"An Empirical Study on Behavioural Factors Influencing Individual Investors Decision Making in Nepal Stock Exchange"

A Dissertation submitted to the Office of the Dean Faculty of Management in Partial Fulfillment of the Requirements for the Master's Degree

By

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Certificate of Authorship

I hereby corroborate that I have researched and submitted final draft of the dissertation entitled “An Empirical Study on Behavioural Factors Influencing Individual Investors Decision Making in Nepal Stock Exchange”. The work of this dissertation has not been submitted previously for the purpose of conferral of any degree nor has it been proposed and presented as a part of requirement of any other academic purpose.

The assistance and cooperation that I have received during my research ash been acknowledged. In addition, I declare all the information sources and literature reviews used in the research has been cited in the reference section of the dissertation.

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Sachin Acharya

Date:

Report of Research Committee

Mr. Sachin Acharya has defended research proposal entitled **"An Empirical Study on Behavioural Factors Influencing Individual Investors Decision Making in Nepal Stock Exchange"** Successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestions and guidance of supervisor **Dr. Binod Shah** and submit the dissertation for evaluation and viva voce examination.

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Dissertation Proposal Defended Date:
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Approval Sheet

We have examined the dissertation entitled **"An Empirical Study on Behavioural Factors Influencing Individual Investors Decision Making in Nepal Stock Exchange"** presented by **Sachin Acharya** for degree of **Master of Business Studies**. We hereby certify that the dissertation is acceptable for the award of degree.

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Sincerely,

Sachin Acharaya

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List of Abbreviations

ANOVA	=	Analysis of Variance
DV	=	Dependent Variable
i.e.	=	That is
IBM	=	International Business Machine
IV	=	Independent variable
LA	=	Loss Aversion
M	=	Mean
OC	=	Overconfidence
PA	=	Price Anchoring
RA	=	Regret Aversion
REP	=	Representative
SD	=	Standard Deviation
SPSS	=	Statistical Package for the Social Science

Abstract

Although finance has been studied for thousands years, behavioral finance which considers the human behaviors in finance is a quite new area. Behavioral finance theories, which are based on the psychology, attempt to understand how emotions and cognitive errors influence individual investors' behaviors (investors mentioned in this study are referred to individual investors). This research entitled — Behavioural Factors influencing investment decision making: an empirical study of Nepal Stock Exchange is an attempt to discuss the impact of behavioural biases on the decision making process of investors. The theoretical framework related to this issue has been mentioned and a relevant literature is reviewed. The literature review consists of some theoretical studies, as well as other practical ones. The methodology of the research is the quantitative one where a questionnaire was designed, distributed to a sample of 400 individual investors in Nepal Stock Exchange. In addition, findings of the research are discussed in relation to research hypotheses and conclusions are drawn. Out of 400 targeted respondents, 204 were useable questions were received for final analysis.

The value of Cronbach's Alpha of all variables are above 0.6 (min 0.68 and max 0.806) which shows the data are reliable. Large number of respondents have invested into the NEPSE for bonus and dividends (36.7%) and for short term trading (33.8%). The correlation between investment decision making and Investment Decision, Regret Aversion Bias, Loss Aversion Bias, Representativeness, Price Anchoring, Overconfidence are 0.721**, 0.765**, 0.730**, 0.738 and 0.613 respectively. The values of correlation shows that the relation between dependent variable and independent variables are positive and strong. Furthermore, the regression model and the coefficient table shown the model and the variables used in the model are statistically significant at 95% confidence. The value of R^2 0.905 which indicates that 90.5% of the investment decision made by the investors are influenced by the combination of regret aversion bias, loss aversion bias, representativeness, price anchoring and overconfidence.

Chapter I

Introduction

1.1 Background of the study

The stock market is a marketplace where investors may purchase and sell stocks that reflect ownership in a publicly listed corporation (Zuravicky, 2005). In addition to providing capital for businesses, the stock market serves as a signaling mechanism for management, expressing how investors feel about the company's performance and investment plans (Samuel, 1996). Furthermore, it promotes corporate governance by urging corporations to be more accountable to shareholders (Samuel, 1996).

One of the most significant benefits of the stock market is its capacity to provide a mechanism for corporations to raise funds (Zuravicky, 2005). Teweles and Bradley (1998) observe that investors are lured to the stock market because of the opportunity for long-term capital growth, dividends, and inflation protection. Moreover, Jaswani (2008) emphasizes the stock market's liquidity, which makes it a more appealing investment alternative than other asset classes.

Investors buy stocks to become shareholders in the company, giving them a stake in the company's success or failure (Croushore, 2006). Shareholders profit when a corporation pays dividends or when its stock price rises. To serve on the board of directors, shareholders must own a certain number of shares, which allows them to make strategic decisions and set the company's direction (Zuravicky, 2005).

The history of financial activities related to the stock market dates back to ancient civilizations. The Romans were pioneers in establishing corporative organizations, where capital was raised by selling shares to the public for bidding on government contracts in the second century BC (Sobel, 2000; Smith, 2004). The Forum, located near the Temple of Castor in Rome, served as a vast stock exchange where people traded not only shares and bonds but also various goods for cash (Smith, 2004).

By the 1000s, some share-holding firms in Europe resembled old Roman companies, but sole proprietorship was still preferred (Sobel, 2000). The first brokers appeared in the fifteenth century, and during this time, the Rialto Bridge of Venice was the business center for Europe (Sobel, 2000). The commercial revolution in the sixteenth,

seventeenth, and eighteenth centuries led to the rise and fall of hundreds of joint-stock ventures (Sobel, 2000). In the sixteenth century, the first active market was held in Antwerp and later in Amsterdam, which became the financial center of northern Europe (Smith, 2004). The London Stock Exchange was formed in 1801 by brokers and dealers (Smith, 2004). In America, the trading of slaves and corn was first held by a group of merchants in 1752, and a formal market was later established at the foot of Broad Street and in Fraunces Tavern (Sobel, 2000).

Currently, the stock market is divided into three groups based on market quality criteria: developed, developing, and frontier or pre-emerging (FTSE, 2011). Developed markets include the United States, the United Kingdom, Japan, and the European Union, whereas developing markets include Mexico, China, and India, and frontier markets include Vietnam, Estonia, and Kenya. Being the world's most powerful economy, the stock market in the United States has a substantial effect on global security markets (Reza, Zamri, & Tajul, 2009). According to Reza, Zamri, and Tajul (2009), the New York index has a daily effect on Asian stock markets. Patricia and Oluwatobi (2005) discovered that the world's major stock markets, including the US, the UK, and the EU, are converging over the long run, while the US and UK stock markets appear to be less linked to a common trend. In other words, stock markets have a significant degree of impact and reliance on one another.

1.2 Problem statement

In business world, there are millions of decisions made around the world every minute. Investment decisions are not an exception of this statement. Behavioral factors affecting the decision making process in the world of investment are many and various. One type of these factors is related to investors' psychological compositions which are responsible for their financial behaviour. In Nepal, there are a large number of studies carried out in understanding investors'

In Nepal, there are a large number of studies carried out in understanding investors behavior and it's impact on investment performance. For example; Thapa (2014), Dangol and Manandhar (2020), and Gnawali (2021) found that investmest decisions of Nepalese investors are influenced by behavioral biases. Despite a large number of studies on understanding investors' behavior carried out, there have been no empirical studies available in examining the relationship between investment-decision making

process and behavioral biases in Nepal. The goal of this study is to determine whether investors and decision-making behaviors are consistent with the theoretical model of rational decision- making. It also identifies the causal links between three behavioral biases that have been postulated and each stage of the decision-making process. Additionally, the impact of different demographic factors on behavioral biases is also examined.

The behavioural factors influencing investment decision making are many and haven‘t been studied in Nepal particular in Nepal Stock Exchange, Hence, this research will to try to uncover the behavioural factors standing behind the investment decision making process as they are affecting the decisions made by investors in Nepalese stock Exchange. So, what impact do behavioural factors have on individual investors' investment decision making in Nepalese stock Exchange Market?

To get the research objectives, some questions are raised for the authors during the study.

The study is done through answering these following questions:

- What are the behavioral variables influencing individual investors' decisions at the Nepal Stock Exchange and which factors do they belong to?
- Which of the behavioural variables has the most impact on investment decision at Nepal Stock Exchange?

1.3 Objectives of the study

The objectives of this study is to develop a comprehensive understanding of the behavioral factors that affect the financial decision-making of individual investors in the Nepalese Stock Exchange. To simply the necessity of this research two objectives has been formulated:

- To assess the degree of correlation between independent variables such as overconfidence, loss aversion bias, regret aversion bias, price anchoring, and representativeness with the financial behavior of individuals in their investment decisions in the Nepalese Stock Exchange.
- To examine the impact of independent variables (over confidence, loss aversion bias, regret aversion bias, price anchoring and representativeness) as financial behaviour of individual on investment decision in Nepalese Stock Exchange

1.4 Research hypothesis

- H1: There is significant relationship between over confidence and investment decision at Nepal Stock Exchange.
- H2: There is significant relationship between loss aversion bias and investment decision Nepal Stock Exchange.
- H3: There is significant relationship between regret aversion bias and investment decision Nepal Stock Exchange
- H4: There is significant relationship between price anchoring and investment decision Nepal Stock Exchange.
- H5: There is significant relationship between representativeness and investment decision Nepal Stock Exchange.

1.5 Rationale of the study

The study is important for many parties due to different reasons as follows:

To the individual investors:

All investors show different behavior while investing in a financial product. This report is a useful resource for investors to use when analyzing stock market trends and stock investment behavior before making optimal investment selections. Also, this study suggests investors to follow the rational decision-making process in order to refrain from the behavioral biases like disposition effect, herding, etc.

 To the institutional investors:

This study provides institutional investors offers a solid foundation for forecasting future stock market trends and providing investors with more trustworthy consultant information. Additionally, financial advisors will benefit the most from this study because it will help them better understand the psychology of their consumers. It can help them create behaviorally adapted portfolios that best match the inclinations of their clients.

 To the field of behavioral finance:

In comparison to other financial theories, behavioral finance concepts are relatively recent. Few research has been undertaken in underdeveloped nations like ours, but behavioral finance is routinely used in industrialized security markets to investigate the behaviors that influence investment decisions. Thus, this study will contribute in behavioral finance theories like prospects theory and heuristics theory.

1.6 Limitation of the study

Every study has some limitations. This research was also undertaken within the following limitations:

- Respondents emotions, perception and suggestions are not included in this research.
- The sample will be taken from randomly selected respondents, who might not represent the whole population
- The size of the sample was relatively small. A bigger sample would probably enhance the reliability of the research.
- As respondents are chosen from ten leading securities companies, generalization for the whole population is not perfectly fulfilled although random sampling is applied.

1.7 Operational definitions of the variables

Overconfidence:

People are overconfident about their abilities. Overconfidence manifests itself in a number of ways. One example is too little diversification, because of a tendency to invest too much in what one is familiar with. Thus, people invest in local companies, even though this is bad from a diversification viewpoint because their real estate (the house they own) is tied to the company's fortunes.

Representativeness:

Along with availability and impact, representativeness is one of the main general-purpose heuristics. It is applied when determining the likelihood that an event or item belongs to class B by examining how closely A resembles B. When we do this, we disregard data on the overall likelihood that B will occur (Kahneman & Tversky, 1979). On average, people are underweight throughout time. People frequently overestimate the value of recent experience. This is referred to as the & quot; rule of small numbers & quot; at times. For instance, many individuals start to think that strong equity returns are & quot normal & quot; when they have been sustained over a long period of time, as was the case between 1982 and 2000 in the US and western Europe.

Loss Aversion Bias:

Loss aversion bias was devised in 1979 by Daniel Kahneman and Amos Tversky as part of the original prospect theory, notably in response to the prospect theory's finding that people have a larger drive to avoid losses than to obtain benefits.

Regret Aversion Bias:

Individuals who suffer from regret aversion avoid taking decisive choices because they are afraid that any path they choose will be less than optimum in retrospect. Essentially, this bias aims to avoid the agony of regret caused by bad choice making. As a result, people make decisions in such a way that they avoid experiencing emotional anguish in the case of a negative outcome.

Price Anchoring:

It is a psychological heuristic that affects how people perceive probability. Investors showing price anchoring are typically affected by purchase points or arbitrary price levels or price indexes and prefer to adhere to these figures when confronting questions like should I buy or sell this security?

1.8 Organization of the study

The study has organized into five chapters each denoted to some aspects of study of clearing and settlement system. The title of each chapter is as follows:

Chapter-1 Introduction

In this section, we will include general background of the study, statement of problem, objective of the study, significance of the study and limitations of the study.

Chapter-2 Literature Review

Regarding the research in any topics there should be consisted about the literature review; because it makes attractive and simplicity to a report. This chapter will also consist of the review of literature, conceptual review and review of related journals, books and previous studies relevant to study.

Chapter-3 Research Methodology

The third chapter explains the research methodology used or the purpose of the study, which includes research designing, source of data, data collection procedure, population

and sample size of the study, data processing procedure and financial as well as statistical tool, analytical tools, description, comparison and so on.

Chapter-4 Results and Discussions

The body of report is defined by this chapter; will attempt to analyze and evaluate the data with the help of analytical tools and interpret the result according to input, process and output method. Collection and presentation of data will be input, analysis of data will be process and findings or summary will be output.

Chapter-5 Summary and Conclusion

This chapter will sum up the results obtained through analysis and provides reasonable recommendation as per the result of the study. Findings of the study will also be covered in this chapter. Being an end section of the study; will be depended upon the conclusion with references and appendices.

Chapter II

Literature Review

2.1 Background of the study

This chapter deals with the previously done research on the similar topic. The main objectives of literature review in this research is to surveys the literature in your chosen area of study synthesizes the information in that literature into a summary, it critically analyses the information gathered by identifying gaps in current knowledge; by showing limitations of theories and points of view; and by formulating areas for further research and reviewing areas of controversy and to presents the literature in an organized way.

In an ideal setting, the price of a security matches its "basic worth," because frictions do not exist and actors appear to be rational. The fundamental value is defined as the "discounted sum of predicted future cash flows," assuming that investors are capable of appropriately processing all available information and that the discount rate is compatible with the acceptable preference specification (Barberis & Thaler, 2003, p.1054). The Efficient Markets Hypothesis (EMH), which supports the view that real prices represent basic values, asserts that prices are correct because they are decided by actors with rational desires who understand Bayes' law (the likelihood of one occurrence given by another). Furthermore, an efficient market is one in which average returns cannot be larger than those justified by the risk, regardless of the investing method used (Barberis & Thaler, 2003, p.1054). Although not all investors are rational, the markets are supposed to be rational, according to EMH.

Additionally, rather than predicting the future, markets are expected to produce impartial projections. Behavioral finance, in contrast to this theory, contends that financial markets do not always exhibit informational efficiency (Ritter, 2003, p.430). Because individuals are not always rational, their financial decisions may be influenced by behavioral biases. As a result, researching behavioral finance is crucial in finance, where cognitive psychology is used to understand human behaviour. If people's decisions do not follow rational thought, the consequences of behavioral biases should be identified. It will be much more significant if their cognitive impairments influence pricing and are not readily arbitraged away (Kim & Nofsinger, 2008, p.2).

The mid-1980s are regarded as the beginning of this study field. DeBondt and Thaler demonstrate that the stock market overreacts to information (1985, p.392-393). Moreover, Shefrin and Statman (1985, p.777) suggest that investors are more ready to sell winning equities than losing ones, even when selling losers is the wisest option. If these research constitute the beginnings of behavioral finance, it has been in existence for more than two decades.

Earlier, behavioral finance was not broadly accepted (Kim & Nofsinger, 2008, p.2), and the work of DeBondt and Thaler was no exception, as it was questioned and faced several objections (DeBondt & Thaler, 1995, p.385-387). Lately, "the repercussions of less-than rational actors" have been investigated using a variety of theoretical models. Initially, most research focused on asset price; but, subsequently, the influence that managers may have on decision making processes, rather than rational ones, have been integrated in many models. Barberis and Thaler (2003, p.1063) are two well-known authors that present an outstanding research on several sorts of behavioral biases that impact decision making and financial markets.

Behavioral finance research has faced criticism from opponents who argue that the data used does not align well with the theories of market efficiency and asset pricing models, making it less persuasive to skeptical audiences. However, this limitation can be overcome by using individual brokerage data. Several studies have demonstrated that individual investors are influenced by various behavioral biases (Kim & Nofsinger, 2008, p.2), which have been tested by numerous researchers, including Hirshleifer (2001). Therefore, individual brokerage data can provide a more accurate representation of investor behavior, and help to validate the findings of behavioral finance research.

The efficient market hypothesis:

To establish a solid foundation, it is necessary to discuss some definitions of Efficient Market Hypothesis (EMH) before proceeding with further elaboration. According to Fama's (1970) definition, market efficiency means that asset prices in financial markets fully incorporate all available information. EMH assumes that markets are efficient because prices in the market reflect all types of information to the degree that individual investors cannot beat or outperform the market. The term EMH is also known as the random walk theory, where prices are equally expected to rise or fall, and no investor

can predict its path. Malkiel (1973) advocates that the market and stocks could be just as random as flipping a coin.

Fama (1965) first used the term 'efficient' market, where large numbers of rational profit-maximizers actively compete, trying to predict future market values of individual securities, and where important current information is almost freely available to all participants. In an efficient market, competition among the various intelligent investors leads to a situation where, at any point in time, actual prices of individual securities already reflect the effects of information based both on events that have already occurred and on events which the market anticipates to happen in the future (Karz, 2012). This implies that in an efficient market, the actual price of a security at any point in time will be a good estimate of its intrinsic value (Fama, 1995).

EMH maintains that all stocks are perfectly priced according to their inherent investment properties, and all market participants possess the same knowledge (Fama, 1970). The efficiency in EMH refers to information efficiency, where financial markets incorporate all types of information into stock prices, and the market has no memory. The arrival of new information into the market causes the random movement of share prices. Therefore, when investors try to gain profit by investing in undervalued stocks, EMH deems their attempts futile. In other words, an average investor, whether an individual, a pension fund, or a mutual fund, cannot hope to consistently beat the market, and the vast resources that such investors dedicate to analyzing, picking, and trading securities are wasted (Shleifer, 2004).

Challenging the EMH

Behavioral finance presents an alternative perspective to the Efficient Market Hypothesis (EMH), which posits that markets function well and security price changes reflect genuine information (Shiller, 2003). Behavioral finance seeks to explain observed market inefficiencies and cracks in the EMH (Baker & Ricciardi, 2015; Hirshleifer, 2015). Hirshleifer (2015) provided an example of market inefficiency by demonstrating that the stock price of EntreMed increased by 600% in a single weekend following the republication of news that had already been made available to the public five months earlier regarding a new cancer drug. This apparent violation of the principles of the EMH, specifically the semi-strong form, suggests that prices do not

always adjust rapidly to new information and reflect all available public information (Hirshleifer, 2015).

Shiller (2003) posits that behavioral finance takes a broader approach than the efficient market framework and incorporates the fields of psychology and sociology. According to Statman (2014), standard finance adherents assume that all people are rational, the market is efficient, and the expected return of different investments is determined by the standard asset pricing theory, where risk determines differences in investment returns. In contrast, behavioral finance theorists assume that people are normal, the market is not entirely efficient but still difficult to beat, and the expected returns of investments are best described by the behavioral asset pricing theory, where different returns of investments are determined by more factors than solely risk (Statman, 2014).

Thaler (2016) suggests that economics should incorporate two distinct theories. Normative economic models should show the optimal solution to specific problems, while descriptive models should capture how humans actually behave. Behavioral finance falls into the latter category, recognizing that human behavior is not always rational and that this irrationality can impact financial decisions and the efficiency of markets.

Emergence of Behavioural Finance:

The primary presumption of standard finance is that investors make rational decisions and take into account all relevant information when making investment decisions for their portfolios. The Efficient Market Hypothesis (EMH), a key theory of standard finance, supports this assumption. Psychologists have questioned this premise over the years, arguing that investors cannot be rational since their decisions are impacted by cognitive and psychological flaws. The research conducted in this area by a number of well-known psychologists led to the creation of a new field of financial economics called behavioral finance. When making financial decisions, investors' psychological makeup is taken into account by behavioral finance. Modern portfolio theory and the efficient market hypothesis are prioritized by traditional academic finance, but the developing discipline of behavioral finance looks into psychological and sociological concerns that have an impact on how people, groups, and organizations make decisions (Ricciardi & Simon, 2000).

Behavioral finance differs from this theory in that it claims that financial markets are not always informationally efficient (Ritter, 2003). People's financial decisions may be influenced by behavioral biases because they are not always rational. As a result, behavioral finance research is crucial in finance, where cognitive psychology is used to better understand human behavior. When people make decisions that defy logic, behavioral biases should be recognized as a possible cause. It will be even more important if their mistakes in judgment affect prices and simply be arbitraged away (Kim & Nofsinger, 2008). This subject of study is thought to have begun in the middle of the 1980s. It has been demonstrated by De Bondt and Thaler (1995) that the stock market overreacts to news. Furthermore, according to Shefrin and Statman (1985), stockholders are more ready to sell their winning equities than their losing ones, even when selling the losers is the wisest option. The origins of behavioral finance can be traced back to these investigations. Initially, behavioral finance was not well-liked. The work of De Bondt and Thaler (1995), as well as Kim and Nofsinger (2008), was questioned and met with several objections.

Many theoretical models have recently been used to investigate "the ramifications of less- than-rational agents." Initially, most studies focused on asset price; however, more recently, the implications of managers' decision-making processes, rather than the rational ones, have been integrated into numerous models. Well-known writers Barberis and Thaler, published in 2003, have done an excellent study on a variety of behavioral biases that affect financial markets and decision-making. The majority of behavioral finance research is based on stock data, which defies asset pricing and market efficiency assumptions. Some critics contend that as a result, they start out slowly and seem less convincing to audiences who are cautious at first. Using individual brokerage data removes this limitation. Individual investors are affected by several behavioral biases, according to numerous research (Kim & Nofsinger, 2008).

Then, different researchers put these behavioral biases to the test, including Hirshleifer (2002), who presents empirical data on asset pricing. Although well-designed trials may readily control the environment, behavioral finance theories haven’t been put to the test with many experiments (Kim & Nofsinger, 2008). A new area of financial research called behavioral finance has emerged as a result of a paradigm shift that has recently

occurred in the study of stock market behavior. This paradigm shift has altered the focus of research from the financial environment & to the agents of this environment. With the aid of models that are less constrained than those based on Von Neumann-Morgenstern anticipated utility theory and arbitrage assumptions, financial markets are examined within the paradigm of behavioral finance (Ritter, 2003).

The challenges that the conventional paradigm faced led to the emergence of behavioral finance, a novel approach to the financial markets. In general, it makes the case that models with certain actors who are not totally rational can help us understand various financial occurrences (Barberis & Thaler, 2003). Models used in behavioral finance include some agents who are not entirely rational due to preferences or false beliefs. The study of behavioral finance focuses on how psychology affects financial choices made by individuals, markets, and organizations. What do individuals do and how do they do it? is the fundamental concern (Bondt et al., 2008). The literature contains discussions of behavioral finance from a variety of angles. Numerous academics and writers have provided their own analyses and definitions on the subject.

Behavioural finance is a comparatively young discipline that combines cognitive and behavioral psychology theories with traditional economics and finance to explain why people make poor financial decisions (Barber & Odean, 2002). The topic began with the release of a 1979 study on prospect theory by pioneers Daniel Kahneman and Amos Tversky, and Richard Thaler expanded on their research in 1980 with "Toward a Positive Theory of Consumer Choice" (Kahneman, 2011; Thaler, 1980).

Thaler, who has become one of the most renowned theorists in this field, has authored several books on the subject, including Nudge: The Gentle Power of Choice, Quasi-Rational Economics, The Winner's Curse: Paradoxes and Anomalies of Economic Life, and Advances in Behavioural Finance Volumes I and II (Thaler, 2008, 2015, 1992, 2001). In 2002, Kahneman and Tversky were awarded the Nobel Memorial Prize in Economics for their contributions to the field (Kahneman, 2011).

According to Barber and Odean (2002), behavioural finance incorporates "observable, systematic, and very human departures into standard models of financial markets," and it focuses on exceptional cases that occur during the decision-making process, which are caused by factors such as uncertainty and emotional confusion. This field examines

the psychological biases and mental shortcuts used by individuals to make investment decisions, and it seeks to explain the anomalies and bubbles that occur in the financial market (Abu-Rub & Sharba, 2010).

As an example of one of the many studies on these anomalies, Abu-Rub and Sharba (2010) examined calendar effects on investment decision making in the Palestine Exchange (PEX) and the anomalies that occurred in stock prices before and after holidays, both in the Arab region and the world.

2.2 Theoretical framework

The theory of market efficiency, which underpins modern finance, established the basis for asset valuation. Eugene Fama, the precursor of market efficiency theory, argued that in an efficient market, the available information is reflected in the stock price, and any new information entering the market causes an immediate reaction in the asset price to reflect its intrinsic value (Fama, 1970). Fama also developed the random walk hypothesis (RWH), which posits that the price of a share is as unpredictable as a series of random numbers (Fama, 1965). However, empirical studies have accumulated over the last thirty years, invalidating the predictions of the RWH model, indicating the limitations of the hypothesis (Lo, 2005).

The increasing number of market anomalies, such as calendar anomalies, valuation effects, and momentum effects, has generated a research movement to comprehend their underlying reasons. These anomalies are observed at both the individual and aggregate level, where investors' portfolios tend to be poorly diversified, display excessive turnover rates, and companies pay dividends despite a preference for share buybacks. Valuation anomalies are also common, where some asset classes show structurally high returns for low risk or low correlation with other assets. These market inefficiencies have led to the development of behavioural finance, a field that integrates insights from psychology into conventional finance theory.

The emergence of behavioural finance gained further recognition when Daniel Kahneman, a Nobel Prize-winning psychologist, introduced his research in the field (Kahneman, 2011). Despite criticisms from proponents of the standard approach, behavioural finance has established itself as a legitimate field of study through a rigorous methodology that avoids intuitive psychology and bridges individual

psychology with market behavior. As a result, general asset valuation models have emerged that merge traditional finance with insights from behavioural finance (Barberis & Thaler, 2003), indicating that the two fields are complementary rather than mutually exclusive.

2.2.1 Behavioral factors impact the process of investors' decision-making

The field of behavioral finance, which incorporates psychology into corporate finance, has been studied by researchers for several years. Early authors such as Simon (1955, 1959), Margolis (1958), and Cyert & March (1963) identified the fundamental mistakes made during the decision-making process of investors, leading to irrational decisions and psychological impacts on investment outcomes. This subject gained popularity in recent years, and seminal research papers by Slovic (1972) on individual misconceptions about risk and Kahneman & Tversky (1979) on heuristic rule biases and decision frames contributed to the development of behavioral finance.

Although there are various definitions of behavioral finance, Lintner (1998) defines it as the study of how humans interpret and act on information to make informed investment decisions, while Olsen (1998) argues that it attempts to comprehend and forecast financial markets systematically, rather than explain rational behavior or point out faulty decisions. Behavioral finance is based on psychology, which suggests that human decision processes are subject to cognitive illusions, divided into two categories: illusions caused by heuristic decision processes and illusions rooted from the adoption of mental frames, grouped in the prospect theory (Waweru et al., 2008, p. 27). These categories, as well as herding and market factors, contribute to the study of behavioral finance (Ritter, 2003).

Choi and Lee (2019) - This study investigates the impact of investor sentiment on stock returns in the Korean stock market. The authors find that investor sentiment has a significant effect on stock returns, and investors tend to overreact to positive and negative news. The authors suggest that this overreaction to news may result in suboptimal trading strategies and influence investment decisions.

Kaur and Singh (2020) - This study examines the behavior of Indian stock market investors and their decision-making processes. The authors find that investors exhibit herding behavior during periods of high market volatility and uncertainty. Additionally, overconfidence bias leads to excessive trading and negatively affects investment

performance. Similarly, Ghosh et al. (2021) - This study investigates the impact of financial literacy on investment decision-making. The authors find that higher financial literacy is associated with better investment decisions, such as diversification and lower risk-taking. The authors suggest that improving financial literacy among individual investors can lead to better investment outcomes.

Tiwari and Shukla (2021) - This study examines the investment behavior of Indian stock market investors. The authors find that investors tend to exhibit a bias towards momentum investing, where they invest in stocks that have performed well in the recent past. The authors suggest that this bias leads to suboptimal investment performance. Furthermore, Bektas et al. (2021) - This study investigates the impact of political uncertainty on individual investors' decision-making in the Turkish stock market. The authors find that political uncertainty leads to herding behavior, where investors tend to follow the actions of others without conducting their own analysis or due diligence. Additionally, investors tend to overreact to political news, resulting in suboptimal investment decisions.

2.2.2 Heuristic theory

Heuristics are defined as the rules of thumb, which makes decision making easier, especially in complex and uncertain environments (Ritter, 2003, p.431) by reducing the complexity of assessing probabilities and predicting values to simpler judgments (Kahneman & Tversky, 1974, p.1124). In general, these heuristics are quite useful, particularly when time is limited (Waweru et al., 2008, p.27), but sometimes they lead to biases (Kahneman & Tversky, 1974, p.1124; Ritter, 2003, p.431). Kahneman and Tversky seem to be ones of the first writers studying the factors belonging to heuristics when introducing three factors namely representativeness, availability bias, and anchoring (Kahneman & Tversky, 1974). Waweru et al. also list two factors named Gambler’s fallacy and Overconfidence into heuristic theory (Waweru et al., 2008).

Representativeness refers to the degree of similarity that an event has with its parent population (DeBondt & Thaler, 1995,) or the degree to which an event resembles its population (Kahneman & Tversky, 1974,). Representativeness may result in some biases such as people put too much weight on recent experience and ignore the average long-term rate (Ritter, 2003). A typical example for this bias is that investors often infer a company’s high long-term growth rate after some quarters of increasing (Waweru et

al., 2008, p.27). Representativeness also leads to the so-called “sample size neglect” which occurs when people try to infer from too few samples (Barberis & Thaler, 2003). In stock market, when investors seek to buy “hot” stocks instead of poorly performed ones, this means that representativeness is applied. This behavior is an explanation for investor overreaction (DeBondt and Thaler, 1995).

The belief that a small sample can resemble the parent population from which it is drawn is known as the “law of small numbers” (Rabin, 2002; Statman, 1999) which may lead to a Gamblers’ fallacy (Barberis & Thaler, 2003). More specifically, in stock market, Gamblers’ fallacy arises when people predict inaccurately the reverse points which are considered as the end of good (or poor) market returns (Waweru et al., 2008). In addition, when people subject to status quo bias, they tend to select suboptimal alternative simply because it was chosen previously (Kempf and Ruenzi, 2006, p.204).

Anchoring is a phenomena used in the situation when people use some initial values to make estimation, which are biased toward the initial ones as different starting points yield different estimates (Kahneman & Tversky, 1974). In financial market, anchoring arises when a value scale is fixed by recent observations. Investors always refer to the initial purchase price when selling or analyzing. Thus, today prices are often determined by those of the past. Anchoring makes investors to define a range for a share price or company’s income based on the historical trends, resulting in under-reaction to unexpected changes. Anchoring has some connection with representativeness as it also reflects that people often focus on recent experience and tend to be more optimistic when the market rises and more pessimistic when the market falls (Waweru et al., 2008).

Tools like non-algorithm, tricks and techniques that are used to solve problem lead to heuristic problem solving approach. Investors determine the findings for themselves by the process of trial and error, which guides them to choose a certain opportunity. Investors’ decision-making is not rational so it is very difficult to separate the emotional and mental factors involved in the process of decision-making in which the investors go through by collecting relevant evaluation of the information. Following factors are included in Heuristic Decision process:

Representativeness: Kahneman & Tversky (1972) describe representativeness heuristic that is used while making judgments regarding the probability of an event under the state of being unsure of something. Investors' tendency to make decisions established on previous experiences is known as stereotype. Kahneman & Tversky (1982) first proposed it by defining representativeness as; (i) the level to which an event's characteristics are similar to its parent population, also (ii) contemplates prominent features of the procedure by which it is yielded.

Overconfidence: Dittrich, Güth & Maciejovsky, (2001) observed in their experiment that around two third of their participants prone to overconfidence. They further observed that those investors who lose their money in investment, gain more confidence. Confidence might have several dimensions, giving more courage, plays a vital role in gaining success. Confidence alone is not the sole factor to success but still it is usually celebrated and encouraged. Yet, self-confidence is always considered to be a positive trait. In certain cases, investors while overestimating their skills and knowledge indulge themselves into excessive trading.

Anchoring: Human beings start estimating final results by initiating from the beginning values about different situations. That starting point or initial value may be the partial computation or the formulation of a problem. Adjustments are insufficient in both of the cases (Slovic & Lichtenstein, 1971). Different initiating points come up with different estimates, which lead to initial values. This phenomenon is called 'anchoring' by Tversky & Kahneman (1974).

Gamblers Fallacy: While coming to probability, when lack of understanding leads to an incorrect estimation and prediction regarding the onset of events. That one incorrect assumption is called gambler's fallacy. This fallacy arises when the investors predict inappropriately and the anticipation may be good or poor.

Availability bias: It occurs when the evidences that come to our mind are easily overweighed. This biasness causes overreaction by the investors to the market results whether they are positive or negative. Availability bias is a cognitive bias that drives to human to overestimate the probabilities of the events affiliated with memorable or vivid happenings. Investors aim excessive weight on the most information available while making decisions

2.2.3 Prospect theory

Expected Utility Theory (EUT) and prospect theory are considered as two approaches to decision-making from different perspectives. Prospect theory focuses on subjective decision-making influenced by the investors' value system, whereas EUT concentrates on investors' rational expectations (Filbeck, Hatfield, & Horvath, 2005). EUT is the normative model of rational choice and descriptive model of economic behavior, which dominates the analysis of decision making under risk. Nonetheless, this theory is criticized for failing to explain why people are attracted to both insurance and gambling. People tend to under-weigh probable outcomes compared with certain ones and people response differently to the similar situations depending on the context of losses or gains in which they are presented (Kahneman & Tversky, 1979). Prospect theory describes some states of mind affecting an individual's decision-making processes including Regret aversion, Loss aversion, and mental accounting (Waweru et al., 2003).

Regret is an emotion that occurs after people make mistakes. Investors avoid regret by refusing to sell decreasing shares and willing to sell increasing ones. Moreover, investors tend to be more regretful about holding losing stocks too long than selling winning ones too soon (Forgel & Berry, 2006; Lehenkari & Perttunen, 2004). Loss aversion refers to the difference level of mental penalty people have from a similar size loss or gain (Barberis & Huang, 2001). There is evidence showing that people are more distressed at the prospect of losses than they are pleased by equivalent gains (Barberis & Thaler, 2003). Moreover, a loss coming after prior gain is proved less painful than usual while a loss arriving after a loss seems to be more painful than usual (Barberis & Huang, 2001).

In addition, Lehenkari and Perttunen (2004) find that both positive and negative returns in the past can boost the negative relationship between the selling trend and capital losses of investors, suggesting that investors are loss averse. Risk aversion can be understood as a common behavior of investors; nevertheless, it may result in a bad decision affecting an investor's wealth (Odean, 1998). Mental accounting is a term referring to "the process by which people think about and evaluate their financial transactions" (Barberis & Huang, 2001). Mental accounting allows investors to organize their portfolio into separate accounts (Barberis & Thaler, 2003; Ritter, 2003). From own empirical study, Rockenbach (2004) suggests that the connection between different investment possibilities is often not made as it is useful for arbitrage-free

pricing. In this research, three elements of prospect dimension: Loss aversion, Regret aversion, and Mental accounting are used to measure their impact levels on the investment decision-making as well as the investment performance of individual investors at the Ho Chi Minh Stock Exchange.

Framing is the first part of the prospect theory which leads to outcomes and contingencies associated with a particular problem. It is the way facts are presented which influences the choice of an investor. Kahneman & Tversky (1979) found that unlike expected utility theory, investors mark gains and losses differently. Some even concluded that the investors generally conceive the loss of $1 twice painful as compared to the pleasure of $1 gain.

Loss aversion is an important concept in psychology that receives noticeable attention in analyzing economic conditions. When an investor faces loss, then he may become a risk-seeker, but becomes a risk-averse while enjoying gains. Such phenomenon can be called loss aversion (Venkatesh, 2002). Thaler (1980) established this concept of Mental Accounting. Thaler, (1999) conceptualized that 'Mental Accounting Matters'. It is the tendency for people where they separate their accounts and classify them on the basis of variety of subjective criteria, showing the source of money and the intention of each account, and this determines the purchasing decision. It provides the way for decision makers to set the points of references for the accounts that determine losses or gains. Investors are assumed to avoid the losses and shield their investments. According to the views of Thaler & Shefrin (1981) investors should always show some sort of tolerance and should be looking for improving their self-control. Psychologically it is also known as self-regulation.

2.2.4 Market factors

DeBondt and Thaler (1995) suggested that behavioral finance can affect financial markets through investors' behavior. According to their perspective, investors may overreact or underreact to price changes or news, extrapolate past trends into the future, lack attention to underlying stock fundamentals, focus on popular stocks, and seasonal price cycles. These market factors influence investor decision-making in the stock market. Waweru et al. (2008) identified the factors that impact investor decision-making: price changes, market information, past trends of stocks, customer preferences, overreaction to price changes, and fundamentals of underlying stocks.

Empirical evidence shows that changes in market information, fundamentals of underlying stocks, and stock prices can cause overreaction or underreaction to price changes and influence investors' decision-making behavior. DeBondt and Thaler (1985) and Lai (2001) found that overreaction or underreaction to news may result in different trading strategies and influence investment decisions. Waweru et al. (2008) concluded that market information has a high impact on investor decision-making, making investors tend to focus on popular stocks and attention-grabbing events in the stock market. Barber and Odean (2000) emphasized that investors are affected by events in the stock market that grab their attention, even if they do not know if these events will result in good future investment performance. Odean (1998) found that many investors trade too much due to overconfidence and rely heavily on the quality of market or stock information when making investment decisions.

Investors tend to focus on popular or hot stocks in the market (Waweru et al., 2008). Odean (1999) proposed that investors usually choose stocks that attract their attention, and stock selection also depends on investors' preferences. Momentum investors may prefer stocks with good recent performance, while rational investors tend to sell past losers to postpone taxes. Behavioral investors prefer selling past winners to avoid regret related to a loss from stock trading decisions (Waweru et al., 2008). Past trends of stocks can also impact investors' decision-making behavior to some extent (Waweru et al., 2008).

In general, market factors are not considered behavioral factors as they are external factors that influence investors' behavior. However, market factors influence behavioral investors and rational investors differently, and therefore, it is inadequate to exclude market factors when considering behavioral factors that impact investment decisions. This study treats market factors fairly as behavioral factors that influence investors' decisions in the stock market, consistent with Waweru et al. (2008).

2.2.5 Herding effect

Herding effect in the financial market is a phenomenon where investors tend to follow the actions of others. This behavior can result in securities deviating from their fundamental value, which can impact investment opportunities. The impacts of herding on stock price changes can also affect the attributes of risk and return models, which

can impact asset pricing theories (Tan, Chiang, Mason & Nelling, 2008). The behavior of herding can cause emotional biases, including conformity, congruity, cognitive conflict, home bias, and gossip. Investors may prefer herding if they believe it can help them extract useful and reliable information. In some cases, herding can contribute to the evaluation of professional performance since low-ability professionals may mimic the behavior of their high-ability peers to develop their reputation (Kallinterakis, Munir & Markovic, 2010).

Herding investors base their investment decisions on the masses' decisions of buying or selling stocks, while rational investors usually ignore following the flow of masses, which makes the market efficient. Herding can cause an inefficient market and speculative bubbles. Herding behavior is influenced by several factors, including overconfidence and volume of investment, among others. The preference for herding also depends on the type of investor, where individual investors tend to follow the crowd more than institutional investors (Goodfellow, Bohl & Gebka, 2009).

Herding can drive stock trading and create momentum for stock trading. However, herding can become inefficient when the cost to follow the herd increases, and the impact of herding on investment decisions varies. While buying and selling decisions of investors are significantly impacted by herding behavior, other decisions such as the choice of stock, length of time to hold stock, and volume of stock to trade are less impacted (Waweru et al., 2008). Waweru et al. (2008) conclude that herding behavior helps investors have a sense of regret aversion for their decisions, especially in buying and selling decisions. However, these conclusions are based on the case of institutional investors, and the impact of herding on investment decision-making for individual investors may differ. Therefore, further research is necessary to explore the influences of herding on individual investment decision-making at the Nepal Stock Exchange.

Financial theory assumes that financial markets are informationally efficient, meaning that markets anticipate and rationally govern with the available market information. However, anomalies remain unexplained, particularly with regard to the response to corporate earnings information. Two behavioural finance hypotheses have been developed to address this anomaly, the over-reaction of investors (Debondt and Thaler, 1985-87) and the under-reaction of investors (Titman, 1993) to market information. Over-reaction is the behavior of investors who invest in information beyond what is

reasonable, while under-reaction is the opposite of over-reaction, with investors under-reacting to information and adapting their strategies based on past estimates and analysis (Titman, 1993). Conservatism is a bias that consists of underestimating new information and giving too much importance to old information. Individuals tend to undervalue a situation based on new information and over-rely on old beliefs (Edwards, 1966).

Debondt and Thaler's (1985) empirical study found that investors overreact to bad news, and their study of the New York Stock Exchange (NYSE) data over 50 years showed that people are overreacting to unexpected news events, leading to a reversal effect on winning stocks and outperformance of losing stocks. Titman's (1993) research focused on buying the stocks that performed well in the past and selling the stocks that performed poorly in the past, and he found that holding stocks for 6 months led to greater returns, but investors who hold onto them too long may see their returns reversing. The conservatism bias presents an important risk for investors and validates and complements the overconfidence bias, potentially leading to errors of judgment and non-optimization of returns (Edwards, 1966). In conclusion, cognitive biases are crucial in portfolio management and decision-making, and each individual governs each decision differently based on their experience, education, and character. Thus, understanding these biases is crucial in making better investment decisions.

2.3 Conceptual framework

2.3.1 Overconfidence

According to the literature in behavioral finance, overconfidence is a mental shortcut that affects an individual's risk perception and is one of the most documented biases (Daniel & Titman, 2000). Overconfidence is characterized by an extreme belief in oneself and one's abilities (Ricciardi & Simon, 2000). This phenomenon has been observed in various situations, such as when people rate their certainty about their answers to multiple-choice questions (Fischhoff et al., 1977).

Investor overconfidence has two main implications. Firstly, investors may take bad bets due to failing to realize their informational disadvantage. Secondly, overconfidence may lead to excessive trading volume, which is not prudent (Shefrin, 2000). Overconfidence has been identified as a fundamental factor promoting high trading

volume in financial markets, and without it, there would likely be less trading (Shiller, 2000).

2.3.2 Regret aversion

Regret aversion is a cognitive bias commonly observed in investment decision-making where investors seek to avoid the emotional pain of regret that may arise from poor investment decisions (Kahneman & Tversky, 1979). This bias is not just about financial loss, but also includes the sense of responsibility for the decision that led to the loss (Zeelenberg et al., 1998). Consequently, investors may tend to hold onto poorly performing stocks to avoid the regret of having made a bad decision (Loomes & Sugden, 1982).

Moreover, regret aversion may also affect new investment decisions. Investors may be reluctant to invest in companies or sectors that have performed poorly in recent times, fearing the regret that may result from a potential loss (Bell, 1982). This bias could lead to herd behavior among investors, with many choosing to invest in 'hot' or 'respected' companies, as this may provide implicit insurance against regret (Choi et al., 2007). By investing alongside others, investors may feel that they are less likely to regret their decisions, even if the investment does not perform well (Ko et al., 2005). Overall, regret aversion can have a significant impact on investment decision-making, leading to suboptimal investment choices and herd behavior. Therefore, it is important for investors to be aware of this bias and try to overcome it by making decisions based on objective analysis and research rather than emotional impulses (Taffler et al., 2011).

2.3.3 Price anchoring

Anchoring is a cognitive bias in decision making, where individuals cling to a belief or reference point, regardless of its accuracy, and use it as a guide for future decisions (Ricciardi & Simon, 2001). This bias is often used to solve complex problems by selecting an initial reference point and gradually adjusting it to arrive at a final decision. One of the most common anchors is a past event or incident (Kahneman & Tversky, 1974).

Kahneman and Tversky (1974) conducted a study in which a wheel with numbers 1 through 100 was spun, and subjects were asked if the percentage of U.N. membership accounted for by African countries was higher or lower than the number on the wheel. Then, subjects were asked to provide an estimate. The researchers found that the

random anchoring value of the number on which the wheel landed had a significant impact on the subjects' answers. When the wheel landed on 10, the average estimate given by the subjects was 25%, whereas when the wheel landed on 60, the average estimate was 45%.

Anchoring can also source of obstruction in the financial world, as investors often base their decisions on unrelated figures and statistics. For example, investors may purchase stocks of companies that have experienced significant drops in value over a short period. The investor may believe that the drop in price provides an opportunity to buy the stock at a discount, based on a recent "high" that the stock reached. While market volatility can indeed cause some stocks to decline significantly in value, stocks may also fall in value due to changes in their underlying fundamentals (Kahneman & Tversky, 1979). This type of anchoring can lead to suboptimal investment decisions. Overall, anchoring is a powerful cognitive bias that can significantly impact decision-making processes, leading to inaccurate or suboptimal choices (Tversky & Kahneman, 1979).

2.3.4 Representativeness

Representativeness, as defined by Tversky and Kahneman (1973), is a decision-making heuristic that involves comparing the essential features of an event or object to those of the structure or prototype from which it originates. This heuristic is based on the idea that people tend to judge the likelihood of an event based on how well it resembles a particular prototype or stereotype, often leading them to ignore relevant information (Tversky & Kahneman, 1973).

A classic example of representativeness heuristic is the Linda problem, introduced by Kahneman and Tversky in 1983. In this scenario, participants were asked to choose which of two statements was more likely to be true: (a) Linda is a bank teller, or (b) Linda is a bank teller and active in the feminist movement. Despite the fact that it is logically impossible for the conjunction of two events to be more probable than one of the events alone, many participants chose option (b) because it fits better with their mental prototype of a feminist (Kahneman & Tversky, 1983).

However, as pointed out by Tversky and Kahneman (1973), this heuristic can lead to biases in judgments and decisions, as people tend to rely too heavily on stereotypes and fail to take into account relevant information. For example, in the Linda problem, the

stereotype of a feminist is being used to infer additional information about Linda, even though this information is not provided in the description (Kahneman & Tversky, 1983). In conclusion, representativeness is a cognitive bias that affects decision-making and can lead people to ignore important information and rely too heavily on stereotypes.

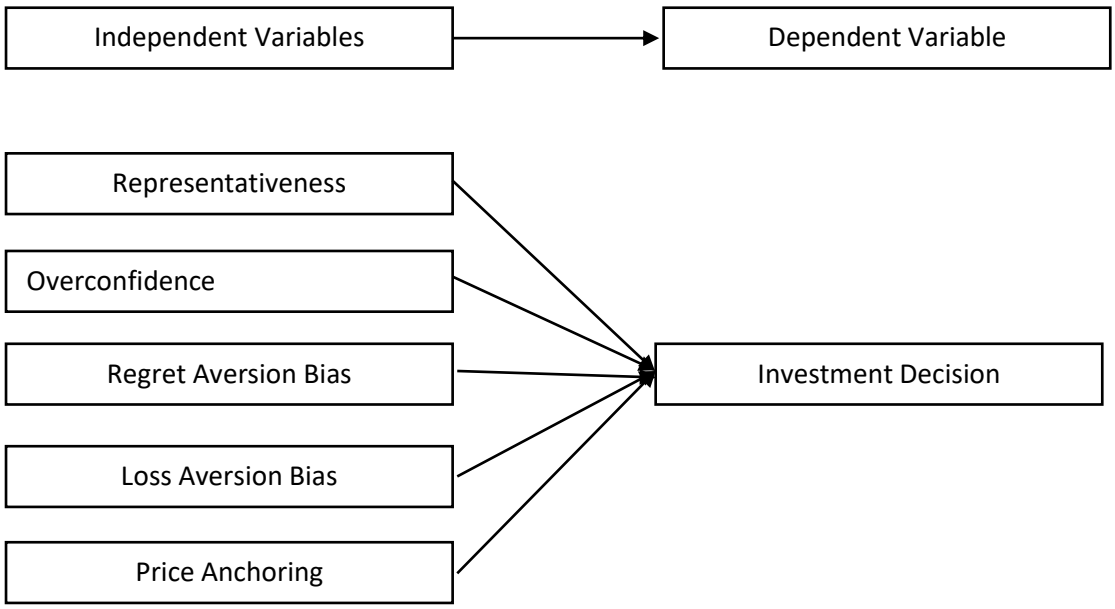
2.3.5 Loss aversion

Loss aversion is a behavioral bias in which people prefer to avoid losses than acquire gains. Kahneman and Tversky (1979) introduced prospect theory, which postulated that losses have a larger impact on preferences than that of the advantages of gains. Studies suggest that losses are as much as twice as psychologically strong as gains. Loss aversion is based on the idea that the mental penalty related to a given loss is greater than the mental reward from a gain of the same size (Kahneman and Tversky, 1979). Investors who are loss averse may be unwilling to realize losses and may even take increasing risks to avoid a losing outcome. This provides a viable explanation for 'averaging down' investment tactics, whereby investors increase their exposure to a falling stock in an attempt to recoup prior losses. Shefrin (2001) terms this phenomenon escalation bias.

Doviak (2016) explains that loss aversion is the idea that investment losses move an investor’s emotional needle more than equivalent investment gains, making investors reluctant to sell any investment that could result in a loss. Thaler (1999) called this myopic loss aversion, arguing that losses hurt investors roughly twice as much as identical gains do. On top of losses hurting, the media often preys on this loss aversion by causing panic as seen on financial television shows when the market is going down. Combining a short-term outlook on stocks with a focus on avoiding losses is a recipe for disaster in investing. One ramification of this is that investors are often reluctant to sell losers and mentally declare those losses (Odean, 1998). Professional investors can also exhibit loss aversion in their trading practices as they stay glued to a reference point for certain stocks (Hirshleifer, 2015).

Figure 2.1

Conceptual Framework



Source: Doviak, 2016; Jordan et al., 2015

Overconfidence

Overconfidence refers to the excessive faith individuals have in their intuitive reasoning, cognitive abilities, and judgments. This leads to the overestimation of their predictive abilities and the precision of the information they possess, which can result in inaccurate decisions.

Representativeness

Representativeness bias can be divided into two types: Base-Rate Neglect and Sample-Size Neglect. In Base-Rate Neglect, investors use familiar classification schemes to determine the potential success of an investment. In Sample-Size Neglect, investors fail to accurately consider the sample size of the data they base their judgments on, leading to incorrect decisions.

Loss aversion bias

Loss aversion bias, developed by Kahneman and Tversky in 1979, refers to people's stronger impulse to avoid losses than to acquire gains. This bias affects decision-making, as individuals try to avoid losses even at the expense of potential gains.

Regret aversion bias

Regret aversion bias occurs when individuals avoid making decisive decisions because they fear the pain of regret that may come with making the wrong decision. This leads to decisions that prioritize avoiding emotional pain over optimizing outcomes.

Price anchoring

Price anchoring is a psychological heuristic that influences the way people perceive probabilities. Investors who exhibit this bias are influenced by purchase points, arbitrary price levels, or price indexes and tend to stick to these numbers when making decisions about buying or selling securities.

2.4 Research gap

A research gap is a topic or area for which missing or insufficient information limits the ability to reach a conclusion for a question. It should not be confused with a research question. To identify research gaps, key steps include identifying the motivating issue/question, identifying key terms associated with this issue, reviewing the literature for relevant publications, reviewing the literature cited by the key publications, and identifying issues not addressed by the literature relating to the critical motivating issue (Nofsinger & Sias, 1999).

Empirical studies suggest that investors with greater financial knowledge tend to make better investment decisions (Nofsinger & Sias, 1999), while investors who make frequent trades and exhibit overconfidence tend to have lower returns on their investments (Barber & Odean, 2001). Conversely, other studies have found that investors tend to overreact to news and events, indicating emotional and cognitive biases (De Bondt & Thaler, 1985), and that individuals are more sensitive to losses than to gains, leading to irrational decision-making (Tversky & Kahneman, 1974). Furthermore, investors are often influenced by the opinions and actions of others, indicating social influence (Brown & Reilly, 2009), and availability bias, where investors rely too heavily on readily available information, can lead to poor investment decisions and lower returns (Odean, 1998).

The main reason to study behavioural finance and its impact on investment decisions is to validate the significance of variables in other countries' stock markets and to

understand actual investment patterns based on various behavioural finance variables (Hussain et al., 2019).

Chapter III

Research Methodology

3.1 Background

This chapter deals with the methodology that has been adopted to achieve the objectives of the study. It mainly provides the overall plan for the collection, analysis and presentation of data required to fulfill the objectives of the study. This chapter starts with a short overview of the research philosophy. It also includes research design, population and sampling procedures, nature and sources of data, outlines of questionnaire design and methods of data analysis.

3.2 Research design

This chapter also explains the collection procedure of data and methodology used by researcher for analyzing the available data. This research has been completed using explanatory and informational research designs to analyze the Behavioural Factors Influencing Individual Investors Decision Making in Nepal Stock Exchange among the investors inside Kathmandu valley. Quantitative research techniques have been adopted to find out the relationship between independent and dependent variables through descriptive analysis, correlation, regression and standard deviation.

It entails preparing the questionnaire that will be filled out by the individuals. This study's conclusions are based on a primary survey. The data was gathered by creating a series of questionnaires and distributing them to the respondents. The questionnaire was completed by the respondent on their own. The conclusions were entirely based on the information and data given by the sampled respondents. Cronbach's alpha is used to examine scale reliability since it is the best measure for numerous scale items and the most popular test for inter-item consistency dependability.

3.3 Population and sample

All the individual investors invested at least once in the Nepal stock exchange have been considered as the population for this study. As per the latest data released on March 05, 2021 by NEPSE, there are altogether 594,879 active investors investing in stock market (NEPSE, 2021). Investors who are residing in Kathmandu valley have been taken as sample for this study. A purposive sampling technique have been used. Purposive sampling (also known as judgment, selective or subjective sampling) is a

sampling technique in which researcher relies on his or her own judgment when choosing members of population to participate in the study (Creswell & Creswell, 2017). The sample size of this research is limited to 204 respondents who are active in Nepal Stock Exchange and are the residents of Kathmandu valley. This sample size is determined with the help of previous research conducted which has similar number of respondents on this topic.

For instance study by Kaur and Singh (2019) on the factors affecting individual investors' investment decisions in the Indian stock market, the researchers used a sample size of 200 respondents. Similarly, research by Muriithi and Masinde (2019) on the influence of behavioral biases on investment decisions in the Kenyan stock market, the researchers used a sample size of 204 respondents. They justified their sample size based on the recommendation of Hair et al. (2010), who suggested a minimum sample size of 200 respondents for multivariate analysis. They also reviewed the literature and found that sample sizes ranging from 100 to 500 respondents were commonly used in similar studies.

3.4 Instrumentation

Instrumentation is the course of action that is obtained to analyze the data that have been collected. This study used quantitative approach. Questionnaires were used as the survey instrument. The Quantitative research is that which tries to find answer to a question through analysis of quantitative data, i.e., the data shown in figures and numbers ((Taylor, 1998). Patton (2002) has argued that a qualitative research methodology can help researchers approach fieldwork without being constrained by any predetermined categories of analysis.

Moreover Gay, Mills and Airasian (2009) explained that the strength of quantitative research is the opportunities that it provides researchers to interact and gather data directly from their research participants to understand a phenomenon from their perspectives. On the other hand, qualitative research carries the uniqueness because it does not give conclusion in advance. It is often regarded as a scientific methodology of management sciences research (Taylor, 1998).

In this research, a structured questionnaire has been prepared where 204 respondents‟ responses have been used to complete this research. The research questionnaire was

prepared in two sections that include demographic information and the questions that were prepared related with this research. The demographic information covers the information like gender, age (in years), highest level of education and number of years working in the restaurant. In the same way, research questionnaire includes multiple questions on the different variables and respondent were asked to tick the options in Five Likert Scale Measurement where 1 to 5 scales were kept to get level of responses as 1- Strongly Agree, 2- Agree, 3- Satisfactory, 4- Disagree and 5- Strongly Disagree to test the hypothesis of research.

3.5 Data collection procedures

The study has been done from both primary and secondary sources of data for an empirical study on behavioural factors influencing individual investors decision making in Nepal Stock Exchange the investors of Kathmandu valley who have been involved in Nepal Stock Exchange.

Primary data was acquired through a questionnaire survey, which was then used to generate quantitative data. A standardized questionnaire was created and delivered to the participants. The questionnaire was completed by the respondents in accordance with the directions provided in the questions. The replies were then gathered from the responder. The questionnaire was given at the convenience of persons who had just made an online transaction during the previous month. The data source was primary in nature, and after gathering the data, it was computed using mathematical tools, and the findings were presented in a table for the reader's clear comprehension. The conclusion was derived from the study findings and analysis.

This study is based on primary sources of data acquired using a structured questionnaire. The sample questionnaire form is included as an appendix at the conclusion of this report. The questionnaire included closed-ended questions, which saves time when filling out the answers. The majority of the closed-ended items were assessed using rating scales to construct an unbiased questionnaire that was simple to respond. The scores on the Five Likert Scale items range from 1-Strongly Disagree through 2-Disagree, 3-Neutral, 4-Agree, and 5-Strongly Agree.

3.6 Methods of analysis

Descriptive statistics provide a useful way to summarize the demographic variables in a sample, such as age, gender, education level, and occupation. These statistics include measures like frequency distributions, percentages, means, and standard deviations, which can help to describe the characteristics of the sample. Inferential statistics, on the other hand, enable researchers to test hypotheses and draw conclusions about a larger population based on the data collected from the sample. These statistical techniques, such as t-tests, ANOVA, chi-square tests, and regression analysis, can be used to examine the relationships between variables and make predictions.

In this thesis, descriptive statistics will be used to provide a summary of the demographic characteristics of the sample. This includes measures such as frequencies and percentages of different demographic variables. Inferential statistics has also used to test hypotheses and draw conclusions about the population based on the sample data. Specifically, statistical tests such as correlation and regression is used to examine the relationships between variables and make predictions about the population.

3.7 Reliability and validity

Reliability, like validity, is a way of assessing the quality of the measurement procedure used to collect data in a dissertation. In order for the results from a study to be considered valid, the measurement procedure must first be reliable.

Reliability is used to access the degree of consistency used under the same condition with the same subjects. One common way of computing reliability of the study is by using Cronbach's Alpha. In short, Cronbach's alpha splits all the questions in every possible way and computes the correlation values for them all. After the collection of data, Cronbach's alpha was applied in this study to measures the internal consistency of the data. The internal consistency reliability coefficient (Cronbach's alpha) for the scales used in this study is considered adequate if it exceeds 0.50, acceptable for the analysis purpose (Sekaran, 2003).

Respondents are asked to confirm all the 30 questions they provide is true and they clearly understand the structured questionnaire. While reliability is necessary, it alone is not sufficient. For a test to be reliable, it also needs to be valid. Therefore, to check the validity of the finding of this study is compared with the previous studies based.

Table 3.1

Reliability Analysis

Sn	Items	Cronbach's Alpha	N
1	Representativeness	0.806	4
2	Overconfidence	0.757	5
3	Loss Aversion Bias	0.653	5
4	Regret Aversion Bias	0.641	5
5	Price Anchoring	0.702	5
6	Investment Decision	0.734	6
7	Behavioural	0.68	5

Chapter IV

Results and Discussions

4.1 Introduction

The objective of this chapter is to analyze and interpret the data collected during the study and presents of the questionnaire survey. The main purpose of this research study is expected to be fulfilled with the outcomes derived from the analysis of the data that were collected during the survey through the primary sources. This chapter deals with the analysis and interpretation of the primary data collected through questionnaire from respondents. Data were analyzed with reference to the objectives of this research as mentioned in the earlier chapter. Descriptive statistics analysis and regression analysis were used for analyzing the data and the descriptive statistics summarizes the main features of the study such as mean, maximum, minimum, and standard deviation.

This section is further subdivided into two sections. The first section is concerned with the respondent's profile. It provides respondents' demographic information such as name, gender, age, academic qualification, and marital status. The second section analyzes and interprets the obtained data using dependent and independent variable correlation. The last section is a discussion of the outcomes of the analysis.

4.2 Respondents profile analysis

The profile of the respondent has been categorized in four parts, which are discussed as below. The respondents profile includes gender, income level, marital status and age.

Table 4.1

Gender Profile Analysis

Gender	Frequency	Percent
Male	122	59.8
Female	82	40.2
Total	204	100.0

The table 4.1 shows that there were 122 male and 82 female respondents selected for the study, which comprises 59.8% male and 40.2% female. Thus, male respondents are more in comparing to female.

Table 4.2

Age Profile Analysis

Age	Frequency	Percent
Below 25	21	10.3
26-30	115	56.3
31-35	51	25
36-40	17	8.4
Total	204	100.0

The table 4.2 shows that the age group of the respondents were categorized in four parts where respondents between the age 26-30 have highest number with 115 which is 56.3% of the total respondent. In the same way, people less than the age of 25 is in 21 which is 10.3%, age group between 36-40 age is in 16 number as 8.4% and the category of 31-35 in age as the number of respondent is 15 which is 25% among all.

Table 4.3

Marital Status Profile Analysis

Marital Status	Frequency	Percent
Married	64	31.4
Unmarried	140	68.6
Total	204	100.0

Table 4.3 shows the marital status of the respondents. Out of 204 respondents majority of them are unmarried which is 68.6% of the total respondents and remaining 31.4% are married.

Table 4.4

Income Profile Analysis

Monthly Income	Frequency	Percent
Less than 50000	76	37.2
50000-100000	65	31.8
100000-150000	41	20
150000 and Above	22	11
Total	204	100.0

Table 4.4 represents the income level of the respondents. 37.2% of the respondents have monthly income less than Nrs50,000. Similarly, 11% of the respondents earns above Nrs 150,000, 20% respondents earn between Nrs 100,000-150,000 and 31.8% respondents earns between Nrs 50,000-100,000 every month.

4.3 Investment decision analysis

Table 4.5

Investors Portfolio Profile Analysis

Stock Type	Frequency	Percent
IPO	38	18.6
Both	135	66.2
Secondary only	31	15.2
Total	204	100.0

Table 4.5shows that majority of the respondents makes investment on both primary and secondary shares which accounts for 66.2% of the total respondents while 18.6% of the respondents only make investment on IPOs and remaining 15.2% like to invest only on secondary market.

Table 4.6

Investment Profile Analysis

Primary Investment	Frequency	Percent
Ordinary Shares	123	60.3
Promoter Shares	48	23.6
Mutual Fund	22	10.7
Debentures	11	5.4
Total	204	100.0

Table 4.6 shows that respondents most interesting investment option and it clearly shows that respondents have their primary investment focus on ordinary shares which accounts more than half of the total investment (60.3%), promoter share investment comes second with 23.6% followed by mutual fund 10.7% and debentures at 5.4%.

Table 4.7

Investment Duration Analysis

Duration in NEPSE	Frequency	Percent
Less than 1 year	71	34.8
1-3 years	65	31.8
3-5 years	35	17.2
Above 5 years	33	16.2
Total	204	100.0

Table 4.7 shows the how long does the respondents are involved in NENEPSE among the 204 respondents. 34.8% of the respondents says they are new to the market as their duration is less than a year. Similarly, respondents involved in Nepal stock market for 1-3 years are 31.8%, followed by 3-5 years in market by 17.2% and 16.2% of the respondents have the experience of investment in NENEPSE for more than 5 years.

Table 4.8

Investment Amount Analysis

Total Investment	Frequency	Percent
Below 500,000	17	10.3
500,000-1,000,000	32	13.4
1,000,000-2,000,000	78	29.3
2,000,000-3,000,000	41	25.0
Above 3,000,000	36	22.0
Total	204	100.0

Table 4.8 shows the total investment of the respondents. Respondents having investment between Nrs one million and two million are the highest number of respondents with 78, followed by between two million and three million, above three million, between 500,000- one million and investment below 500,000 with 41, 36,31 and 17 respectively.

Table 4.9

Reasons for Investment

Reason for Investment	Frequency	Percent
Dividend income	13	6.4
No opportunity in other sector	8	3.9
Bonus and Right shares	75	36.7
Short term trading	69	33.8
Long term investment	39	19.2
Total	204	100.0

Table 4.9 shows the reason behind investment into NEPSE listed companies. Majority of the respondents either make investment for bonus and right shares or for short term trading accounting 36.7% and 33.8% respectively. Similarly, long term investment represent 19.2% followed by dividend income 6.4% and no opportunity in other sectors accounts just 3.9% of the total respondents.

4.4 Descriptive factor analysis

Descriptive analysis is used to summarize the collected data by using statistical tool obtained from respondent through questionnaires. Descriptive analysis explains the data with the help of statistical tools and measures. The statistical measures are that are used are mean, frequency and standard deviation value. This mean and standard deviation values are presented in the tabular form. In descriptive analysis, the impact of push and pull factors in determining the domestic destination choice. These values of the five dimensions of behavioural fiancé helps to analyze the data with respect to frequencies and aggregation relating to research questions and variables.

To examine the data gathered from respondents, descriptive statistics are employed. The research data was gathered using a questionnaire with a 5-point rating scale ranging from 1-Strongly Agree, 2-Agree, 3-Satisfactory, 4-Disagree, and 5-Strongly Disagree. 22 opinion statements were created to assess five distinct factors, four of which are independent variables and one of which is dependent. Simple statistical methods are used in descriptive statistics to generate summaries from a given data set. The mean and standard deviation are used to summarize the data for each variable that were obtained using a questionnaire throughout the data collection period.

Table 4.10

Behavioural Analysis of the Variables

Variables	Mean	SD
Overconfidence	3.98	0.62
Loss Aversion Bias	3.43	0.66
Representativeness	3.77	0.99
Price Anchoring	3.43	0.66
Regret Aversion Bias	3.32	0.58
Investment Decision	4.46	0.65

Table 4.10 shows that among the five independent variables used Overconfidence has highest mean of 3.98 and SD of 0.62 while Regret Aversion Bias has lowest mean of 3.32 with SD of 0.58. This indicates among the six variables used in the analysis, Overconfidence has highest influence in making investment decision while Regret Aversion Bias has the lowest.

Table 4.11

Behavioural Analysis of Investment Decision

Investment Decision	**Mean**	**SD**
I consider dividend income as a key factor for making investment in common stock	4.02	0.78
I want to invest in share when shares price decreases. i.e. minimum	4.43	0.75
I prefer to buy shares with expectation of increment of share price in future.	4.35	0.73
I prefer to sell my investment when current market will increase.	4.65	0.70
I buy my shares before book close date.	4.46	0.82
I buy stocks after the bonus share price adjustment.	4.44	0.64

The Table 4.11 shows that mean value of Investment Decision between 4.02 and 4.65. Among the six statements “I consider dividend income as a key factor for making investment in common stock” has lowest mean value 4.02 with SD 0.78 and “I prefer to sell my investment when current market will increase” has the highest mean value of 4.65 and SD of 0.82. The highest value indicated that respondents are positive to the statement and lower mean value indicates less positive response to the statement. This indicates that investment decision is mostly influenced by “I prefer to sell my investment when current market will increase “and is less influenced by “I consider dividend income as a key factor for making investment in common stock”.

Table 4.12

Behavioural Analysis of Overconfidence

Overconfidence	**Mean**	**SD**
“I am an experienced investor”	4.25	0.90
“I consult others (family, friends or colleges) before making stock purchase.”	4.04	1.14
“I trade stocks excessively.”	3.81	0.87
“I have stocks in more than one sector.”	4.04	0.86
“I feel more confident in my own opinion of my friends.”	3.75	0.94

The Table 4.12 shows that mean value of Overconfidence between 3.75 and 4.25. Among the five statements “I feel more confident in my own opinion of my friends” has lowest mean value 3.75 with SD 0.94 and “I am an experienced investor” has the highest mean value of 4.25 and SD of 0.90. The highest value indicated that respondents are positive to the statement and lower mean value indicates less positive response to the statement. In this overconfidence variable, all the means are relatively high which indicates that most of the respondents assumes overconfidence will influence them to make investment decision.

Table 4.13

Behavioural Analysis of Loss Aversion

Loss Aversion Bias	Mean	SD
I am more concerned about a large loss in my stock than missing a substantial gain	4.25	1.03
I will not increase my investment when the market performance is poor.	3.54	0.70
"I feel nervous when large paper losses (price drops) have in my invested stocks."	3.56	0.64
"I sell stocks that increased in value very quickly."	2.69	1.60
"I keep stocks that decreased in value for long time."	2.35	1.28

The Table 4.13 shows that mean value of Loss Aversion Bias between 2.35 and 4.25. Among the five statements "I keep stocks that decreased in value for long time" has lowest mean value 2.35 with SD 1.28 and "I am more concerned about a large loss in my stock than missing a substantial gain" has the highest mean value of 4.25 and SD of 1.03. The highest value indicated that respondents are positive to the statement and lower mean value indicates less positive response to the statement. In this Loss Aversion Bias variable, all the means are relatively high which indicates that most of the respondents assumes Loss Aversion Bias will influence them to make investment decision.

Table 4.14

Behavioural Analysis of Price Anchoring

Price Anchoring	Mean	SD
"I compare the current stock prices with their recent year high and low price to justify my stock purchase."	4.02	1.03
"I am likely to sell my stock after the price hits recent year high."	3.54	0.70
"I am unlikely to buy a stock if it was more expensive than last year."	3.56	0.64
"I see the stock price as high if the price has increased to the current year high."	2.69	1.60
"I use the stock purchase price as a reference point for trade."	2.35	1.28

The Table 4.14 shows that mean value of Price Anchoring between 2.35 and 4.02. Among the five statements "I use the stock purchase price as a reference point for trade." has lowest mean value 2.35 with SD 1.28 and "I compare the current stock prices with their recent year high and low price to justify my stock purchase" has the highest mean value of 4.02 and SD of 1.03. The highest value indicated that respondents are positive to the statement and lower mean value indicates less positive response to the statement. In this Price Anchoring variable, all the means are relatively high which indicates that most of the respondents assumes Price Anchoring will influence them to make investment decision.

Table 4.15

Behavioural analysis of Regret Aversion

Regret Aversion Bias	**Mean**	**SD**
"I keep the stocks that decreased in value and I don't sell them."	3.52	0.66
"I sell the stocks that increased in value faster."	3.54	0.65
"I invest in companies with low risks."	2.57	1.53
"I don't buy the stocks that decreased in value."	2.25	1.20
"I buy the stocks that a group of investors buys."	4.70	0.46

The Table 4.15 shows that mean value of Loss Aversion Bias between 2.25 and 4.70. Among the five statements "I don't buy the stocks that decreased in value" has lowest mean value 2.35 with SD 1.20 and "I buy the stocks that a group of investors buys" has the highest mean value of 4.70 and SD of 0.46. The highest value indicated that respondents are positive to the statement and lower mean value indicates less positive response to the statement. In this Regret Aversion Bias variable, all the means are relatively high which indicates that most of the respondents assumes Regret Aversion Bias will influence them to make investment decision.

Table 4.16

Behavioural Analysis of Representativeness

Representativeness	Mean	SD
"I tried to avoid investment in companies with a history of poor earnings."	3.92	1.19
Good stocks are firms with past consistent earnings growth.	3.78	1.14
I buy hot stocks and avoid stocks that performed poorly in the near past.	3.71	1.17
"I rely on past performance of stock because I believe that good performance will continue."	3.68	1.34

The Table 4.16 shows that mean value of Representativeness between 3.68 and 3.92. Among the four statements "I rely on past performance of stock because I believe that good performance will continue" has lowest mean value 3.68 with SD 1.34 and "I tried to avoid investment in companies with a history of poor earnings" has the highest mean value of 43.92 and SD of 1.19. The highest value indicated that respondents are positive to the statement and lower mean value indicates less positive response to the statement.

4.4 Inferential statistics

4.4.1 Correlation Analysis

Pearson Correlation analysis is used to determine the impact between various independent and dependent variables associated with the research. It measures the linear correlation between any two variables.

Table 4.17

Correlation between Behavioural Factors and Investment Decision

	ID	REP	RA	LA	PA	OVC	N
ID	1						204
REP	.730**	1					204
RA	.721**	.788**	1				204
LA	.765**	.548**	.582**	1			204
PA	.738**	.525**	.549**	.566**	1		204
OVC	.613**	.362**	.346**	.549**	.496**	1	204

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

- ID: Investment Decision
- RA: Regret Aversion Bias
- LA: Loss Aversion Bias
- REP: Representativeness
- PA: Price Anchoring
- OVC: Overconfidence

Table 4.17 indicates that the five factor of the independent variable of Investment Decision is positively correlated with the dependent variable of Investment Decision. The coefficient of correlation of 0.730** for Representativeness, 0.721** for Regret Aversion Bias, 0.765** for escape from Loss Aversion Bias, 0.738 for Price Anchoring and 0.613** for Overconfidence which showed there exist strong positive relationship each factors of independent variables and investment decision. The correlation matrix shows that all five independent variables are statistically correlated with the dependent variables at 5% level of significance which has P-value less than 0.05.

4.4.2 Regression analysis

Regression analysis assumes the casual relationship between two or more variables. In this research, multiple regression analysis is used to analyze the impact of multiple independent variables on single dependent variable. Thus, multiple regression analysis is used to analyze the impact of behavioural finance variables in determining investment decision in Nepal Stock Exchange.

For Behavioural Finance Variables the equation for impact of independent variables is expressed in the following equation:

$$\hat{Y} = \alpha + \beta 1\ OC + \beta 2\ LA + \beta 3\ RA + \beta 4\ PA + \beta 5\ REP + ei$$

Where,

ID = Investment Decision (Dependent Variable)

OC = Overconfidence

LA = Loss Aversion Bias

RA = Regret Aversion Bias

PA = Price Anchoring

REP = Representativeness

α = Constant β1, β2… β5 = Regression Coefficients of Factor 1 to Factor 5 respectively

ei = Error Term

The results of Model Summary, Analysis of Variance (ANOVA) and beta coefficients of the independent variables for the employee performance are presented in the following tables.

Table 4.18

Model Summary of Independent Variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.905[a]	0.820	0.814	0.26974

a. Predictors: (Constant), RA, LA, REP, OVC, PA

- ID: Investment Decision
- RA: Regret Aversion Bias
- LA: Loss Aversion Bias
- REP: Representativeness
- PA: Price Anchoring
- OVC: Overconfidence

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	52.310	5	10.462	143.787	.000[b]
	Residual	11.496	158	0.073		
	Total	63.806	163			

		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.061	0.154		0.396	0.693
	PA	0.255	0.058	0.250	4.440	0.000
	RA	0.136	0.056	0.142	2.432	0.016
	OVC	0.247	0.041	0.294	6.101	0.000
	REP	0.272	0.045	0.276	6.093	0.000
	LA	0.114	0.027	0.175	4.160	0.000

a. Dependent Variable: ID

- ID: Investment Decision
- RA: Regret Aversion Bias
- LA: Loss Aversion Bias
- REP: Representativeness
- PA: Price Anchoring
- OVC: Overconfidence

The regression table shows the multiple regression analysis of five independent variable and a dependent variables. The value of R2 is 0.820, which indicates that 82% of the changes in the dependent variable is due to the independent variable used in the regression model. This means that the five independent variables used in this multiple regression analysis explains 82% changes that occurs on the dependent variable investment decision which indicates that factors of behavioural finance such as regret aversion bias, price anchoring, loss aversion bias, overconfidence and representativeness has strong influence on making investment decision among the investors of Nepal Stock Exchange.

Similarly, the ANOVA table shows that the model used in this analysis is statistically significant at 5% level of significance, as the p-value is 0.001 which is less 0.05 and f-value is 143.787 which is higher than tabulated value of F. Furthermore, the coefficient table shows that all the variable entered in the model are statistically significant at 5% level of significance as the p-value of all the independent variables are less than 0.05 and the t-value is greater than the tabulated value of T.

Table 4.19

Overall Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.321[a]	0.103	0.098	0.61711

a. Predictors: (Constant), Behaviour

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.815	1	8.815	23.148	.000[b]
	Residual	76.928	202	0.381		
	Total	85.743	203			

a. Dependent Variable: ID

b. Predictors: (Constant), Behaviour

Model				Beta	T	Sig.
1	(Constant)	6.479	0.422		15.337	0.000
	Behaviour	0.564	0.117	0.321	4.811	0.000

a. Dependent Variable: ID

The regression table shows the multiple regression analysis of an independent variable and a dependent variable. The value of R2 is 0.321, which indicates that 32.1% of the changes in the dependent variable is due to the independent variable used in the regression model. This means that the five independent variables used in this simple regression analysis explains 32.1% changes that occurs on the dependent variable investment decision which indicates that the behavioural finance has significant impact on making investment decision among the investors of Nepal Stock Exchange.

Similarly, the ANOVA table shows that the model used in this analysis is statistically significant at 5% level of significance, as the p-value is 0.001 which is less 0.05 and f-value is 23.148 which is higher than tabulated value of F. Furthermore, the coefficient table shows that all the variable entered in the model are statistically significant at 5% level of significance as the p-value of all the independent variables are less than 0.05 and the t-value (4.811) is greater than the tabulated value of t.

Table 4.20

Regression Analysis Output

Behavioural Variables	DV	Beta	T-Value	P
Regret Aversion Bias	Investment Decision	0.136	2.432	0.016
Loss Aversion Bias		0.114	4.16	0.00
Representativeness		0.272	6.093	0.00
Price Anchoring		0.255	4.44	0.00
Overconfidence		0.247	6.101	0.00
Behaviour		0.117	4.811	0.00

4.5 Hypothesis testing

Hypothesis testing is an act that use statistics to determine the probability of given hypothesis is true. Hypothesis testing is done by using inferential analysis. Basically, it is better to examine the entire population after collecting all the data but usually what researcher does is by the help of random data collected from the estimated number of respondent is used. The data is collected through various modes. Here, researcher have collected data through structured questionnaire and it is interpreted through statistical analyses (SPSS).

All the factors behavioural finance variables used in the model are statistically correlated with the dependent variable i.e. investment decision of Nepal Stock Exchange and are statistically significant at 5% level of significance. The p-value and f-value of both variables are significant as the calculated value of both p-value and f-value is higher than the tabulated value and the p-value and t-value of the coefficients are statically significant as well.

Table 4.21

Result of Hypothesis

Hypothesis	Beta	P-Value	Conclusion
Price Anchoring	0.255	0.00	Reject the null hypothesis
Regret Aversion Bias	0.136	0.01	Reject the null hypothesis
Overconfidence	0.247	0.00	Reject the null hypothesis
Representativeness	0.272	0.00	Reject the null hypothesis
Loss Aversion Bias	0.114	0.00	Reject the null hypothesis

4.6 Major findings

Respondent Profile Analysis:

- Male respondents are more in number than female respondents
- Age group 26-30 has the highest number of respondents
- 68.6 % of the respondents are unmarried
- 37.2% of the respondents have monthly income less than Nrs50,000.

Investment Decision Analysis:

- Respondents have their primary investment focus on ordinary shares
- 34.8% of the respondents are new to the market
- Respondents having an investment between Nrs one million and two million are the highest number of respondents with 78
- Other reasons for investment include long-term investment, diversification, tax benefits, and inflation hedge.

1. Correlation analysis was used to determine the impact of five behavioral factors (Regret Aversion Bias, Loss Aversion Bias, Representativeness, Price Anchoring, and Overconfidence) on the investment decision of investors in Nepal Stock Exchange. The results showed that all five independent variables were positively correlated with the dependent variable of Investment Decision. The correlation matrix shows that all five independent variables are statistically correlated with the dependent variable at the 5% level of significance.
2. Regression analysis was used to determine the impact of the five behavioral factors on investment decisions. Price Anchoring (PA): The beta coefficient for Price Anchoring is 0.250, which is statistically significant at the 0.01 level ($p < 0.01$). This indicates that there is a positive relationship between Price Anchoring and Investment Decision.
3. Regret Aversion Bias (RA): The beta coefficient for Regret Aversion Bias is 0.142, which is statistically significant at the 0.05 level ($p < 0.05$). This indicates that there is a positive relationship between Regret Aversion Bias and Investment Decision.
4. Overconfidence (OVC): The beta coefficient for Overconfidence is 0.294, which is statistically significant at the 0.01 level ($p < 0.01$). This indicates that there is a positive relationship between Overconfidence and Investment Decision.

5. Representativeness (REP): The beta coefficient for Representativeness is 0.276, which is statistically significant at the 0.01 level ($p < 0.01$). This indicates that there is a positive relationship between Representativeness and Investment Decision.
6. Loss Aversion Bias (LA): The beta coefficient for Loss Aversion Bias is 0.175, which is statistically significant at the 0.01 level ($p < 0.01$). This indicates that there is a positive relationship between Loss Aversion Bias and Investment Decision.

Overall, the regression model shows that all of the independent variables (Price Anchoring, Regret Aversion Bias, Overconfidence, Representativeness, and Loss Aversion Bias) have a statistically significant positive relationship with Investment Decision. The adjusted R-squared value of 0.814 indicates that the model explains a significant amount of variance in the dependent variable (Investment Decision).

4.7 Discussions

The findings of this study suggest that behavioral factors, including Regret Aversion Bias, Loss Aversion Bias, Representativeness, Price Anchoring, and Overconfidence, have a statistically significant positive impact on the investment decision of investors in the Nepal Stock Exchange. These results are consistent with previous studies that have found a positive relationship between these behavioral biases and investment decisions in various markets and contexts.

For example, studies by Barber and Odean (2001) and Kumar and Lee (2006) have found that individual investors tend to engage in regret aversion bias and loss aversion bias, which can lead to suboptimal investment decisions. Similarly, studies by Tversky and Kahneman (1974) and Kahneman and Tversky (1979) have found that representativeness and anchoring biases can affect decision making in various contexts. Additionally, research by Gervais, Heaton, and Odean (2011) has shown that overconfidence bias can lead to excessive trading and poor investment performance.

The current study's findings are also consistent with previous research on the Nepalese stock market. For instance, a study by Thapa and Poshakwale (2018) found that behavioral biases such as overconfidence, herding, and anchoring have a significant impact on the investment decisions of Nepalese investors. Similarly, a study by Paudel

and Upadhyaya (2019) found that individual investors in Nepal tend to exhibit herding behavior, which can lead to suboptimal investment decisions.

However, some previous research has found conflicting results regarding the impact of behavioral biases on investment decisions. For example, a study by Hossain and Bose (2018) found that herding behavior has a negative impact on investment decisions in the Bangladesh stock market. Similarly, a study by Chang and Lu (2016) found that regret aversion bias has a negative impact on investment decisions in the Taiwanese stock market.

In conclusion, the current study's findings suggest that behavioral biases have a significant positive impact on investment decisions in the Nepalese stock market. These results are consistent with previous research on behavioral finance and investment decision making. However, further research is needed to explore the impact of behavioral biases on investment decisions in different contexts and markets.

CHAPTER V

Summary and Conclusion

In the preceding chapter, data analysis and hypothesis testing were carried out in accordance with the study's goals. This Chapter will go through the important study replies to the research questions, the ramifications of these findings, and how they help us understand the relevance of various motivational and success elements in the pursuit of entrepreneurial success. The first portion contains a description of the findings, the second section contains the study's conclusion based on the findings, and the third section contains ideas for further research.

5.1 Summary

The purpose of this study is to examine the impact of behavioral finance factors on investment decisions in the Nepal Stock Exchange and how these factors affect the selection and decision-making process of investments. The study uses five constructs related to behavioral finance as independent variables, including overconfidence, price anchoring, loss aversion bias, regret aversion bias, and representativeness, with investment decision as the dependent variable.

The research was conducted through a questionnaire survey of 204 respondents who have invested in the Nepal Stock Exchange, categorized as either inside or outside of the Kathmandu valley. The data collected was analyzed using correlation and multiple linear regression analysis to test the study hypotheses and determine which variables have an impact on investment decision.

The majority of the respondents were unmarried and aged between 26-30 years old. More than one-third of the respondents had an income level below Nrs 50,000, and most investors were residents of the Kathmandu valley with less than a year of experience in the share market. The primary focus of most investors was on both the primary and secondary market, with ordinary shares being the preferred investment choice. The majority of investors were looking for right and bonus shares, followed by short-term gains from the market.

The results of the analysis showed that overconfidence had the most influential power among the five independent variables, with a relatively strong correlation with the

dependent variable and a high Beta value. A positive correlation was found between representativeness and investment decision, regret aversion bias and investment decision, loss aversion bias and investment decision, price anchoring and investment decision, and overconfidence and investment decision.

In conclusion, the research suggests that behavioral finance factors significantly influence investment decisions in the Nepal Stock Exchange. The study provides insights into the factors that affect investment decisions and can help investors make more informed decisions when investing in the Nepal Stock Exchange.

5.2 Conclusion

The study conducted on the impact of behavioral finance on individual investment decisions at NEPSE provides valuable insights into the role of psychological biases in investment decision-making. The findings of the study align with prior research that has emphasized the importance of understanding the psychology of investors in investment decision-making. The study reveals that overconfidence has a significant impact on individual investment decisions at NEPSE, which is consistent with prior research that has identified overconfidence as a common cognitive bias among investors.

The study also found that loss aversion has no significant impact on individual investment decisions at NEPSE. This finding is interesting as prior research has emphasized the importance of loss aversion in investment decision-making. However, the study suggests that loss aversion may not be a significant factor in the context of NEPSE.

Moreover, the study identified that representativeness, anchoring, and regret aversion moderately impact individual investment decisions at NEPSE. These findings align with prior research that has identified these biases as common among investors.

The study's findings emphasize the limitations of mathematical models in quantifying the impact of psychological biases on investment decisions. Instead, the study highlights the importance of studying individual investor portfolios to understand their decision-making process. This aligns with prior research that has emphasized the need to understand the psychology of investors to improve investment outcomes.

The study also interviewed two market and investment professionals to gather their perspectives on the impact of behavioral finance on individual investors. The professionals acknowledged the importance of behavioral finance in managing their own portfolios but were cautious about its impact on individual investors unfamiliar with its concepts. This finding aligns with prior literature, which has emphasized the importance of financial literacy and education to mitigate the negative impact of cognitive biases on investment decisions.

Overall, the study's findings highlight the importance of understanding the psychology of investors in investment decision-making. The study emphasizes the need for further research to explore the impact of behavioral finance on investment outcomes and financial performance. By understanding the impact of cognitive biases on investment decisions, investors can make more informed and rational investment decisions, leading to better investment outcomes.

5.3 Implications

Our study's subject and findings emphasize the need of applying or at least comprehending the BF ideas. The BF ideas are all applicable to all investment products and decisions we make, with the emphasis on individual investors in our situation. The growing number of individual investors on the market is both an opportunity and a risk, depending on how the financial market is perceived today. The opportunity was already seized by institutional investors a few years ago, and the advantages are now the image of these tactics.

Finally, we proved and discovered the opportunity as well as the BF's clear interest. Yet, investors must focus on a certain technique and apply it over time in order to not only manage their own mental blunders, but also the mental faults of other investors. People's tactics will undoubtedly benefit from a deeper understanding of human psychology and mental processes for making decisions. Nonetheless, the BF literature is extensive, and many currents and components of BF need further investigation. The bulk of investors do not trade equities on a daily or weekly basis; instead, they pursue long-term plans.

- Individual market investors should attend educational courses in behavioral biases that influence investing decision making in order to manage their portfolios.

- Professionals in consulting and investment management should be introduced to the topic of behavioral finance through workshops and seminars so that behavioural finance inclinations are reduced when choices are made.
- Information providers in the Palestine Stock Exchange should consider an appropriate method of distributing market information to the public, since this has the potential to influence investor decisions regarding the market.
- Collective perspectives on an investment should be used by fund managers and investors since they have the potential to reduce individual personal biases on an investment. The formation of committees might be used, albeit this has its own set of issues.
- According to Shefrin (2000, p. 3), practitioners studying behavioral finance should learn to detect their own and others' mistakes, understand those mistakes, and take actions to avoid committing them.

5.4 Further research

- Additional research may be aimed especially at some of these concerns in order to conduct a more detailed analysis or to investigate why behavioral theories relevant in established markets are applicable in emerging economies.
- Since individual investors behave differently, research may also be devoted on investigating the behavior of individual investors at the NEPSE.
- Research might be expanded to include the development of investment models that explain more accurately the behavioral aspects and biases that influence investment decisions in financial markets.
- Studies might look into the link between religion and individual financial decisions.
- Further study on the relationship between behavioral finance and the effect of market makers on price fixing may be required.

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Appendix

I am student of Masters of Business Studies (MBs) of Central Department of Management, Tribhuvan University, as a part of my study; I am conducting a research on "An Empirical Study on Behavioural Factors Influencing Individual Investors Decision Making in Nepal Stock Exchange**"**. I will appreciate for your time and patience to complete this questionnaire with your genuine response.

Sachin Acharaya
Researcher

Section A. Personal Information

Age: Below 25 ☐ 26-30 ☐ 31-35 ☐ 36-40 ☐ 41-45 ☐ 46 & Above ☐

Gender: Male ☐ Female ☐ Others ☐

Marital Status: Married ☐ Unmarried ☐ Others ☐

Income: Less than 50,000 ☐ 50,000-100,000 ☐ 100,000-150,000 ☐ 150,000 & above ☐

Permanent Resident: Inside Valley ☐ outside Valley ☐

How long have you attended the stock market?

- Less than a year ☐
- 1-3 years ☐
- 3-5 years ☐
- above 5 years ☐

I make purchase of:

- IPO only ☐
- Secondary Only ☐
- Both ☐

How much have you invested in the stock market?

- Less than Nrs 500,000
- Nrs 500,000 – Nrs 1,000,000
- Nrs 1,000,000- Nrs 2,000,000
- Nrs 2,000,000 – Nrs 3,000,000
- Above Nrs 3,000,000

Why do you make investment in NEPSE?

- For dividend income
- For bonus and right shares
- Short term trading
- Long term investment
- No opportunity in other sector

Please mark the appropriate response to indicate your personal feelings on the following basis

1- Strongly Disagree (SD), 2- Disagree (D), 3- Neutral (N), 4- Agree (A) and 5- Strongly Agree (SA).

	Variables	**SD**	**D**	**N**	**A**	**SA**
SN	**Overconfidence**					
OC1	I am an experienced investor					
OC2	I consult others (family, friends or colleges) before making stock purchase					
OC3	I trade stocks excessively					
OC4	I have stocks in more than one sector					
OC5	I feel more confident in my own opinion of my friends					
	Loss aversion					
LA1	I am more concerned about a large loss in my stock than missing a substantial gain					
LA2	I will not increase my investment when the market performance is poor.					
LA3	feel nervous when large paper losses (price drops) have in my invested stocks.					
LA4	I sell stocks that increased in value very quickly.					
LA5	I keep stocks that decreased in value for long time.					
	Representativeness					
RP1	I tried to avoid investment in companies with a history of poor earnings.					
RP2	Good stocks are firms with past consistent earnings growth.					
RP3	I buy hot stocks and avoid stocks that performed poorly in the near past.					
RP4	I rely on past performance of stock because I believe that good performance will continue					
	Price Anchoring					
PA1	I compare the current stock prices with their recent year high and low price to justify my stock purchase.					

PA2	I am likely to sell my stock after the price hits recent year high					
PA3	I am unlikely to buy a stock if it was more expensive than last year					
PA4	I see the stock price as high if the price has increased to the current year high					
PA5	I use the stock purchase price as a reference point for trade.					
	Regret Aversion					
RA1	I keep the stocks that decreased in value and I don‘t sell them.					
RA2	I sell the stocks that increased in value faster.					
RA3	I invest in companies with low risks.					
RA4	I don‘t buy the stocks that decreased in value.					
RA5	I buy the stocks that a group of investors					
	Investment Decision					
ID1	I consider dividend income as a key factor for making investment in common stock					
ID2	I want to invest in share when shares price decreases. i.e. minimum					
ID3	I prefer to buy shares with expectation of increment of share price in future.					
ID4	I prefer to sell my investment when current market will increase.					
ID5	I buy my shares before book close date.					
ID6	I buy stocks after the bonus share price adjustment.					