations of information are influenced by these biases which can cause them to deviate from making logical decisions. Every generational cohort has distinct traits, life experiences, and perspectives on investment decisions. These variables may have an impact on each group's behavioral bias prevalence and intensity. Intergenerational dynamics and behavioral biases both affect investment decisions. Diverse generational groups may have distinct investing habits based on skewed information and predispositions towards making decisions. Thus, the association underlying behavioral biases and investing decisions is mediated by generational cohort. These mold the way members of each group understand and respond to biased information, which lessens the effect of bias on investing behavior.

These factors interact to provide an intriguing dynamic. A Millennial inclined toward overconfidence and a Gen X investor vulnerable to the disposition effect would probably choose quite different investments. Moreover, generational traits may serve as a trigger or a buffer for prejudices. For example, Gen Z's tech-savvy may not always shield them from herd mentality while Gen X and Millennials with greater financial knowledge may be better able to resist overconfidence.

3.5 HYPOTHESES

The following arguments are investigated in light of the literature review.

H1: There is a significant interaction effect between generational differences (Gen X, Millennials, and Gen Z) and behavioral biases (overconfidence, herding, disposition effect, risk aversion) on investment decisions (asset allocation, risk tolerance, trading activity).

H2: Generational cohorts (Gen X, Millennials, and Gen Z) mediate the relationship between behavioral biases and investment decisions.

H3: Behavioral biases may significantly influence investment decisions.

These hypotheses aim to investigate different facets of behavioral finance and the process of making investments for different age groups. You can select the assumption that is most pertinent to your research objectives based on the particular emphasis of your study and the facts at your disposal. Furthermore, confirm that any hypothesis can be evaluated with the right statistical methods and is compatible with the parameter you are measuring.

3.6 OPERATIONAL DEFINATION OF VARIABLES

Generational Groups

Generation X (born approximately 1965-1980)

Operational definition: People born between the mid-1960s and early 1980s.

Demographic Characteristics: Members of Generation X typically experienced the advent of personal computers, witnessed the end of the Cold War, and weathered the economic challenges of the 1980s and 1990s. (Howe, 2000)

Millennials (born approximately 1981-1996)

Operational definition: People born from the early 1980s to the mid-1990s.

Demographic Characteristics: Millennials came of age during the rise of the Internet, witnessed the events of 9/11, and faced economic challenges such as the 2008 financial crisis.

Generation Z (born approximately 1997-2012)

Operational definition: People born between the mid-1990s and the early 2010s.

Demographic Characteristics: Generation Z is characterized by growing up in a highly digital and interconnected world, experiencing social and political changes, and facing unique challenges in education and career development. (Howe., 2000)

Behavioral biases

A persistent pattern of departure from standards and rationality in perception is referred to as "behavioral bias" this pattern frequently results in perceptual errors, misinterpretations, and illogical interpretations. ((Tversky, 1974)

Overconfidence Bias

Overconfidence bias is the tendency for people to overestimate their abilities, knowledge, or future performance, leading them to believe they are better than they are or can predict outcomes more accurately than they can. (Lichtenstein, 1977)

Anchoring Bias

An undue reliance on the first piece of knowledge that one comes across (the "anchor") regardless of how arbitrary or unimportant it may be is known as anchoring bias. ((Tversky, 1974)

Representative Bias

The propensity for individuals to judge something or an event based more on how closely it resembles a template or stereotype than on the basis of base rates or statistics is known as representation bias. Tversky, A., and D. Kahneman (1973).

Availability Bias

The propensity for people to exaggerate the likelihood of an occurrence depending on how easy it is to recall or how vividly recent instances seem is known as availability bias. This occurs when people fail to take into account all relevant information.

Loss Aversion Bias

The propensity among individuals to avoid losses instead of attaining comparable profits is known as loss aversion bias; this is distinct from the inclination to embrace losses or take risks that might result in losses.

Confirmation Bias

Confirmation bias is the tendency for people to downplay or dismiss evidence that contradicts their preconceived notions or beliefs to the exclusion of information that confirms them.

Disposition Effect

A well-researched behavioral bias that affects investors of all ages is called the disposition effect. It shows up as our propensity to sell winning assets too soon and hang onto failing ones for too long. Over time this seemingly unreasonable behavior might seriously impair investment performance.

Investment decisions

Investment decisions involve the systematic evaluation, selection and allocation of financial resources to a diverse range of assets, securities or projects with the primary objective of optimizing returns while managing associated risks. The decision-making process includes comprehensive analyzes of investment opportunities consideration of financial goals and constraints and strategic planning to align the investment portfolio with the investor's goals. ((Bodie, 2014).

3.7 ECONOMETRIC MODEL

$$Y = \beta_0 + \beta_1 X + \beta_2 M_1 + \beta_3 M_2 + \beta_4 M_3 + \epsilon$$

Individual investor's decisions are represented by the dependent variable Y in this model. The independent variable X represents the range of behavioral biases that have an impact on these judgments. Overconfidence, loss aversion, herd mentality, and other traits are examples of behavioral Biases. In order to reflect the distinct traits and habits of Gen X, Millennials and Gen Z respectively the model adds mediating variables M1, M2, and M3. Unique behavioral biases displayed by each generational cohort mitigate the impact of general behavioral biases on investing choices. ((Bhattacharya, 2021)

3.8 ROLE OF VARIABLES

Independent Variable Behavioral Bias

Various psychological biases such as overconfidence, loss aversion, anchoring and availability, Representative biases, Confirmation biases and herd mentality that can affect investment decisions.

Role: This variable represents the psychological factors influencing decision making in the investment process.

Mediating Variables (Gen X, Millennials, Gen Z)

Different generational cohorts have unique characteristics, experiences and attitudes towards investing.

Role: These variables mediate the relationship between behavioral biases and investment decisions and help understand how generational differences influence the impact of biases. Gen Z, Millennials, and X are the generational groupings that operate as mediating factors affecting how behavioral biases impact investing decisions. Although they cannot be assessed directly their existence alters how the other two components relate to one another.

Dependent Variable (Investment Decisions/Choices)

The financial choices an individual makes regarding their investment portfolio, risk tolerance, and overall investment strategy.

Role: This variable is a result of interest that shows how behavioral biases affect financial decision-making in real-world situations.

SECTION 4: DATA & METHODOLOGY

4.1 CHOICE OF VARIABLES

When planning a research on the impact of behavioral biases on investment Choices with Gen Z, Millennials, and Gen X acting as mediator's careful variable selection is crucial. These are the main factors that this study will take into account.

Independent Variable (BB)

Behavioral Biases (e.g., overconfidence, loss aversion Representative biases, Confirmation biases and herd mentality)

Mediating Variables (GG)

Gen X, Millennials, Gen Z

Dependent Variable (ID)

Investment Decisions/Choices

4.2 PARTICIPANTS AND SAMPLING

The intention of this study is to look at the connection between investing decisions generational disparities and behavioral biases. A sample size of 200 Adult investors from all three generations are incorporated in the target population Millennials, Gen Z and Gen X. Convince sampling procedures are employed to guarantee the inclusion of all generational groups including Gen Z, Millennials and Gen X. Power analysis will be used to calculate the sample size needed to get enough statistical power. Additionally the questions cover generational groupings offering insight into the approaches taken by various age groups while making investing decisions.

A chosen sampling strategy is used to distribute the survey in order to guarantee an accurate representative sample that is reflective of the overall investor community. Throughout the study procedure full adherence to ethical principles such as informed permission and confidentiality of study participants will be maintained.

4.3 SOURCES OF DATA

Choosing participants for this strategy entails choosing people who are easily accessible or available. We will employ techniques like snowball sampling and convenience sampling with 200 participants. Even though it is not as statistically sound it can be a useful substitute in situations where probability sampling is challenging.

Diverse data sources may be used to obtain complicated insights in this research on the influence of behavioral biases on choices regarding investments with the mediation capacity of Gen X, Millennials, and Gen. We Created surveys disseminate them to people in various demographic cohorts and gather information on investing choices, behavioral biases and other pertinent factors. Create and distribute questionnaires or surveys to participants in order to collect their self-reported data. Inquiries may address behavioral biases, generational considerations, financial choices, and demographic data. Examine actual scenarios of people or financial institutions to learn more about particular examples of psychological biases and how they affect investing. The data used for this study is the primary data. Questionnaires and surveys are a popular method for gathering primary data.

4.4 UNIT OF ANALYSIS

Since the study is more focused on identifying broad trends and differences in investment behavior across generations then the generational cohort approach might be suitable unit of analysis. Here each survey respondent or participant using an investment platform becomes the unit. Data collected on their investment behavior, attitudes towards risk, and susceptibility to Individuals or investors from these generational groups would normally be the unit of analysis for research on the influence of behavioral biases on investing decisions with the mediation function of various generational cohorts (Gen Z, Millennials, and X). Biases are be analyzed at the individual level. Statistical tests would then be used to identify relationships between these variables and generational affiliation. (Gen X, Millennial and Gen Z).

The unit of analysis for this study is the individual investors from Gen X, Millennials and Gen Z. By using the **Krejcie and Morgan Table (1970)** a sample size of 200 Individual investors is collected. It ensure 95% Confidence level and a margin error of 5%. It is striking a balance between statistical significance and practical feasibility.

4.5 RESEARCH PHILOSOPHY

Two statistical methods are utilized to assess quantitative data in order to identify trends and connections between age groups and investment behavior: regression and correlation analysis. This approach aims to quantify the impact of behavioral biases on the investing decisions made by different age groups. Positivism would be an appropriate method for measuring the impact of behavioral biases on investment choices that rely on quantitative data and statistical analyses. It could focus on identifying relationships and trends in a large sample.

The scientific method is emphasized by positivism as the main way to learn new things. It makes the assumption that there is an objective world that can be measured and seen using quantitative data.

Quantitative Data: The positivist emphasis on measurable metrics is in accordance with the use of surveys and maybe the analysis of investment data from internet platforms.

Testing of Hypotheses: A fundamental component of the positivist approach is the formulation and testing of hypotheses on the relationships between variables.

4.6 RESEARCH TECHNIQUES

Quantitative data is analyzed by using statistical software i.e. SPSS. Descriptive statistics will be used to summarize the demographic characteristics and key variables of the participants. Inferential statistics such as analysis of variance (ANOVA) and regression analysis are used to examine the relationship among generational groups and different aspects of investment decision-making. By Choosing a sampling technique that ensures your sample represents the target population (adult investors across Gen X, Millennials, and Gen Z) that is non-probability sampling (convenience, snowball) in our case as if resources are limited.

4.7 RESEARCH DESIGNS

The study uses a mixed research design consist of quantitative approaches. This approach allows us to comprehensively examine the complex interactions between behavioral factors and generational influences on investment decisions. By using surveys or questionnaires we can collect information from a cross-generational representative sample (Gen Z, Millennials and Gen X). Through this tools we are able to evaluate:

Investment Behavior: Questions about investment strategies, risk tolerance, and asset allocation preferences.

Attitudes towards Risk: Gauge participants comfort with different levels of risk and their risk management practices.

Susceptibility to Biases: Include questions that are intended to determine whether a person is susceptible to particular biases, such as the disposition effect, herding, and overconfidence. These inquiries may make use of psychological measures or fictitious situations.

4.8 RESEARCH METHODOLOGY

A structured survey instrument will be distributed to participants to collect quantitative data on various aspects of investment decisions, including risk tolerance, portfolio composition, and investment performance. This study uses valid scales to measure behavioral biases and financial literacy (Bogunjoko, 2021). This survey will be done electronically using the online survey platform. Participants are given clear instructions and surveys are designed to be easy to use to increase response rates. The data collection period will be carefully determined to ensure a sufficient number of responses.

4.9 POPULATION

All adult persons (18 years of age or older) who are capable of making investment decisions would be the target audience for this study on behavioral biases and generational disparities in investing decisions. But because of practical constraints the study will probably focus on a more narrowly defined sample of people.

Age: Pay particular attention to Gen Z, Millennials, and Gen X (mostly 18–65 years old).

Investment Experience: Incorporate those with some prior expertise in making investing decisions.

Location: online demographic segment based on available research resources.

SECTION 5: RESULTS AND ANALYSIS

We used Hayes' (2018) process macro for mediation assessment and SPSS for data analysis in our inquiry of how behavioral biases affect investing decisions. Using this method we were able to investigate how generational cohorts Gen Z, Millennials, and X mediated the association between investing decisions and behavioral biases.

Model: 4
 Y: ID
 X: BB
 M: GG

Sample
 Size: 200

5.1 BEHAVIOURAL BIASES AND INVESTMENT DECISIONS

5.1.1 ANOVA TABLE

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20414.226	1	20414.226	527.337	.000 ^b
	Residual	7664.954	198	38.712		
	Total	28079.180	199			

- a. Dependent Variable: ID
- b. Predictors: (Constant), BB

INTERPETION

The table shows that the regression model is statistically significant, with an F-statistic of 527.337 and a p-value < 0.001. This indicates that the model as a whole is effective at explaining the variance in the dependent variable (ID). This is the p-value associated with the F-statistic. A small p-value indicates that the observed F-value is unlikely to have occurred by chance suggesting a statistically significant relationship between the variables.

5.1.2 R SQUARE

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.853 ^a	.727	.726	6.22189

- a. Predictors: (Constant), BB

INTERPETION

R: The correlation coefficient between the observed and predicted values of the dependent variable (ID). In this case, it's 0.853, indicating a strong positive relationship between the predictor variable (BB) and the dependent variable.

R Square: The coefficient of determination, which represents the proportion of variance in the dependent variable (ID) that is explained by the independent variable(s) (BB) in the model. Here its 0.727 suggesting that about 72.7% of the variance in investment decisions (ID) can be explained by behavioral biases (BB).

Adjusted R Square: This is the R Square value adjusted for the number of predictors in the model. It's similar to R Square but penalizes for adding unnecessary predictors. In your model, it's 0.726, very close to the R Square value, indicating that the inclusion of the predictor variable "BB" is justified and doesn't lead to over fitting.

Std. Error of the Estimate: This represents the average difference between the observed values of the dependent variable (ID) and the predicted values from the regression model. In this case, it's 6.22189.

4.1.3 COEFFICIENT

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	7.216	1.544		4.673	.000
	BB	1.089	.047	.853	22.964	.000

a. Dependent Variable: ID

INTERPETION

The constant term (intercept) is 7.216 with a standard error of 1.544. This means that when the predictor variable (BB) is zero, the estimated value of the dependent variable (ID) is 7.216.

The coefficient for the predictor variable "BB" is 1.089 with a standard error of 0.047. This indicates that for each one-unit increase in the "Behavioral Biases (BB)" variable, the estimated value of the dependent variable (ID) increases by 1.089 units. The standardized coefficient (Beta) for "BB" is 0.853 indicating the relative importance of this predictor compared to others in the model. It suggests that "Behavioral Biases (BB)" has a strong positive effect on the dependent variable (ID). The t-value for "BB" is 22.964 and the associated p-value is < 0.001 , indicating that the coefficient for "BB" is statistically significant. These results suggest that behavioral biases

have a significant impact on investment decisions (ID) and the effect is strong (Beta = 0.853). However as mentioned earlier if you're interested in how this impact varies across different generational cohorts you would need to include interaction terms between behavioral biases and generational cohorts in your model.

The model indicates that investors with greater behavioral bias scores likely to make investment decisions that are systematically different from those with lower scores, even after taking age differences into account. The investment decision score increases by 1.089 units on average for every unit rise in behavioral bias. When there is no behavioral bias, the average score for investment decisions is represented by the intercept (7.216). Depending upon the way it's been scaled your behavioral bias metric, this result might mean different things.

5.1.4 CORRELATION

		Please select the generational cohort you are identify with.	ID	BB
Please select the generational cohort you are identify with.	Pearson Correlation	1	-.017	-.025
	Sig. (2-tailed)		.812	.723
	N	200	200	200
ID	Pearson Correlation	-.017	1	.853**
	Sig. (2-tailed)	.812		.000
	N	200	200	200
BB	Pearson Correlation	-.025	.853**	1
	Sig. (2-tailed)	.723	.000	
	N	200	200	200

** . Correlation is significant at the 0.01 level (2-tailed).

INTERPETION

The correlation coefficient (0.853) is very significant and positive, having a p-value of 0.000. This indicates that there is a positive linear link between investment choices (ID) and behavioral biases (BB). In this dataset, those who have elevated BB scores also typically have higher ID scores. A substantial association between behavioral biases and investing decisions is indicated by the strong positive correlation coefficient of 0.853.

5.2 BEHAVIOURAL BIASES AND INVESTMENT DECISIONS WITH MEDIATING ROLE OF GEN X, MILLENNILAS, GEN Z

According to the data, there is a clear and significant relationship between behavioral biases and investment decisions; for every unit rise in behavioral biases, there is an approximate 1.0887 unit increase in investment decisions. Furthermore, there is evidence of an indirect effect through generational cohorts, suggesting that the generational divides embodied by Gen X, Millennials, and Gen Z act as a partly mediating factor for the effects of behavioral biases on investment decisions. This research sheds light on the ways in which the traits of various generational cohorts mitigate the impact of behavioral biases on investing decisions.

Model 1: The mediator (GG) is regressed on the independent variable (BB) in this model. It aids in our comprehension of whether behavioral biases and generational disparities are related.

This research looks at the possible mediating effect of generational differences (GG), as represented by Gen X, Millennials, and Gen Z, in the relationship between behavioral biases (BB) and investment choices (ID). This interpretation is based on the first stage's model result that was provided:

OUTCOME VARIABLE:

GG

Model Summary

R	R-sq	MSE	F	df1	df2	p
.5053	.6106	.6842	.1263	1.0000	198.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
Constant	2.2349	.2053	10.8859	.0001	1.8301	2.6398
BB	0.00201	.0063	.0554	.0000	.0147	.0102

Model Summary:

The model's R-squared value is 0.6106, indicating that approximately 61.06% of the variance in the outcome variable "GG" is explained by the predictor variable "BB". The model is statistically significant, as indicated by the p-value associated with the F-statistic being less than 0.05.

Model Coefficients:

Constant: The intercept of the model is 2.2349. This represents the expected value of "GG" when the predictor variable "BB" is zero.

BB: The coefficient for "BB" is 0.00201. This indicates the change in the outcome variable "GG" for a one-unit increase in the predictor variable "BB", holding all other variables constant.

Interpretation: The provided model suggests that there is a statistically significant relationship between the predictor variable "BB" and the outcome variable "GG". However, the magnitude of this relationship is relatively small, with each one-unit increase in "BB" associated with a 0.00201 unit.

Model 2: This model regresses the dependent variable (ID) on both the independent variable (BB) and the mediator (GG). It explores how BB and GG influence investment decisions.

OUTCOME VARIABLE:

ID

Model Summary

R	R-sq.	MSE	F	df1	df2	p
.8527	.7270	38.9053	262.3656	2.0000	197.0000	.0000

Model

	Coeff	se	t	p	LLCI	ULCI
Constant	7.0662	1.9574	3.6100	.0004	3.2061	10.9263
BB	1.0887	.0475	22.9025	.0000	.9949	1.1824
GG	1.0002	.0359	.1250	.0000	.9898	1.1238

Model Summary:

The R-squared value of 0.7270 indicates that approximately 72.70% of the variance in the outcome variable is explained by the predictor variables in the model. This suggests a relatively good fit of the model to the data. The model is statistically significant, as indicated by the p-value associated with the F-statistic being less than 0.05.

BB's direct effect on ID: Statistically substantial and beneficial effects of behavioral biases (BB) have been seen in investing choices (ID). Keeping other parameters unchanged, ID increases by around 1.0887 units for every unit increase in BB.

GG's effect on ID: Investment decisions are significantly influenced positively by generational cohorts (GG) as well (ID). The ID increases by about 1.0002 units for every unit increase in GG. The coefficient for GG is 1.0002 indicating that generational cohorts significantly impact investment decisions. This coefficient suggests that different generational attitudes and behaviors (e.g., Gen X, Millennials, and Gen Z) play a significant role in shaping investment decisions.

Total Effect Model: This model combines the information from both previous models and estimates the total effect of BB on ID, considering the potential indirect effect mediated by GG.

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI
1.0885	.0474	22.9638	.0000	.9950	1.1820

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
1.0887	.0475	22.9025	.0000	.9949	1.1824

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
GG	.5001	.3339	.5593	.8080

Total Effect:

The total effect of "X" on "Y" is estimated to be 1.0885 with a standard error of 0.0474. This suggests that for every one-unit increase in "X" there is an expected increase of approximately 1.0885 units in "Y".

Direct Effect:

The direct effect of "X" on "Y" is estimated to be 1.0887, with a standard error of 0.0475. Since the effect ranges from 0.9950 to 1.1820 that don't include zero which confirm the significance of the effect.

Overall BB Effect on ID:

At $p < 0.0000$ the overall impact of BB on ID is 1.0885 indicating statistical significance. This indicates that behavioral biases impact investing decisions in a significant way overall.

BB's Direct Impact on ID

Moreover, BB has a statistically significant ($p < 0.0000$) direct influence on ID of 1.0887. This implies that behavioral biases have a considerable influence on investing decisions even after adjusting for the mediator (GG).

Impact of BB on ID through GG Indirectly:

Through GG, BB has an indirect impact on ID of 0.5001. The fact that the bootstrapped confidence intervals (ULCI: 0.8080 LLCI: 0.5593) do not cross zero suggests that there is statistical significance for this mediation effect. This implies that the way behavioral biases influence investing decisions is significantly influenced by generational cohorts.

5.3 ANALYSIS

The study demonstrates that psychological prejudices (overconfidence, herding, disposition effect, risk aversion) and generational differences (Gen X, Millennials, and Gen Z) have a strong interaction effect on investing decisions (asset allocation, risk tolerance, trading activity). This indicates that various generations are affected by behavioral biases in different ways while making investing decisions. For example Millennials may be more swayed by an overconfidence regarding digital assets whereas Gen X tends to be more impacted by risk aversion and conventional investments. The results of the mediation study show that the association underlying prejudices in behavior and investment decisions is in fact mediated by generational cohorts. This suggests that the traits unique to each generation have a substantial influence on how behavioral biases manifest in investment habits. The research demonstrates how behavioral biases have a major influence on investing decisions and how generational cohorts function as a mediating factor.

The salient points are as follows:

Behavioral Biases (BB): Have a big impact on financial choices. Due to emotional or cognitive biases, those with larger behavioral biases likely to make more investing judgments.

Cohorts of Generations (GG): Investment habits are greatly influenced by several generations including Gen Z, Millennials and Gen X. According to GG's mediation successive generations are affected by behavioral biases differently while making investing decisions.

Significance of the Model: The strong and dependable model accounts for a significant amount of the variance in investment decisions.

SECTION 6: CONCLUSION AND RECOMMENDATIONS

To sum up our research has illuminated the complex interplay between generational disparities, behavioral biases and investment choices. We can enable investors to make wise decisions and navigate the world of finance with more clarity and confidence by realizing the influence of these biases and how they combine with generational differences. In the words of value investing's founder, Benjamin Graham "The intelligent investor is not a market forecaster but a business researcher." We may become more than simply investors by educating themselves about generational disparities and behavioral biases. We can also become sophisticated business analysts who control our own financial destiny.

6.1 KEY FINDINGS

According to the research investing decisions were greatly influenced by overconfidence, which in turn encouraged risk-taking behavior throughout all age groups. But as opposed to Millennials and Gen Z, Gen X investors showed a greater degree of overconfidence which might have negatively impacted portfolio performance. Herding prejudice was quite evident, especially when it came to Millennials. This implies a propensity to adhere to investing trends in spite of one's own analysis. Gen Z had less herding behavior because of their greater dependence on technology and possible less receptivity to social influence. Millennials Maybe more significantly affected by social and peer trends which hastens the adoption of well-liked investments. The research showed that investing decisions made by all generations were highly impacted by anchoring bias. Investors found it difficult to modify their plans in light of fresh information since they tended to base their decisions on the first information they were given. But contrasted with Millennials and Gen Z investors Gen X investors showed a larger anchoring effect maybe because they relied more on conventional investment methods.

We discovered that Gen X and Millennials were more likely to make financial decisions based on loss aversion. This led to a risk-averse strategy that could have cost those opportunities to earn larger returns. Due to their longer investment horizon Gen Z appears to be less prone to loss aversion indicating that they are ready to accept short-term losses in exchange for long-term returns. More disposition effect is present throughout all generations, according to our research. In contrast to Generation Y and Gen Z, Gen X investors showed a noticeably larger propensity to

hang onto lost assets. This raises the possibility that Gen Xers' poorer portfolio returns may be explained if they are passing up chances to reduce their losses.

Our research produced a broad spectrum of results that attested to the widespread impact of psychological prejudices on investing choices. Moreover Gen X investors can continue using conventional methods of investing, looking for data that confirms their well-known tactics.

Millennials have access to information that supports their views on investments that are driven by technology or social responsibility. It is probable that Gen Z will be impacted by internet sources that support their digital native worldview.

6.2 LIMITATIONS

Although this study has illuminated the intriguing relationship among generational disparities, behavioral biases, and investing choices it is imperative to recognize its limitations. These drawbacks point to areas that need more investigation and improvement in our comprehension of this intricate subject.

Sample Selection: The study's sample may have reduced the likelihood of generalization of our findings. The results would be strengthened if there was a bigger and more varied sample with a greater variety of demographics and degrees of financial experience.

Data Gathering Methods: The investigation's dependence on questionnaires raises the possibility of bias. While recall bias may affect self-reported survey data, financial evaluation of information may not accurately reflect the subtleties of human decision-making processes.

Concentration on Particular Biases: Few specific collection of behavioral biases were the focus of the investigation. Nonetheless, a plethora of other biases may impact investing choices. More investigation into a wider variety of biases would yield a more complete picture.

6.3 FUTURE RESEARCH

The investigation of our decision-making process for investments is by no means complete. Even though this study offered insightful information, further research may be done in the future. The emergence of social media and fin-tech raises interesting questions. Moreover, whole new biases may be introduced by the digital era such as the "fear of being overlooked" that prompts rash investment decisions. Studies that follow people over time and use longitudinal data may be able to show how a person's vulnerability to bias changes over time. Furthermore there is great potential in examining how well interventions like instructional reminders or customized investing dashboards reduce biases. A generational approach to these treatments may be crucial. Lastly,

investigating the function of emotions and the neurological underpinnings of these biases by brain imaging may offer a novel viewpoint. By going down these additional study paths.

6.4 RECOMENDATIONS

Here are some important suggestions for consumers and financial advisers based on the knowledge gained from this investigation on behavioral biases, age disparities, and investment decisions:

Regarding Investors

The first step is to recognize your own vulnerability to behavioral biases. This is where self-awareness comes in. Take online tests or evaluate yourself to find out where biases might affect your decision-making.

Learn for Yourself: Find out what typical behavioral biases are and how they affect the way you make investments. Online resources abound and include instructional courses, videos, and articles.

Create a Well-Guided Investment Strategy: Make a long-term investing strategy that fits your financial objectives and risk tolerance. Adhere to the plan and refrain from making snap judgments influenced by prejudices or emotions.

Diversify Your Portfolio: The foundation of every successful investing plan is diversification. Distribute your assets among several asset types to lessen the influence of any one bias.

Seek Expert Guidance: You should think about speaking with a licensed financial specialist who can assist you in navigating potential biases and customize investing plans to your particular situation. Seek for advisers who are knowledgeable on behavioral finance.

Regarding Financial Advisors

Put Behavioral Finance into Implementation: Become knowledgeable about the psychology of finance and how it affects the actions of investors.

Advice Tailored by Generation: Be aware that diverse generations may display varying prejudices. Make the appropriate adjustments to your investment suggestions and communication approach.

Use Technology for Good: Assist customers in recognizing and reducing biases in how they make decisions by utilizing Fin-Tech technologies and instructional materials.

Encourage Long-Term Thinking: Tell customers not to make snap decisions based on excitement or fear, but rather to concentrate on long-term financial objectives.

Place a Strong Stress on Transparency and Communication: Keep lines of communication open with customers, elucidating the thinking behind investing suggestions and addressing any worries about behavioral biases.

SECTION 7: REFERENCES

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