
**ADDIS ABABA UNIVERSITY**

**COLLEGE OF BUSINESS & ECONOMICS**

**DEPARTMENT OF ACCOUNTING AND FINANCE**

# FACTORS AFFECTING INDIVIDUAL INVESTOR'S BEHAVIOR TO INVEST IN ETHIOPIAN PRIVATE BANKS SHARE COMPANIES

**By YITAGESU T/TSADIK**

**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE IN MSC PROGRAM IN ACCOUNTING AND FINANCE**

**Advisor: HABTAMU B (PHD)**

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## Statements of Declaration

I confirm that this thesis is my original work and has not been presented for a degree in any other university and that all sources of materials used for the thesis have been duly acknowledged.

Declared By:

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# Abstract

A number of studies have been undertaken to identify the factors influencing individual investor's decision to invest in stock markets by considering specific behavioral factors like heuristic, prospect, market and herding factors. This study sought to examine factors affecting individual investor's behavior to invest in Ethiopian private banks share companies and had four specific objectives. The first objective sought to determine the influence of heuristics on the behavior of individual investor's decision. The second objective assessed the effect of prospect factors on the behavior of individual investor's decision while the third was in regard to the effect of market factors on the behavior of individual decision. The fourth objective sought to determine the effect of herding behavior on individual investment decisions on Ethiopian banking share companies. To achieve the objectives of the study, a cross sectional research design was adopted where only primary data was used. The research target population was individual investors those having shares in any of private bank share companies in Ethiopian, the research used scientific method of sampling to determine sample size of 277 individual investors. The data was collected using questionnaires and analyzed through descriptive and inferential approaches with the help of STATA software. The research finding show that heuristics and market factors are jointly do not have significant impact on individual investment decision whereas prospect and herding had significant impact on individual investors decision to invest in Ethiopian Private Bank Share companies. The study recommends that Individual investors those invest in Ethiopian Private bank Share companies should be overconfident at an acceptable level to utilize their skills and knowledge in certain circumstances to make their investment decision is good enough. And also recommends that individual investors should choose good investment partners or alliance to consider as references for their investment.



**Key Words**: individual investor, Heuristics, Prospect, Market factor, herding

# CHAPTER ONE
# 1. INTRODUCTION

## 1.1 Background of the Study

Behavioral finance is the study of the influence of psychology on the behavior of financial practitioners and the subsequent effect on markets (Sewell, (2005). It attempts to better understand and explain how emotions and cognitive errors influence investors. Much of economic and financial theories presume that individuals act rationally and consider all available information in the investment decision-making process. Bernstein (1996) notes that there is evidence to show repeated patterns of irrationality, inconsistency and incompetence in the way human beings arrive at decisions and choices when faced with uncertainty. There is also emerging evidence that institutional investors behave differently from individual investors, in part because they are agents acting on behalf of the ultimate investors.

Behavioral finance theories are based on cognitive psychology, which suggests that human decision processes are subject to several cognitive illusions. These cognitive illusions can be grouped into two classifications: illusions due to heuristic decision processes and illusions caused by the adoption of mental frames, which are conveniently grouped in the prospect theory (Waweru, 2008).

In finance and economics, behavioral biases refer to the tendency of decision making that result in irrational financial decisions caused by faulty cognitive reasoning and/or reasoning influenced by emotions (Pompian, 2012). The interest in biases caused by faulty cognitive reasoning or emotions that affect individual financial outcomes has seen the emergence of research on behavioral finance as a concept. Sewell (2005) construed behavioral finance as the study of the influence of psychology on the behavior of financial practitioners and the subsequent effect on markets. Singh, R. (2010) assumed that the information structure and the characteristics of market participants systematically influence individuals' investment decisions as well as market outcomes.

Investment in the stock market (equity investment) is the buying and holding of shares of Bank Share on a stock market by individuals and funds in anticipation of income from dividends and capital gain as the value of the stock rises. The buying of equity can be done by direct holding where an investor places a buy order through his broker or this can be done via pooled

investment vehicles; many of which have quoted prices that are listed in financial newspapers. (www.bdafrica.com, 2011).

### 1.1.1 Organizational background

Visiting historic perspectives of Ethiopian stock market reveals that, a short-lived stock market was formally established in 1965. The then government tried to advance resource mobilization by establishing a share-dealing group that brought together buyers and sellers to participate in an auction process (Assrat, 2003) After the 1992 reform, the government has taken various measures to attract private investment particularly FDI and investment codes has been revised many times to make private investment more attractive. Moreover; the Ethiopia Investment Commission has been established to cater efficient and effective techniques and services as well as to promote private investment in a country (EEA, 2005/06). Private investment is relevant to economic growth in developing countries like Ethiopia. It has been argued that the marginal productivity of investment is much higher and those plays more important role in the growth process than public investment (Khan and Rinehart; 1996).

The legal framework for the development of corporate forms of business organization was provided with the issuance of the 1960 commercial code that set out the basic requirements for establishment of share markets in the system. It also describes the areas of business activities in which share companies could be formed (Abu, 1994). After a short lived operational stock exchange there was a government change followed by an introduction of command economic policy, which closes major sectors for Private participation (Asrat, 2003; Yared, 2012).

In the recent times, it is astonishing that various types of world media's have often state the name of Ethiopia on the journey comparable to both massively developing and advanced economies of the world. This is due to the reason that history shows as this country have passed through the cobblestones of prevalent poverty, social and political war and diverse economic problems. As of today however, everything starts to change beginning from policy designing to green revolution, political stability to increments of foreign direct investment and to that end, there is economic rising (Desalegn, 2014).

## 1.2 Statement of the Problem

The performance of the stock market in any country is a strong indicator of general economic performance and is an integral part of the economy of any country. With the introduction of free financial investments help in creating the capital stock of the country. In the long term, investment is important for improving productivity and increasing the competitiveness of an economy (Shafi, 2014).

Also known as equities, a share represents a share of ownership in a company, and these shares are listed or not listed on a stock exchange. When we find a share to buy, we are buying a small stake in a company. We become a joint-owner of the company along with all the other shareholders, and we are invited to have a say in a number of the decisions the company makes. When looking to buy shares, the aim is for the shares to grow in value over time; and also to benefit from a share in the profits of the company in the form of regular dividend payments. Shares give individual investors the opportunity for a steady income and capital growth. Even if we understand how shares work we may still be asking our self 'how do we buy shares?' We can find shares to buy directly from a stockbroker or trader, or we can buy shares through an investment fund.

Investors need to make rational decisions for maximizing their returns based on the information available by taking judgments that are free from emotions (Brabazon, 2000). Investor behavior is characterized by over excitement and overreaction in both rising and falling security markets and various factors influences their decision making processes.

According to Kimani (2011) there were five behavioral factors that were at play. These were: herding, market, prospect, overconfidence and anchoring bias. However, it was not clear whether these behavioral biases affected individual investor decisions concerning initial public offering (IPOs). Additionally, a recent study related to IPOs conducted by Kipngetich et al. (2011) modeled investor sentiments in their equation of determinants of IPO pricing in Kenya using secondary data obtained from the NSE. However, their study did not explore the behavioral biases that underpin individual investor behavior during IPOs.

The financial industry in Ethiopia is a government regulated industry which is attracting individual investors as investors have confidence that the business will operate for longer period of time as a result of close supervision by NBE. As per the analysis made by the researcher based on the data obtained from NBE, the number of private banks has increased in high rate from 9,

before 10 year, to 16 which shows the attractiveness of the industry. This indicates that there is an opportunity of investing in banking share companies and as a result individual investors want to know some prior information before deciding in which financial institution they should invest. But there are no related previous studies about behavioral factors that affect individual investor's decision at banking share companies in Ethiopia.

The review of the literature such as Kimani (2011), Kipngetich et al. (2011) reveals the existence of many gaps of knowledge in respect of the factors affecting investors' behavior, particularly in the context of Ethiopia. As per the review of the literature most of the empirical studies that have been conducted with the aim of identifying factors affecting investors' behavior belong to European Union and some emerging markets such as Philippines, Malaysia and Tunisia but they does not investigate which behavioral factors more influential. Moreover, so far as the review of the literature discloses, very scanty work has been done with the objective of identifying the determinants of investors' behavior in Sub Saharan Africa in general and Ethiopia in particular.

The results of some empirical studies about factors influencing individual investor behavior have been reviewed for this particular study. Researchers gave a substantial attention to institutional investors, whereas less attention is given to the individual investors' behavior that is the emphasis of this research. As it is indicated in the literature review part, a number of studies have been undertaken to identify the factors influencing individual investor's decision behavior to invest in share companies by considering specific factors such as Heuristics behaviors, Herding behaviors, Prospect behavioral factors and Market behavioral factors.

Previous studies didn't touch about the determinant factors that individual investors want to know and incorporate as part of their decision making process before investing on shares of investment opportunities in Ethiopia. This paper tried to attempts a study of the determinant factor of individual investors' behavior to invest specifically on the shares private bank companies operating in Ethiopia.

Knowledge of such factors and their possible impact is highly appreciable as it would help investors make wise investment decisions and enable firms to enhance their market value. Consideration of such factors by investors is also warranted while investing their funds since this would aid them in making wise investment decisions and invest in Bank Share that yield good returns.

This study intended to address the research question: What are the factors that affect individual investor's behavioral decisions to invest in Ethiopian banking share companies?

## 1.3. Hypothesis

Empirical studies on investment decision have identified various individual investor behaviors that influence individual investor's decision. This section attempts to apply some of these behaviors in the individual investors, and develops testable hypotheses that examine individual investors' decision to invest in Ethiopian private bank share companies. The specific variables considered in this study are Heuristics behaviors, Herding behaviors, prospect behavioral factors and market behavioral factors.

Hypothesis H1: The Heuristics behaviors have impact on individual investor's decisions to invest in Ethiopian Private Bank share companies.

Hypothesis H2: The Herding behaviors have impact on individual investor's decisions to invest in Ethiopian Private Bank share companies.

Hypothesis H3: The prospect behavioral factors have impact on individual investor's decisions to invest in Ethiopian Private Bank share companies.

Hypothesis H4: The market behavioral factors have impact on individual investor's decisions to invest in Ethiopian Private Bank share companies.

## 1.4. Objectives of the Study

### 1.4.1. General Objectives

The main objective of this study is to identify factors affecting individual investor's behavior to invest in Ethiopian banking share companies.

### 1.4.2. Specific Objectives

This study will pursue the following specific objectives:

1. To determine the influence of Heuristics on the behavior of individual investors decision.
2. To determine the influence of Prospect Factors on the behavior of individual investors decision.
3. To determine the influence of Market factors on the behavior of individual investors decision.

4. To determine the influence of herding Factors on individual investment decision to invest in Ethiopian banking share companies.

## 1.5. Research question

The researcher wants to explore the current study with reference to the following research questions:

1. What is the effect of Heuristics on individual investor's behavior to invest in Ethiopian private bank share companies?
2. What is the effect of Prospect on individual investor's behavior to invest in Ethiopian private bank share companies?
3. What is the effect of Market factors on individual investor's behavior to invest in Ethiopian private bank share companies?
4. What is the effect of Herding on individual investor's behavior to invest in Ethiopian private bank share companies?

## 1.6. Significance of the study

To the individual investors: The research will be a good reference of share investment behavior for the investors to consider and analyze the bank share trend before making suitable decisions of investment.

This research will help not only the investors but also the bank organizations and advisors/consultants in studying and understanding the main factors that motivates/induces individual investors to invest in private bank share companies and their decision making practice.

To the field of behavioral finance: The concept of behavioral finance is relatively new in comparison to other financial theories. In developed countries, behavioral finance is applied widely to explore the behaviors that impact the investment decisions; however, as mentioned above, behavioral finance has the limited number of application for less developed security markets.

To the researchers: The research would provide a good chance for the researcher to understand more about the theories of behavioral finance and factors that affect individual investors decision to invest in Ethiopian banking share companies.

## 1.7. Scope of the study

The scope of the study is restricted to behavioral factors such as heuristics, prospect, prospect and herding affecting private bank individual investors' investment decision in Ethiopian private banking share companies.

## 1.8. Limitation of the study

The scope of the study was limited to investigating the influential behaviors of individual investors. According to the researcher will of study and Due to the time constraint, the research focused only on the behaviors of individual investors at the Ethiopian banking share companies. It is necessary to have further research for all financial institution share companies in Ethiopia and share companies in general to have a total picture of share companies in Ethiopia. Besides, the behaviors of institutional investors, such as banks, insurance, pension funds and so on, should also be explored to have more reliable information about the impacts of financial behaviors on the Ethiopian share companies.

## 1.9. Organization of the paper

The paper is divided into six sections. The first section introduces the paper, while the second section presents the literature review. The third section examines the methodology of the study. The fourth section covers data presentation, analysis and discussions of results. Finally, the fifth section deals with the summary, conclusion and recommendations of the study.

# CHAPTER TWO
# 2. LITERATURE REVIEW

## 2.1 Introduction

This Chapter aims at reviewing the related literatures of behavioral finance. Firstly, some backgrounds of behavioral finance are presented such as a comparison between traditional finance and behavioral finance. Secondly, the important theories of behavioral finance (heuristic, prospect, market, and herding) are included to have an overall picture of this field and its impacts on the investment decisions. Finally, a research model with hypotheses is proposed to follow during the research.

## 2.2 Behavioral Factors

Behavioral finance considers how various psychological traits affect how individuals or groups act as investors, analysts, and portfolio managers (Brown & Reilly, 2004). Heuristics can be defined as the use of experience and practical efforts to answer questions or to improve performance. Raines & Leathers (2011) argue that when faced with uncertainty, people rely on heuristics or rules of thumb to subjectively assess risks of alternatives, which reduces the complex tasks of assessing probabilities and predicting values to simpler judgmental operations.

Behavioral factors according to Shleifer (2000) can be measured by relating the usual assumptions of traditional finance by incorporating observable, systematic and very human departures from rationality into models of financial markets and behavior. By combining psychology and finance, researchers hope to better explain certain features of security markets and investor behavior that appear irrational. They include: loss aversion, cognitive dissonance, mental accounting, representativeness, anchoring, overconfidence and herding behavior.

Cognitive dissonance refers to the psychological conflict resulting from incongruous beliefs and attitudes held simultaneously. This concept was introduced by psychologist Leon Festinger in the late 1950s. He and other researchers showed that when confronted with challenging new information most people seek to preserve their current understanding of the world by rejecting, explaining away, or avoiding the new information or by convincing themselves that no conflict really existed (Chandra, 2008).

Mental accounting describes the tendency of people to place particular events into different mental accounts based on superficial attributes (Shiller, 1997). Shiller (1997) suggests that

investors place their investments into arbitrarily separate mental compartments and react separately and in different ways to the investment based on which compartment they are in.

Heuristics are rules of thumb, which people use to make decisions in complex, uncertain environments. Decision-making is not strictly rational where all relevant information is collected and objectively evaluated; rather the decision-maker takes mental shortcuts (Kahneman and Tversky, 1979). Examples of illusions resulting from the use of heuristics include: Representativeness, Anchoring, and Overconfidence.

Representativeness can manifest itself when investors seek to buy "hot" Bank Share and to avoid Bank Share, which have performed poorly in the recent past. Investors may form judgments" based on patterns that are simply random in a data and not representative of the facts. This behavior could provide an explanation for investor overreaction (DeBondt and Thaler, 1995).

Anchoring arises when a value scale is fixed (anchored) by recent observations. Investors usually use their purchase price as a reference point (Kahneman and Riepe, 1998) and react to changes in price relative to the initial purchase price. According to Shiller (1998), prices of today are often determined merely by those of the past.

Overconfidence according to Ritter (2003) manifests itself when there is little diversification because of a tendency to invest too much in what one is familiar with. Selecting common Bank Share that will outperform the market is a difficult task in that predictability is low and feedback is noisy thus, stock selection is the type of task for which people are most overconfident (Barber and Odean, 2001). Overconfidence explains why portfolio managers trade so much, why pension funds hire active equity managers, and why even financial economists often hold actively managed portfolios-they all think they can pick winners (DeBondt & Thaler, 1994).

Graham (1999) defined herding behavior as often said to occur when many people take the same action, perhaps because some mimic the actions of others in making investment. It is where individuals are led to conform to the majority of the individuals present in the decision making environment by following their decisions (Chelangat, 2011). Herd behavior can lead people astray when they follow blindly. According to Prechter (1999), herd behavior in humans results from impulsive mental activity in individuals responding to signals from the behavior of others. Due to the fact that more and more information is spread faster and faster, (Fromlet, 2001), life for decision makers in financial markets has become more complicated. According to Johnson et al (2002) the interpretation of new information may require heuristic decision-making rules.

## 2.3 Traditional finance theory versus behavioral finance

In an ideal framework, a security's price equals its "fundamental value" as frictions do not exist and agents seem to be rational. The fundamental value is said to be the "discounted sum of expected future cash flows", in the context that investors are able to process all available information accurately and the discount rate is consistent with the accepted preference specification (Barberis & Thaler, 2003). The Efficient Markets Hypothesis (EMH), which supports the opinion that actual prices reflect fundamental values, affirms that prices are right as they are determined by agents, who are sensible preferences and understand Bayes' law, which relates to conditional probabilities (the probability of an event given by another one). Moreover, efficient market is the market where average returns cannot be greater than what are warranted for its risk despite whatever investment strategy is applied (Barberis & Thaler, 2003). According to EMH, although not all investors are rational, the markets are assumed to be rational.

Furthermore, instead of foreseeing the future, the markets are assumed to make unbiased forecasts. Being different from this theory, behavioral finance believes that sometimes, financial markets do not have informational efficiency (Ritter, 2003).

Due to the fact that people are not always rational, their financial decisions may be driven by behavioral preconceptions. Thus, studying behavioral finance plays an important role in finance, in which cognitive psychology is employed to understand human behaviors. In case the decisions of people do not follow rational thinking, effects of behavioral biases should be identified. It will be more important if their cognitive errors affect prices and are not arbitraged away easily (Kim & Nofsinger, 2008). The mid-1980s is considered as the beginning of this research area. Stock market is proved to overreact to information by (DeBondt and Thaler, 1985). Moreover, Shefrin and Statman (1985) assert that stockholders tend to be more willing to sell their winning Bank Share rather than loosing ones even when putting these losers on sale is the best choice. If these studies are the genesis of behavioral finance, this area has over two decade's development.

Initially, the behavioral finance was not widely accepted Kim and Nofsinger (2008) and the study of DeBondt and Thaler (1995) was not an exception as it was doubted and faced a lot of arguments recently, "the ramifications of less-than rational agents" have been explored based on many theoretical models. At first, most of studies concentrated on asset pricing, however, recently, the effects rather than rational ones that managers may have in decision making process have been incorporated in many models. Barberis and Thaler (2003) are considered as one of the

famous writers who provide an excellent study about various types of behavioral biases that affect decision making as well as financial markets.

Behavioral finance papers are mainly based on the data of Bank Share that do not match well with the theories of market efficiency and asset pricing model. Therefore, some opponents criticize that they have a slow start and seem to be less persuading to audiences who tend to be initially skeptical. This limitation is eliminated by using individual brokerage data. In many studies, it is showed that individual investors are affected by different behavioral biases (Kim & Nofsinger, 2008). Then, these behavioral biases are tested by many researchers; one of them is Hirshleifer (2001) who provides empirical evidence regarding asset pricing. Nonetheless, only few experiments have been applied to test behavioral finance theories, although environment can be easily controlled by well-designed experiments (Kim & Nofsinger et al., 2008).

## 2.4. Behavioral factors impact the process of investors' decision-making

According to Ritter (2003) behavioral finance is based on psychology which suggests that human decision processes are subject to several cognitive illusions. These illusions are divided into two groups: illusions caused by heuristic decision process and illusions rooted from the adoption of mental frames grouped in the prospect theory Waweru et al. (2008). These two categories as well as the herding and market factors are also presented as the following.

### 2.4.1. Heuristic theory

Heuristics are defined as the rules of thumb, which makes decision making easier, especially in complex and uncertain environments Ritter (2003) by reducing the complexity of assessing probabilities and predicting values to simpler judgments (Kahneman and Tversky, 1974). In general, these heuristics are quite useful, particularly when time is limited Waweru et al. (2008), but sometimes they lead to biases Kahneman and Tversky (1974); Ritter (2003). 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 and 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). 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" Bank Share 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).

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).

When people overestimate the reliability of their knowledge and skills, it is the manifestation of overconfidence DeBondt & Thaler (1995); Hvide (2002).

Many studies show that excessive trading is one effect of investors. There is evidence showing that financial analysts revise their assessment of a company slowly, even in case there is a strong indication proving that assessment is no longer correct. Investors and analysts are often overconfident in areas that they have knowledge Evans (2006).

Overconfidence is believed to improve persistence and determination, mental facility, and risk tolerance. In other words, overconfidence can help to promote professional performance. It is also noted that overconfidence can enhance other's perception of one's abilities, which may help to achieve faster promotion and greater investment duration Oberlechner & Osler (2004).

Availability bias happens when people make use of easily available information excessively. In stock trading area, this bias manifest itself through the preference of investing in local companies which investors are familiar with or easily obtain information, despite the fundamental principles so-called diversification of portfolio management for optimization Waweru et al. (2003).

In this research, five components of heuristics: Overconfidence, Gambler's fallacy, Availability bias, Anchoring, and Representativeness will be used to measure their impact levels on the investment decision making of individual investors at the Ethiopian Private Share Companies.

### 2.4.2. 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 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 Bank Share 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 investor, nevertheless it may result in bad decision affecting 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 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 will be used to measure their impact levels on the investment decision making of individual investors at the Ethiopian Private Bank Share Companies.

### 2.4.3. Market factors

DeBondt and Thaler (1995) state that financial markets can be affected by investors' behaviors in the way of behavioral finance. If the perspectives of behavioral finance are correct, it is believed that the investors may have over- or under-reaction to price changes or news; extrapolation of past trends into the future; a lack of attention to fundamentals underlying a stock; the focus on popular Bank Share and seasonal price cycles. These market factors, in turns, influence the decision making of investors in the stock market. Waweru et al. (2008) identifies the factors of market that have impact on investors' decision making: Price changes, market information, past trends of Bank Share, customer preference, over-reaction to price changes, and fundamentals of underlying Bank Share.

Normally, changes in market information, fundamentals of the underlying stock and stock price can cause over/under-reaction to the price change. These changes are empirically proved to have the high influence on decision-making behavior of investors. Researchers convince that over-reaction DeBondt & Thaler (1985) or under-reaction Lai (2001) to news may result in different trading strategies by investors and hence influence their investment decisions. Waweru et al.

(2008) conclude that market information has very high impact on making decision of investors and this makes the investors, in some way, tend to focus on popular Bank Share and other attention-grabbing events that are relied on the stock market information. Moreover, Barber and Odean (2000) emphasize that investors are impacted by events in the stock market which grab their attention, even when they do not know if these events can result good future investment performance. Odean (1998a) explores that many investors trade too much due to their overconfidence.

These investors totally rely on the information quality of the market or Bank Share that they have when making decisions of investment.

Waweru et al. (2008) indicate that price change of Bank Share has impact on their investment behavior at some level. Odean (1999) states that investors prefer buying to selling Bank Share that experience higher price changes during the past two years. Change in stock price in this context can be considered as an attention-grabbing occurrence in the market by investors. Additionally, Caparrelli et al. (2004) propose that investors are impacted by herding effect and tend to move in the same flow with the others when price changes happen. Besides, investors may revise incorrectly estimates of stock returns to deal with the price changes so that this affects their investment decision-making Waweru et al. (2008).

Many investors tend to focus on popular Bank Share or hot Bank Share in the market Waweru et al. 2008). Odean (1999) proposes that investors usually choose the Bank Share that attracts their attention. Besides, the stock selection also depends on the investors' preferences. Momentum investors may prefer Bank Share that have good recent performance while rational investors tend to sell the past losers and this may help them to postpone taxes. In contrast, behavioral investors prefer selling their past winners to postpone the regret related to a loss that they can meet for their stock trading decisions Waweru et al. (2008). Besides, past trends of Bank Share are also explored to impact the decision making behavior of the investors at a certain level by Waweru et al. (2008). In this concept, investors usually analyze the past trends of Bank Share by technical analysis methods before deciding an investment.

In general, market factors are not included in behavioral factors because they are external factors influencing investors' behaviors. However, the market factors influence the behavioral investors (as mentioned above) and rational investors in different ways, so that it is not adequate if market factors are not listed when considering the behavioral factors impacting the investment decisions.

Together with the research of Waweru et al. (2008), this research treats the market factors fairly as behavioral factors influencing the decisions of investors in the stock market.

### 2.4.4. Herding effect

Herding effect in financial market is identified as tendency of investors' behaviors to follow the others' actions. Practitioners usually consider carefully the existence of herding, due to the fact that investors rely on collective information more than private information can result the price deviation of the securities from fundamental value; therefore, many good chances for investment at the present can be impacted. Academic researchers also pay their attention to herding; because its impacts on stock price changes can influence the attributes of risk and return models and this has impacts on the viewpoints of asset pricing theories Tan, Chiang, Mason & Nelling (2008).

In the perspective of behavior, herding can cause some emotional biases, including conformity, congruity and cognitive conflict, the home bias and gossip. Investors may prefer herding if they believe that herding can help them to extract useful and reliable information. Whereas, the performances of financial professionals, for example, fund managers, or financial analysts, are usually evaluated by subjectively periodic assessment on a relative base and the comparison to their peers. In this case, herding can contribute to the evaluation of professional performance because low-ability ones may mimic the behavior of their high-ability peers in order to develop their professional reputation Kallinterakis, Munir & Markovic (2010).

In the security market, herding investors base their investment decisions on the masses' decisions of buying or selling Bank Share. In contrast, informed and rational investors usually ignore following the flow of masses, and this makes the market efficient. Herding, in the opposite, causes a state of inefficient market, which is usually recognized by speculative bubbles.

In general, herding investors act the same ways as prehistoric men who had a little knowledge and information of the surrounding environment and gathered in groups to support each other and get safety Caparrelli et al. (2004). There are several elements that impact the herding behavior of an investor, for example: overconfidence, volume of investment, and so on. The more confident the investors are, the more they rely on their private information for the investment decisions. In this case, investors seem to be less interested in herding behaviors. When the investors put a large amount of capital into their investment, they tend to follow the others' actions to reduce the risks, at least in the way they feel. Besides, the preference of

herding also depends on types of investors, for example, individual investors have tendency to follow the crowds in making investment decision more than institutional investors Goodfellow, Bohl & Gebka (2009).

Waweru et al. (2008) propose that herding can drive stock trading and create the momentum for stock trading. However, the impact of herding can break down when it reaches a certain level because the cost to follow the herd may increase to get the increasing abnormal returns. Waweru et al. (2008) identify stock investment decisions that an investor can be impacted by the others: buying, selling, choice of stock, length of time to hold stock, and volume of stock to trade. Waweru et al (2008). conclude that buying and selling decisions of an investor are significantly impacted by others' decisions, and herding behavior helps investors to have a sense of regret aversion for their decisions. For other decisions: choice of stock, length of time to hold stock, and volume of stock to trade, investors seem to be less impacted by herding behavior. However, these conclusions are given to the case of institutional investors; thus, the result can be different in the case of individual investors because, as mentioned above, individuals tend to herd in their investment more than institutional investors. Therefore, this research will explore the influences of herding on individual investment decision making at the Ethiopian Private Bank Share Companies to assess the impact level of this factor on their decisions.

## 2.5. Empirical Review

This section highlights the various types of behavioral biases that influence investor decisions based on previous research concerning behavioral finance and investment decisions.

A. Kartasova J (2013) aimed at identifying the factors that frame irrational individual investors' behaviour in the Lithuanian stock market. To analyze those factors, author employed the methods of literature survey, comparison of theoretical insights, networking, benchmarking analogy and generalization. He conducted this study in two stages. During the first stage investigation on individual investors irrationality initiated and results show that individual investors in Lithuanian suffered from the majority of the biases such as anchoring, mental accounting, confirmation and hind sight bias, herd behaviour, overconfidence, overreaction and availability bias. In second stage of study with updated questionnaire survey conducted in a broader way to cover more than 5000 individual investors. However the complete response was received from only 404 respondents. Analysis was done using basic statistical tools. Based on the

analysis author concluded that the individual investors in Lithuania suffered from all basic biases but overconfidence, anchoring, mental accounting and herd behaviour had greater influence on their financial decision-making process. He also asserted that the influence of factors forming irrational individual investors' behaviour depends on their personal characteristics such as age, experience, gender and profession.

Choudhury A K (2013) examines the meaning and importance of behavioral finance and its applications in investment decisions. This conceptual paper provides an explanation why investor makes irrational financial decisions. It demonstrated how emotions and cognitive errors influence investors in the decision making process. The author found that various causes that influence investors' investment decisions are Anchoring, Overconfidence, Herd Behavior, over and Under-reactions and Loss Aversion. In essence, behavioral finance approach investigates the behavioral patterns of investors and tries to understand how these patterns guide investment decisions. It provides a framework for evaluating active investment strategies for the investors.

Bisen V and Pandey M (2013) Aimed at identify those psychological factors that play an important role in decision making process of investors. Authors also threw a light on how standard and behavioral theories contradict modern financial theories. Survey method was used with questionnaire to collect required data. The sample size used for the study was 195 respondents. The hypothesis was designed and tested using Chi-square analysis. They found that loss aversion is greater sensitivity to losses to gains and they found that the difference in investor's behavior when stock is losing in the market and when it is gaining. Through hypothesis analysis authors concluded that there is difference in the perception of investors as they rely on newly arrived information and adjust their decision according to that available information to them.

Kabra, Mishra and Dash (2010) Aimed at gaining knowledge about key factors that influence investment behavior and how these factors impact investors' risk-tolerance and decision making process among men and women at different age groups. This study followed survey research methodology. Primary data was collected through questionnaire administration. The data were analyzed using standard techniques like factor analysis, regression analysis and other basic statistical tools. The sample used for the study was regular investors. The perceptions of the investors were analyzed through SPSS and concluded that, though investors are in new information age, are mature enough and groomed adequately, they prefer investments according

to their risk preferences and they were found to be in trap of cognitive illusions, such as overconfidence and narrow framing. They consider multiple factors and seek diversified information before taking decisions. Finally, it has been proved that investors' age and gender predominantly decides the risk-taking capacity of investors. Chandra, A., (2008) attempted to explore the impact of behavioral factors and investors' psychology on their investment decision making and to examine the relationship between investors attitude towards risk and behavioral decision making process. Author used literature survey to study the behavioral decision making and investors' psychology. In this descriptive study author used secondary data related to investments, finance and economics. The results show that unlike the classical finance theory, individual investors often do not make rational decisions. Further results reveal that the investor decision making influenced by behavioral factors such as greed and fear, cognitive dissonance, heuristics, mental accounting and anchoring.

Kahneman D and Tversky A (1979) Proposed an expected utility theory as a descriptive model of decision making under risk and paves for development of an alternative model called prospect theory. However this study proves that expected utility theory is not an adequate descriptive model and they propose an alternative account of choice under risk. Decision making risk viewed as a choice between prospects or gambles in contrast that brings outcome with some probability in comparison that are obtained with certainty this tendency called as the certainty effect. This effect contribute to risk aversion in choices involving sure gains and to risk seeking in choices involving sure losses. In this study authors developed an alternative theory OD choice in which value is assigned to gains and losses rather than to final assets and probabilities are replaced by decision weights. Value function is normally concave for gains and convex for losses and steeper in general for losses than gains. This analysis of risky options has developed two themes/ first, concerns editing operation that determine hoe prospect are perceived and second theme involves the judgmental principles that govern the evaluation of gains and losses and weighting of uncertain outcomes.

## 2.6. Research Gap

By considering the above researches we can conclude that behavioral finance does not claim that all the investors will suffer from the same illusion simultaneously. The susceptibility of an investor to a particular illusion is likely to be a function of several variables. For example, there

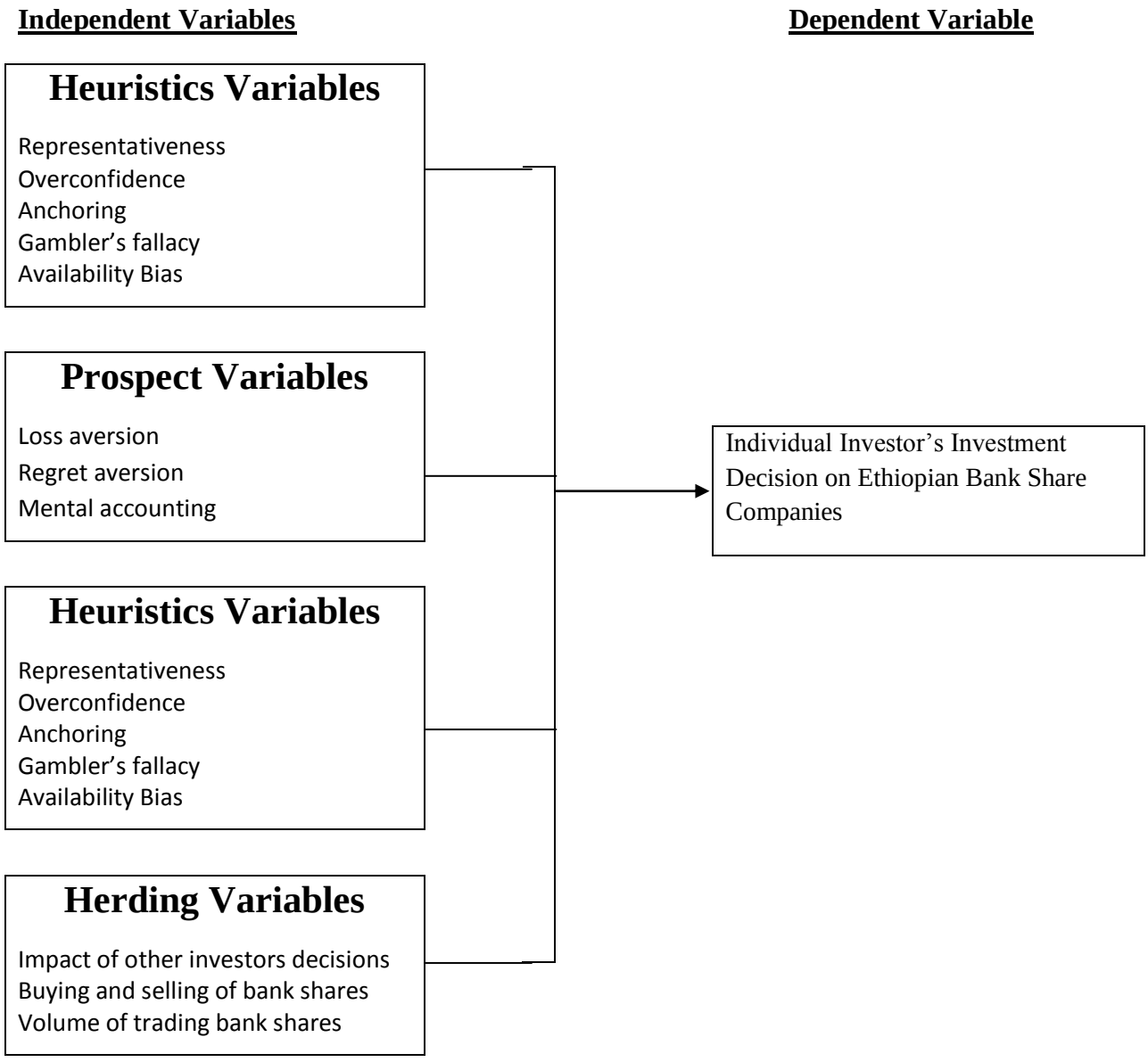
is suggestive evidence that the experience of the investor has an explanatory role in his regard with less experienced investors being prone to extrapolation (representativeness) while more experienced investors commit gambler fallacy. Similarly, behavioral factors play a vital role in the decision making process of the investors. Hence the investors has to take necessary steps to minimize or avoid illusions for influencing in their decision making process. We can justify one thing here for conducting this research that any of the researches discussed above do not describe the variables in detail they generalized the variables.

From researcher knowledge all the previous study there was no study conducted on Ethiopian investor behavioral influence of investment decision. Not only that all previous study did not consider and investigate at one time to check the overall impact of behavioral factors, for instance Bilal Aziz1, Abdullah Khan (2016) they investigate only heuristic behavioral influence on individual investors decision. As mentioned in the literature review above, it is undoubtedly that behavioral factor impact the investment decisions of investors in the financial markets. This study examines the influence levels of the behavioral variables on the Individual investors' decisions as in the following research model and hypotheses. These hypotheses are tested by using regression analysis that presents the Correlation indexes among the behavioral factors. And will examine correlation with in behavioral factors.

## 2.7. Conceptual Framework

Conceptual framework as depicted in the below figure 1.1 demonstrate a potential link between independent variables with the dependent variable. In other word, it indicates the cause and effect relationship between selected factors of individual investor behavior with investment decision in Ethiopia private banks.

Figure 2.1 Conceptual framework




**Source:** Researcher own construction based on literature review

# CHAPTER THREE
# 3. RESEARCH METHODOLOGY

## 3.1 Introduction

This chapter contains the methodology which was used to meet the objectives of the study. The chapter outlines the research design, target population, sample size selection, data collection methods and data analysis methods adopted by the researcher.

## 3.2 Research Design

Research design provides the framework for data collection and analysis Ghauri & Gronhaug (2010); (Bryman & Bell,2007). In order to understand the common behaviors of individual investors, case study or experimental or longitudinal design are not suitable but cross-sectional design. More specifically, experimental design is often used for examining the relationship between variables. Experiments tend to be used in order to explore and explain a specific issue. In experimental research, two groups should be established, one is experimental group and one is control group to compare the difference between these two groups Saunders et al. (2009). Case study infers the analysis of one single case Collis & Hussey (2009) and longitudinal design is employed to examine the changes and provide the casual influences over time (Collis & Hussey, 2009), whereas this research needs to study a relative large sample size at one single time. Thus, cross-sectional design is preferred for this type of study.

When a cross-sectional design is employed, data from more than one case at one single time is collected and analyzed. The patent of association is then examined by using the collected quantitative or quantifiable data Saunders et al. (2009). This feature is relevant to this study, the first because it fits the nature of this study to describe a common trend of investors' behaviors rather than one specific case, and the second because data in this study has not been collected in stages but carried out in a single time period.

Research design is the plan and structure of investigation so conceived as to obtain answers to research questions. The plan is the overall scheme or program of the research. According to Cooper & Schinder (2014) there are many definitions of research design but no one definition impacts the full range of important aspects.

## 3.3. Research approach

According to Creswell (2014) there are three basic types of research approaches such as quantitative, qualitative and mixed methods approach. In quantitative approach data is collected through questionnaire survey and the results can be quantified with the help of statistical tools. In this approach it is possible to compare and study several determinants and analyzing and testing them empirically to prove if there are relations to be found in order to draw conclusions. According to Kothari (2004) qualitative approach have an emphasis on understanding, observing and interpreting the data in a natural setting and with a sort of insider's view. In this study, a qualitative research approach was adopted.

## 3.4. Population

The study involved surveying individual investors who are stock holders at share companies in Ethiopia particularly banking shareholders.

## 3.5. Sampling design

Orodho and Kombo (2002) noted that a sample is a representative number of elements or individuals in a certain population to be studied. Additionally, Kothari (2004) defines a sample as a collection of units selected from the universe to represent it and it should not be too large or too small. While larger sample are deemed to be more representative of the scores on the variables in relation to the population scores, researchers, as a rule of thumb, recommend a minimum sample size of 15 in experimental or exploratory research undertakings, 30 in correlation research and 100 in survey research Lenth (2001).

The study would consider the population (87551) individual investors as currently registered in private bank investors. The researcher designed to distribute questionnaires for sample of 277 individual investors which is determined the sample size of 277 by considering an error term of 6% determined by scientific method.

This is a result of the population are homogenous that is individual investors those invest in private bank in Ethiopia, the large number of investors trading, limitations of time to facilitate faster collection and analysis of data, financial constraints to reduce the research costs as it is reduced to a smaller manageable sample which is handled easily and limited human resource in undertaking the study.

Whereas the number of individual investors which are 87551 in number are very huge to distribute questionnaires and process the data gathered, it is illogical to take all to the study because it will take time, costs and difficult to manage.

Determining sample size that represents the characteristic of the population is very important for the researcher. But this is not always perfect to represent the attributes of the population as there might be error by sampling frame, or data collection. Thus, there should be a range for the true value fall within acceptable range. According to Kothari (2004), whenever a sample study is made, there arises some sampling error which can be controlled by selecting a sample of adequate size. Researcher would specify the precision that he wants in respect of his estimates concerning the population parameter. The sample size is determined using scientific formula

$$n= \quad N/1+ N\,(e)^2$$

As per the researcher

n =sample size

e=acceptable error which is 6%

N is the total number of population which is 87551 Individual investors

Thus if we substitute in the above formula, we will get the sample size, 277

Thus the researcher distribute 277 questioners to individual investors invest in Ethiopian Private bank share companies.

The researcher used 6% error term this is a result of the population are homogenous that is individual investors those invest in private bank in Ethiopia, the large number of investors trading, limitations of time to facilitate faster collection and analysis of data, financial constraints to reduce the research costs as it is reduced to a smaller manageable sample which is handled easily and limited human resource in undertaking the study.

## 3.6. Data Collection

Among various kinds of data collection methods such as structured interviews, semi structured interviews, unstructured interviews, self-completion questionnaire, observation, group discussion, etc; self-completion method was preferred for this study to collect quantitative data.

Self-completion questionnaire seems to be one of the most common methods of quantitative researches. With a self-completion questionnaire, respondents answer questions by completing

the questionnaire themselves. This method is preferable for some reasons. The first reason is that as the research questions are defined clearly, questionnaire is the best choice to have standardized data, which is easily to process, and analyze. Especially, as no interviewers present when the questionnaires are completing, the results may not be affected by the interviewers (Bryman & Bell, 2007). Moreover, it is cheaper than other methods (Bryman & Bell, 2007). As the research is about Individual Private Bank investors, it will be very expensive for conducting face-to-face interviews. Furthermore, this method helps to save time (Bryman & Bell (2007) so hundreds questionnaires can be sent out in one batch. As the respondents are investors, they may not have much time for interviews, thus, questionnaires may make them feel more comfortable because they can do it whenever they have free time. Questionnaires also are more convenient for respondents in case they need to provide some sensitive information, in other words; they tend to be more honest than in an interview (Bryman & Bell (2007).

Questionnaires would be designed based on the research objectives and the research questions in order to address a particular research question or hypothesis. The questionnaire was incorporated three sections with the first section enquiring respondent's background information and the second part consisting of behavioral factors influencing investment decisions and the third consists of individual investor decision. A 5-point liker scale was used for asking respondents" opinions and attitudes would utilize to ask the individual investors to evaluate the degrees of their agreement with the impacts of behavioral factors on their investment decision. The 5 points in the scale are respectively from 1 to 5: Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree about their investment decision. The number indicates in the question provided to feed ordinary scale measurement and to generate data suitable for quantitative analysis (Boone Jr, 2012). The mean response greater than 3considered as an agreement with the statement of the questionnaires and the mean response less than 3 considered as a disagreement with the statement of the questionnaires (Boone Jr, 2012). Moreover, the standard deviation results of less than 1.00 indicates that the respondent's perception close to one another and the standard deviation greater than 1.00 indicated that the respondents perception's vary each other (Shewhart, 2004).

The language of the questionnaires is English. The sample of this instrument is attached in the appendix.

## 3.7. Data Analysis

In this study the researcher used STATA software to analyze the data which were collected. After the quantitative data were collected, coded, edited and processed and entered in to STATA software, a test for reliability has been made using Cronbachs alpha. Then after, a descriptive statistics mainly frequency count, percentage, measure of central tendency (mean), measure of dispersion (standard deviations) has been used to summarized and describe the results of the observation. To determine the relationship among the variables and to test the hypothesis, correlation and regression analysis was used by meeting the Ordinary Least Square (OLS) assumptions of the linear regression model.

A Model is designed to test theories and predict the outcome of events Eckert.et.al (1990). Before running analysis any researcher must select the preferable model for the study to see variables effect and relation with each other. In this study researcher used multiple regression analysis model to see their relationship. Linear Regression can tell us whether any perceived relationship between the variables is a significant one. Simple Linear Regression looks at one dependent variable in terms of one independent (or explanatory) variable. When researcher want to explain a dependent variable in terms of two or more independent variables researcher used Multiple Linear Regression. Just as in Simple Linear Regression, the Least Squares method is used to estimate the Coefficients (the constant and the Bs) of the independent variables. The sign of the coefficient tells as relationship of dependent and independent variables. According to this study Heuristic behavioral factors, Prospect behavioral factors, Market factors, and Herding factors were independent (explanatory) variables where as investors individual decisions were outcome (dependent) variables based on researcher literature.

The following model is formulated for this research to test the research hypothesis.

$$Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3\beta 4X4 + \varepsilon$$

Where Y- decision of individual investors

X1 – herding behavior, B1 – coefficient of herding behavior

X2 – heuristic behavior, B2– coefficient of heuristic behavior

X3– market behavior, B3 – coefficient of market behavior

X4 – prospect behavior, B4 – coefficient of prospect behavior

α – constant term

N – Sample size

ε – Error term

The researcher would validate the model by testing the assumption of Ordinary Least Square (OLS).

## 3.8. Reliability and validity test or analysis

### 3.8.1 Reliability

According to Neuman & Kreuger (2003), "Reliability and validity are central issues in all measurements. Reliability means dependability or consistency, and validity means truthfulness. It refers to the bridge between the construct and the data (Neuman & Kreuger 2003).When an interview is conceived as an opportunity for construction of meaning, one "cannot expect a replication of answers because they emerge from different circumstances of production" (Holstein & Gubrun, 1995). Thus, the trustworthiness of the data can only be evaluated by the participants themselves.

Cronbach‟s Alpha Test was used to test the internal consistency reliability of measurements, which are in formats of continuous variables (for example, 5-point Likert measurements). It includes a statistical summary that describes the consistency of a specific sample of respondents across a set of questions or variables that will help to estimate the reliability of participants‟ responses to the measurements (Helms et al, 2006). Cronbach‟s alpha is usually used as an indicator of reliability (Liu, Wu & Zumbo, 2010). As such, the Cronbach‟s alpha is suitable for this research because the questionnaire consists of 5-point Likert measurements and the research is in behavioral finance.

Nunnally (1978) suggests that Cronbach's alpha should be at least 0.7 to make sure that the measurements are reliable. However, many statisticians believe that it can be acceptable if the Cronbach's alpha is over 0.6 Shelby (2011). Besides, statisticians recommend that it is necessary to consider the corrected item-total correlations when using the Cronbach's alpha index. The corrected item-total correlations, which reflect the correlation of variables or items designated with the total score for all other items, should be at the acceptable score of 0.3 or higher Shelby (2011). This research chooses the acceptable Cronbach's alpha is 0.6 or more, with the corrected item-total correlation index is 0.3 or more because the measurements of financial behavior are new to the stockholders of the Ethiopain Private Bank share Companies. Besides, the accepted

significant level of the F-test in Cronbach's alpha technique is not more than 0.05. The Cronbach's alpha test is finished by STATA software.

Measurement validity deals with the question of whether a measure can actually provide measurements of a concept (Bryman & Bell, 2011). As the questionnaire is designed based on the theoretical models from previous studies, indicators for measurements are applied to reflect the concept of "behavioral factors influencing investors‟ decisions". Besides, the 5-point Likert measurements removing the neutral opinions, they also increase the measurements‟ accuracy, measurement validity is obtained throughout this study.

### 3.8.2 Validity

Whilst reliability relates to the accuracy and stability of a measure, validity relates to the appropriateness of the measure to assess the construct it purports to measure" Field (2009). To make the study valid the researcher used different techniques such as preliminary survey to ensure the measurement and assessment of the real situation. Moreover, to make valid and predictive the outcome of the study, the researcher would distribute personally each questionnaire by communicating and convincing all respondents about the purpose of the study.

## 3.9 Ethical consideration

When questionnaires were distributed the researcher informed respondents on the introduction part of the paper about the title and objective of the study. Besides, to develop respondents confidence they would be informed that their responses would be kept confidentially and the information uses only for academic purpose. To avoid misunderstanding and problems related with questionnaires in acquiring information from investors shareholders in Ethiopian private banks, the researcher design the questionnaires in clear and understandable manner.

**3.10 Objectives, Research hypothesis and data sources**

As per the following tables, we will see the relationship among the research objectives, hypothesis and data sources:

Table 3.1 Summaries of Research Objectives, Research hypothesis and data source

| Objectives: | Research hypothesis: | Data source |
|---|---|---|
| To determine the influence of Heuristics on the behavior of individual investors decision. | Hypothesis H1: The Heuristics behaviors have impacts on the investment decisions | Question in questionnaires (1-8 ) |
| To determine the influence of Prospect Factors on the behavior of individual investors decision. | Hypothesis H2: The Herding behaviors have impacts on the investment decisions | Question in questionnaires (9-14 ) |
| To determine the influence of Market factors on the behavior of individual investors decision. | Hypothesis H3: The prospect behavioral factors have impacts on the investment decisions | Question in questionnaires (15-20 ) |
| To determine the influence of herding Factors on individual investment decision to invest in Ethiopian banking share companies. | Hypothesis H4: The market behavioral factors have impacts on the investment decisions | Question in questionnaires (21-24 ) |

# CHAPTER FOUR
# 4. DATA ANALYSIS, RESULTS AND DISCUSSION

## 4.1 Introduction

This chapter covers data presentation and analysis. The main objective of the study was to determine the effect of behavioral factors on individual investor choices at the Ethiopian private bank share companies. In order to simplify the discussions, the researcher provided tables and figures that summarize the collective reactions and views of the respondents.

## 4.2 Descriptive Statistics

This section shows demographic information for gender, age, marital status, level of education and average monthly income for the respondents as well as the response rate. It also shows the mean and standard deviation of the behavioral factors in relation to investors‟ decisions.

### 4.2.1 Response Rate

The targeted sample size was 277 investors. Those filled and returned questionnaires were 211 respondents making a response rate of 76 %. According to Mugenda and Mugenda (1999), a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. This means that the response rate for this study was excellent and therefore enough for data analysis and interpretation.

Table 4.1Summary of the response rates

| Data sources | Methods of data collection | Sample size | Response | Frequency | Percentage |
|---|---|---|---|---|---|
| Individual Investors invest in Ethiopian Private bank share companies | Questionnaires | 277 | Filled and returned the questionnaires | 211 | 76 |
| | | | No response | 66 | 24 |
| Totals | | | | 277 | 100 |

**Source: Research Findings**

### 4.2.2 Gender of Respondents

The table displays demographic information according to gender.

Table 4.2 Gender of the respondents

| **Gender** | **Frequency** | **Percentage** |
|---|---|---|
| Male | **149** | **70.6** |
| Female | **62** | **29.4** |
| **Total** | **211** | **100** |

**Source: Research Findings**

The study found it important to determine the respondents‟ gender in order to ascertain whether there was gender parity in the positions indicated by the respondents.

According to the study findings (29.4 %) of the respondents were female and (70.6 %) were male. This implies that male were highly involved in the study. However there is no biased in the survey instrument related to gender.

It can therefore be deduced that male investors were the most dominant gender at the Ethiopian Private Bank Individual Share Holders.

### 4.2.3 Age Group of the Respondents

The researcher sought to determine if the respondents were old enough to provide valuable responses that pertain to the effects of behavioral factors on individual investor choice at the Ethiopian Private Bank Share Companies

Table 4.3 Age Group of respondent

| Age | Frequency | Percentage |
|---|---|---|
| 21-30 | 22 | 10.43 |
| 31-40 | 65 | 30.81 |
| 41-50 | 61 | 28.91 |
| 51-60 | 63 | 39.86 |
| Total | 100 | 100 |

**Source: Research Findings**

The study findings showed that majority (30.81%) indicated that their age bracket was between 31 and 40 years which is an energetic age group. Analysis of findings also indicated that 29.91% of the respondents were between the age of 51 and 60 years of age, 28.91% were between 41 and 50 years of age, while the remaining 10.43% were between 21 and 30 which is the youngest age group. The finding therefore implies that the respondents were matured enough to provide valuable responses that pertain to the effects of behavioral factors on investor choice and the research cover fairly all age group of respondents without biases.

### 4.2.4 Marital Status of Respondents

The table displays demographic information according to marital status of the respondents.

Table 4.4 Marital status of Respondents

| Marital Status | Frequency | percentage |
|---|---|---|
| Married | 118 | 55.92 |
| Single | 93 | 44.08 |
| Total | 211 | 100 |

**Source: Research Findings**

The study found it important to determine the respondents‟ marital status in order to ascertain whether it affected the positions indicated by the respondents. It was evident that majority of the respondents were married which was represented 55.92% while 44.08% were single. It can therefore be deduced that most of the investors interviewed were married.

### 4.2.5 Level of education of the respondents

The study sought to find out the respondents level of education. From the findings, majority (66.82%) had first degrees followed by 20.85% who indicated that they had secondary school certificate, 8.06% had master's degree or second degree, and the remaining 4.27% indicated that they had attained primary school. Therefore the findings conclude that most respondents had adequate level of education to execute their pertaining to behavioral factors affecting individual investor choice and the respondents were adequate enough to understand the questioner and respond based on their knowledge and experience.

Table 4.5 Level of education of the respondents

| Education | Frequency | Percentage |
|---|---|---|
| primary school | 9 | 4.27 |
| secondary school | 44 | 20.85 |
| first degree | 141 | 66.82 |
| master and above | 17 | 8.06 |
| Total | 211 | 100 |

**Source: Research Findings**

### 4.2.6 Year of Investment of Respondent

The study sought to find out year of investment of the respondents. From the findings, majority (48.82%) of the respondents indicated that they had around 5 years and less of investment experience followed by 41.23% who had 6 to 10 years of investment experience, 9.48% had 11 to 15 years of investment experience, the remaining 0.47% of respondents had 16 to 20 years of experience. This implies that investment in share companies were increase in the recent past with the increasing number of private banks joining in the banking sector.

Table 4.6 Year of Investment Experience of respondents

| Year of Investment | Frequency | Percentage |
|---|---|---|
| 0-5 years | 103 | 48.82 |
| 6-10 years | 87 | 41.23 |
| 11-15 years | 20 | 9.48 |
| 16-20 years | 1 | 0.47 |
| Total | 211 | 100 |

**Source: Research Findings**

### 4.2.7 Type of Bank the Respondent belongs

The table displays composition of respondent from which private bank were belongs.

According to the table 4.8 below 19.91% of the respondent were from Berhan Bank, 18.01% from Wegagen Bank, 14.69% from Debub Global Bank, which are active in selling of their share to individual investors and individual investors could easily find an opportunity to buy the share. Buna Bank Take 4.74%, Awash Bank and Nib Bank take 5.21% Dashen, Abyssinia, United, and Abay 2% only each. The implication of this is that the respondents were comprised of various all

private banks in Ethiopia which in turn enabled the researcher to get varied responses across the same topics or units fairly distributed. Though there was high percentage from Berhan, Wegagen and Debub Global Bank, the study did not suffer from the type of bank bias.

Table 4.7 Type of Bank the Respondent belongs

| Type of Bank | Frequency | Percentage |
|---|---|---|
| Awash Bank | 11 | 5.21 |
| Dashen Bank | 2 | 0.95 |
| Bank Of Abyssinia | 2 | 0.95 |
| Wegagen Bank | 38 | 18.01 |
| United Bank | 2 | 0.95 |
| Nib Bank | 7 | 3.32 |
| Cooperative Bank Of Oromia | 10 | 4.74 |
| Lion Bank | 2 | 0.95 |
| Oromia International Bank | 10 | 4.74 |
| Berhan Bank | 42 | 19.91 |
| Buna Bank | 10 | 4.74 |
| Abay Bank | 2 | 0.95 |
| Zemen Bank | 14 | 6.64 |
| Debub Global Bank | 31 | 14.69 |
| Enat Bank | 24 | 11.37 |
| Addis International Bank | 4 | 1.9 |
| Total | 211 | 100 |

**Source: Research Findings**

## 4.3 Measurement Reliability Test using Cronbach's Alpha

In this part, Cronbach's Alpha is used to test the reliability of items included in the factors, which are identified in the factor analysis. This test is done to make sure that the measurements are reliable for further uses. The results of Cronbach's alpha test are shown in the Table 4.1. "Cronbach's Alpha is very useful in developing attitude scales and questionnaires as the alpha level (or reliability) indicates if the items are measuring the same construct. Items that are not measuring what the rest are can be identified and deleted" Burns (2008). Cronbach's Alpha shall

be over 0.70 to produce a reliable scale and any scale less than this alpha coefficient should be eliminated according to Burns (2008).

As indicated in Table 4.1, the value of Cronbach's alpha for each variable was greater than 0.70 which is very acceptable. Therefore, the responses generated from all variables in this study were reliable enough for data analysis.

Table 4.8 Reliability test result

| Cronbach Alpha | Cronbach Alpha Based on standardized item | No. of items in the scale |
|---|---|---|
| 0.7751 | 0.7775 | 28 |

**Source: Research Findings**

## 4.4 Descriptive statistics of behavioral factors

The impact levels of behavioral variables on the investment decisions are identified by calculating the values of sample mean of each variable. In similar, the variables of investment decision are scored by identifying the mean values of the respondents' evaluations for each variable.

### 4.4.1 Heuristic Variables

As mentioned Table 4.9 below, the heuristic variables are grouped into 4 and covered by related 8 theoretical questions: Overconfidence- Gambler's fallacy and Anchoring-Ability bias. The impacts of these factors are shown in the following table:

Table 4.9 Output for Heuristics factors

| Questions | Respondents | Min | Max | Mean | Std.Dev |
|---|---|---|---|---|---|
| You buy share of a bank performed well and avoid refuse to buy share of a bank that have performed poorly in the recent past. | 211 | 1 | 5 | 3.464 | 0.982 |
| You use trend analysis of a bank's performance to make investment decisions for all bank shares that you invest. | 211 | 2 | 5 | 4.517 | 0.912 |
| You believe that your skills and knowledge of Bank shares can help you to make the right decision. | 211 | 2 | 5 | 4.279 | 1.034 |

| | | | | | |
|---|---|---|---|---|---|
| You rely on your previous experiences in the market for your next investment. | 211 | 3 | 5 | 4.796 | 0.427 |
| You forecast the changes in Shares Value in the future based on the recent bank share value. | 211 | 2 | 5 | 4.545 | 0.884 |
| You are normally able to anticipate the end of good or poor market returns for Ethiopian private bank S.Companies | 211 | 1 | 5 | 3.365 | 1.148 |
| You prefer to buy local Bank share than foreign Bank share because the information of local bank share is more available. | 211 | 1 | 5 | 3.621 | 0.935 |
| You consider the information from your close friends and relatives as the reliable reference for your investment decisions. | 211 | 1 | 5 | 3.706 | 1.055 |
| **Average Mean Score** | | | | **4.037** | |

**Source: Research Findings from STATA output**

The mean average total indicated 4.037 which is greater than 4 this implies that the respondents were strongly agree with the question raised related to heuristics factors (Representativeness, Overconfidence, Anchoring, Gambler's fallacy and Ability bias). From the above table 4.9 observed that they use trend analysis of some representative share of stock to make investment decisions for all share that they invest in has a mean of 4.517. Individual investors are highly relay on their previous experience in the share investment for their future investment decision with a mean of 4.796 and also agreed that they buy hot share and avoid a share that have performed poorly in the recent past with a mean of 3.464.

This finding strongly supported the studies of Allen and Evans (2005, p.108), Gervais, Simon and Odean (2001, p.1) which suggest that people usually believe in their skills and knowledge to outperform the market. It also strongly supports the studies suggesting that Asian people tend to be more overconfident than European or American people (Yates et al., 1997, p.94).

Lastly considering anchoring, the respondents strongly agreed that they forecast the changes in stock prices in the future based on the recent stock prices with a mean of 4.545 and they moderately agreed that they prefer to buy local Bank Share than international Bank Share because the information of local Bank Share is more available with a mean of 3.621 and consider the information from your close friends and relatives as the reliable reference for their

investment decisions with a mean of 3.706. The finding concurs with the finding of Waweru et al. (2008, p.34) which reveals that 96% of surveyed investors are home-market bias without considering the principles of portfolio diversification. The finding was consistent with the result of waweru et al. (2008, p.34) which indicates that most of investors can anticipate exactly the changes of stock prices.

### 4.4.2 Prospect factors

Table 4.10 S output for Prospect factors

| Questions | Respondents | Min | Max | Mean | Std.Dev |
|---|---|---|---|---|---|
| After a prior gain, you are more risk seeking than usual. | 211 | 1 | 5 | 2.654 | .883 |
| After a prior loss, you become more risk averse. | 211 | 1 | 5 | 2.536 | .962 |
| You avoid selling shares that have decreased in value and readily sell shares that have increased in value. | 211 | 1 | 5 | 2.545 | 1.130 |
| You feel more sorrow about holding losing Bank Share too long than about selling winning Bank Share too soon. | 211 | 1 | 5 | 3.668 | 1.347 |
| You tend to treat each element of your investment portfolio separately. | 211 | 2 | 5 | 3.635 | .907 |
| You ignore the connection between different investment possibilities. | 211 | 2 | 5 | 3.796 | .8789 |
| **Average Mean Score** | | | **3.139** | | |

**Source: Research Findings from STATA output**

From the table above the average mean result of prospect factors (Loss Aversion; Regret aversion and Mental accounting) have 3.139 score value. The result is approached to 3 which is neutral or indifference. From the finding above table 4.10, the respondents disagree with the statement related to loss aversion, regret aversion and avoid selling of shares that have decreased in value with their respective mean of 2.654,2.536 and 2.545.The finding was not consistent with that of the finding of Lehenkari and Perttunen (2004, p.116). From this study the researcher noted that individual investors are more risk averse and to avoid regret.

The finding was argued for the finding of Vietnamese investors seems to be more willing to sell shares increasing in value than decreasing ones (Le Phuoc et al, 2011).

Mental accounting was also looked at and the respondents agreed that they tend to treat each element on their investment portfolio separately with a mean of 3.635, and they feel more sorrow about holding losing Bank Share too long than about selling winning Bank Share too soon (3.668) also agreed that they ignore the connection between different investment possibilities with a mean of 3.796. This study result was consistent with the research done by Rockenbach (2004, p.513).

### 4.4.3 Market factors

Table 4.11 output for Market factors

| Questions | Respondents | Min | Max | Mean | Std.Dev |
|---|---|---|---|---|---|
| You consider carefully the price changes of Bank Share that you intend to invest in. | 211 | 2 | 5 | 3.270 | .940 |
| You have the over-reaction to price changes of Bank Share. | 211 | 1 | 5 | 2.924 | 1.002 |
| Market information is important for your stock investment. | 211 | 2 | 5 | 3.488 | .886 |
| You put the past trends of Bank Share under your consideration for your investment. | 211 | 2 | 5 | 3.081 | .815 |
| You analyze the companies' customer preference before you invest in their Bank Share. | 211 | 1 | 5 | 3.189 | 1.168 |
| You study about the market fundamentals of underlying Bank Share before making investment decisions. | 211 | 1 | 5 | 3.275 | .995 |
| **Average Mean Score** | | | **3.205** | | |

**Source: Research Findings from STATA output**

Concerning the market factors (Price changes; Market information; Past trends of Bank Share; Fundamentals of underlying Bank Share; Customer preference and Over-reaction to price changes) have a mean score value of 3.205 which indicated that the respondents were agreed the statement related to market factors. From the table 10.11 indicated that price change, market information and fundamentals of underlying Bank Share the respondents agreed that they consider carefully the price changes of Bank Share that they intend to invest in (mean of 3.270), market information is important for their stock investment (mean of 3.488) This means the individuals tend to consider the information of stock market: general information, past trends of

stock price and current stock price changes carefully before making their investment. Regarding the market fundamentals, the respondents were replied with a mean score of 3.275. This showed that they were slightly agreed with studying fundamentals of underlying Bank Share before making investment decision. However, that the respondents were neutral for using past trends of their stock in their decision making with a mean of 3.081 and they analyze the companies' customer preference before you invest in their Bank Share. Lastly the respondent disagree that they have the over-reaction to price changes of Bank Share with a mean of 2.924.

### 4.4.4 Herding behavioral Factors

Table 4.12 output for Herding factors

| Questions | Respondents | Min | Max | Mean | Std.Dev |
|---|---|---|---|---|---|
| Other investors' decisions of choosing stock types have impact on your investment decisions. | 211 | 1 | 5 | 3.318 | .878 |
| Other investors' decisions of the stock volume have impact on your investment decisions. | 211 | 1 | 5 | 3.270 | .883 |
| Other investors' decisions of buying and selling Bank Share have impact on your investment decisions. | 211 | 1 | 5 | 3.507 | .864 |
| You usually react quickly to the changes of other investors' decisions and follow their reactions to the stock market. | 211 | 2 | 5 | 3.583 | .994 |
| **Average Mean Score** | | | **3.419** | | |

**Source: Research Findings from STATA output**

The mean average total indicated 3.419 which is greater than 3 this implies that the respondents were agreed with the question raised related to herding factors (Following the others trading actions (buying and selling, choice of stock, volume of stock, and speed of herding). From the above table 4.12 the finding indicated that the respondents moderately agreed with other investors decisions of choosing stock types with a mean of 3.318, decisions of the stock volume (mean of 3.270), decisions of buying and selling Bank Share (mean of 3.507), and they usually react quickly to the changes of other investors decisions following their reactions to the stock market (mean of 3.583) have impacted on their investment decisions.

This finding does not strongly support the researches of Farber, Nguyen and Vuong (2006, p.17) and Tran (2007, p.23-25), which suggest that the herding effect in Vietnam stock market is very strong, especially toward positive return of the market. Chen, Rui and Xu (2003, p.5) argue that herding is more likely to happen in emerging markets than developed ones as the government intervention is high, the quality of information disclosure is low. Kaminsky and Schmukler (1999, p.557-558) assert that during 1997-1998, Asian countries seem to be driven by herding behaviors. Thus, it is believed that the herding instinct is very strong in Ethiopia because absence of well-organized information provider.

## 4.5 Assessments of ordinary least square assumptions

The study conducted the regression analysis to show the relationship between individual heuristics, prospect, market and herding behavior and investment decision. Before using the regression analysis the data was subjected to assumptions of regression analysis with no violation observed. Then, the followings were done to assess the assumptions of ordinary least square (OLS).

### 4.5.1. Assessment of normality

The Skewness and Kurtosis were used to test normality distribution. Skewness is used to describe the balance of the distribution, that is, it is unbalanced and shifted to one side (right or left) or it is centered or symmetrical. A positive skew denotes a distribution shifted to the left whereas a negative Skewness reflects a shift to the right. Whereas, Kurtosis refers to the Peakedness or flatness of the distribution compared with the normal distribution. The Skewness and Kurtosis values (available as part of the basic descriptive statistics for a variable computed by all statistical programs) and if the value computed exceeds the specific critical value, then the distribution is non-normal. The most commonly used critical values are ±2.58 (0.01significance level) and ±1.96 which corresponds to a 0.05 error level (Joseph et al, 2014). With this test, the researcher can easily assess the degree to which the Skewness and kurtosis distributions vary from the normal distribution. The result of normality distribution test is presented in table 4.13 shows that the Skewness and Kurtosis values computed in STATA software not exceeds the critical value. Therefore it indicates that the data were normal and reliable for analysis.

Table 4.13 STATA output for Skewness /Kurtosis tests for normality

| Variables | Observation | Pr(Skewness) | Pr(Kurtosis) |
|---|---|---|---|
| Heuristics | 211 | 0.0003 | 0.1053 |
| Prospect | 211 | 0.0000 | 0.0009 |
| Market | 211 | 0.5431 | 0.0000 |
| Herding | 211 | 0.9151 | 0.4765 |
| Investment Decision | 211 | 0.1416 | 0.2847 |

**Source: Research Findings from STATA output**

### 4.5.2 Assessment of Multicollinearity

In multiple regression analysis, the regression coefficient became less reliable as the degree of correlation between the independent variable increases and there is a problem of what is commonly described as the problem of multi collinearity (Kothari, 2004). Multi-collinearity is a statistical problem which occurs when the explanatory variables (independent variables) are much correlated with each other. It means when the strong correlation among predicators and the existence of correlation value greater than 0.80, tolerance value less than 0.10 and Variance Inflation Factor (VIF) greater than 10 in the correlation matrix (Field, 2009). Tolerance in this case defined as a statistical tool which is used to indicate the variability of the specified independent variables from other independent variables in the model. Based on Table 4.14, the tolerance levels for all variables were greater than 0.10 and the Variance Inflation Factor (VIF) value for all variables were less than 10 and according to Table 4.14 which shows the correlation between independent variables, the correlation matrix of all variables among the predictor was also less than 0.80. Therefore, correlation value, tolerance level, and VIF value indicates that there were no multicollinearity problem in this study.

Table 4.14 STATA output for collinearity statistics

| Model | Collinearity statistics | |
|---|---|---|
| | Tolerance | VIF |
| Heuristics | 1.36 | 0.735 |
| Prospect | 1.44 | 0.693 |
| Market | 1.33 | 0.753 |
| Herding | 1.58 | 0.633 |

**Source: Research Findings from STATA output**

Table 4.15 Correlation matrix

| | Heuristics | Prospect | Market | Herding | Investment decision |
|---|---|---|---|---|---|
| Heuristics | **1.0000** | 0.4088 | -0.1250 | -0.1941 | 0.4290 |
| Prospect | 0.4088 | **1.0000** | -0.0281 | 0.2563 | 0.7291 |
| Market | -0.1250 | -0.0281 | **1.0000** | 0.4703 | -0.0697 |
| Herding | -0.1941 | 0.2563 | 0.4703 | **1.0000** | -0.0587 |
| Investment decision | 0.4290 | 0.7291 | -0.0697 | -0.0587 | **1.0000** |

**Source: Research Findings from STATA output**

### 4.5.3 Assessment of auto correlation

If there are patterns in the residuals from a model, then they can be considered as auto correlated (Brooks, 2008). The Durbin-Watson (DW) is a test for first order autocorrelation (Field, 2009). It assumes that the relationship between an error and the previous of an error. In this type of test, the null hypothesis of no autocorrelation can't be rejected when DW result is near 2, (Brooks, 2008). Because, it shows there is little or no evidence of autocorrelation. Based on Table 4.16 the Durbin-Watson (DW) statistics value is 1.817 which is close to 2. Therefore, there is no evidence of autocorrelation among error terms in this study.

Table 4.16 Durbin Watson Test Model Summary

| Model | R square | Adjusted R squared | Durbin Watson |
|---|---|---|---|
| 1 | 0.607 | 0.599 | 1.817 |

Independent variable: (Constant), Heuristics, Prospect, Market, Herding. Dependent variable: Investment decision.

### 4.5.4. Assessment of Hetroscedasticity/ Presence of Homoscedasticity

It has been assumed that the variance of the error is constant and this is known as the assumption of homoscedasticity. If the errors do not have a constant variance, they are said to be hetroscedasticity(Brooks, 2008). Level statistics test for Homogeneity was conducted and P – value > 0.05 is acceptable. Thus, results mentioned in below table shows critical value greater than 0.05 which shows there is no evidence for the present of hetroscedasticity.

Tables 4.17 for testing hetroskedasticity

| Breusch-Pagan / Cook-Weisberg test for heteroskedasticity |
|---|
| Ho: Constant variance |
| Variables: fitted values of Investment decision |
| chi2(1) = 0.00 |
| Prob> chi2 = 0.9750 |

**Source: Research Findings from STATA output**

## 4.6 Regression Results

Regression analysis was done to establish the statistical significant relationship between the independent and dependent variables. The regression analysis results were presented using model summary, ANOVA and beta coefficient tables. The analysis applied STATA software and the result of the analysis is presented as follows:

The coefficient determination also known as model summary was carried out to measure how well the statistical model was likely to predict future outcomes. In the course of model estimation, it is common practice to evaluate the appropriateness of a single descriptive model for the study with the help of coefficient determination, $R^2$.

In empirical studies, the most important benefit of $R^2$ is that it serves as a measure for the goodness of fit of the estimated model (Reisinger, 1997). The r-squared value more than 25% can be acceptable and good to fit (Thompson, 2002).

Table 4.18 Model summary

| Model | R square | Adjusted R squared | Durbin Watson |
|---|---|---|---|
| 1 | 0.607 | 0.599 | 1.817 |

Independent variable: (Constant), Heuristics, Prospect, Market, Herding. Dependent variable: Investment decision.

Based on the table 4.18 the model had a coefficient of determination ($R^2$) = 0.607 indicated that 60.70% of the variation in Individual Investment Decision was explained by the variables in the model leaving 39.30% of the variation in investment decision to be explained by variables not in the model. Adjusted $R^2$ indicates the true behavior of $R^2$ that varies in accordance with the changes in independent variables. It means that the overall contribution of Heuristics, Prospect, Market and Herding behavior to company performance accounted for 59.90% (0.599) of the variation in Individual investment decision.

## 4.7 Analysis of Variance (ANOVA)

The ANOVA analysis provides the statistical test for the overall model fit in terms of F ratio. The results in Table 4.18 show the model adopted can explain 59.90 % variability in investment decisions among the retail investors surveyed. This implies that the combination of heuristics, prospect, market and herding behavior can explain 59.94 percent of the variance in retail investment decisions as measured by the $R^2$. The ANOVA results in Table 4.19 show that the independent variables can statistically significantly predict the dependent variable, $F(4, 206) = 79.57$, $p < .000$ (i.e., the regression model is a good fit of the data).

Table 4.19 ANOVA results for the regression

| Source | Sum of squares (SS) | Degree of freedom( DF) | Mean of squares | F | Sig. |
|---|---|---|---|---|---|
| Model | 64.80 | 4 | 16.20 | 79.57 | 0.000[b] |
| Residual | 41.95 | 206 | 0.20 | | |
| Total | 106.75 | 210 | | | |

a. Dependent variable: investment decision

b. Independent variable: (constant), heuristics, prospect, market and herding factor

## 4.8 Tests of coefficient

The table below shows the level of significance on the variables. The standardized and unstandardized coefficients were also presented as follows:

Table 4.20 Regression Results Coefficients a

| Model | Unstandardized coefficients | | Standardized coefficients | t. | Sig. | Collinearity statistics | |
|---|---|---|---|---|---|---|---|
| | (β) | Std.error | (β) | | | Tolerance | VIF |
| Constant | .019147 | 0.411 | | 0.05 | 0.963 | | |
| Heuristics | 0.120 | 0.093 | 0.066 | 1.29 | 0.198 | 0.735 | 1.36 |
| Prospect | 0.955 | 0.064 | 0.779 | 14.86 | 0.000 | 0.693 | 1.44 |
| Market | 0.118 | 0.061 | 0.098 | 1.94 | 0.054 | 0.753 | 1.33 |
| Herding | -0.298 | 0.056 | -0.292 | 5.31 | 0.000 | 0.633 | 1.58 |

a. Dependent variable: investment decision

b. Independent variable: heuristics, prospect, market and herding behavior

The Beta (β) sign includes a sign of positive (+) and negative (-). It shows the effect of independent variables over the dependent ones (Field, 2009). Based on table 4.20 beta sign of all the independent variable except Herding behavioral Factors shows positive (+). Thus, the independent variables: Heuristics, Prospect and Market Factors had a positive effect on dependent variable, whereas Herding Had a negative effect on Dependent Variable, Individual investment decision to invest in Ethiopian Private Bank share companies.

The independent variable with a level of significance (sig) value less than 5% can make a significance contribution to the predicted value of the dependent variable and a variable beyond this level of significance (sig) cannot make a significance contribution to the predicted value of the dependent variable, (Brooks, 2008). Based on table 4.20, the statistical significance of the independent variables prospect and Herding over the dependent variable (Investment decision) was significance at 5% level of significance it implies that prospect and herding had significantly affect individual investment decision to invest in Ethiopian private bank share companies at 5% level of significance, Where as independent variable heuristics and market do not significantly affect the dependent variable of individual investment decision at 5% level of significant.

The regression results led to the adoption of the model hereunder.

$$Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3\ \beta 4X4 + \varepsilon$$

Where $\alpha$ is the constant = 0.168, $\beta_1$= 0.066, $\beta_2$= 0.779, $\beta_3$= 0.098 and $\beta_{4=}$ -0.292

The fitted regression equation of the model becomes:

$$Y = 0.0195 + 0.066X1 + 0.779X2 + 0.098X3 - 0.292X4 + \varepsilon$$

$$(0.093) \qquad (0.064) \qquad (0.61) \qquad (0.056)$$

**4.9 Data results and interpretations as well as hypothesis test**

The model recorded a constant or the Y-intercept equivalent to 0.0195. This implies that when the four independent variables are set to zero individual investments decision would stand at 0.0195 units. The model recorded a $\beta 1 = 0.066$ which indicate that a unit change in Heuristics can be explained by 0.066 unit change in individual investment decision when other factors are held constant. The model also recorded a $\beta 2 = 0.779$ showing that a unit change in prospect could be explained by 0.779 unit change in individual investment decision when other factors are held constant. Additionally, the model recorded a $\beta 3 = 0.098$ also show that a unit change in market factor could be explained by 0.098 unit change in individual investment decision when other factors are held constant. Finally, the model recorded a $\beta 4 = -0.292$, implying that a unit change in herding behavior could be explained by – 0.292 unit change in individual investment decision when the other factors are held constant. The model indicates that Bank Share' prospect, (B = 0.779, p = 0.000) and market factor (B= 0.098, p= 0.054) had a positive and significant effect on individual investors decision at 5% significant levels and herding behavior (B = -0.292, p = 0.000) had a negative but significant effect on individual investment decisions at 5% significance levels. On the other hand, the model results show that heuristics behavior had a positive but insignificant role on individual investors investments' decisions (B =0.066; p = 0.198) at 5% significance levels.

The constant has a coefficient value of 0.019 and p value 0.963 which is insignificant. The interpretation is that if all factors were to be held constant, individual investors decision which is measured in terms of speed and volume of share stock purchase would be 1.9% and this amount will be up or down by the standard deviation of 0.411.

H1: The Heuristics behaviors have impacts on the investment decisions.

The first hypothesis tested heuristics behaviors that have an effect on individual investor's decision to invest in Ethiopian share companies. The result shows that the weak association between heuristics and individual investors decision at a statistical significant level of ($P<0.05$). The magnitude ($\beta$) of the effect of this variable on investment decision was 0.066 and the t value of 1.29. The positive magnitude sign but t-value of less than 2 is indicating a weak relationship between the independent and dependent variable (Tadios, 2016). The interpretation is that holding all other variables constant, heuristics behavior can contribute 6.6% of variation on investment decision which is statistically insignificance at 5% level of test. Thus, the regression coefficient of heuristics insignificant in predicting individual investor's decision to invest in Ethiopian private share companies. Therefore, the null hypothesis that heuristics behavioral factors affect individual investment decision was not rejected. The study result was consistent with the research done by (Le Phuoc et al, 2011) and (Omery, 2014).

H2: The Herding behaviors have impacts on the investment decisions

Even though herding behavior has a negative coefficient with investment decision, its level of significance is 0.000 which is below 0.05. Thus, herding behavior has statistically significance at ($P<0.05$) level of test. The magnitude ($\beta$) of the effect of this variable on investment decision was -0.292 and the t value of -5.31. The negative magnitude sign but t-value of greater than 2 is indicating a strong relationship between the independent and dependent variable. This implies that a unit increase in herding would leads to 0.292 unit decrease investment decision in terms of speed of investment and volume of share purchase which is statistically significance at 5% level of significance. From the regression result, the study null hypothesis of herding behavior have impact on investment decision do not rejected. The study result was in line with the research done by (Le Phuoc et al, 2011) and (Omery, 2014).

H3: The prospect behavioral factors have impacts on the investment decisions

The positive beta sign and a statistically significance result of prospect shows positive relationship with investment decision ß = .779, t = 14.86, and $P< 0.000$). Thus, the study do not rejects the null hypothesis that prospect factors have impact on investment decision. This implies that while keeping other variable constant when prospect increase by a single unit, investment decision would increase by 77.9% and the relationship is significant at 5% level of significant.

This result was also consistent with the research done by (Le Phuoc et al, 2011) and (Omery, 2014).

H4: The Market factors have impacts on the investment decisions

Market factor has a positive coefficient with investment decision; its level of significance is 0.054 which is above 0.05 and t value of 1.94 less than 2. Thus, market behavior has statistically insignificance at ($P<0.05$) level of test. The magnitude ($\beta$) of the effect of this variable on investment decision was 0.096 and the t value of 1.94. The positive magnitude sign but t-value of less than 2 is indicating a strong relationship between the independent and dependent variable. This implies that a unit increase in market factors would leads to 0.096 unit increase investment decision in terms of speed of investment and volume of share purchase which is statistically insignificance at 5% level of significance. Therefore do not reject the null hypothesis that market factors have impact on investment decision. The result of this study was consistent with that of (Le Phuoc et al, 2011) and (Omery, 2014).

# CHAPTER FIVE
# 5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

## 5.1. Introduction

This chapter provides a summary of findings, conclusions and recommendations of the study based on the objective of the study. This entails a synthesis of key issues of the objectives of the study as deduced from the entire research.

## 5.2 Summary of Findings

The study had sought to achieve four specific objectives related to the factors which affect individual investment decisions to invest in Ethiopian private bank share companies. The following are some key findings of the study.

### 5.2.1 Effects of heuristics on Investment Decision

The first objective of the study was to determine the effect of Heuristics behavior on individual investor's investment decisions. The study found out that four factors such as uses of trend analysis of representative stock, their confidence on their skills and knowledge of stock, their experience and ability to forecast had significantly affect investment decision whereas the rest of heuristic factor do not have a significant effect on investment decision. From the regression results the researcher concluded that heuristics behavior jointly had insignificant effect on individual investment decision to invest in Ethiopian private bank shares. This implies that heuristics factors such as representativeness, over confidence, anchoring, gambler's fallacy and availability bias jointly do not considered by individual investors while investing in Ethiopian bank share companies.

### 5.2.2 Effects of prospect behavior on Investment Decisions

The second objective of the study assessed the effect of prospect behavior on investment decisions on Ethiopian private bank shares. The study found out that the three prospect factor such as feeling more about holding losing Bank Share too long than about selling winning stock too soon, treat each element of their investment portfolios separately and ignorance of the connection between different investment possibilities had significantly affect the decision of individual investors and the joint effect of all prospect factors were significant on individual investment decision to invest in Ethiopian private bank shares.

### 5.2.3 Effects of market factors on Investment Decisions

The objective of the study was to assess the effect of market factors on investment decisions on Ethiopian private bank shares. The study found out that all market factors individually significantly affect investment decision except that of overreaction to price changes of stock. However market factors jointly had insignificant effect on individual investment decision to invest in Ethiopian private bank share companies.

### 5.2.4 Effects of Herding on Investment Decisions

The objective of the study was to evaluate the effect of herding on investment decisions to invest in Ethiopian private bank shares. The study found out that herding behavior encouraged investment decision to a great extent. The study also found out that all of the herding factors such as other investors' decisions on buying and selling Bank Share volume and their choice of stock type and reaction towards the change of other investor's decision individually as well as jointly had a significant impact on investment decisions to invest in Ethiopian private bank shares.

## 5.3 Conclusion

With regard to first objective, the study concludes that individual investor's decision on Ethiopian private bank shares do not influenced by heuristics behavior. In the other hand the second objective about prospect factor, the study concluded that individual investment decision greatly influenced by prospect factors jointly, the third objective about effect of market factor on investment decision, the study concluded that do not have a significant effect on investment decision and finally the forth objective herding behavior jointly affect individual investment decision to invest in Ethiopian private bank shares greatly.

## 5.4 Recommendations

The findings show that overconfidence has positive impacts on the investment decision.

In the uncertain situation, the overconfidence can be useful for the investors to do difficult tasks and help them to forecast the future trends. However, overconfident investors tend to underestimate the associated risks of active share stock investment, which can affect badly to their investment result. Therefore, individual investors at Ethiopian Private Share holders should be overconfident at an acceptable level to utilize their skills and knowledge in certain circumstances to make their investment decision is good enough. Therefore, an acceptable advice

for the investors is that overconfidence is great for their investment if they can use it in the clever and suitable ways.

Beside overconfidence, recommendations given to investors that they should consider carefully before making investment decisions, but should not care too much about the prior loss for their later investment decisions. This can limit the good chances of investment and impact badly the psychology of the investors and lead to bad investment decision. The researcher further recommends that investors should not reduce their regret in investment by avoiding selling decreasing Bank Share and selling increasing ones, this can lead to the fact that the investors can keep all losing Bank Share and this impact negatively the investment decision.

Finally individual investors should choose good investment partners or alliance to consider as references for their investment. They can establish the forums to support each other in finding reliable information of about a particular stock or share information. The cooperation of a crowd of investors can help them limit the risks and increase the chances to have good investment results.

## 5.5 Limitations of the Study

Even if the sample size large enough and difficult to address all respondent, the researcher extends an effort to have adequate sample of respondents. The researcher encountered one outstanding limitation that would have hindered access to adequate information sought for the study. The study had a challenge accessing the individual investors who were respondents in the study. The researcher by using the some branch managers working in different bank as an intermediary was able to have a satisfactory response rate.

## 5.6 Areas for Further Research.

A future study could account for more variables that potentially influence individual investor decisions. Further researches are suggested to apply behavioral finance to explore the behaviors influencing the decisions of institutional investors at all share stock companies. These researches can help to test the suitability of applying behavioral finance for all kinds of share markets with all components of investors.

Further researchers should base their research on a bigger sample to increase the qualitative of data obtained for purposes of desired findings and achieving their objectives fully.

# Reference


Aduda, J., Oduor, E.O.,&Onwonga. M (2012), The Behavior and Financial Performance of Individual Investors in the Trading Shares of Companies Listed at the Nairobi Stock Exchange, Kenya, Journal of Finance and Investment Analysis, 1(3), 2012, 33-60

Barber, B., &Odean, T. (2001). Boys will be boys: Gender, overconfidence and common stock investment. Quarterly Journal of Economics, 16, 262-292.

Barberis, N., Shleifer, A. (2003). Style investing, Journal of Financial Economics, Vol. 68.

Barberis, N., Thaller, R. (2003). A Survey of Behavioral Finance.Handbook of the Economics of Finance.

Beck, T., Maimbo, S. M., Faye.I.&Triki, T. (2011).Financing Africa: Through the

Beckert, J. &Aspers, P. (2011).The Worth of Goods: Valuation and Pricing in the

Behavior?The Journal of Finance, 60(4), 1759-1790.

Bernstein, P.L. (1996). Against the Gods: The Remarkable Story of Risk. John Wiley and Sons, New York.

Bodie, Z., Kane, A., Marcus, A.J. (2008). Investments 4th Edition, McGraw Hill.

Boone Jr, H. B. (2012). Analyzing likert data. Journal of extension .

Brabazon, T. (2001)."Behavioral Finance: A New Sunrise or a False Down?"

Brigham, E.F., Ehrhardt, M.C. (2005). Financial Management: Theory and Practice, 11th ed., International Student Edition, Thomson South-Western.

Brooks, C. (2008). Introductory Econometrics for Finance 2nd edition. Newyork: Canbridge University Press.

Brown, C. K &Reilly, F,K (2009): Investment Analysis and Portfolio Management, 9th Edition, South Western College.

Bryman, A.& Bell, E (2011). Business Research Methods, 3rd ed, Oxford University Press.

Caparrelli, F. D., Arcangelis, A. M., &Cassuto, A. (2004).Herding in the Italian stock market: a case of behavioral finance. Journal of Behavioral Finance, 5(4), 222–230.

Chandra, A. (2008). Decision Making in the Stock Market: Incorporating Psychology with Finance.

Cooper, D.R. &Schindler, P.S. 2001).Business Research Methods (7th ed.). New York, USA: The Irwin/McGraw-Hill Series.

Crisis and Beyond, Washington DC: World Bank Publications

Daily Nation (2011).Retail Investors Pave Way for Big Players at NSE.Nairobi: Daily Nation.

De Bondt, W.F.M., Thaler, R.H. (1994). Financial Decision-Making in Markets and Firms: A Behavioral Perspective, National Bureau of Economic Research, Working Paper No. 4777.

DeBondt, W. F. M., &Thaler, R (1987).Further evidence on investor overreaction and stock market seasonality.The Journal of Finance, 42, 557-581.

DeBondt, W. F. M., &Thaler, R.(1985). Does the stock market overreact? The Journal of Finance, 40(3), 793-805.

Delhi: New Age International Ltd.

Economy, Oxford: Oxford University Press.

Eugene F. Fama (1970). Efficient Capital Markets: A Review of Theory and Empirical Work, Journal of Finance 25, (2 ) 383–417.

Evans, D.A.(2006).Subject perceptions of confidence and predictive validity in financial cues, Journal of behavioral finance, 7, (1), 12–28.

Fama, E. (1965). "The Behavior of Stock Market Prices," Journal of Business, 38,34-105.

Field, A. (2009). Discovering Statistics Using SPSS third edition. London: SAGE Publication LTD.

Fogel, O. & Berry, T. (2006).The disposition effect and individual investor decisions: the roles of regret and counterfactual alternatives, Journal of Behavioral Finance,7, (2),107–116.

Fromlet, H. (2001).Behavioral Finance-Theory and Practical Application.Business Economics, 36(3).

Goldin, I. &Reinert, K. A. (2007).Globalization for Development: Trade, Finance, Aid, Migration, and Policy. Washington DC: World Bank Publications.

Griffiths, H. 1990).Financial Investment, London; McGraw-Hill Book Company.

Holstein, J.A. &Gubrium, J. F. (2004).The active interview: Qualitative research: theory, method and practice. London: Sage.

http://dx.doi.org/10.1207/s15427579jpfm0504_5

John R. Nofsinger and Thaler, R, (2002). Individual investments behavior, New York, McGraw-Hill

Johnson,M., Lindblom, H., Platan, P. (2002). Behavioral Finance: And the change of investor behavior during and after the speculation bubble at the end of the 1990s. Master"s Thesis in Finance, Lund University.

Kahneman, D., &Tversky, A. (1974). Judgment under Uncertainty: Heuristics and Biases. Science, 185.

Kahneman, D., &Tversky, A. (1979).Prospect theory: an analysis of decision-making under risk", Econometrica, 47, (2) 263-291

Kimani, V. W. (2011).A Survey of Behavioral Factors Influencing Individual Investors' Choices of Securities at the Nairobi Securities Exchange.

Kipngetich, T. J., Kibet, B. J., Shibia, A. G. &Kipkoskey, B. J. (2011).Determinants of initial public offer pricing in Kenya, London: Annual Conference on Innovations in Business & Management.

Kothari, C. R. (2004). Research Methodology: Methods and Techniques, 2nd Ed. New

Lin, H.W., (2011).Elucidating Rational Investment Decisions and Behavior Biases: Evidence from the Taiwanese Stock Market". African Journal of Business Management, 5(5), 1630-1641.

Liu, Y.,Wu, A. D., &Zumbo, B. D. (2010).The Impact of Outliers on Cronbach's Coefficient Alpha Estimate of Reliability: Ordinal/Rating Scale Item Responses. Educational and Psychological Measurement, 70 (1), 5–21.

Ljungqvist, A. &Wilhelm,W. J. (2004). Does Prospect Theory Explain IPO Market

Markowitz, H. (1952).Portfolio Selection.Journal of Finance 7(1): 77-91.

Mwaka, S .W. (2013) The effect of demographic characteristics on investor behavior at the Nairobi Securities Exchange (Unpublished MBA research project, University of Nairobi.)

Nagy, R.A. &Obenberger, R.W., (1994) Factors influencing investor behavior, Financial Analysts Journal 50, 63-68.

Neuman, W. L. &Kreuger, L. W. (2003) Social Work Research Methods: Qualitative and Quantitative applications, First Ed, United State of America: Pearson Education.

New Delhi-110025.Chelangat, M.P. (2011). Relationship between gender and age and investor decision making behavior at the Nairobi Securities Exchange".Unpublished MBA research proposal.University of Nairobi.

Nunnally, J. C. (1978). Psychometric theory.New York: McGraw-Hill.

Obamuyi, T. M (2013) Organizations and markets in emerging economies, 4, (1)7

Odean, T. & Olsen, R. (1998).Behavioral finance and its implications for stock price volatility, Financial Analysts Journal, 54,(2),10–18.

Odean, T. (1999). Do investors trade too much? American Economic Review, 89(5), 1279–1298.http://dx.doi.org/10.1257/aer.89.5.1279

Ogilo, F. (2012).An Investigation into the Existence of Fads in the Initial Public Offering Market in Kenya.DBA Africa Management Review, 2(2), 31-44.

Olsen, R.A. (1998). Behavioral Finance and its Implications for Stock-Price Volatility, Financial Analyst Journal 54, (2).

Olweny, T., Namusonge, G. S., & Onyango, S. (2012). The Influence of Social Cultural Background on Individual Investors Risk Tolerence at Nairobi Securities Exchange.International Journal of Arts and Commerce, 1 (4), 87-106.

Pandey, I. M. (2008).Financial Management.Ninth edition, Vikas

Peter K. Mbaluka, (2008). Individuals' Investment Behavior.

Plous, S. (1993). The Psychology of Judgment and Decision-Making, McGraw-Hill, New York.

Pompian, M. (2012).Behavioral Finance and Investor Types: Managing Behavior to Make Better Investment Decisions. New York: John Wiley & Sons.

Raines, J.P.,& Leathers, C.G. (2011).Behavioral Finance and Post Keynesian-Institutional Theories of Financial Markets, Journal of Post Keynesian Economics.

Reisinger, H. (1997). The impact of research desings in R2 in linear regression model: an exploratory meta analysis. Journal of emperical generalization in marketing science .

Ritter, R.J. (2003). Behavioral Finance: Pacific Basin Finance Journal, 2(14).

Samal, N. (1995).Factors Affecting Investors Preference for Mutual Funds in India.Summer Internship Program Report.

Sewell, M. (2005).Behavioral Finance.

Sharpe, W. (1964).Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk. Journal of Finance 19(3): 425-442.

Shefrin, A, Hersh M., and Statman, M.(1985).The disposition to sell winners too early and ride losers too long, Journal of Finance 40, 777–790.

Shewhart, W. W. (2004). Methods for testing & evaluating survey questioneries: Wiley series in survey methodology. Newjersey: Johen Wlley & Sons, Inc, Publication.

Shiller, R. J. (1998).Survey evidence on diffusion of interest and information among investors.Journal of Economic Behavior and Organization, 12(1), 47–66. http://dx.doi.org/10.1016/0167-2681(89)90076-

Shiller, R.J. (1997).Human Behavior and the Efficiency of the Financial System.Princeton University Press.

Shiller, R.J.(2000). Irrational Exuberance.Princeton University Press.

Shleifer, A. and Shiller, R.J. (2000).Inefficient Markets: An Introduction to Behavioral Finance. Oxford: Oxford University Press

Singh, R. (2010). Behavioral Finance Studies: Emergence and Developments, Contemporary Management Research, (4)2, 1-9.

Statman, M, Thaler, R. and Shefrin, H. (1999).Behavior finance: past battles and future engagements, Financial Analysts Journal, 55, (6),18–27.

Subrahmanyam, A. (2007). Behavioral Finance: A Review and Synthesis. European Financial Management, 14:12-29

Tadios., M. (2016). Factors determining effectivness of internal audit in Ethiopian commercial Banks. Thesis in partial fulfilment of master of science in accounting and finance , 114.

Thaler, R (1993).Advances in Behavioral Finance.Journal of Political Economy, 98(4).

Thaler,R. H (1999).Mental accounting matters. Journal of Behavioral Decision Making, 12(3), 183-206

Thompson, B. (2002). Statistical , practical and clinical . How many kinds of significance do councelor need to consider? Journal of councling and development .

Waweru, N. M., Munyoki, E., &Uliana, E. (2008).The effects of behavioral factors in investment decision-making: A survey of institutional investors operating at the Nairobi Stock Exchange. International Journal of Business and Emerging Markets1 (1)

Werah. (2006).A survey of the influence of behavioral factors on investor activities at the Nairobi Stock Exchange.(Unpublished MBA research proposal, University of Nairobi).

Winchester, D.D. Huston, S.J., Finke, M.S. (2011).Investor Prudence and the Role of Financial Advice.Journal of Financial Service Professionals, July 2011.

## **Appendices 1:** Questionnaire for investors

**Dear Sir/Madam;**

My name isYitagesu T/Tsadik. I am a final year student of Master in Accounting and Finance Department at the Addis Ababa University, Accounting and Finance Department. I am doing a final thesis on the topic **"**Factors affecting individual investor's behavior to invest in Ethiopian private banks share companies". The purpose of the study is to analyze Factors affecting individual investors' decision.

I would be grateful if you could take time of your busy schedule to provide answers to the questions raised to enable me complete the study. Any information provided would only be used of academic purpose. As a result, it would be kept confidential and utmost secrecy would be maintained.

Thank you

**Background of respondent**

1. Gender

   Male () Female ()

2. Age

   20 and under () 21-30 () 31-40 ()

   41-50 () 51-60 () 61 and over ()

3. Marital status

   Married () Single ()

4. Educational status

   Primary School () Secondary School () degree () Master or PHD ()

5. Investment experience

   0-5 years () 6-10 years () 11-15 years () 15-20 years () 21 years and over

6. Which private bank do you invest in?

**B. Behavioral factors of investment decision (Please evaluate the degree of your agreement with the following statements**)

| Behavioral group | S.no | Factors | Strongly agree | agree | Neutral | Disagree | St. disagree |
|---|---|---|---|---|---|---|---|
| **Heuristic** | 1. | You buy hot Bank Share and avoid Bank Share that have performed poorly in the recent past. | | | | | |
| | 2. | You use trend analysis of some representative Bank Share to make investment decisions for all Bank Share that you invest. | | | | | |
| | 3. | You believe that your skills and knowledge of bank share can help you to make the right decision | | | | | |
| | 4. | You rely on your previous experiences in bank share for your next investment. | | | | | |
| | 5. | You forecast the changes in bank share value in the future based on the recent bank share value | | | | | |
| | 6. | You are normally able to anticipate the end of good or poor of bank share returns for Ethiopian private bank S. Companies | | | | | |
| | 7. | You prefer to buy local Bank Share than international Bank Share because the information of local Bank Share is more available. | | | | | |
| | 8. | You consider the information from your close friends and relatives as the reliable reference for your investment decisions. | | | | | |
| **Prospect** | 9. | After a prior gain, you are more risk seeking than usual. | | | | | |
| | 10. | After a prior loss, you become more risk averse. | | | | | |
| | 11. | You avoid selling bank shares that have decreased in value and readily sell shares that have | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | increased in value. | | | | | |
| | 12. | You feel more sorrow about holding losing Bank Share too long than about selling winning Bank Share too soon. | | | | | |
| | 13. | You tend to treat each element of your investment portfolio separately. | | | | | |
| | 14. | You ignore the connection between different investment possibilities. | | | | | |
| **Market** | 15. | You consider carefully the price changes of Bank Share that you intend to invest in. | | | | | |
| | 16. | You have the over-reaction to price changes of Bank Share. | | | | | |
| | 17. | Market information is important for your stock investment. | | | | | |
| | 18. | You put the past trends of Bank Share under your consideration for your investment. | | | | | |
| | 19. | You analyze the companies' customer preference before you invest in their Bank Share. | | | | | |
| | 20. | You study about the market fundamentals of underlying Bank Share before making investment decisions. | | | | | |
| **Herding** | 21. | Other investors' decisions of choosing bank share types have impact on your investment decisions. | | | | | |
| | 22. | Other investors' decisions of the bank share volume have impact on your investment decisions. | | | | | |
| | 23. | Other investors' decisions of buying and selling Bank Share have impact on your investment decisions. | | | | | |
| | 24. | You usually react quickly to the changes of other investors' decisions and follow their reactions to the stock market. | | | | | |

C. Individual Investment Decision related Questions

Indicate your rating of the following investment decisions in your stock portfolio. Where 5- strongly agree, 4- agree, 3- neutral, 2 – disagree and 1 - strongly disagree

| **Investment Decisions** | **Strongly Agree** | **Agree** | **Neutral** | **Disagree** | **Strongly Disagree** |
|---|---|---|---|---|---|
| 25. Invest in a single bank in Ethiopia | | | | | |
| 26. Invest in a different bank in Ethiopia | | | | | |
| 27. Invest in specific Bank in Ethiopia | | | | | |
| 28. Invest in profitable companies | | | | | |

**(Source:** Researcher literature review based)