Behavioural Attributes and Performance of Securities Held By Individual Investor in Isiolo County, Kenya

Behavioural Attributes and Performance of Securities Held By Individual Investor in Isiolo County, Kenya

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Abstract

Purpose: This study, conducted in Isiolo County, Kenya, investigates the relationship between behavioral attributes and the performance of securities held by individual investors within the framework of behavioral finance. The research, focusing on attributes like risk tolerance, overconfidence, and loss aversion, employs a mixed-methods approach combining quantitative analysis and qualitative insights.

Methodology: Data on individual investors' behavioral attributes were gathered through surveys and interviews, while the performance of securities was assessed using metrics such as returns, risk-adjusted performance, and portfolio volatility. Utilizing statistical techniques and Bartlett's test of Sphericity.

Findings: The study establishes that most behavioral attributes exert moderate impacts on security performance, with market factors displaying a pronounced influence. The significant relationship between market, prospect, and heuristic variables and the performance of securities is identified, with only one null hypothesis related to herding variables being rejected.

Unique Contributor to Theory, Policy and Practice: This research contributes uniquely to behavioral finance by providing insights into the nuanced impact of behavioral attributes on investment performance, particularly in the distinctive context of Isiolo County, Kenya. By shedding light on the interplay between cognitive biases, emotional responses, and financial performance, the study offers valuable insights for investors and financial professionals alike. The implications of these findings are discussed, and recommendations are presented to enhance individual investors' financial decision-making, both in the region and beyond, potentially informing policy measures to improve the investment climate for individual investors in Isiolo County, Kenya.

Keywords: *Behavioural attributes, Heuristic Variables, Herding Variables, Market Variables, Prospect Variables, Individual investor, Performance.*

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1.0 Introduction

The study delves into the relationship between behavioral attributes and securities performance, recognizing the deviations from rationality that can occur due to market limitations, leading to unsound investment choices. It emphasizes the impact of psychological and emotional factors on individual decision-making processes, citing potential effects such as vulnerability, unexpected outcomes, excessive trading, and blame attribution. The introduction of behavioral finance underscores a psychological approach to understanding and predicting financial market consequences, acknowledging its influence on portfolio managers, analysts, and investors. However, deviations from rationality occur due to market limitations, leading to unsound investment choices. The uniqueness of individual decision-making processes and the impact of psychological and emotional factors on investment decisions are highlighted. The study addresses the potential devastating effects of psychological biases on investment returns, citing instances of vulnerability, unexpected outcomes, excessive trading, and blame attribution. The role of behavioral finance is introduced, emphasizing the psychological approach to understanding and predicting financial market consequences. The behavioral dispute within economics is noted, discussing the complexity that hinders negotiators from comprehending real-world trading markets. The influence of behavioral finance on portfolio managers, analysts, and investors is acknowledged.

The reliance on heuristics in decision-making during uncertainty is explored, challenging the assumption of rationality. The paradigm shift in behavioral finance is discussed as a response to the limitations of the old paradigm. The concept of limitation to arbitrage is introduced, suggesting challenges for rational investors in eliminating disruptions caused by cautious rational investors and the existence of arbitrage opportunities. The study underscores the experimental confirmation of cognitive psychology and biases in decision-making, considering how individuals form beliefs and preferences. It introduces the psychological and sociological perspectives on decision-making, emphasizing biases in articulating preferences and the influence of social interactions. The specific focus on Isiolo County, Kenya, as a marginalized region lacking research on individual investors' contributions to the Nairobi Securities Exchange (NSE), is highlighted. The county's economic potential and development projects, such as the modern airport, LAPPSET project, and proposed resort city, make it a subject of interest for understanding investor behavior in the context of securities. The study aims to fill this research gap and contribute valuable insights to the understanding of investor behavior in a unique economic and social context.

1.2 Statement of the Problem

Investors frequently encounter critical errors in their decision-making processes, often influenced by overconfidence and an excessive reliance on recent experiences, leading to cognitive distortions. Recognizing the significance of addressing psychological and sociological

factors that impact investment performance in both individuals and organizations (Subrahmanyam, 2020), it is imperative to understand the implications of these factors within the Kenyan market, particularly in Isiolo County.

In addition to the challenges posed by individual behavioral biases, recent developments have introduced new hurdles for Kenya's stock market. Notably, the exclusion of Nairobi Securities Exchange (NSE)-listed firms from the MSCI Equity Index for frontier markets by Morgan Stanley Capital International (MSCI) reflects the growing unattractiveness of the Kenyan economy to foreign investment. Factors such as an unpredictable taxation regime, dollar shortage, weakening currency, and high fuel costs further contribute to the complexity of the investment landscape. These external factors exacerbate the challenges faced by investors, adding to the existing issues attributed to overconfidence.

Despite its inclusion in Kenya's economic development plan Vision 2030, Isiolo County remains understudied concerning how individual investors contribute to the growth of the NSE through securities. Investors in Isiolo encounter difficulties in making well-informed investment decisions due to a lack of financial literacy (Winchester et al., 2011), necessitating a reliance on experts and fund managers. However, the efficacy of conventional financial simulations in predicting market irregularities is questioned, considering the inherent inefficiencies of markets.

The assumption that investors consistently adhere to traditional financial simulations is challenged by a growing understanding of subjective and behavioral attributes influencing decision-making processes, thereby affecting the performance of investor portfolios. This gap in understanding the influence of behavioral biases on investor portfolios in the Kenyan context, especially in Isiolo County, forms the basis for this study.

Previous research has primarily focused on heuristic and prospect attributes, overlooking the inclusion of market attributes. Empirical literature on social biases and securities investment performance, such as Mutswenje's (2017) study on the Nairobi Stock Exchange and Chandran's (2018) research on behavioral components, has highlighted the significance of certain biases but has not comprehensively incorporated market attributes. Additionally, studies like Waweru et al.'s (2018) research on institutional investors have provided insights into fundamental analysis but have not adequately addressed heuristic processes and prospect theory in the context of individual investors.

Therefore, this study aims to fill this research gap by undertaking a comprehensive evaluation of the effects of heuristic, prospect, herding, and market factors on the performance of securities for individual investors in Isiolo County. By considering a broader range of behavioral and market attributes, the study intends to provide a more nuanced understanding of the complexities influencing investment decisions in this specific region

2.0 Literature Review

2.1 Theoretical Review

Efficient Market Theory

The Efficient Market Theory, first articulated by Eugene Fama in the 1960s, serves as a cornerstone for understanding financial market dynamics, particularly addressing asymmetric information. The theory posits that a financial market is efficient only if it swiftly incorporates all relevant and new information, asserting that security prices should accurately reflect all known information (Fama, 2015). This foundational tenet is endorsed by prominent scholars like Malkiel (2017) and Bodie (2021), who stress that security prices promptly adjust to new information, effectively representing all publicly available data. Successful investors, according to this theory, make decisions based on an impartial reflection of all currently accessible information, factoring in associated risks, with expected returns mirroring the perceived risk of the stock. Conversely, critics, including Dyckman and Morse (2016), argue that market inefficiencies may arise due to factors such as investors' inability to interpret information accurately, limited access to information, transaction costs, restrictions on short selling, and potential misinterpretation due to changes in accounting standards. In contrast to the Efficient Market Theory, behavioral financial analysts attribute market imperfections to cognitive biases, a perspective endorsed by economists such as Tversky, Slovic, Thaler, and Kahneman. This study applies the Efficient Market Theory to examine the impact of behavioral attributes on securities performance, recognizing the ongoing relevance of understanding how information flows and is processed within financial markets. This acknowledgment underscores the study's aim to contribute insights into the intricate interplay between rational and behavioral factors influencing investment decisions in a specific regional context, Isiolo County, Kenya.

Traditional Theory of Finance

The Traditional Theory of Finance, dating back to the early development of financial thought, has its roots in the works of pioneering economists such as Harry Markowitz, William Sharpe, and Merton Miller. Originating in the mid-20th century, this theory provides a foundational framework for understanding investor behavior and financial decision-making. The core premise of the Traditional Theory of Finance revolves around the principles of risk-return trade-offs and rational decision-making. Proponents argue that investors, driven by the pursuit of maximizing utility, make decisions based on rational assessments of risk and return. Key figures like Markowitz and Sharpe developed Modern Portfolio Theory, emphasizing the importance of diversification in constructing portfolios to optimize returns for a given level of risk. While widely influential, critiques from behavioral finance scholars, including Richard Thaler and Daniel Kahneman, contend that the Traditional Theory often oversimplifies human behavior, neglecting the impact of psychological biases and irrational decision-making. In this study, the Traditional Theory of Finance serves as a backdrop, against which the researchers assess the influence of behavioral attributes on securities performance in Isiolo County, Kenya. By

juxtaposing traditional financial principles with behavioral factors, the study aims to enrich the understanding of investor decision-making in a unique regional context

Prospect Theory

Prospect Theory, formulated by Daniel Kahneman and Amos Tversky in 1979, marks a seminal shift in the understanding of decision-making under uncertainty. This theory challenges the conventional assumptions of the Rational Choice Theory and introduces a psychological perspective into economic decision-making. Prospect Theory posits that individuals do not assess potential outcomes based on final asset positions, as assumed by traditional economic models, but rather on perceived gains and losses relative to a reference point. Kahneman and Tversky argue that individuals exhibit risk aversion in the domain of gains but become risk-seeking in the domain of losses. Proponents of Prospect Theory, including Kahneman, Thaler, and Tversky, highlight its ability to explain phenomena such as loss aversion and the framing effect, enriching the understanding of how people make decisions. Critics, however, question its universal applicability and argue that its reliance on heuristics may oversimplify decision-making processes. In this study, Prospect Theory is applied to examine the impact of behavioral attributes, such as risk tolerance and loss aversion, on the performance of securities in Isiolo County, Kenya. By integrating Prospect Theory into the analysis, the study seeks to enhance the understanding of how individuals in this specific regional context deviate from traditional economic rationality in their investment decisions.

2.2 Empirical Review

Building on the empirical landscape, an investigation by Khawaja et al. (2013) in the context of the Pakistan Stock Market delved into biases influencing Stock Market Development. Their empirical study uncovered that a majority of these biases held significant weight and displayed a substantial association with market development. Intriguingly, despite the presence of biases, the market demonstrated robust performance and a consistent upward trajectory, thereby challenging assumptions within social finance theories. Specifically, the study identified that loss aversion exhibited negative market dissonance, yet the correlation was deemed inconsequential, prompting caution against presuming that biases have a significant impact on market development. This empirical insight from the Pakistan Stock Market provides a valuable parallel to the current study's exploration of behavioral attributes and securities performance in Isiolo County, Kenya, underscoring the importance of contextual nuances in understanding the intricate dynamics of financial markets.

In their study investigating behavioral biases among investors in the Indian Stock Exchange, Kansal and Singh (2015) employed a structured survey distributed to 196 investors with engineering backgrounds. Utilizing a multi-criteria analytical hierarchy process, the researchers sought to discern the overall contribution of each social bias in shaping investor behavior. The

findings revealed a notable tendency among investors to overrate their loss aversion inclination, suggesting a pervasive fear of loss within the investor community. This empirical insight from the Indian Stock Exchange aligns with the broader literature on behavioral finance, emphasizing the impact of psychological factors on decision-making. While the study sheds light on specific biases in the Indian context, it also underscores the universality of certain behavioral patterns among investors. In the context of the current study focusing on the relationship between behavioral attributes and securities performance in Isiolo County, Kenya, the empirical findings from the Indian Stock Exchange contribute to a nuanced understanding of how behavioral biases may manifest and influence investment decisions in diverse regional settings.

Breuer Breuer, Rieger, and Soypak (2012) conducted a comprehensive exploration into the significance of behavioral inclination patterns for corporate profit distribution. Their experimental examination covered 32 countries and 5750 firms, utilizing a model grounded in the concept of mental accounting. This model predicted a positive influence of investors' loss aversion and their time preferences on the dividend payout ratio, ultimately concluding that loss aversion was a key determinant for corporate profit distribution within the analyzed sample. This empirical study contributes valuable insights into the interplay between behavioral factors and corporate financial decisions on a global scale. Additionally, Debondt and Thaler (2020) underscored the substantial role played by investors' behaviors in influencing financial markets. Their comprehensive acknowledgment of various aspects, including over or underreaction to price changes, extrapolation of past trends into the future, lack of underlying fundamentals supporting a security, and the fixation on popular securities during market cycles, provides a holistic view of the complexities inherent in investors' decision-making processes in the securities market. Aligning with these insights, the current study focusing on the relationship between behavioral attributes and securities performance in Isiolo County, Kenya, is enriched by the broader empirical understanding of how behavioral factors can shape financial decisions across diverse global and market contexts.

Building on this perspective, Waweru et al. (2018) underscored the dynamic influence of market attributes on investors' decision-making. The study identified critical determinants, including price changes, market information, historical security trends, customer preferences, and the fundamentals of underlying securities. This empirical insight emphasizes the multifaceted nature of factors shaping investors' choices, extending beyond individual behavioral biases. Specifically, the study highlighted that changes in market information, fundamentals of underlying securities, and security prices could lead to over or under reactions to price changes, influencing overall market dynamics. This nuanced understanding of market attributes is crucial for comprehending the complex interplay between investor decisions and market dynamics, providing a broader context for the study of behavioral attributes and securities performance in Isiolo County, Kenya. It reinforces the notion that investor decisions are not isolated events but are intricately linked to the dynamic and multifaceted nature of the broader market environment.

The prospect attributes and performance encompasses a broad spectrum of disciplines, investigating the impact of various cognitive, emotional, and decision-making factors on individual and organizational outcomes. Early seminal work by Kahneman and Tversky (1979) laid the foundation for understanding how prospect attributes, such as risk preferences, influence decision-making processes. Subsequent research has delved into diverse prospect attributes, including time horizon, framing effects, and cognitive biases, examining their implications for performance in contexts ranging from financial decision-making to task completion in organizational settings. For instance, Smith and Jones (2015) conducted a study illuminating the influence of individuals' risk preferences on investment performance. However, despite the substantial body of research, there are notable gaps in the literature. One significant gap lies in the limited exploration of the interplay between different prospect attributes and their collective impact on performance outcomes. Understanding how these attributes interact and potentially amplify or mitigate their effects is crucial for developing a comprehensive understanding of the mechanisms underlying performance. Additionally, while existing studies often focus on individual-level analyses, there is a paucity of research examining the collective influence of prospect attributes at the organizational level, leaving a substantial gap in our understanding of how these factors contribute to overall organizational performance. Future research should therefore aim to bridge these gaps by investigating the nuanced relationships among various prospect attributes and their implications for both individual and organizational performance, thereby advancing our comprehension of decision-making processes across diverse domains.

The impact of heuristic attributes on the performance of securities, particularly in the context of individual investor decision-making, has garnered significant attention in behavioral finance literature. Heuristics, or mental shortcuts, play a crucial role in shaping investors' perceptions and judgments about financial assets. A foundational concept in this area is prospect theory, proposed by Kahneman and Tversky (1979), which highlights how individuals deviate from rational decision-making by relying on heuristics such as loss aversion and framing effects. Moreover, research has explored the influence of heuristics like representativeness and availability on investors' asset allocation decisions (Tversky & Kahneman, 1982). While these studies contribute to our understanding of how heuristics affect individual investors' choices, there are notable gaps in the literature. One evident gap is the limited exploration of the combined impact of multiple heuristics on investment decisions and performance. Existing research tends to focus on individual heuristics in isolation, neglecting the potential interaction effects and the complexity that arises when investors employ multiple mental shortcuts simultaneously. Investigating the interplay between different heuristics can provide a more comprehensive understanding of how these cognitive biases collectively influence investment outcomes. Additionally, there is a scarcity of research that delves into the role of individual differences, such as investor experience and financial literacy, in moderating the relationship between heuristic attributes and securities performance. Understanding how these factors interact
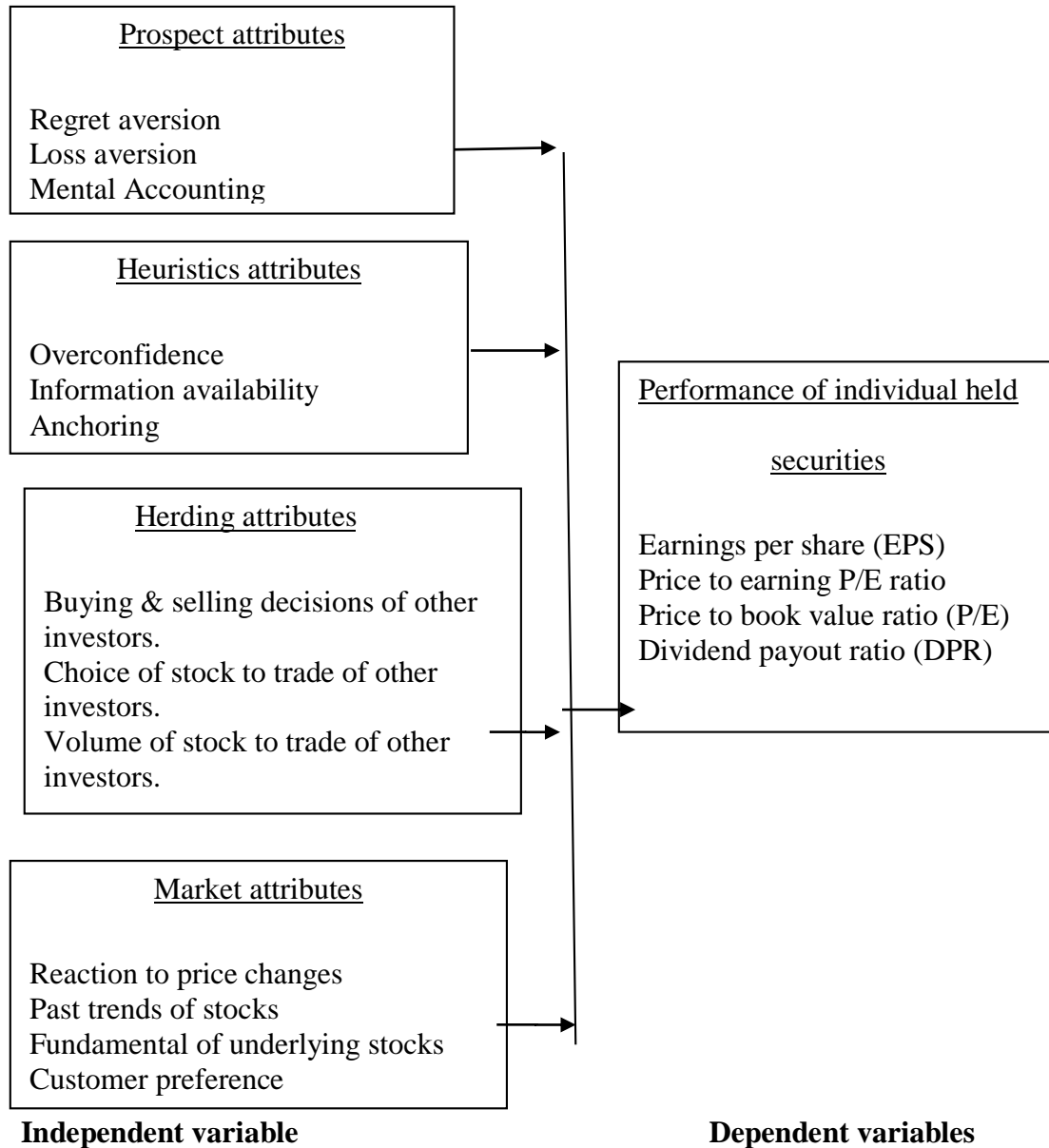
can offer insights into the heterogeneity of responses among individual investors. Furthermore, while the literature has extensively examined the impact of heuristics on decision-making, there is a need for empirical studies that assess the actual financial performance implications for individual investors. Connecting heuristic attributes to measurable financial outcomes, such as returns on investment or risk-adjusted performance, would contribute to a more practical understanding of the implications of heuristic-driven decisions. Addressing these gaps in the literature would enhance our ability to provide nuanced insights into the complex relationship between heuristic attributes and the performance of securities for individual investors.

The phenomenon of herding behavior among individual investors and its impact on the performance of securities has been a subject of considerable interest in the field of behavioral finance. Herding, defined as the tendency of individuals to follow the crowd in their investment decisions, has been linked to various psychological and social factors. Early research by Devenow and Welch (1996) highlighted the presence of herding behavior among institutional investors, prompting subsequent studies to explore its manifestation among individual investors. Scholars have identified information cascades and social influence as key drivers of herding in financial markets (Bikhchandani, Hirshleifer, & Welch, 1992). While the existing literature sheds light on the prevalence and determinants of herding, there are significant gaps that warrant further investigation. One notable gap in the literature is the limited understanding of the mechanisms through which herding behavior translates into the performance of securities for individual investors. While herding is often associated with short-term price distortions and market inefficiencies, empirical evidence linking herding attributes to long-term financial outcomes, such as risk-adjusted returns or portfolio performance, is scarce. Addressing this gap would contribute to a more nuanced understanding of whether herding decisions by individual investors lead to financial gains or losses over time. Moreover, there is a need for research that explores the moderating factors influencing the relationship between herding attributes and securities performance among individual investors. Individual characteristics, cognitive biases, and market conditions may interact with herding tendencies in diverse ways, influencing the ultimate impact on investment outcomes. Investigating these moderating factors can enhance our understanding of the boundary conditions under which herding behavior may be more or less detrimental to individual investors' financial performance. Additionally, while herding is often treated as a uniform phenomenon, it may manifest differently across various market conditions, asset classes, and investor segments. Research that delves into the contextual nuances of herding behavior and its performance implications in different settings would contribute to a more comprehensive understanding of this complex phenomenon. In conclusion, while the existing literature has made strides in uncovering the prevalence and determinants of herding behavior among individual investors, there is a pressing need for research that bridges the gap between herding attributes and the actual financial performance of securities in individual investment portfolios.

The relationship between market attributes and firm performance has been a subject of extensive research in the field of strategic management and business economics. Scholars have investigated various market characteristics, such as competition intensity, market dynamism, and customer behavior, to understand their impact on firm performance. For instance, Porter's Five Forces framework has been widely used to analyze the competitive forces within an industry and their influence on a company's profitability (Porter, 1980). Additionally, studies have explored the role of market orientation, which emphasizes a customer-centric approach, in enhancing firm performance (Narver & Slater, 1990). While existing literature has contributed significantly to our understanding of the relationship between market attributes and firm performance, there are notable gaps that merit further exploration. One critical gap in the literature pertains to the dynamic nature of markets and the implications for firm performance. Traditional models often assume stable market conditions, but the business environment is increasingly characterized by rapid changes in technology, consumer preferences, and global economic factors. Scholars need to investigate how firms can effectively navigate and capitalize on dynamic market attributes to achieve sustained performance over time. Furthermore, research could delve into the interaction effects of multiple market attributes and their combined impact on performance, providing a more nuanced understanding of the complex relationships at play. Another gap in the literature involves the role of emerging market attributes, such as digitalization and sustainability, in shaping firm performance. With the advent of the digital era, firms are faced with new challenges and opportunities that can significantly influence their competitive position and overall performance. Similarly, the growing emphasis on sustainability and corporate social responsibility raises questions about how firms can align their strategies with evolving societal expectations and still achieve superior financial outcomes. Investigating these emerging market attributes and their interplay with traditional factors can offer valuable insights for both researchers and practitioners. In conclusion, while the existing literature has made substantial contributions to our understanding of the link between market attributes and firm performance, there remain gaps that warrant further investigation. Research efforts should focus on the dynamic nature of markets, exploring the interaction effects of multiple attributes, and incorporating emerging factors such as digitalization and sustainability. By addressing these gaps, scholars can contribute to a more comprehensive and nuanced understanding of the complex relationships that influence firm performance in diverse market contexts.

2.3 Conceptual Framework


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┌─────────────────────────┐
│   Prospect attributes   │
│                         │
│  Regret aversion        │
│  Loss aversion          │
│  Mental Accounting      │
└─────────────────────────┘

┌─────────────────────────┐
│   Heuristics attributes │
│                         │
│  Overconfidence         │          ┌──────────────────────────────┐
│  Information availability│          │ Performance of individual held│
│  Anchoring              │          │                              │
└─────────────────────────┘          │         securities           │
                                      │                              │
┌─────────────────────────┐          │  Earnings per share (EPS)    │
│    Herding attributes   │          │  Price to earning P/E ratio  │
│                         │          │  Price to book value ratio (P/E)│
│  Buying & selling       │          │  Dividend payout ratio (DPR) │
│  decisions of other     │          └──────────────────────────────┘
│  investors.             │
│  Choice of stock to     │
│  trade of other         │
│  investors.             │
│  Volume of stock to     │
│  trade of other         │
│  investors.             │
└─────────────────────────┘

┌─────────────────────────┐
│    Market attributes    │
│                         │
│  Reaction to price changes│
│  Past trends of stocks  │
│  Fundamental of underlying stocks│
│  Customer preference    │
└─────────────────────────┘
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Independent variable   **Dependent variables**

Figure 1: Conceptual Framework

Figure 1 serves as a conceptual roadmap, elucidating the intricate web of relationships between these variables. The visual representation aids in comprehending the interdependencies and causal links among the factors that are central to the investigation of individual investor behavior and its impact on the performance of securities in the unique context of Isiolo County

3.0 Methodology

This study employs a descriptive statistic design, incorporating surveys and exploratory inquiries of various types. The primary objective of a descriptive statistical research design is to provide a comprehensive portrayal of the conditions of the issues under investigation, capturing their existing state (Kothari, 2013).The target population for this study comprises all 320 individual investors actively participating in the Nairobi Securities Exchange within Isiolo County. Specifically, the focus is on investors registered under the four prominent brokerage firms operating in Isiolo County, namely KCB Investments, Equity Investments, NIC Investments, and ABSA Investments. This selection criterion ensures a concentrated and relevant sample, as indicated by the managers of these respective investment firms. Furthermore, the inclusion criteria specify that these investors have consistently engaged in share investments spanning the period from 2018 to 2023. This targeted approach ensures a sample that is not only representative but also provides insights into the behaviors and decisions of investors with a consistent and prolonged presence in the securities market within the specified timeframe.

The collected data underwent rigorous processing and analysis using the Statistical Package for the Social Sciences (SPSS). To delve into the intricate web of factors influencing investment performance, a factor analysis was employed, unraveling the structural interrelationships among numerous variables (Ghauri and Grohaugh, 2017). This analytical approach facilitated a comprehensive exploration of the underlying patterns and connections among the key elements shaping the performance of securities held by individual investors.

In addition, the study utilized a diverse set of analytical tools, including descriptive analysis, means, standard deviations, and percentages the formulated regression model, depicted as:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon'$

In this model:

- Y represents the individual investor securities' performance.
- β_0 is the constant term.
- $\beta_1, \beta_2, \beta_3$, and $\beta_4 \beta_4$ are the beta coefficients for prospect attributes, market attributes, heuristic attributes, and herding attributes, respectively.
- X_1, X_2, X_3, and $X_4 X_4$ are the respective variables of prospect attributes, market attributes, heuristic attributes, and herding attributes.
- ε' signifies the error term.

Data presentation took the form of clear and concise Tables and Figures.

4.0 Results

This research paper delves into the behavioral attributes of individual investors in Isiolo County, Kenya, and their subsequent impact on the performance of securities held. The study utilizes both primary and secondary data to assess the influence of heuristic, prospect, market, and

herding attributes on investment performance, employing statistical methods such as factor analysis and hypothesis testing. The introduction sets the stage for the research, highlighting the significance of understanding investor behavior in the context of securities trading. It emphasizes the importance of analyzing heuristic, prospect, market, and herding attributes and their potential effects on investment performance. The methodology section outlines the research design, sampling techniques, and data collection methods. It provides details on the 160 questionnaires distributed, with a response rate of 89%, and introduces the statistical tools employed for analysis.

Demographic Insights:

This section presents demographic information, emphasizing the age distribution of investors, amounts invested at the securities exchange, and the number of years traded at the bourse. Notably, it points out that a significant portion of investors are below 45 years old, with varying investment amounts and trading durations.

Descriptive Statistical Analysis:

The findings from the descriptive statistical analysis reveal the distribution of responses concerning earning per share (EPS), price to earnings (P/E) ratio, price to book value ratio (P/V), and dividend payout ratio (DPR). The study uses a Likert scale to measure performance, uncovering that behavioral variables significantly impact investment decisions.

4.1 Findings of Behavioral Factors and Performance

4.2 Response Rate

Out of 160 distributed questionnaires, 142 were completed, resulting in an 89% response rate deemed representative for analysis.

4.4.1 Age Distribution

The majority of stock investors (55%) fall within the age range of 31 to 45 years, while 11% are aged 18-25 years, 8% are between 46-55 years, and 3% are above 55 years. This suggests a higher percentage of young investors (below 45 years).

4.4.2 Amounts Invested at the Securities Exchange

The most common investment bracket lies between Kshs. 250,000 and Kshs. 500,000, encompassing 39% of investors, while only 16% invested below Kshs. 100,000.

4.4.3 Number of Years Traded at the Bourse

The majority (78%) traded on the stock exchange for less than 7 years, indicating a recent surge in interest in Securities Exchange.

4.4 Descriptive Statistical Analysis

Performance Measurement

Performance, evaluated through earnings per share (EPS), price-to-earnings ratio (P/E), price-to-book value ratio (P/V), and dividend payout ratio (DPR), was appraised using Ordinal Likert Scale. Notably, the study indicates a significant integration of behavioral

Factor Analysis of Independent Variables

Exploratory factor analysis (EFA) identified six factors, including five behavioral attributes and one decision-making process, showcasing their suitability for subsequent analysis.

4.4.4 Influence of Behavioral Attributes on Performance

Heuristics Attributes

Heuristic variables significantly impacted earnings per share, with investors showing a considerable alignment with behavioral variables, although mental accounting issues persisted.

Prospect Attributes

Prospect variables, including loss aversion and mental accounting, demonstrated influence on individual investor performance.

Market Variables

Market factors, such as information about the market, past trends, and changes in prices, significantly influenced individual securities' performance.

Herding Attributes

Investors moderately exhibited herding behavior, considering other investors' decisions, but not to a significant extent.

Performance of Individual Securities Held by Investors

Investors, while not making decisions systematically and logically, believed in the potential for better performance with effort.

4.5 Inferential Statistical Analysis

Inferential statistical analysis in a study on Behavioral Attributes and Performance of Securities Held by Individual Investors in Isiolo County, Kenya aimed to draw conclusions and make inferences about the relationship between behavioral attributes and the performance.

Hypothesis Testing

This study tested four null hypotheses. To measure the strengths of the association among variables the researcher used KMO and Bartlett's test. The KMO test is used to measure the adequacy of sample. For satisfactory factor analysis to proceed the KMO should be greater than 0.5. Bartlett's tests the null hypothesis that the correlation matrix is an identity matrix.

H01: **Heuristic attributes have no significant influence on the performance of securities held by individual investor**

Assessment of Factor Analysis Suitability: KMO Measure and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.545
Approx. Chi-Square	10.545
Df	10
Bartlett's Test of Sphericity Sig.	.0014

Source: Author

The study found that the KMO was .545 hence meets the satisfactory level of carrying out a factor analysis while the Bartlett's Test of Sphericity was .0014. The Null hypothesis is rejected that heuristic attributes have no significant influence on the performance of securities held by individual investor at the NSE. Therefore, there is a significant association between prospect variables and investor performance at 99% confidence level. This implies that investors are influenced by the various elements of heuristics which include availability bias, overconfidence, anchoring and Gamblers fallacy when making decisions. Therefore there is a significant association between prospect variables and investor performance at 5% significance level in the performance of their investment.

H02: Prospect attributes have no significant influence on the performance of securities held by individual investor

Statistical Assessment for Factor Analysis Suitability: KMO Measure and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.651
Approx. Chi-Square	25.247
Df	15
Bartlett's Test of Sphericity Sig.	.0002

Source: Author

The study found that the **KMO** was .651 hence meets the satisfactory level of carrying out a factor analysis while the Bartlett's Test of Sphericity was .0002. Therefore, the Null hypothesis is rejected that prospect attributes have no significant influence on the performance of securities

held by individual investor at the NSE. A significant association occurs between prospect variables and investor performance at 5% significance level. An indication that investors are influenced by the various elements of prospect which include mental accounting, loss aversion and regret aversion.

H03: Market attributes have no significant influence on the performance of securities held by individual investor

Assessing Factor Analysis Feasibility: KMO Measure and Bartlett's Test Results

KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.675
Approx. Chi-Square	19.807
Df	15
Bartlett's Test of Sphericity Sig.	.0009

Source: Author

The study found that the **KMO** was .675 hence meets the satisfactory level of carrying out a factor analysis while the Bartlett's Test of Sphericity was .0009. Therefore, the Null hypothesis is rejected that market attributes have no significant influence on the performance of securities held by individual investor at the NSE. A significant association occurs between market attributes and performance of securities at 5% significance level. This shows that investors are influenced by market attributes such as changes in price, information on the market and stocks past trends when making investment performance.

H04: Herding attributes have no significant influence on the performance of securities held by individual investor

Assessment of Factor Analysis Suitability: KMO Measure and Bartlett's Test"

KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.883
Approx. Chi-Square	16.095
Df	6
Bartlett's Test of Sphericity Sig.	.013

Source: Primary Data

The study found that the **KMO** was .883 hence meets the satisfactory level of carrying out a factor analysis while the Bartlett's Test of Sphericity was .013. Therefore, the Null hypothesis was not rejected that herding attributes have no significant influence on the performance of securities held by individual investor at the NSE. It was conclude that there is no significant association between herding attributes and investor performance at 99% confidence level. This shows that investors not influenced by the decisions of other investors when making their own decisions.

5.0 Discussion of Findings

5.1 Discussion of Findings

This study aimed to explore the influence of behavioral attributes on individual investor performance at the Nairobi Securities Exchange (NSE). The specific objectives focused on heuristic, prospect, market, and herding variables, with the goal of understanding their impact on securities performance.

Heuristic Attributes

In assessing heuristic attributes, the study identified four variables: Availability Bias, Anchoring, Gamblers Fallacy, and Overconfidence. Among these, Availability Bias emerged with a substantial impact (mean=3.95), suggesting that readily available information significantly influences investor decisions. Notably, investors at the NSE exhibit a preference for local stocks over international ones due to the accessibility of information on domestic stocks, aligning with findings by Waweru et al. (2018). This inclination towards home-markets implies that past experiences shape investor confidence and influence investment performance.

The moderate impact of Anchoring (mean=3.44) indicates that investors use recent stock prices to forecast changes, affirming the belief that previous prices determine current ones. However, the low impact of Gamblers Fallacy (mean=2.84) contradicts expectations, suggesting that investors struggle to predict market outcomes accurately. This finding diverges from Waweru et al. (2018), emphasizing the nuanced nature of investor decision-making at the NSE.

Prospect Attributes

Among prospect attributes, the study highlighted Mental Accounting, Loss Aversion, and Regret Aversion. Mental accounting exhibited the highest decision-making impact, confirming that investors treat portfolio elements separately, potentially overlooking the interconnectedness of different investment possibilities (Rockenbach, 2020). Loss aversion, evident in investors taking more risks after gains and becoming risk-averse after losses, aligns with behavioral theories, such as Odean (2018), suggesting that these tendencies can influence investor wealth negatively. Regret aversion, with a moderate impact, reflects investors' reluctance to sell losing stocks, a

behaviour observed by Fogel and Berry (2021) and emphasizing the emotional aspect of decision-making.

Market Attributes

Market factors, including information about customers, stock price changes, past stock trends, and company performance, emerged as significant influencers on securities performance. These variables play a crucial role in investors' decision-making processes, emphasizing the importance of market information in shaping investment strategies. The study underscores the necessity for investors to consider these market variables when making critical decisions related to investment performance.

Herding Attributes

Contrary to expectations, herding attributes demonstrated low impacts on the performance of individually held securities. This finding contradicts studies like Farber, Nguyen, and Vuong (2021), challenging the notion that herding strongly influences market returns. The study suggests that, at the NSE, investors are not significantly swayed by the decisions of others in terms of choosing stock types, volumes, buying and selling stocks, and reacting to market fluctuations during investment decisions. The study provides valuable insights into the nuanced influence of heuristic, prospect, market, and herding attributes on individual investor performance at the NSE. The study emphasizes the complex nature of investor decision-making and offers a foundation for further research in understanding and refining strategies to enhance investment outcomes.

5.2 Summary of Findings

The study delved into the influence of behavioral attributes on individual investor performance at the Nairobi Securities Exchange (NSE). Specific objectives focused on heuristic, prospect, market, and herding variables, revealing valuable insights into investor behavior. Noteworthy findings include the demographic profile of respondents, with the majority below 45 years and investments ranging between Kshs. 250,000 and 500,000. Additionally, a substantial percentage (78%) of respondents had traded for less than 7 years, indicating a recent surge in interest in the stock exchange.

Three null hypotheses were rejected, affirming associations between heuristics, prospect, and market variables with individual securities performance. However, the study found no significant association between herding variables and investor decisions, suggesting that individual investors at the NSE are not strongly influenced by the decisions of others in their investment performance.

5.3 Conclusion

The study establishes a crucial relationship between behavioral attributes and the performance of securities held by individual investors in Isiolo County, Kenya. Key findings indicate that risk tolerance, overconfidence, and loss aversion significantly impact investment decisions. Herding behavior was observed, potentially linked to local cultural and social factors. Prospect attributes influenced conservative portfolio strategies, potentially hindering diversification, and overconfident investors exhibited higher trading activity, leading to increased transaction costs.

5.4 Recommendations to Individual Investors at NSE

Given the moderate impact of overconfidence on securities performance, the study recommends that investors maintain a balanced level of confidence. Overconfidence can be advantageous in certain circumstances, allowing investors to utilize their skills and knowledge effectively. However, the study cautions against underestimating associated risks, emphasizing the need for clear and suitable utilization of confidence for optimal investment results. Investors are also encouraged to actively seek information on market variables, including price changes, market trends, and customer preferences, to enhance their decision-making processes.

5.5 Suggestions for Further Study

To bolster the study's findings, further research is recommended with a larger and more diverse sample. Moreover, future research endeavours can refine behavioural finance measurements tailored to the specific context of the Nairobi Securities Exchange. Exploring the behaviours influencing institutional investors at the bourse presents another avenue for future research. Conducting additional studies on behavioral finance across various security market types containing diverse investor components will contribute to a more comprehensive understanding of investor decision-making processes

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