EFFECT OF BEHAVIORAL BIASES ON RANKING OF FINANCING DECISIONS BY FINANCIAL MANAGERS OF FIRMS LISTED IN THE NAIROBI SECURITIES EXCHANGE

BY

JUDITH B.K. NYAKUNDI

UNITED STATES INTERNATIONAL UNIVERSITY – AFRICA

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A Dissertation Report Submitted to the Chandaria School of Business in Partial Fulfilment of the Requirement for the Degree of Doctor of Business Administration (DBA)

UNITED STATES INTERNATIONAL UNIVERSITY – AFRICA

SPRING 2017
STUDENT'S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other institution, or university other than the United States International University – Africa in Nairobi for academic credit.

Signed_______________________________  Date___________________

Judith B.K. Nyakundi (ID 620073)

This dissertation has been presented for examination with our approval as the appointed supervisors.

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Dean, Chandaria School of Business

Signed_______________________________  Date___________________

Deputy Vice Chancellor, Academic and Students Affairs
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ABSTRACT

The purpose of the study was to determine the effect of managerial behavioral biases on ranking of financing decisions. The study population was senior and middle level financial managers of firms listed in the Nairobi Securities Exchange (NSE). The study was guided by 6 specific objectives, namely: to establish the effect of managerial overconfidence; managerial over optimism; regret aversion; anchoring; mental accounting and conservatism on ranking of financing decisions by financial managers of firms listed in NSE. The level of personal skills and competence was investigated as a moderating variable.

The study employed a positivism philosophy and a descriptive correlational design drawing its population from senior and middle level financial managers the 64 firms listed in the NSE as at 31st of December 2015. A two tier sampling was applied; a census at the firm level and purposive sampling at financial manager level resulting with a selection of the top 3 senior to middle level financial managers from each firm. Consequently, the target population was the top three financial managers in each of the firms listed in the NSE resulting in 192 financial managers. A questionnaire was utilised to collect primary data from the selected population. Descriptive statistics, Analysis of Variance (ANOVA) and multinomial logit regression were employed in data analysis.

Findings depict that all the selected independent variables had a significant effect on ranking of financing decisions by managers in firms listed in the NSE. Detailed findings reveal that managers who were predisposed to overconfidence, anchoring and mental accounting biases were more inclined towards debt and equity compared to internal capital, with equity most preferred followed by debt then internal sources of capital. However, those with over optimism bias ranked debt highest followed by equity with the lowest ranking for internal capital. On the other hand, managers with a predisposition towards regret aversion and conservatism behavioral biases highly ranked internal capital and debt compared to equity, internal capital was most preferred followed by debt then equity. Further results indicate a significant interaction between the moderating variable (personal skills and competency) and managerial behavioral biases on ranking of financing decisions.

Consequently, it is recommended that the implications of overconfidence be considered by financial managers as well as those charged with the responsibility for corporate governance
to constantly refine financing techniques. This will help handle the new set of challenges that come with need to strike a value adding balance on financing decisions. Specifically, over optimistic financial managers’ focus should shift from the future to the present. Whilst the regret avert oriented managers should consider referring to decision makers who have proven relevant experience on financing decisions especially when sourcing for long term financing, managers with this type of attribute can be guided by budgeting and forecasting tools when making decisions. Further, on anchoring characteristics, it will be helpful to gain wide range of information on the specific issue requiring evaluation and subsequent decision before taking action. On mental accounting, principles such as segregation of gains, integration of losses, and integration of small losses in big gains, segregation of small gains in big losses which are procedures that effectively regulate economic and other transactions are considered useful. With regard to conservatism as a trait, financial managers in the firms should consider adopting a suitable financial policy that aligns with a commensurate risk appetite for the entity. Finally, the importance of regular and constant development in one’s area of expertise cannot be overemphasised. The more knowledgeable, more conversant with changes and recent developments, the better the quality of financing decisions that one is able to take. This is especially useful under conditions of information uncertainty as this speaks to one’s ability to take calculated risks in enhancing the effectiveness of management decisions and actions in times of crisis.
ACKNOWLEDGEMENT

I thank God, the Almighty for the gift of life, health, providence and the rare opportunity of admission into the USIU DBA Program. Sincere gratitude to all individuals who offered their assistance and encouragement during the development of this proposal.

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<td>Analysis of Variance</td>
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<tr>
<td>BF</td>
<td>Behavioral Finance</td>
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<tr>
<td>BHT</td>
<td>Behavioral Portfolio Theory</td>
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<tr>
<td>BM</td>
<td>Book-to-Market</td>
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<td>BSC</td>
<td>Balanced Score Card</td>
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<tr>
<td>CAPEX</td>
<td>Capital Expenditure</td>
</tr>
<tr>
<td>CEO</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>CI</td>
<td>China Investments</td>
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<tr>
<td>CIR</td>
<td>Cost Income Ratio</td>
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<tr>
<td>CSoB</td>
<td>Chandaria School of Business</td>
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<tr>
<td>DEA</td>
<td>Data Envelopment Analysis</td>
</tr>
<tr>
<td>DFI</td>
<td>Development Finance Institute</td>
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<tr>
<td>EAC</td>
<td>East African Community</td>
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<tr>
<td>EMH</td>
<td>Efficient Market Hypothesis</td>
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<tr>
<td>EPS</td>
<td>Earnings per Share</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>FP</td>
<td>Financial Performance</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GNP</td>
<td>Gross National Product</td>
</tr>
<tr>
<td>GVA</td>
<td>Gross Value Added</td>
</tr>
<tr>
<td>HHI</td>
<td>Herfindahl Hirschman Index</td>
</tr>
<tr>
<td>IIA</td>
<td>Independence of Irrelevant Alternatives</td>
</tr>
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<td>IIK</td>
<td>Insurance Institute of Kenya</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>ICDC</td>
<td>Industrial and Commercial Development Corporation</td>
</tr>
<tr>
<td>IDB</td>
<td>Industrial Development Bank</td>
</tr>
<tr>
<td>IRA</td>
<td>Insurance Regulation Authority</td>
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<tr>
<td>ISE</td>
<td>Istanbul Stock Exchange</td>
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<td>KSE</td>
<td>Karachi Stock Exchange</td>
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<tr>
<td>M &amp; As</td>
<td>Mergers and Acquisitions</td>
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<td>MPT</td>
<td>Modern Portfolio Theory</td>
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<td>NSE</td>
<td>Nairobi Securities Exchange</td>
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<td>NPV</td>
<td>Net Present Value</td>
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<td>OE</td>
<td>Operational Efficiency</td>
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<td>OLS</td>
<td>Ordinary Least Squares</td>
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<td>OPEX</td>
<td>Operating Expenditure</td>
</tr>
<tr>
<td>POH</td>
<td>Pecking Order Hypothesis</td>
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<tr>
<td>POT</td>
<td>Profit on Turnover</td>
</tr>
<tr>
<td>ROA</td>
<td>Return on Assets</td>
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<td>ROAA</td>
<td>Return on Average Assets</td>
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<tr>
<td>ROCE</td>
<td>Return on Capital Employed</td>
</tr>
<tr>
<td>ROE</td>
<td>Return on Equity</td>
</tr>
<tr>
<td>SEO</td>
<td>Seasonal Public Offering</td>
</tr>
<tr>
<td>SME</td>
<td>Small and Medium Enterprise</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
</tr>
<tr>
<td>SWM</td>
<td>Shareholder Wealth Maximization</td>
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<td>TOT</td>
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CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

There are two frameworks of the human mind that help explain why individuals settle for poor choices. The first is the quick thinking part of the mind that utilizes mental shortcuts, also known as heuristics, to decide. This framework works rapidly and consequently relies on assumptions and little thought. The second system, which is the better and more methodical one, is utilised to settle on well thought out choices and takes effortful mental activity. Here, decisions are made after careful consideration of available information (Kahneman and Tversky, 1979). Kahneman's study exposes how decisions based on emotions can lead to adverse consequences (Yu, 2016).

Benjamin Graham, celebrated father of value investment, investigated comparable ideas in the 1930s. Though Graham is known for his work in valuation of equity, he is also credited with his contribution in bond valuations. Graham strongly believed that to be successful in both value and security markets one needs to possess the ability to restrain or suppress emotions within proper limits and to focus on long term results (Graham, Harvey and Huang, 2009).

Decades later, Behavioral Finance studies gained popularity and increasingly considered as essential in understanding the decision making process (Banerjee, 2011). Behavioral finance is hinged on the idea that not all decision makers act rationally, always (Joo and Durri, 2015). Investors ought to be aware of the different behavioral biases inherent within them and deliberately work towards maintaining a strategic distance from them, thus enhancing their efficiency. Some normal mistakes made by investors are offering too early while booking benefits, holding their stocks for too long while incurring losses, purchasing overrated stocks in light of market assessments and positive assessment by even those who do not matter (Parikh, 2011). What is key according to Parikh (2011), is to connect with the emotional indiscipline and effectively manage it.
Behavioral finance investigates the mental aspect of basic decision making and clarifies the irrationality investors are subjected to in investment decisions. Often, investors stray from balanced and sensible choices towards the preferences aligned to their behavioral inclinations. These inclinations impact the financial specialists’ discernment of the financial venture (Kumar and Goyal 2015). Behavioral finance considers how emotional components present variety amongst individuals in the decision making process (Chira, Adams and Thornton, 2011). The mental reality known as bias and its essence in human decision making provides the extra understanding regarding the matter of investor irrationality and widens their goals and objectivity (Chira et al., 2011).

In addition to biases, persons often make decisions by engaging in other forms of psychological influences (Chira et al., 2011). Endogenous, subjective factors like managerial preferences that are internal to the firm and cannot be explained by external approaches have remained widely neglected by scholars for a long time (Casson, Martin and Nisar, 2008).

A developing literature in finance focuses on the role of individual qualities and predispositions inherent in managers in illustrating outcome variables, such as, acquisitions, joint ventures and financing choices (Malmendier and Zheng, 2012). A significant part of the literature is centred around CEOs, given their role as accountable officers within the organizations and their accessibility to available information (Carpenter and Weikel, 2011). A variety of papers examine the role of the CFO (Ben-David, Graham and Harvey, 2013) and members of the C-suite concurrently (Selody, 2010).

Decision making is an important cognitive and emotional process open to heuristics and subsequent biases. Empirical studies have uncovered proof of the impacts of managerial behavioral inclinations on decision making including financing choices which affect the firm’s value (Chen and Lin, 2013).

Colander, Föllmer, Haas, Goldberg, Juselius, Kirman, and Sloth (2009) opined that, traditional finance utilizes models that assume economic knowledgeable impartial processors of pertinent information and that their choices are geared towards wealth maximization. The several biases that influence decision making includes loss aversion, regret avoidance, cognitive dissonance, herding behavior, overconfidence, over optimism, representativeness,
limited attention, familiarity bias, over and under reaction, framing, conservatism, disposition effect, status quo bias, availability bias, hindsight bias, escalation of commitment, randomness bias, self-control, self-attribution, belief perseverance, conservatism, gamblers’ fallacy, mental accounting, regency bias, endowment effect, and disposition. (Virigineni and Rao, 2017).

In the United Kingdom, Fairchild (2007) discovered that expanding overconfidence brings about higher debt. He demonstrated that, as opposed to a rational manager, the overconfident manager picks higher amount of debt to focus on high effort. The study additionally discovered that overconfidence may increase after some time and experience. This way, the debt sensitivity effects on the lifecycle may increase after some time. In other words, debt should start at a low level, and increased over the firm’s life cycle. In Germany, Glaser and Weber (2013) in their study on overconfidence and magnitude of trading volumes found that investors who possessed reasonable level of investment skills and those who had experienced fortunes traded more

Closer home within the African continent, Babajide and Adetiloye (2012) studied behavioral predispositions on performance of market securities in Nigeria and discovered solid proof that behavioral inclinations exist. However, they were not dominant in the Nigeria security market on the grounds that the after effects of study uncovered a feeble negative relationship between behavioral predispositions and Nigerian stock market performance. The study’s conclusion was that investors ought to know the effect of behavioral inclinations on basic investment decision process (Babajide and Adetiloye, 2012).

In South Africa, Marais (2007), while exploring the role of behavioral finance in financial services, discovered that business people and SME proprietors are subject to heuristics that influence financial decisions. Lower risk perception may lead to a lower expected return, whereas overconfidence and optimism may directly cause expected returns to be unrealistically high. The loss aversion bias can lead to a total rejection of a decision that should have been made for future investments. The mental accounting bias will also influence how entrepreneurs think about losses and gains. With all this in mind, the mental accounting bias can have huge effects on the financial decision-making of a business
Mahina, Muturi and Memba (2017) observed the Rwanda Stock Market investment as one that expanded from misfortunes because of regret predisposition. They further established that over optimism bias, significantly affected investment. Over optimism bias affects the financial decision making of many investors at the stock markets. Over optimism bias occurs majorly when investors place too much weight on past information. Investors at the stock market tend to be more regretful about holding losing stocks too long than selling winning ones too soon. This is because to many stock market investors, failure depresses them.

Within the local environment, Wamae (2013) established that risk averse financial specialists based their investment decisions on anticipated gains from the venture, however there was frequent postponing in investing on securities exchange among investors until investment bank offered a guaranteed minimum return. Be that as it may, the vast majority of the investors prefer use of investment banks as they are low cost by putting resources into existing investment portfolios. Further, the investigation revealed that anchoring impacts the investment choice in Kenyan securities exchange. Accessibility of the data about securities exchange venture impacts investment as their overconfidence increases in the rate of purchasing shares all things considered.

Diba (2012) researched the impact of administrative overconfidence on capital structure of the organizations trading in the NSE. In this investigation, overconfidence was found to lead managers to overestimating the likelihood of good state, and to think little of the likelihood of bankruptcy. Overconfidence was found to have both positive and negative consequences on value of the firm, that is, overconfidence leads to higher administrative effort thus unnecessary value diminishing debt levels. Michailova (2010), evaluated overconfidence and individual financial choices and discovered that individuals’ trading activity and execution were affected by overconfidence for female members. Rihab and Lotfi (2016) considered, managerial overconfidence and debt choices and discovered that overconfident managers think little of the likelihood of financial distress and go for more elevated amounts of debts than they would on the off chance that they were rational. The study however, did not consider the impact that overconfidence had on ranking of financing choices given different options or sources of funds.
According to Agrawal (2012) over optimism is linked with expecting a good result independent of the real effort or skills dedicated by individuals to achieve the result. Heaton (2002) opines that overoptimistic managers prefer debt financing and external equity financing, and believe that the market undervalues the value of their shares. Chen, and Lin (2013) explored and confirmed the relationship between managerial good faith, investment proficiency, and firm valuation. Barros and Silveira (2009) additionally demonstrate that organizations with hopeful managers will pick a more aggressive financing strategy, leading to higher leverage ratios thus influencing their capital structure. Further, Marciukaityte, and Szewczyk, (2011) revealed that significant external financing can be explained by managerial control and over optimism. Kuchler (2010) found that overoptimistic CEOs will probably pay more when market wide valuations are above their long term trend. Above investigations by Agrawal (2012); Chen et al., (2013); Barros et al. (2009) and Marciukaityte et al., (2011) did not examine the impact of over optimism where multiple financing choices are accessible.

Jetter and Walker (2016) found that contestants anchor heavily on the initial piece of information, even when there is no rational justification to do so. Murithi, (2014) tried to build up whether anchoring influence investment choices of people in Kenya. These studies on anchoring likewise did not evaluate impact of anchoring on ranking of financing decisions


An investigation on the effects of Mental Accounting on Sales decisions of Stock proprietors in Tehran Stockholders conducted by (Shams, Kordlouie and Dezfuli, 2012) demonstrated that investors aggregated sales of wins over different days and sales of losses on the same day. Karlsson, Garling, and Selart, (2007) studied impacts of mental accounting on intertemporal decision. Utilizing two tests with students as subjects, they recreated and expanded past outcomes and demonstrated the ramifications of the behavioral life cycle
investments, that is, individuals characterize resources in various mental results (current income, current resources, and future income) clarifying how consumption decisions are affected by temporary income changes. The above studies did not explore the impact that mental accounting would have on ranking of financing choices given probabilities of selecting from equity, debt, and internal capital.

Mohammadi, Heyrani, and Golestani, (2013) focused on impact of conservatism on the Accounting Information Quality (AIQ) and decision making of the partners and the Firms Listed on the Tehran Stock Exchange. An examination on the role of Accounting Conservatism on the Quality of Financial Statements led by (Kordlouie, Mohammadi, Naghshineh and Tozandejani, 2013) demonstrated that there is a significant positive relationship between the nature of financial statements and bookkeeping conservatism. Lee, (2010) examined whether financial reporting conservatism is related to flexibility in arriving at financing choices. There is need to decide the impact of conservatism on ranking of financing choices since no study has focused on this.

The six behavioral predispositions, namely, over confidence, loss aversion, over optimism, anchoring, conservatism and mental accounting have been broadly considered. Nonetheless, the vast majority of these studies have concentrated on the impact of these predispositions on investment choices. Others have gone further and investigated the impact on financing choices, however, none of these investigations have considered the impact that managerial behavioral inclinations would have on ranking of financing decisions.

Ratner (2009) argued that behavioral economics joins the twin orders of psychology and economics to clarify why and how individuals settle on apparently unreasonable or irrational choices when they spend, contribute, spare, and get cash. Quite a bit of financial and financial theories assume that people act soundly and consider all accessible data in the investment decision making. There is evidence to demonstrate repeated examples of irrationality, irregularity and inadequacy in the way individuals arrive at choices and decisions when confronted with uncertainty. Behavioral finance accordingly, looks at how the investors conduct impacts investment choices.
Singh (2010) recommends that since psychology investigates human judgment, conduct, and wellbeing, it can provide insights on how individuals disregard traditional economic assumptions that expect stable, well defined preferences and maximization of those preferences. According to Singh (2010), behavioral finance is hinged upon arbitrage and psychology. This author clarifies that arbitrage in finance and economic setting, is the act of exploiting a value differential between at least two markets.

Behavioral variables, as indicated by Subash (2012), can be measured by incorporating observable biases to scientific financial models. By incorporating psychology to finance, researchers clarify certain features of securities markets and investor conduct that seem irrational. They include loss aversion, cognitive dissonance, mental accounting, representativeness, anchoring, overconfidence and herding behavior (Baker and Nofsinger 2010).

Baker and Nofsinger (2010) considered the sociological aspects indicated that behavioralists will confront critical difficulties in getting the significantly bigger traditionalist group to receive their point of view. They contended that whether scholars will ever have the capacity to address Fama and interest for a basic and refutable hypothesis is doubtful in light of the fact that individual conduct is characteristically mind boggling.

Rasheed, Raftar, Fatima, and Maqsood (2013) revealed a weak negative relationship between overconfidence inclination and other behavioral predispositions. This study concluded gender was not a key differentiator in overconfident individuals. At the corporate level, Senior management competences and capabilities in strategic decision making results in competitive advantage especially in a fast changing environment (Reinmoeller, 2013).

There is evidence that managers tend to unreasonably take credit for the great performance to their own capacities as opposed to good fortune. Inclination towards managerial self attribution has been linked to repeated acquisitions (Billett and Qian (2008) and forecast based on past successes (Hilary and Hsu (2011). The pivotal role of a securities exchange in a modern economy cannot be overemphasized. The NSE performs functions that promote growth and development in the Kenyan economy. It is for this reason that the respondents in this study are drawn from companies listed in the NSE.
1.2 Statement of the Problem

Managers may make errors when choosing and using financing vehicles. In some cases, this results in considerable losses (Aduda, 2012). Management errors can be evidenced by poor performance of listed and non-listed firms (Odean, 2012, Fairchild, 2007). For instance, management decisions were largely blamed for the huge loss of KES26 billion by Kenya Airways (Mwikya, 2013). Another example is Uchumi Supermarkets whose overly ambitious expansion plans led to its collapse and delisting in 2006 though later relisted in 2011 (Munda, 2015). Hutchings Biemer was also delisted in the year 2008 due to managerial decisions that affected the firm’s financial performance (Munda, 2015). Most recently, the local retail sector has been hard hit with a financial crisis with the top players in this sector namely Nakumatt and Uchumi chain of supermarkets not able to meeting their working capital requirements and long term financing needs. Both these entities, alongside Kenya Airways have been positioning themselves to attract strategic investors to finance the business activities.

Using behavioral economics, we can comprehend how these errors arise, why they persist, and what can be done to minimise them. Financing decisions have a great impact on the value of a firm and the economy as a whole yet scholars world over have applied traditional finance models to explain the issues that influence the decision making process with less emphasis on behavioral aspects inherent in the decision makers’ environment (Barber and Odean, 2012). It is on this basis that this study was conducted to determine the effect of managerial behavioral biases on ranking of financing decision.

Locally and also globally, there are limited studies on this area. Fairchild (2007) conducted a study on financing decisions agency problems, Managerial overconfidence and firm performance. The study focused on one construct that is managerial overconfidence thus presenting a conceptual gap. Deaves, Lüders, and Luo, (2008) conducted a study on an experimental test of the impact of overconfidence and gender on trading activity in New York. This study focused on New York economies and thus presenting a geographical gap. Efforts to revive ailing and liquidating companies often focus on financial restructuring yet managers and practitioners still do not have adequate guidance for attaining optimal financing decisions losses (Kibet, Kibet, Teneiand Mutwol, 2011). Reb’s (2008) research on
the effects of regret aversion and quality of decision made process quality carefully considering the effects of regret resilience on quality of decisions. Notable is that this study used one construct, that is, regret aversion setting pace for the current study which integrated several constructs of behavioural biases.

Wamae (2013) investigated the behavioral factors influencing investment decisions in Kenyan stock market focusing on investment banks. The behavioral factors investigated were herding, prospecting, and risk aversion and anchoring. She found out that all the factors affect investment decision, with herding having the most impact, followed by prospecting, anchoring and finally the risk aversion factor has the least impact. Bashir, Rasheed, Raftar, Fatima and Maqsood (2013) studied behavioral biases including overconfidence, confirmation, illusion of control, loss aversion, mental accounting, status quo and excessive optimism on investors’ financial decision making. The study found out that there is a positive significant relationship and impact of overconfidence, illusion of control, confirmation biases and excessive optimism on investors’ decision making. It was also found out that status quo, loss aversion and mental accounting biases have significant relationship but have no impact on investors’ decision making.

Kisaka (2015) applied behavioral finance factors to explain investment decision making by investors of the Nairobi Security Exchange (NSE) market. The study investigated the behavioral finance factors influencing investment decisions in the Kenyan NSE with keen interest in Machakos County. This was aimed at better reflecting the way NSE investors think and behave by use of behavioral finance. It intended to verify the extent to which these behavioral factors contribute to the success or failure of the investments made by these investors.

Many of the existing empirical studies rely on firm fundamental characteristics in explaining capital structures (one of the products of financing decisions) largely ignoring the possible role that individual managers may play in capital structure choice. Although considerable amount of studies have been done on management influence on investment decisions, very few have been done until recently on behavioral influence on financing decisions. The research gaps cited in existing empirical literature was the basis of this study, providing a basis for mechanisms that can be put in place to become aware of behavioral biases inherent
within managers and how they can work towards minimizing the negative effects of these biases on decision making. Unlike previous studies which focus on a single behavioral bias, this research investigated the effect of a variety of biases on ranking of financing decisions.

In conclusion, most of the previous studies have found psychological factors to have positive and significant impacts on investors’ decision making such as studies from Qadri and Shabbir (2014), Qureshi and Hunjra (2012), Lin and Israel (2012), Bashir et al. (2013) and Wamae (2013). Further, the latter three also found a few psychological factors to have no significant impact on the decision making at all. Although considerable amount of studies have been conducted on behavioral influence on investment decisions, very few have been done until recently on behavioral influence on financing decisions and even then those available are limited in the variety of biases considered with most studying one or two. This research is unique in the sense that it integrates 6 biases of managers in the NSE, a group that is representative of all key sectors of the economy.

1.3 General Objective

The main objective of this study was to determine the effect of behavioral biases on ranking of financing decisions.

1.4 Specific Objectives

Specifically, this study sought;

1.4.1 To determine the effect of managerial overconfidence on ranking of financing decisions by financial managers of firms listed in NSE
1.4.2 To determine the effect of managerial over optimism on ranking of financing decisions by financial managers of firms listed in NSE
1.4.3 To determine the effect of regret aversion on ranking financing decisions by financial managers of firms listed in NSE
1.4.4 To determine the effect of anchoring on ranking of financing decisions by financial managers of firms listed in NSE
1.4.5 To determine the effect of mental accounting on ranking of financing decisions by financial managers of firms listed in NSE
1.4.6 To determine the effect of conservatism on ranking of financing decisions by financial managers of firms listed in NSE

1.4.7 To determine the moderating effect of personal skills and competence on the relationship between managerial biases and ranking of financing decisions by managers of firms listed in NSE.

1.5 Hypotheses

This research tested the following hypotheses:

1.5.1 There is a no significant relationship between managerial overconfidence and ranking of financing decisions by financial managers of firms listed in NSE

1.5.2 There is a no significant relationship between managerial over optimism and ranking of financing decisions by financial managers of firms listed in NSE

1.5.3 There is a no significant relationship between regret aversion and ranking of financing decisions by financial managers of firms listed in NSE

1.5.4 There is a no significant relationship between anchoring and ranking of financing decisions by financial managers of firms listed in NSE

1.5.5 There is a no significant relationship between mental accounting and ranking of financing decisions by financial managers of firms listed in NSE

1.5.6 There is a no significant relationship between conservatism and ranking of financing decisions by financial managers of firms listed in NSE

1.5.7 There is a no significant moderating effect of personal skill and competence on the relationship between managerial behavioral biases and financing decision rankings of firms listed in NSE.

1.6 Justification of the Study

This study generated insights that are beneficial to different interest groups in several ways. The research has made recommendations that are in line with the objectives, findings and conclusions of the study.
1.6.1 The Management of Firms listed in NSE

The results of this study are expected to assist managers and other officers charged with governance in comprehending the contribution of psychological and emotional factors towards financing decisions. This will provide managers of listed firms with a meaningful framework in formulation of appropriate strategies that will help to minimize the negative impact of such influences. As a result of this study, the management of firms listed in NSE are advised to consider the implications of overconfidence, over optimism, regret aversion, anchoring, mental accounting and conservatism by financial managers to constantly refine financing techniques. This will help handle the new set of challenges that come with the day to day financing decisions.

The study further recommends that over optimistic individuals shift their focus away from the future and towards the present when it comes to making financing decisions. To avoid being adversely affected by regret aversion, financial managers should utilise to budgeting techniques and long term financial planning models. Further, it is advisable to seek as much information as possible when financial stakes are high and in large transactions to avoid regret aversion implications.

The study recommends adoption mental accounting principles such as segregation of gains, integration of losses, integration of small losses in big gains, segregation of small gains in big losses which are procedures that effectively regulate economic and other transactions.

1.6.2 The Government and other policy making agencies

Given the pivotal role of the NSE in the economy, findings of this research will offer new perspectives to regulatory and other agencies such as CMA interventions that could be used for improving the quality of financing decisions. Integrating insights from behavioral economics with traditional competition and market failure analysis has much scope for helping government and business support groups to choose the best interventions.

1.6.3 Academia

The importance of this study is mainly to the academicians and scholars who would wish to explore this topic further. The findings of this study generate valuable literature to the
existing pool on behavioral biases and financing decisions. Finally, the study will be important to potential researchers who may use the findings to further explore this or similar subject matters in filling gaps on existing literature and knowledge on financing decisions. Future researchers could also consider introducing different variables such as stability, pattern recognition bias, chasing trends and limited attention span.

1.7 Scope of the Study

The study focussed on senior financial managers of firms listed in the NSE, all the selected firms had their Head Quarter offices operating in six counties, that is, Nairobi, Kajiado, Kiambu, Kericho, Mombasa and Machakos. The respondents were drawn from senior management and were all financial managers. The scope of the study was limited to the effect of behavioral biases on ranking of financing decisions made by financial managers of companies listed at NSE. The behavioral biases variables in the study were overconfidence, over optimism, regret aversion, anchoring, mental accounting and conservatism. The ranking of financing decisions was amongst equity, debt and internal capital. The study also incorporated level of experience and competence as the mediating variable.

1.8 Definition of Terms

1.8.1 Behavioral bias refers to the tendency of decision making which the results in irrational financial decisions caused by wrong cognitive reasoning or reasoning influenced by emotions (Pompian, 2012).

1.8.2 Financing decisions are concerned with the stockholders' equity side and liabilities of the firm's balance sheet, for example a decision to issue bonds (Ross, Westerfield and Jordan, 2008).

1.8.3 Overconfidence happens when people are convinced that they are better than they actually are and can induce a manager to adopt an excessively heavy, sub-optimal, debt-laden capital structure (Makridakis and Moleskis, 2015).
1.8.4 Managerial optimism - Managers are said to be optimistic when they look on the better side of the firm without caring for perceived or future misfortunes (Hilary, Hsu, Segal and Wang, 2016).

1.8.5 Regret aversion indicates the managerial desire to avoid consequences wherein the manager appears to have made ex-post suboptimal decisions even though those decisions are ex-ante optimal based on the information available at that time (Wong, 2015).

1.8.6 Anchoring is a cognitive bias that influences one to rely too heavily on the first piece of information they receive (Sapadin 2013).

1.8.7 Mental accounting contends that persons divide their current and future assets into separate and non-transferable portions. The theory posits that individuals assign different levels of utility to each asset group, which affects their financing decisions (Phung, 2014).

1.8.8 Confirmation bias is when people attach too much relevance to information that backs their view while ignoring anything that seem to contradicts those views (Shefrin, 2007).

1.8.9 Conservatism is the tendency to preserve debt capacity to match with unexpected cash shortfalls or/and to finance profitable investment opportunities in the future. Managers fail to follow the optimal principles proposed by the pecking order theory, on the contrary, they stress unused debt capacity (Zeng and Hangzhou, 2011).

1.8.10 Decision making is the process of choosing a particular alternative from many available alternatives (Grant, 2014).

1.8.11 Competency refers to underlying characteristic of a person which results in effective and superior performance in a job (Vathanophas, 2006).

1.8.12 Bias is the predisposition towards error (Sulphey, 2014)
1.9 Chapter Summary

This chapter introduced the research topic by describing the background of the study and a discussion of the problem statement. Six research questions together with their corresponding hypotheses have been formulated. The chapter has also described the purpose and scope of the study. The chapter presented a background of how behavioral finance holds important implications for the practice of corporate finance, the argument that psychological forces prevent decision makers from acting in a rational manner and a brief demonstration on how behavioral finance departs from the traditional finance models. It also briefly presents empirical studies that demonstrate behavioral biases can account for the differences between actual and optimal decisions.

Chapter two outlines the theoretical, empirical, operational and conceptual framework providing a review of available literature on the effects of managerial behavioral biases on ranking of financing decisions. Chapter three presents the research methodology namely: research philosophy, research design, population of study, the sampling design adopted, data collection method used, the research procedures as well as the methods used for data analysis. Chapter four discloses the results and findings of the study in line with the research questions. Finally, chapter five provides the summary, discussions, conclusion and recommendations of the study.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses the theoretical framework adopted in the study and discusses various literature sources related to the effect of managerial behavioral biases on financing decisions. It also outlines the conceptual framework and the empirical framework of the study. The chapter also include the operational framework. The chapter is organized according to the objectives of the research namely: the effect of managerial overconfidence on financing decisions, the effect of managerial over optimism on financing decisions, the effect of regret aversion on financing decisions, the effect of anchoring on financing decisions, the effect of mental accounting on financing decisions and the effect of conservatism on financing decisions.

2.2 Theoretical Review

A theory refers to a system of interconnected ideas that is utilized to aggregate and shape knowledge (Neuman, 2006). Theories are formulated to explain, predict and understand phenomena. In most cases, theories challenge or extend existing knowledge. A theoretical framework is made up of empirically proven and tested that are to support and direct a study (Swanson, 2013). The theoretical framework should be presented in a such a manner that it draws from a variety of related hypothesis that support and argue against an idea (Corvellec, 2013). The theoretical framework provides a well-supported rationale to conduct the current study, and helps the readers understand the study’s perspective. A good theoretical framework assures the reader that the type of investigation is not based solely on personal instincts or guesses, but rather informed by established theory and empirical facts obtained from credible studies (Creswell, 2014). This study adopted four theories namely: prospect theory, behavioral portfolio theory, regret theory and pecking order theory to help explain the variables of study. Competency theory was also applied in contextualizing the moderating variable.
Traditional theories lay emphasis on industry, sector and market related conditions, for instance the balance between the tax deduction effect on interest and bankruptcy costs, or asymmetric information between firms and the capital market as primary determinant of a firm’s financing decisions (Lemmon and Zender, 2012). These theories define a significant portion of the observed variation in the structure of capital. Past research focuses on firm specific issues in capital structure that is not a clear prediction of the traditional theories (Lemmon et al., 2012). Moreover, while dynamic theories of optimal capital structure and financing decisions gives room for firms with the same fundamentals to operate far from a common target, the factors that predict these differences are less clear (Malmendier, Tate, and Yan, 2011).

2.2.1 Prospect Theory

This theory states that decisions are made in accordance with the probable value of gains and losses instead of the final results. Kahneman and Tversky (1979) criticize the expected utility theory and say that it is a descriptive model of making decisions under risk. They came up with another model called prospective model in which the value is assigned to gains and losses rather than to final assets and probabilities are replaced by decision weights.

Prospect theory is a developmental economic theory which outlines decisions between probabilistic alternatives that involve risk. The theory base decisions on perceived gains rather than losses. When a person is given two equal choices, one expressed in possible gains and the other in possible losses, he or she will choice the first one. This theory is also known as the loss aversion theory (Heukelom, 2009).

The prospect theory of Kahneman and Tversky (1979) along with Thaler’s (2008) mental accounting framework creates the disposition effect. The important aspect of prospect theory is an S-shaped value function which is concave (risk averse) in the domain of gains and convex (risk loving) in the domain of losses. Both these points are rated relative to a reference point. Mental accounting gives a basis for the way decision makers set reference points for the statements that determine gains and losses (Thaler, 2008). The main foundation is that decision makers separate different types of gambles into various accounts and then use prospect theory to each account by disregarding possible interactions (Marchand, 2012).
When the relevant accounts are gains in individual stocks, then the prospect theory and mental accounting together provides a disposition effect according to Shams, Kordlouie, and Dezfuli, (2012). This is because prospect theory and mental accounting investors are generally risk averse over gambles for some stock and for the others locally risk loving. The difference between risk attitudes of these two distinct types of stocks is driven fully by whether the stock has generated a capital gain of a capital loss. Because of the difference in risk attitudes, investors are more likely to sell stocks that have become more valuable since purchase.

In comparison to the expected utility theory, prospect theory assumes that person's utility is defined over their profits or losses in comparison with some reference point and not over the value of their final current and fixed assets. It also perceives that people's utility from gain is lower than their disutility from the same loss and that people are risk-averse over gains and risk-loving over losses (Meeker et al., 2015). In addition to these loss aversion assumptions, prospect theory assumes that people tend to overweight low probabilities and underweight high probabilities (Barberis, Mukherjee and Wang, 2016).

Prospect theory describes how people frame and value a decision involving uncertainty and therefore they look at choices in terms of potential gains or losses in relation to a specific reference point, which is often the purchase price. This theory also outlines the way economic agents put a result or transaction in their mind and influence the utility they receive. Framing and economic theory has been used in a wide range of situations which don’t rhyme with standard economic objectivity (Wang, Yang, Li, and Zhang, 2016).

Jagullice (2013) opined that the prospect theory adopts a consequentialist approach to choice, suggesting that in making financing decisions people are assumed to be concerned with the likely outcomes of their actions. A key operation in decision making according to prospect theory is the coding of outcomes into gains and losses, represents one of the most important characteristics of the decision maker: that outcomes are perceived in terms of gains and losses relative to some reference point, which might be the status quo, or the framing of the problem; or the expectations or history of the decision maker.

Prospect theory has been utilized to explain financing decisions. Ljungqvist and Wilhelm (2005) investigated whether prospect theory can explain the behavior of managers in the
Initial Public Offering (IPO) and Search Engine Optimization (SEO) market. The theory of prospect lends itself well to this as it argues that individuals do not necessarily, process information in a rational manner and that they tend to value profits and losses in a different way, therefore decisions are based on expected gains rather than expected losses (Kahneman and Tversky, 1979).

In applying this to the initial public offering and first CEO of firms, Ljungqvist and Wilhelm (2005) focused at all firms completing an initial public offering in the United States between January 1993 and December 2000, and used logit and probit models for the making decision. They found that initial public offering firms were least likely to switch underwriters when they were fulfilled with the underwriters' performance. They also found that underwriters extracted more fees for subsequent transactions involving satisfied decision-makers. Prospect theory explains how individuals make decisions based on perceived gains instead of perceived losses, regret aversion (Kahneman and Tversky, 1979).

This theory is relevant to the study since it informs the regret averse, conservatism and mental accounting variables. The theory is applied in this study to explain how financial managers’ behaviors affect the way they make financial decisions in terms of perceived gains and perceived losses. A manager who is regret averse will make financial decisions based on how much gains it would result in and not how much loss it would result in. A manager who is subject to mental accounting will expect a more elevated amount of hazard keeping in mind the end goal to maintain a strategic distance from the negative prospective loss. A conservative manager will make financial decisions based on the loss or gain experienced in the past investments.

2.2.2 Theory of Behavioral Portfolio

Behavioral portfolio theory (BPT) was published by Shefrin and Statman (2000). This theory essentially tries to give a contrast to the fact that the ultimate investors' motivation is value maximization of their portfolios. It suggests that investors have varied objectives and create an investment portfolio that attains a broad range of goals (Shefrin and Statman, 2000). It does not follow the same principles as the CAPM, the theory of Modern Portfolio and the APT. A behavioral portfolio has a strong resemblance to a pyramid with layers that are
distinct. Each layer has goals which are well defined. The base layer is devised in a manner that it is meant to prevent financing disaster, whereas, the top layer is devised to attempt to maximize returns, an attempt to provide a shot at becoming rich.

Shefrin and Statman (2000) argue that behavioral portfolios are formed as layered pyramids in which each layer is aligned with an objective. For example, a base layer of low risk assets may be tagged as “protection from poverty” whereas a higher layer of risky assets represents “hopes for riches.” Behavioral investors do not consider the covariance between the layers in the way that modern portfolio theory would suggest they should. The layered approach can explain observed features, such as undiversified stock portfolios (hopes for riches), and the reluctance to invest in foreign stocks despite the seemingly obvious diversification benefits. This theory demonstrates how rather than hold well diversified portfolios, investors layer their portfolio according to goals such as require return, utility, access to information, loss aversion and anchoring (Shefrin, et al., 2000).

This theory helps in contextualizing overconfidence, over optimism and conservatism variables. Different managers who engage in mental accounting will consider getting finances from different sources depending on risk tolerance. Depending on which mental account a manager is thinking about, they will either be risk averse or risk tolerant. A risk averse manager will use finances from a less risky source while a risk tolerant manager will consider a riskier source.

2.2.3 Theory of Regret

The hypothesis of regret models decision under uncertainty by considering the impact of expected regret. It was concurrently developed by Bell (1982) and Fishburn (1982) and improved subsequently by several other authors. The hypothesis culminates to a minimax regret approach for minimizing the possible losses while maximizing the potential gain.

Regret theory assumes that people's spending depends on their wealth (in the same way as the conventional expected utility theory does). However, regret theory also takes into account the fact that individuals may have regrets when their decisions change to be the wrong even if they appeared correct at the time they were made (Humphrey, 2004). The theory speaks to choice under uncertainty taking into account the effect of anticipated regret.
It has been found that individuals prefer options which screen them from discovering the results of forgone choices. The anticipated pain of regret is eliminated if individuals do not know the results of the forgone choice, and thus, the option of not entering a gamble is more attractive if on condition of not entering, one will never know if one would have won or lost (Zeelenberg, 1999; Humphrey, 2004). This theory states that people anticipate regret if they make a wrong choice, and take this anticipation into consideration when making decisions and has been used to explain anchoring and regret aversion biases (Zeelenberg, 1999).

The theory is related to the study since it tries to explain how a certain wrong choice made by a manager can affect their future decision making. The managers will anchor on the financial crisis they have experienced and therefore may not be willing to take risk. This results in a higher level of stress, which can make them underweight values and obligation in their decision making since they are too much risk and loss averse. The theory helps contextualizes regret aversion and anchoring biases.

2.2.4 Pecking Order Theory

Myers (1984) developed the pecking order theory where firms prefer internal sources of finance to those external. He further declares that should external finance be required, the safest security first would be issued first, followed by convertible debt then equity as a last resort. Pandey (2005) also agreed with Myers’ argument on preference for internal capital before progressing to issuing of share capital. According to Pandey (2005), applied the pecking order theory to explain the negative inverse relationship between profitability and debt ratio within an industry however; the theory did not fully explain the capital structure differences between two or more industries. Grinblatt, and Han (2005); Holmes (1991) and Quan (2002) considered the pecking order theory as an appropriate description of Medium Sized Enterprises’ financing practises because debt is by far the largest source of financing and that small and medium enterprise managers tend to be owners of the business who do not normally want to dilute their ownership. They too concurred that firms prefer internal to external financing of any sort and should they require external funding, they would select debt over equity.
On the contrary, Cosh and Hughes (1994) argued that within the overall pecking order theory, small and medium sized enterprises when compared to large enterprises would depend more on holding liquid assets to meet discontinued investments, indeed these type of firms depended more on short term debt including trade credit and overdrafts, hire purchase financing and equipment lease. Kiogora (2000) using regression models, finds a negative relationship between returns of firms quoted on NSE and their leverage; consistent with pecking order prediction.

When seeking external funding, managers with risk perception bias adopt a reverse pecking order preference. This theory brings about the relative relevance traditional approaches in light of inherent behavioral biases (Hackbarth, 2008).

The theory relates to the study as it tries to link the behavioral biases of managers to the financing options in reference to the presence of pecking order choice. Depending on the behavioral bias they possess, managers will rank the pecking order choice differently. This theory has been utilized to conceptualize the dependent variable, that is, ranking of financing decisions and that depending on the behavioral bias they possess, managers will rank the pecking order choice differently.

2.2.5 Competency Theory

Competence refers to the sum of experiences and knowledge, skills, traits, aspects of self-image or social role, values and attitudes a person has acquired during a lifetime (Parry 1996; McLagan 1998). Competences can be categorised in terms of broad and general skill categories or competency domains such as intrapersonal skills, interpersonal skills, leadership skills, and business skills (Hogan, Katherine and Barrack, 2003).

The value of competency theory has been widely explored. Mitrani, Dalziel and Fitt, (1992) mention the need for competency and predict that organizations of the future will be built around people. They add that there will be less emphasis on jobs as the building blocks of an organization; instead increased attention will be focused on employee competence. Cummings and Worley (2001) similarly state that organizational changes frequently demand new knowledge, skills and behavior from employees. They argue that in many cases changes could not be implemented unless employees gained new competencies. They also suggest
that change agents are needed to provide multiple learning opportunities, such as traditional training programs, on-the-job counselling and coaching, and experiential simulations, covering both technical and social skills and that it must be ensured that such learning occurs.

Competency theory predicts that financial managers with a high level of information literacy skills are more likely to question their ability to make financial decision, while financial managers with a low level of skills are more likely to overestimate their financing decisions. Managers are more willing to make decisions on their own judgments when they feel skilful or knowledgeable Finance managers who feel competent make financing decisions wisely. This theory links the level of one's competence to ranking of financing decisions.

2.3 Conceptual Framework

The purpose of the conceptual framework is to help the reader visualize quickly the relationship proposal amongst the variables of a study. It links the various aspects listed as independent variables that may influence ranking of financing decisions (Swanson, 2013). The presumed relationship amongst the independent variables and the dependent variables is
Figure 2.1: Conceptual Framework
The conceptual framework of this study demonstrates the relationship between the variables showing how the independent variable influences the dependent variable whilst considering the effect of the moderating variable. The dependent variable of this study is ranking of financing decisions while the independent variables are overconfidence, over optimism, anchoring, regret aversion, mental accounting and conservatism. The moderating variables is the level of personal skills and competence of the individual financial managers.

2.3.1 Ranking of Financing Decisions

Decisions of both varying importance and magnitude are made every day. Making the wrong decision can be devastating for individuals as well as companies. Impaired decisions can be an outcome of inadequate information, but Kahneman (2011) agrees that the mind of the decision maker can be influenced by obtaining various information. Even if the information is accurate, it can nonetheless result in bad decisions due to certain tendencies that are already present in the decision maker’s mind. Such tendencies are referred to as cognitive bias, and consistently violate the decision maker’s ability to make a rational choice (Kahneman, 2011).

Decision making is a complicated multi step process involving examination of various technical, personal, and situational factors. Often, decision making reflects success or failure of managers and the organization lays much emphasis upon the quality of decisions made (D'Ortenzio, 2012). According to Hastings, Madrian, and Skimmyhorn (2013), some personal factors such as age, level of education, size of income carry a great impact on financial decisions. At a technical level, financial decisions can be evaluated using scientific models such as the CAPM; nonetheless, financial decisions should never be reached without considering situational factors that take into account the market psychology and environment (Wickens, Hollands, Banbury, and Parasuraman, 2015).

Brealey, Myers, Allen and Mohanty (2012) noted that financing choices are concerned about the liabilities and investors' value side of the firm’s asset report, for example, a choice to issue bonds. Financing choices revolve around how to pay for investments and costs. Organizations can utilize existing capital, acquire, or offer equity. They relate to the raising of funds from various resources which will depend upon decision on type of finance, cost of
financing, time of financing, and the consequential profits. Financing choice influences money related hazard and, thus, the estimation of the firm (Fairchild, 2007). According to Ayaz and Study (2014), decision making is a very important yet risky undertaking since poor choices are often the reason for business failures. Terrible choices begin with wrong information where the upsides and downsides post execution of the choice are not adequately considered (Snowden and Boone, 2007). There are solutions on how to overcome these issues, such as, how one perceives a problem, reframing the options in different ways and analyzing how decision maker’s thinking might differ for each alternative (Hammond, Keeney and Raiffa, 2006).

Financing decisions are compelled and constrained by non financing factors that include personality traits of individuals as well as of the social environment in which decisions are made (Holden and Mohan, 2010). Financial education approaches are regularly created by financial experts in light of the solid supposition that, if people are presented with knowledge and financial tools, at that point they will better have the capacity to survey the relative preferences of known financing alternatives and pick what is well on the way to accomplish their financing objectives. This criticism fails to appreciate the volatility that is accepted in economic models for information and time restrictions and for the difference in preferences that persons bring to decision making. However, it explicitly recognises the role of emotions, genetics, family upbringing, peers, and social context in shaping how options are valued and financing decisions are made (Hastings Madrian and Skimmyhorn, 2013).

Endeavours to restore collapsing and cash strapped entities place much emphasis on financial reengineering and restructuring yet managers and practitioners still lack sufficient knowledge required to accomplishing ideal financing choices (Banafa Muturi and Ngugi 2015). Managers may make errors when choosing and using financing vehicles, and in some cases this results in considerable losses (Kibet, Kibet, Tenai and Mutwol, 2011). Financing decisions have a great impact on the value of the firm and the economy as a whole yet scholars’ world over have applied traditional finance models to explain the issues that influence the decision making process with less emphasis on behavioral aspects inherent in the decision makers’ environment (De Bondt, Muradoglu, Shefrin, and Staikouras, 2008).
Chandra (2008) argued that effective decision making in the stock market requires an understanding of human nature in a global perspective on top of financial skills and as such cognitive psychology should be given importance in the process of decision-making. As a result of the bull market from 2004 to 2007 that occurred in the United States and the subsequent financial crisis, there has been a lot of fresh focus on the irrational investor thus studying irrational investor behavior has become important (Aiyar, 2012).

Kafayat, (2014) argues that decision makers look for palatable, instead of ideal solutions. Through empirical evidence, Kafayat, (2014), proposes that these add to the accompanying investment related attributes such as excessive stock price instability and rises in costs, Follow the leader or herding instincts among investors, mis-estimating of the risk or loss, selling winning investments too soon and offering losing investments past the point of no return or the risk of loss, differing preferences among investors for cash dividends, belief in the value of time expansion (that hazard lessens with time), popular investments earning poorer than expected returns, Investors mixing up "great" organizations for "good" investments, Asset prices appearing to over-or under react to new market data, Individual investors holding inadequately broadened portfolios, and a prevalent short-run and second rate long-run execution of initial public offerings (Kafayat, 2014). Because of inadequately expanded portfolio the investors endure losses both in short term and long term eras. This happens because the investor experiences distinctive predispositions and select portfolios that they believe are beneficial.

2.3.1.2 Debt Financing

Cecchetti, Mohanty and Zampolly (2011) examined the impact of debt on firms and inferred that direct debt level enhances welfare and leads to growth yet abnormal levels can prompt and inhibit growth of the firm. Reinhart and Rogoff (2009) contended that debt affected growth of a firm just when it is inside sure levels. Over borrowing can lead to liquidation and financial ruin (Cecchetti, Mohanty and Zampolly, 2011). Large amounts of debt will compel the firm from undertaking ventures that are probably going to be beneficial in view of the failure to attract more borrowing.
Debt is a critical determinant of a firm’s efficiency and can be used to expand profitability. However, excessive leveraging may increase the risk of bankruptcy and financial distress during temporary industry and economy wide downturns (Chungwa 2015).

High debt levels in the capital structure of a firm can hurt investment. Yuan and Dube (2013) demonstrated that aggregate debt proportion negatively affected fixed investments since a firm with a high debt proportion will channel the greater part of its wage to obligation reimbursements along these lines renouncing foregoing investment using internal funds. He and Matvos (2013) expressed that leveraging may expand the insolvency risks and financial distress amid temporary industry and economy wide downturns. It then becomes progressively hard to draw in more obligation for venture purposes as lenders will charge high loan costs to adjust for the high business risk (Dube 2013). Yuan and Motohashi (2008) contended that creditors will be hesitant to loan more funds to an exceptionally obligated firm which can bring about underinvestment. Ahmad, Abdullar and Roslan (2012) built up that transient obligation and long haul obligation had huge association with ROA. It was likewise settled that ROE had significant association with short term obligation, long term obligation and aggregate obligation.

In Kenya, Diba (2012) noticed that organizations with exceptional yield on venture utilize generally high obligation. Higher degrees of profitability are deciphered to mean better future standpoint for firms with beneficial outcome on advance reimbursement. The investigation subsequently discovered positive relationship between degree of profitability and obligation proportion.

The investigation by Ebaid (2009) in part concurred with that of Ahmad et al., (2012). Ebaid tried to build up the relationship between obligation level and budgetary execution of organizations recorded on the Egyptian stock trade. The examination utilized profit for resources, return on value and gross overall revenue as needy factors and short-term obligation, long term obligation and aggregate obligation as free factors. The outcomes from the investigation demonstrated that there was a negative effect of short term obligation and aggregate obligation on return on resources (ROA). The examination likewise reasoned that there was no critical relationship between long term obligations financing and ROA. Ebaid additionally presumed that there was immaterial relationship between total obligation, short
term obligation and long term obligation and financial performance measured by net revenue and ROE. Literature on debt financing has been schematically isolated in two hypothetical streams (Shyam-Sunder and Myers, 2009). The principal concentrates on the distinctive expenses and advantages related with use, for example, the normal expenses of bankruptcy, organization expenses of obligation (identified with irreconcilable situations amongst bondholders and investors), impose shields getting from the deductibility of premium instalments and the disciplinary impacts of use on administrative conduct. This arrangement of contentions is trade off hypothesis, which subsumes different speculations.

The fundamental contrasting option to the trade-off approach is the pecking order hypothesis, presented by Ali and Anis (2012). This approach supports that organizations will tend to follow a pecking order of inclination for elective financing sources inspired by the enlightening asymmetries between their managers and outside investors. Since firms will tend to look for financing sources that are less subject to the expenses of instructive asymmetries, they will likely finance their business with internally generated resources. They will just swing to external sources when important, ideally contracting bank loans or issuing obligation securities. Offering new stock is the last alternative. In this manner, despite the terms of exchange (TOT), with regards to benefit on turnover (POT) there is no ideal obligation proportion for the firm to search for.

As per Soufani, (2012), choices on capital structure decisions considering behavioral inclinations can be credited to showcase timing and budgetary adaptability. The contention for showcase timing underscore the point that new equity is issued when managers see that their offer cost is exaggerated or has achieved a pinnacle. A pointer to catch the constructive market observation is a high market-to-book proportion, and an indicator to capture whether the managers feel that their company's offer cost has topped is to watch the extent of their own portfolio that they auction. Interestingly, the contention for showcase timing when securities are repurchased depends on the start that organizations tend to purchase back their securities when they are seen to be underestimated. A high book-to-market proportion means negative market discernment (Soufani, et al 2012).

Subrahmanya (2007) underpins this view that debt value selection of firms seems, by all accounts, to be an element of whether managers see their association's offers to be
exaggerated, and they contend that the financing blend of a firm is just a result of aggregate verifiable endeavours by its managers to time the market. In their discourse of this issue they contended that an ideal capital structure choice does not exist and that market timing financing choices tend to amass after some time into the capital structure result of firms.

Soufani, (2012) likewise contends that a few firms essentially value financial adaptability and will issue obligation to hold enough trade particularly out of vulnerable circumstances or on the off chance that they predict critical projects upcoming. In such cases, they needn't bother with the money quickly or know whether they will require it yet they may want to issue obligation (and at times convertible obligation) as a less expensive alternative to value. A portion of the pointers utilized incorporate the measure of convertible obligation issued and the sum that winds up being changed over to value. This may be deciphered from a behavioral fund viewpoint that management become overconfident about potential takeover prospects later, eventually when different firms may end up noticeably bothered and therefore would conceivably be focuses for acquisitions (Soufani, et al 2012).

2.3.1.3 Equity Financing

Finance theory has since quite a while ago guessed that firm capital structure influences it’s fairly market worth, albeit empirical is unclear about the specifics. For instance, Sunder and Myers (2009) infer that the pecking order theory portrays their sample of substantial, extensive firms. In any case, Frank and Goyal (2009) demonstrate that small firms frequently issue equity, negating the pecking order theory that managers are hesitant to pitch value to generally sceptical outsiders.

Two puzzling conclusions have been created by long-run equity performance studies. To begin with, firms raising external finance fail to meet expectations generally comparable to firms for up to five years following the financing event. To begin with, albeit some of these conclusions don't withstand econometric refinements, the expansive ramifications that external fund raising generates negative stock returns gives a genuine test to ordinary ideas of market proficiency. Second, poor stock returns take after extensive investment. Elsas, Flannery and Garfinkel (2006) locate that huge increments in net operating assets (NOA) are related with significant underperformance, particularly for firms with substantial internal
cash streams or low leverage. Mwangi (2010) led an examination on capital structure on firms recorded at the Nairobi Securities Exchange researching the relationship between financing choices and budgetary execution. The examination distinguished that a solid positive connection amongst leverage and return on equity, liquidity, return on investment existed.

Previously mentioned approaches above hold in like manner one vital point, specifically, the certain presumption that financial market performance and additionally organization managers always act sanely. Be that as it may, a broad and developing literature on human psychology research and conduct demonstrates that a great many people, including investors and directors, are liable as far as possible in their subjective procedures and have a tendency to create behavioral inclinations that can altogether impact their choices.

### 2.3.1.4 Internal Capital Financing

As indicated by Chen and Chen (2011) there is no much characterized ideal capital structure. Consequently, management is inclined to choose internal financing before external financing. Notwithstanding, when a firm looks to utilize external financing, Chen et al., (2011) recommends that organizations like to fund new investment utilizing obligation to begin with, and after that external equity. The pecking order hypothesis in this manner contends that organizations should utilize internal finance first before moving into external finance. Moreover, when utilizing external finance obligation ought to be utilized before new equity. Contemporary finance researchers however locate that new small medium enterprises (SMEs) particularly in developed nations utilize internal equity together with debt at start-up.

Accordingly, as a pecking order, firms incline toward internal to external funds, and obligation to equity if external funds are required (Chen and Chen, 2011). Although there is some level headed discussion in the matter of whether the pecking order hypothesis (POH) exactly holds for SMEs (Frank and Goyal 2009), the staggering agreement is that SME financing choices do in certainty stick to an inclination preference hierarchy as anticipated by the POH (JS Ramalho and da Silva 2009).

Further, the pecking order theory created by Elsas Flannery and Garfinkel (2006) suggests that when firms have information that external investors don't have, firms will lean toward
internal over external sources of finance. This approach can be disclosed by a desire to limit the trading expenses of raising finance, which turns out to be particularly imperative with regards to SME back. Considering a pecking order, small privately-owned companies specifically tend to depend intensely on family credits, as opposed to advances from outsiders as a wellspring of finance. Consistent with SEW maximising conduct; these preferences ensure the family's impact over the administration and operation of the firm.

2.3.2 Overconfidence

Studies of the calibration of subjective probabilities find that people tend to overestimate the precision of their knowledge. Such overconfidence has been observed in many professional fields such as investment banking and management. Overconfidence may explain why investment professionals hold actively managed portfolios with the intention of being able to choose the winners. Managers overestimate the probability of success when they think of themselves as experts (Athur, 2014).

Overconfidence in selecting common stocks that will outperform the market is a difficult task. Predictability is low; feedback is noisy. Thus, stock selection is the type of task for which people are most overconfident. 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 (Trehan and Sinha, 2011). Luong and Ha (2011) developed models in which overconfident investors overestimate the precision of their knowledge about the value of a financial security. He observes that they overestimate the probability that their personal assessments of the security’s value are more accurate compared to the assessments of others.

Tor (2013) argues that managerial overconfidence brings out the daring nature of managers, especially when making forecasts of future projects. Carbado and Gulati (2009) in examination of whether managerial overconfidence can offset sub-optimal risk taking in capital structure decisions due to managerial risk- aversion, found that overconfidence exacerbate the problem.

Razek (2011) that the concept of overconfidence is operationally reflected by comparing whether the specific probability assigned is greater than the portion that is correct for all
assessments assigned to the given probability. According to Agrawal (2012), overconfidence leads to overestimation of one’s ability and undervaluing of risks. Agrawal (2012) claimed that overconfidence originates in people’s biased evaluation of evidence. Many researchers find evidence for the presence of the overconfidence bias in different financial decisions. Studies have shown that announcement returns are lower for overconfident bidders as compared to rational bidders.

Overconfidence is when investors place too much weight on information they collect themselves due to excessive optimism. Investors tend to ignore information that lowers their self-esteem and embraces that which allows them to maintain their confidence. Overconfidence bias causes investors to trade excessively. A study by Carbado et al., (2009) on the trading patterns and returns of over 66,000 accounts held by private investors with stockbrokers for the period 1991 to 1996 show that the excessive trading affected the returns of the investors as they earned less.

The factors such as self-commitment to the project and self-declaration of proficiency are the causes of overconfidence in an investor. When individuals fail to comprehend the dubiety of their abilities fully, overconfidence tends to increase. Overconfidence bias appears in the form of excessive optimism and better than average effect. Overconfidence bias can be very harmful on financial decisions. Kafayat, (2014) found that the investors who trades frequently earn much less profit than those investors who trade in frequently, thus overconfidence bias is dangerous for those types of investors.

Frequent bidders also prove to be inferior in terms of stock selection performance. This implies that they overestimate future cash flow of the initial public offer (IPO) firms, or underestimate risk of investment in these firms, or both (Athur 2014). According to Subrahmanyan (2007), over confidence about private signals causes overreaction and hence phenomena like the book market effect and long-run reversals, whereas self-attribution (attributing success to competence and failures to bad luck) maintains overconfidence and allows prices to continue to overreact, creating momentum.
Jagullice, (2013) cautions that overconfidence is particularly seductive when people have special information or experience, no matter how insignificant, that persuades them to think that they have an investment edge. In reality, however, most of the sophisticated and knowledgeable investors do not outperform the market consistently (Chandra, 2009).

According to Groth-Marnat (2009), the cause of the overconfidence bias is either that people truly believe that their accuracy is going to be higher than it really turns out to be (they fail to take into account all the factors which then reduce accuracy), or that they artificially inflate their perceived level of accuracy for a variety of reasons, such as to delude themselves or other people (thus protecting self-esteem or giving favorable impressions to other people). The phenomenon of underconfidence also exists where confidence is too low. This is due to accuracy being higher than expected, although some situations may demand low confidence for a person to appear modest. Alternatively, if underconfidence appears to be a pervasive trait in a person it could be because they are using inaccurate methods for assessing future outcomes, or that too much information is overwhelming and confusing them, thus reducing certainty and confidence (Diba, 2012).

Barros and Silveira (2007), state that, “it should also be highlighted that managers classified as overconfident are, on average, more exposed to the idiosyncratic risk of the business they run than other managers because they usually have more invested wealth in their firm’s shares”. They further argued that such exposition should make them more careful or conservative, leading them to choose a less levered financing structure. This evidence clearly shows that managers are willing to reduce risks overshadowed by their biased perception of the same risks, motivated by their own overconfidence. These cognitive biases may stimulate the individual to expose himself (sometimes exaggeratedly, from a rational perspective) to the idiosyncratic risks of the business in the first place (Diba, 2012).

Overconfidence may stem from different reasons. Different forms of overconfidence reveal that overconfident investors believe that their decisions will prove to be correct and expect higher returns than average. However, this is not necessarily the case and overconfident investors are exposed to possible losses due to their investment decisions (Tekçe Yılmaz and Bildik, 2016).
Rowell (2011) contend that managerial overconfidence stem from managers taking an “inside view” of prospective projects. This inside view focuses on project specifics and readily anticipated scenarios while ignoring relevant statistical information such as probability of project success. Managerial irrationality can be pardoned through corporate takeovers. Transactions costs arising from protection accorded for managerial irrationality such as corporate takeover are extremely large, due to primarily high legal and regulatory hurdles. The specialized investors who do pursue takeovers must bear very large idiosyncratic risks (Diba, 2012). These factors severely limit the power of arbitrage. Consequently, there is no reason to believe that corporate financial decisions cannot manifest itself in managerial irrationality within the large arbitrage bounds (Singh, 2012). The study provided empirical evidence that overconfident managers invest more aggressively.

Since overconfident managers believe that the uncertainty about potential project is less than it actually is, they are less likely to postpone the decision to undertake the project. Thus, moderately overconfident managers make decisions that are of best interest to shareholders than do rational managers (Hsu and Shiu, 2010). Overconfident managers also benefit the firm by spending more effort than rational managers, as they overestimate the value of their effort. Overconfident managers believe that the expected net present values of potential projects are greater than actually is, and undertake projects more quickly than their rational counterparts. Overconfidence may motivate a manager to adopt an overly heavy sub optimal debt laden capital. Overconfidence leads to managers overestimating the net present value of new investment project (Goel and Thakor, 2008). Therefore, they will invest in negative NPV projects that they mistakenly believe to be positive NPV; hence overconfidence is value-reducing. Shyam-Sunderand Myers (2009), contend that the choice of capital fund is a function of rational decision guided by costs and benefits consideration associated with leverage. However, companies will tend to follow a hierarchy of preference for alternative financing sources motivated by the informational asymmetries between their managers and outside investors.

Hackbarth, Miao and Morellec (2006) developed a model that considered effects of managerial overconfidence on firms’ capital structure decisions. The model demonstrates that managerial overconfidence results in higher debt levels, which may be beneficial for
shareholders. Two versions of the model were presented. In the first version, the manager attempts to act in the interest of shareholders, their objective is to maximize the perceived value of the firm (trading-off tax benefits with bankruptcy costs of debt). Since an overconfident manager perceives debt as more undervalued than equity, they issue higher level of debt than a rational manager. In the second version, the agency problem of free cash flow exists. An overconfident manager chooses a higher debt level than a rational manager. This serves to mitigate the free cash flow problem, hence aligning managers’ and shareholders’ objectives.

Barros et al., (2007) observed that, keeping other factors constant, leverage ratios tend to be substantially lower in firms where the same person accumulates both functions, possibly reflecting the influence of corporate governance standards on their access to external financing instruments. They further found a negative relationship between profitability and leverage, especially if market leverage measures are used. This evidence is compatible with the pecking order theory.

Kiplagat (2008) noted fairness of Kenyan political and economic stability, stock market development and investor overconfidence in the capital market. They further contend that in general economic growth given by stock market capitalization and stock market liquidity manifested through total shares traded and turnover are important determinants of stock market growth and fund sourcing points for firms in Kenya.

Tekçe, Yılmaz, and Bildik (2016) contend that due to aggressive trading behavior, overconfident investors may have to pay significant amount of commissions. They further state that, overconfident investors may hold riskier portfolios than they should tolerate due to their underestimation of risks. In conclusion, they note that overconfidence not only affects financial markets and prices, but also individuals in the sense that they make investment mistakes and lose money.

Barros and Da Silveira (2007) argue that even though optimism and overconfidence are not exactly the same, they are closely related and that entrepreneurs (owner-managers) tend to display such cognitive biases more frequently than non-entrepreneurs (employees). They used high stock ownership as an indicator of optimism and overconfidence as the managers’
portfolio would be highly undiversified and highly correlated with the fortunes of their careers. The argument is that when managers hold an investment portfolio that is heavily weighted with the shares of the companies that they work for, it signals their high levels of optimism and confidence for the performance of the company. Another proxy that they used was the duration of time that they held onto high levels of stocks in their portfolio. This is because one can argue that managers are privy to inside information and will hold onto their companies’ shares if they know of a positive event on the horizon that will benefit them in terms of increasing the value of the shares they hold, and they will then sell off the shares after the price has risen.

### 2.3.2.1 Overestimation of Capabilities

More generally, overconfidence can also be associated with people’s tendency to overestimate their own skills and knowledge and the quality and precision of the information they can obtain. Research on “positive illusions” shows that most people tend to consider themselves better than others or above average on different attributes, whether these are social, moral (they consider themselves more honest than others) or related to specific skills, like most drivers’ belief in their superior driving skills (Svenson, 2011).

Overconfidence leads investors to overestimate their predictive skills and believe that they can time the market. Studies have shown that one side effect of investor overconfidence is excessive trading (Evans, 2006). People are overconfident in their own abilities, and investors and analysts are particularly overconfident in areas where they have some knowledge (Evans, 2006). There is evidence (Evans, 2006) that financial analysts are slow to revise their previous assessment of a company’s likely future performance, even when there is strong evidence that their existing assessment is incorrect.

The implications of overconfidence for corporate decisions have only recently begun to be explored by behavioral Finance researchers (Azouzi and Jarboui (2012). Some studies present the issue from the focus of rational managers interacting with overconfident foreign investors. Recently a smaller number of analyses emerged looking at the cognitive biases of the managers and trying to comprehend on how they can affect their investment and financing decisions (Azouzi and Jarboui (2012).
Malmendier, Tate and Yan (2011) argue an overconfident manager has a more pronounced pecking-order preference for financing, favoring debt over equity financing, conditional on choosing outside financing. In Fairchild’s (2010) asymmetric information model, overconfidence is unambiguously bad, since it leads to excessive use of debt, hence increasing the prospects of financial distress. Overconfidence has been identified in different behavioral contexts. Alpert and Raiffa (2009) and Bruine, Parker and Fischhoff (2007) conducted two seminal experimental studies. They verified that participants in their experiments showed excessive confidence in the precision of their subjective estimates of uncertain quantities, believing that they were correct much more frequently than they were. This kind of study nourished other research, which demonstrated the general tendency of people towards overconfidence in the form of errors in the calibration of probabilities (Brenner, Izhakian and Sade 2006).

Closest to the present research is therefore the strand of corporate Behavioral Finance literature in which the individual manager is assumed to suffer from psychological biases (Singh, 2012). Managers who believe that the market is wrong and that they know better how much the target is worth are hypothesized to be overconfident by Ryan (2006). A similar line of argument can also be found in Hirshleifer, Low and Teoh (2012), who discuss the role of the illusion of control in a mergers and acquisitions (M&A) context. The authors use managers’ trading in their own stocks as a proxy for optimism and investigate if there are changes in this around acquisitions. The fact that they fail to make out any significant effects may, however, also be attributable to external factors such as legal restrictions on insider trading, a concern that the authors briefly attend to themselves (Goel et al., 2008).

Increasingly, researchers are recognising that the bias of overconfidence may play a significant role in managers’ financing and investment decisions.

2.3.2.2 Underestimating Risks

Fairchild (2009) documents that overconfidence may induce a manager to adopt an excessively heavy, sub optimal, debt-laden capital structure. This study investigated the effect of overconfidence on financing decisions in the absence of asymmetric information. Since the manager is overconfident, he believes that the market undervalues his equity.
Therefore, the Myers-Majluf mispricing problem exists. That is, the manager may pass up a positive NPV project, in which case, free cash flow is beneficial. However, due to managerial overconfidence, the manager may take negative NPV projects that he mistakenly believes to be positive NPV. Now free cash flow is harmful. Hence, Heaton argues that, given managerial overconfidence, an optimal level of free cash flow exists that eliminates both the Myers-Majluf and Jensen problem.

Hackbart, et al., (2006) developed models to consider the effects of managerial overconfidence on capital structure decisions. Hackbarth et al., (2006) demonstrates that managerial overconfidence results in higher debt levels, which may be beneficial for shareholders. Hackbarth presents two versions of the model. In the first version, the manager attempts to act in the interest of shareholders, His objective is to maximise the perceived value of the firm (trading-off tax benefits versus bankruptcy costs of debt). Since an overconfident manager perceives debt as more undervalued than equity, he issues higher level of debt than a rational manager. In the second version of Hackbarth’s model, the agency problem of free cash flow exists. An overconfident manager chooses a higher debt level than a rational manager. This serves to mitigate the free cash flow problem, hence aligning managers’ and shareholders’ objectives.

Hackbarth, et al., (2006) considers a wider menu of effects of managerial overconfidence. He finds that overconfident managers choose higher debt levels; issue new debt more often, need not follow a pecking order of financing, and tend to time capital structure decisions. Hackbarth et al., (2006) considers the effect of managerial overconfidence on bondholder/shareholder conflicts. He demonstrates that overconfidence can mitigate underinvestment problems, but can exacerbate risk-shifting problems.

2.3.2.3 Overvaluation of Investments

Dittrich, Güth, and Maciejovsky (2015) conducted a study on overconfidence in investment decisions. By experimentally inducing risk aversion, overconfidence in an investment setting is investigated, comparing the evaluation of actual investment decisions with alternative choices. After selecting their own investment, subjects confront three alternative investment choices, including the optimal one, and are asked about their willingness to pay and to
substitute their own for alternative choices. Results indicate that overconfidence increases with the absolute deviation from optimal choices, with task complexity involving the number of risky assets, and decreases with individual perceived uncertainty.

Hey and Pace (2014) conducted a study on the effect of overconfidence on individual financial decisions. This study aimed at examining the effects of overconfidence on stock-prices’ bubbles and on economic behaviour of traders using an experimental method conducted to 56 students at the University of York. The computerized experiment has two phases. In the first phase, a market entry game is designed using z-Tree software. Accordingly, subjects decide whether to enter the market or to stay out of the market for 24 market cases. The first 8 cases consisted of enter or not decisions where entrance and ranking are determined randomly. In the second 8 market case, if subjects decide to enter, they are asked trivia questions and they are ranked according to their performance. In the last 8 cases, subjects are asked investment questions instead of trivia. This design allows us determine subjects’ overconfidence levels using three different measurements: the entry level comparison, the calibration based measurement, and the better than average effect.

Accordingly, there is only one long lived asset to be traded in the market which traders decide to buy, sell, or hold stocks. Each trader plays over a sequence of 15 trading periods with units of a stock paying a dividend at the end. With the data collected by the last phase, we use the common bubble measures in literature, namely, Price Amplitude, Total Dispersion, Average Bias, Turnover, Duration, Duration, Relative Absolute Deviation and Relative Deviation Results show that people are generally overconfident. Most of them perceive themselves above average and overestimate their abilities and the precision of their knowledge. Further, the individuals that are relatively more overconfident trade more frequently and yet earn lower profits. Moreover, overconfidence is found to be domain specific: traders are less overconfident when they face financial questions. Finally, traders causing bubbles in the market are the ones that are more overconfident.

Demirel and Atmaca (2011) studied the interaction between demographic and financial behavioral factors in investment decisions. The study was carried to find the impact of demographic factors influencing individual investors” behaviour. It showed that gender interacts with five financial behavioral factors i.e. overreaction, herding, cognitive bias,
irrational thinking, and overconfidence and the level of individual savings interacts with only four of the financial behavioral factors: overreaction, herding, cognitive bias and irrational thinking.

An immediate consequence of self-deception is that people will be overconfident about their merits of various sorts. In over precision, people think that their judgments are more accurate than they really are. Overconfidence tends to be stronger when correct judgments are hard to form, such as when uncertainty is high. The difficulty effect is the finding that over precision is stronger for challenging judgment tasks (Dube, 2013).

2.3.3 Over optimism

Behavioral finance provides theory and evidence that financial decision making is influenced by optimism Dushnitsky (2010); Landier and Thesmar (2009); Puri and Robinson (2007). The entrepreneur selects financing based on several factors, including overall assessment of the likelihood of failure. The entrepreneur has private information regarding the likelihood of success that is essentially unavailable to outsiders. More specifically, over optimism, has been shown to influence financial and economic choices (Puri et al., 2007). A growing number of empirical studies link the characteristics of over-optimism and over confidence to preference for debt. Since over-optimistic entrepreneurs underestimate the likelihood of failure, they are willing to take on more short-term debt (Hackbarth, 2008; Landier et al., 2009 and Dai and Ivanov, 2017).

According to Kafayat (2014), people are overoptimistic when they believe that they will not be exposed to future events and things will not go beyond their control and people also think that there is high probability that positive event will happen to them and negative events will happen to others. He also found that over optimism bias is in many domains and age groups and is also present in business environment.

Over optimism may also translate directly into a reluctance to enter into equity arrangements. Hayward, Shepherd and Griffin (2006) consider a “hubris theory of entrepreneurship” in which over-confident or over-optimistic entrepreneurs will reduce the liquidity of ventures by not accepting equity based deals preferring instead to rely on greater debt. In a similar vein, technology entrepreneurs with knowledge-based assets that can be selectively revealed
to investors, optimism is associated with a preference for contingent payment contracting rather than disclosure of knowledge (Dushnitsky (2010). The tendency of being over optimistic is one of the best documented of all psychological errors. Excessive optimism occurs when people overestimate the frequency of favourable outcomes and underestimate the frequency of unfavourable outcomes (Shefrin, 2007). Managers are assumed to be optimistic when they overestimate the probability of performance of good firms and underestimate the probability of bad firm’s performance. This assumption finds support in a large psychological literature demonstrating that people are, in general, too optimistic (Lee, 2011).

Managerial optimism leads managers to accept that an efficient capital market underestimates their firm's risky securities. Thus, managerial optimism leads to a preference for internal finances that can be socially expensive (Mohamed, Fairchild and Bouri 2014). Optimistic managers’ dependent on external funds sometimes decline positive NPV projects, believing that the cost of external finance is simply too high. Free cash flow can, therefore, be valuable.

The literature on optimism can be classified into four components: drivers of optimism, optimism of analysts in forecasting expected returns and projecting target prices, identification of this bias in investors and the presence and impact of this bias on financial markets (Prosad, 2014).

Managers without free cash flow may decline taking a negative net present value project that they perceive to be a positive net present value project, because the cost of external finance seems too high. In this situation, free cash flow is harmful. Free cash flow alleviates the need to obtain external finance and makes it easier to take net present value projects mistakenly perceived to be positive net present value projects. The more optimistic the manager, the less likely he is to finance these projects externally. The better the firm’s projects, the more costly this underinvestment is to shareholders. For firms with poor investment opportunities, reliance on the external capital market is beneficial. This implies a shareholder preference for cash flow retention (and cash flow risk management) at firms with both high optimism and good investment opportunity, and a shareholder preference for cash flow payouts at firms with both high optimism and bad investment opportunity (Bikas, et al., 2013 and Armstrong and Taylor, 2014).
According to Kuchler 2008, overoptimistic managers overestimate the value of their firm and feel undervalued by the market, as long as investors do not share their overoptimistic beliefs about firm value. Rational managers understand their firm's true value and exploit any potential misevaluation by the market. When markets are overvalued, rational managers prefer to use their own overvalued stock as a method of payment, whereas when markets are undervalued, they prefer cash which is always correctly priced. In principle, overoptimistic managers would like to do the same. However, when markets are moderately overvalued, overoptimistic CEOs still believe their stocks to be undervalued and act accordingly.

Malmendier and Tate (2008) show that some CEOs persistently hold options until expiration, even though it would have been better to exercise earlier. Overoptimistic managers perceive their firm to be undervalued and are reluctant to use stock as the method of payment. These perceived costs of stock financing raise the threshold for an acquisition to be deemed profitable by an overoptimistic CEO. Hence, such acquisitions involving stock payment outperform those of their rational colleagues. The authors add that this is not the case for pure cash acquisitions, for which the perceived cost of stock financing is irrelevant.

Market misevaluation can amplify the effect of over optimism on subsequent returns. By preferring to pay with cash rather than stock at times of high market valuation, overoptimistic managers are making a mistake: had they paid with stock instead, they could have created additional value for their shareholders (Brown, 2006).

2.3.3.1 Overestimation of frequency of favorable outcomes

According to Van den Steen (2011), rational agents with differing past experiences tend to be overoptimistic about their chances of success. An agent who tries to choose the action that is most likely to succeed, is more likely to choose an action of which he overestimated, rather than underestimated, the likelihood of success. It also causes agents to attribute failure to exogenous factors but success to their own choice of action, to disproportionately believe that they will outperform others, to overestimate the precision of their estimates, and to overestimate their control over the outcome. Human inference and estimation is subject to systematic biases. The evidence shows, for example, that people are overoptimistic about future life events. (Van den Steen, 2011).
2.3.3.2 Underestimation of the frequency of unfavourable outcomes

Over-optimism is not just about poor process; there are significant behavioral factors. Over-optimism can be unconscious or deliberate. Reasons for strategic misrepresentation may include a desire of individuals to protect and boost their own prospects or the desire to secure investment for a project. It is widely accepted that a bias towards optimism can lead officials to underestimate or understate risks (De Meza et al., 2008). The pressures of short-term political and budgetary cycles increase the risk of over-optimism. Executives make decisions based on delusional optimism rather than on a rational weighting of gains, losses, and probabilities. They overestimate benefits and underestimate costs and thus, they pursue initiatives that are unlikely to come in on budget or on time or to deliver the expected returns or even to be completed (Bikas, et al., 2013).

Over optimism can help explain excessive budget deficits, especially the failure to run surpluses during periods of high output. Many believe that better fiscal policy can be obtained by means of rules such as ceilings for the deficit (Frankel, 2011).

2.3.3.2 Overestimation of the Growth Rate of Earnings

Over optimism is related to overconfidence but is distinct. Optimistic managers overestimate the growth rate of earnings while overconfident managers underestimate the riskiness of earnings. In other words, over optimism creates an upward bias in the mean of the distribution while overconfidence creates an upward bias in its precision. There is possibility that over-optimism can increase firm performance (Hackbarth, 2008).

Individuals are over optimistic in general, and particularly so regarding the effect of their own actions. In addition, managers may suffer from a biased attribution of causality after a series of good performance that leads them to under-estimate the role of random noise and over-attribute successes to their own actions (Hackbarth, 2008). The combination of these two phenomena leads to an increase in over-optimism after a series of successes a phenomenon called dynamic over optimism: optimistically biased managerial actions receive an increasingly disproportionate weight in the overall estimation of the project success. (Hilary, Hsu, Segal, and Wang, 2014). Informed entrepreneurs are less likely to be overoptimistic while (general) education increases over-optimism. Over-optimism has also
been linked to entrepreneurship. Entrepreneurs can be overly optimistic with respect to, for example, the attractiveness of their product, consumer demand, degree of competition, their own managerial abilities; their ability to control events and venture performance. Several reasons have been proposed for the overoptimistic nature of entrepreneurs such as self-selection and the assumption that entrepreneurship attracts a certain type of people (Wickham, 2006).

Cognitive biases such as over optimism may lead to excessive entry, high failure rates and below-average earnings. Nevertheless, there are still many new entrants who manage to survive and prosper, suggesting that there is variation in the degree of over optimism among entrepreneurs (Koellinger, Minniti and Schade, 2007).

According to Patton (2016), there are various reasons why some entrepreneurs may be more overoptimistic at the start of their ventures than others. There are four broad categories of determining factors of over-optimism: Better informed entrepreneurs are less likely to be overoptimistic, motivated entrepreneurs are expected to be less disappointed after setbacks, personal characteristics such as gender, age, having a life partner and access to other income and firm characteristics such as sector, take-over versus newly started business, and home-based versus separate business premises (Verheul and Carree, 2008 and Patton, 2016).

Shepperd, Klein, Waters and Weinstein (2013) examine determinants that affect the direction and size of the optimistic bias. In their paper, optimistic bias reflects a difference between two estimates: personal risk estimates and target risk estimates. They find that personal risk moderators people experiencing a sad mood, dysphoria, state or trait anxiety, low control, or impending feedback are less optimistically biased than people not experiencing these states, traits, or situations. As for the target risk moderators, people were less optimistic when comparing themselves with a target that was psychologically close to them, similar, or specific than when comparing themselves with a target that was psychologically distant, dissimilar, or ambiguous. Good or bad moods will increase and decrease the likelihood of investing in risky assets, such as stocks.

Individuals who work as business professionals or participate in the capital market consistently make incorrect assessments of probabilities and particularly, individuals often
overestimate the probability of good outcomes in financial decision-making. The optimistic bias that affects corporate managers, entrepreneurs, and asset managers are likely to influence normal households in a very similar way. As optimistic business and finance professionals choose risky investment opportunities, households with an optimistic expectation of their future financial situation might also make less prudent, more risky portfolio choices (Collard, 2009).

Usually, speculative bubbles are inflated by the high optimism of investors. The peak of this optimism is characterized by emotional decisions instead of rigorous evaluation. When rational evaluation indicates that stock prices have become too high, the emotion of optimism becomes a stronger influence in the decision making process. Investors hold higher risk portfolios, buy more stocks, and become more active in trading. The stock market rises and eventually becomes overvalued, relative to historical averages. Eventually, this over optimistic mood begins to decline. As the optimistic bias fades, rational evaluation becomes more influential. Prices are viewed as too high and investors stop buying. If social mood drops to a very low level, then pessimism will drive prices below historical averages. Thus, investor optimism or pessimism drives speculative asset bubbles and crashes (Balasuriya Muradoglu and Ayton, 2010).

2.3.4 Anchoring

Anchoring refers to how a case of suggestion, such as words, numbers or pictures, can affect the decision maker to make a certain decision (Kahneman, 2011). This means that an earlier presented suggestion affects people when they are to estimate an unknown quantity, which then will be close to the suggestion that was considered before the estimation. By understanding the theory behind anchoring, efforts can be made in order to prevent it to affect decision-making. In this way, there will be a better chance to make accurate decisions (Sewell, 2007).

Anchoring is a cognitive bias that describes the common human being tendency to rely too heavily on the initial piece of information offered when making decisions. During decision making, anchoring appears when individuals use an initial piece of information to make second judgment so that prices lower than the initial price seem more reasonable even if they
are still higher than what the car is worth (Hastie and Dawes, 2010). Anchoring arises when a value scale is fixed (anchored) by recent observations. Investors usually use their purchase price as a reference point (and react to changes in price relative to the initial purchase price. Prices of today are often determined merely by those of the past (Waweru, Mwangi, and Parkinson, 2014).

There are three broad reasons why people may use unrelated pieces of information to make decisions: anchoring results from an insufficient adjustment process by the brain from the initially presented value, attitude change and selective accessibility to information (Furnham and Boo, 2011; Jetter and Walker, 2016).

In one of the few held studies, Johnson *et al.* (2009) analyze betting on horse races, finding that a horse’s barrier position in a previous race serves as meaningful anchor when calculating odds. They find those with greater levels of expertise to be less subject to anchoring, yet the significance of the effect prevails. Similarly, McAlvanah and Moul (2013) and bookmakers fail to re-adjust fully when a horse is abruptly withdrawn from a race in which betting has already commenced. In this setting, the initial odds emerge as a powerful anchor among economic agents with financial incentives and extensive experience. This effect becomes more pronounced in situations with greater time pressure.

Many psychological and behavioral studies find that, in a variety of situations, predictions by individuals systematically deviate too little from seemingly arbitrary reference points, or anchors, which serve as starting points for these predictions. As a result, those predictions give too little weight to the forecasters’ own information (Campbell and Sharpe, 2009).

According to Marchand (2012), when investors need to make a decision they often fail to do enough research because there is just too much data to collect and analyses. Instead they proceed based on a single figure or fact, while ignoring the important information. This irrational behavior is called anchoring. Sewell (2007) state that when a relevant value (an anchor) is available, people make expectations by beginning from an initial value (an anchor), that is adjusted to yield the final answer. It is possible that the anchor is proposed by the formulation of the problem, or it can be the outcome of a specific computation. In both ways adjustments are insufficient.
Anchoring can be captured by the fact that the investors rely on past experience, past fair prices, ignore new information, fixing prices before buying or selling stock and being on the lookout for the best time to buy or sell stock, guided by moods and the level of openness to new experiences (McGuckian, 2013). Various factors are seen as influencers of anchoring. A wide range of research has linked sad or depressed moods with more extensive and accurate evaluation of problems. As a result of this, earlier studies hypothesized that people with more depressed moods would tend to use anchoring less than those with happier moods. However, more recent studies have shown the opposite effect: sad people are more likely to use anchoring than people with happy or neutral mood, (Englich and Soder, 2009).

Research has correlated susceptibility to anchoring with most of the Big Five personality traits. People high in agreeableness and conscientiousness are more likely to be affected by anchoring, while those high in extroversion are less likely to be affected (Eroglu and Croxton, 2010). Another study conducted by McElroy and Dowd, (2007) found that those high in openness to new experiences were more susceptible to the anchoring effect. The impact of cognitive ability on anchoring is contested. A study on willingness to pay for consumer goods by Bergman and Klefsjö (2010) found that anchoring decreased in those with greater cognitive ability, though it did not disappear. Whereas Oechssler, Roider, and Schmitz, (2009) found that cognitive ability had no significant effect on how likely people were to use anchoring.

Kiev (2009) found out that anchoring occurs when one becomes stuck to a particular reference point as a basis for making judgments and decisions and it is common for traders to anchor to an entry point after entering a position. Many traders refuse to take a loss, instead waiting for the market to return to the entry point to allow them to scratch the trade.

According to Bretton (2009) many traders refuse to exit a bad position that moved to within ticks of their entry, fixed on exiting at the anchored point of entry and the result is that they often end up taking much larger losses when sheer pain becomes their stop-loss mechanism. People are most likely to anchor decisions to criteria that capture their attention and for that reason trades commonly anchor to high points and low points in market movements, including obvious points of support and resistance (Muriithi, 2014). Traders will gravitate to these points for the placement of their stops as well as their entries for breakout trades. If a
trader anchors to a support or resistance level to enter a breakout trade, the trader may be completely unaware of the demand or supply that rests below or above those anchor levels. Similarly, if a trader places a stop near an obvious region of high low prices, he may increase the odds that normal market probes will take out those levels in the search for value (Muriithi, 2014).

Anchoring tends to consider logically irrelevant price level as important in the process of decision making could lead to missed investment opportunities and bad entry timing into the market, (Rahul, 2012). Anchoring effect holds even when the anchor is subliminal, this is impossible, since anchoring is only the result of conscious adjustment.

Anchoring is a occurs where the initial exposure information or data serves as the reference point thus influencing future judgments. The process usually occurs without our awareness, causing influence of price perceptions. For instance, the price of the first house shown to someone by an estate agent may serve as an anchor and influence perceptions of houses subsequently presented. These effects have also been shown in consumer behaviour whereby not only explicit slogans to buy more, but also purchase quantity limits (or ‘expansion anchors’ can increase purchase quantities (Kraak et al., 2014).

2.3.4.1 Relying too heavily on the initial piece of information

Soufani, Tse, Cole and Aboulamer (2012) examined the association between anchoring as a behavioral bias shown by managers and their decisions on whether to give debt or equity. They investigate whether anchoring captured by a number of proxies including market to-book ratios, the shares’ proportion of sold off that are held by managers, the exercising of stock options held by managers long before their expiration dates, share repurchases, stock returns, bond yields, 52-week share price highs, and share prices at last equity issue and last debt issue, sufficiently explains the changing levels of debt or capital structure mix adopted by firms (Soufani et al., 2012). The study found that firms may actually make decisions based on the financing decisions of some industry leader.

Waruingi (2011) carried out a survey of behavioral factors influencing individual investors’ choices of securities at the NSE. The Finding showed that there were five behavioral factors that were at play. These were: herding, market prospect, overconfidence and anchoring bias.
A study related to IPOs conducted by Kipngetich et al. (2011) modelled investor sentiments in their equation of determinants of IPO pricing in Kenya using secondary data obtained from the NSE. The study found an association between initial piece of information and investment decision.

Mussweiler and Strack (2007) has demonstrated that anchoring effects in the standard anchoring paradigm are produced not by insufficient adjustment, but rather by enhanced accessibility of anchor-consistent information. The attempt to answer the comparative assessment in this paradigm leads people to evaluate whether the anchor value might equal the correct answer. Because people evaluate hypotheses by trying to confirm them (Klayman and Ha, 2007), the comparative assessment generates in formation disproportionately consistent with the anchor value, there by biasing the subsequent judgment.

The magnitude of adjustment has no effect on accessibility based anchoring effects. Anchoring is not a unitary phenomenon but the product of at least two different mechanisms, a major impediment to progress has been set aside. (Epley and Gilovich, 2006).

2.3.4.2 Judgement bias on prices lower than the initial price

Judgment processes have either some or no influence on judgments. There is uniform agreement that human judgments are influenced by relative comparisons. The ability of individuals’ perceptions of objects to be influenced by context is long established. For example, perceptions of the weight of a target object can be altered by changing the weights of objects which precede the target in a series. More generally, perceptions of many target stimuli are influenced by their ‘contextual framing’; the information presented alongside target objects markedly influences the way the targets themselves are perceived. Taken further, some authors argue that all human judgments of absolute quantities rely on relative comparisons rather than retrieval of stored representations of absolute amounts (Azar, 2007). Those boundary conditions of anchoring effects may be much looser than previously thought, with anchors operating across modalities and dimensions to bias judgment. (Oppenheimer, LeBoeuf, and Brewer, 2008).

Anchoring procedure results in an improvement in accuracy for the whole yield curve if the survey expectations one utilizes are informationally efficient relative to the model-based
forecasts they replace, which in practice corresponds to a testable encompassing condition. Informational efficiency condition is satisfied only for the 3-month yield, so in practice anchoring is the short end of the yield curve to the corresponding survey expectation and then adjusting all remaining yields in a formal way, which we make explicit below. (Altavilla, Giacomini and Ragusa, 2014).

2.3.4.3 Sensitive to information which they have experienced

Anchoring thus appears to be a very robust psychological phenomenon. However, not all individuals may be equally influenced by anchoring cues. A fundamental aspect of the anchoring effect is that individuals are sensitive to information which they have experienced. This change in judgment, which is based upon external cues, seems particularly relevant and related to the openness-to-experience personality trait. The openness trait reflects the individual propensities to “adjust” one’s beliefs (McElroy and Dowd, 2007).

Although the anchoring and adjustment heuristic is clearly useful, the adjustments made from one’s own perspective should tend to be insufficient and give rise to egocentric biases because they terminate once a plausible estimate is reached. These satisfying produces responses biased toward the egocentric side of the distribution of plausible estimates (Epley and Gilovich, 2006).

2.3.5 Regret Aversion

Generally, the term regret is used to describe the sense of sorrow or disappointment over something done or not done. Sorrow may result from both the comparison of the actual outcome with the alternative outcome and from the feeling of responsibility or self-blame for the disappointing outcome. Regret seems most relevant emotion in the context of decision making. Of course, other emotions such as worry, fear, happiness, and elation are relevant in decision making as well. However, these emotions may also occur in absence of a decision, since they are related to aspects of outcomes or to uncertainty. Regret is directly linked to the choice or decision at hand (Nicolle, 2010).

Regret is the negative feeling which occurs after a bad choice. In investment context it is refers to the investor’s reaction at making a mistake. They joy of satisfaction and the pain of regret
is relevant to understand the behavioral impact on investment decisions. Because people want to be satisfied and ward off regret they will realize profits and retard losses. Investors are not allowed to admit their mistakes and feel regret because if they do, they tend to avoid selling the stocks which decreased in value and sell the stocks they have increased in value promptly. Marchand (2012) states that regret theory is an action-based theory. The utility of a choice option depends on the feelings generated by the results of rejected options.

Regret aversion is primarily concerned with how a prior anticipation of possible regret can influence decision making (Baker and Nofsinger, 2010). People exhibiting regret aversion avoid taking decisive actions because they fear that, in hindsight, whatever course they select will prove less than optimal. It is a cognitive phenomenon that often arises in risk averse investors, causing them to hold onto losing positions too long in order to avoid admitting errors and realizing losses. Regret aversion also makes people unduly apprehensive about breaking into financial markets that have recently generated losses (Pompian, 2006). In contrast to the expected utility theory, prospect theory assumes that people’s utility is defined over their gains or losses in comparison with some reference point and not over the value of their final assets. It also assumes that people’s utility from gain w is lower than their disutility from the same loss w and that people are risk-averse over gains and risk-loving over losses. In addition to these loss aversion assumptions, prospect theory assumes that people tend to overweight low probabilities and underweight high probabilities (Dodonova and Khoroshilov, 2006).

People who are regret averse try to avoid distress arising from two types of mistakes: errors of commission and errors of omission. Errors of commission occur when misguided actions are taken whilst errors of omission arise from misguided inaction, that is, opportunities overlooked or foregone. Regret is stronger for errors of commission than for errors of omission (Pompian, 2006).

In real life decisions, people may occasionally receive information about forgone outcomes. For example, people choosing to invest in particular stocks will learn about future stock prices for the chosen stocks, but also for the non-chosen stocks. How might this feedback influence our decisions? An important assumption to be made is that people are regret averse. This means that people consider the experience of regret to be unpleasant and tend to make
so-called regret minimizing choice. In many of the past studies, regret minimizing choices were regret averse choices (Zeelenberg, 2009).

Regret aversion is a well-established psychological theory that suggests that some people have regrets when they see that their decisions turn out to be wrong even if they appeared correct with information available ex-ante (Dodonova et al., 2006). Regret aversion arises from investors desire to avoid pain of regret arising from a poor investment decision. This aversion encourages investors to hold poorly performing shares avoiding their sale also avoids the recognition of the associated loss and bad investment decision (Pompian, 2006). Regret aversion creates a tax inefficient investment strategy because investor can reduce their taxable income by realizing capital losses. Past research on regret aversion can be broadly divided into two streams based on the scientific tradition: mostly economic research developing formal theories of choice and psychological research focusing more on empirical investigation. Most empirical research in the psychological tradition has been heavily influenced by earlier economic theories of regret aversion, which will be presented first (Reeson, and Dunstall, 2009).

According to Reeson, et al, (2009) regret theory stands on two fundamental assumptions. The first assumption contains the comparison that people make between the actual outcome and the outcome received when they would have make a different choice. They see the emotion obtained from this as a consequence. When the forfeited decision has a better outcome, people experience regret. Regret aversion is a psychological error that arises out of excessive focus on feelings of regret at having made a decision, which turned out to be poor, mainly because the outcomes of the alternative are visibly better for the investor to see. This is made profound by the fact that investors have to admit their mistakes and embrace the consequences of their decisions which in itself is quite hard to phantom. This scenario forces most investors to avoid taking decisive actions for the very fear that their decisions may lead to an unfavorable outcome. This could lead to investors holding onto losing stocks for too long because of unwillingness to rectify mistakes in a timely manner (Pompian, 2006). At the same time this could stop investors from making an entry into the market when there has been a downtrend, which is showing signs of ending, and signals that it is good time to buy. The fear of regret happens often when individual investors are indecisive in making
investment decisions. Various psychologies experimental studies suggest that regret influences decision-making under uncertainty. As such regret avoiding investors have a tendency of avoiding distress arising out of

People prefer the familiar to the unfamiliar, hence the aspect of aversion to ambiguity is fear of the unknown. Loss has about two and a half times the impact of a gain of the same magnitude and they call this phenomenon loss aversion. In this case therefore, people will always try to avoid situations that could pose a loss as compared to those that present a gain by holding onto losing positions in the hope that the prices will eventually recovery in the near future. Investors when left to view stocks individually, they are likely to be risk averse making them to sell quickly stocks whose prices are rising hence depressing the same prices. On the contrary, they are likely to hold too long on the stocks with falling prices causing the stocks prices to be negative. This makes decision making in stocks investment sensitive to the investors actions hence further distorting (Kisaka, 2015).

Waweru, Mwangi and Parkinson (2014) contend that investors might sell winners and hold losers because they expect their losers to outperform their winners in the future. An investor who buys a stock because of favorable information might sell that stock when it goes up because she believes her information is now reflected in the price. On the other hand, if the stock goes down she may continue to hold it, believing that the market has not yet come to appreciate her information. Investors could also choose to sell winners and hold losers simply because they believe prices may revert. Previous research offers some support for the hypothesis that investors sell winners more readily than losers, but this research is generally unable to distinguish among various motivations investors might have for doing so. For instance, Subrahmanyan (2007) noted that past winners have excess selling pressure and past losers are not shunned as quickly as they should be, causing under-reaction to public information.

Regret aversion indicates the managerial desire to avoid consequences wherein the manager appears to have made ex-post suboptimal decisions even though those decisions are ex-ante optimal based on the information available at that time (Wong, 2015). Regret is measured by the difference between the actual wealth and the maximum wealth that the existing shareholders could have received should the manager have made the optimal financing
decision based on knowing the project’s true cash flow (Michenaud and Solnik, 2008). There seems to be a belief that regret aversion may lead managers to abandon losing projects too late (Klauss, 2006).

According to the disposition effect, investors have great difficulty coming to terms with losses. Consequently, they are predisposed to holding losers too long and selling winners too early. This is because investors will always avoid losses and seek to realize gains at any given time. This position is the tendency to sell those stocks that have gained in value while holding onto those that have shed value. Indeed, it has been established that investors tend to sell winners too earlier whereas holding onto losers for so long. This is as a result of the fear that the winners may drop in value while the losers may gain value in the short term though this have proved not to hold in practice (Athur, 2014).

It has been further noted that people will always try to avoid the feeling of being failures much so if they acted on the advice of others and as such they will do everything to make sure that they are winners in their actions hence the feeling that by achieving a particular feat in the market they feel proud of their actions thus furthering the disposition effect (Frank and Goyal, 2009). According to Nofsinger (2007) the investors show of regret aversion is a result of disposition effect where investors sell well performing stocks too soon and hold on poorly performing stocks for too long. This position was emphasized by Venezia and Shapira, (2007) who posits that disposition effect is pervasive in nature in that the more recently stocks gain or loss value the stronger the propensity for investors to sell winners and hold on losers. As such investors, have been found to hold losers longer in their portfolio than winners.

2.3.5.1 Failure to take action due to fear of bad outcomes

Regret aversion refers to the decision and failure to take action due to fear of bad outcomes, regret aversion stems from the desire to avoid feeling responsible for a poor result. Regret can arise through omission (failure to act) or commission (an act), but is usually stronger for commission in the short run. Death-bed regret often relates to omission, or misgivings about those things we wish we had done. Investors who suffered recent losses can become too conservative relative to reasonable outcome expectations and prevailing risk levels. Regret
aversion can also unnecessarily prevent investors from deviating from a habitual course when favorable opportunities arise. For example, if an investor always owned short-term bonds for fear of stock-market volatility, and then stock prices plummeted to a point where high-quality businesses could be bought cheaply, regret aversion could prevent them from breaking their bond-buying habit to capitalize on the high-potential (Singh, 2010). Investors are so prone to regret aversion that even the great Harry Markowitz, who won the Nobel Prize in Economics and whose work largely represents the cornerstone one of Modern Portfolio Theory, was once influenced by regret aversion when choosing his retirement investment options. Regret aversion posits that investor indecision and failure to take action typically stems from wanting to avoid responsibility for a poor result. As a result of KandT’s work on Prospect Theory, new investor bias theories, including loss aversion and regret aversion, entered the behavioral lexicon. (De Bondt et al., 2008).

Rekik and Boujelbene (2013) reveals that Tunisian Investors do not always act rationally while making investment decisions. The study concluded that herding attitude, representativeness, anchoring, loss aversion and mental accounting all influence the Tunisian investors’ perception of their decision making processes but there is an absence of overconfidence bias in the Tunisian Stock Market. In fact, Tunisian investors seem to be under confident hesitant and very sensitive to others’ reactions and opinions. The other finding related to the interaction between demographic variables and financial behavioral factors particularly provided that the variables like gender, age, socio-professional category, and experience all seem to have an influence on the behaviour of investors operating on the Tunisian Market. The study provides that people at certain age, are less subject to psychological biases as they become more experienced while as elder investors who are relatively less knowledgeable and have lower incomes are subject to behavioral biases (Rekik and Boujelbene, 2013).

Nkundabanyanga, Opiso, Balunywa and Nkote (2015) noted that, many capital budgeting decisions can be viewed as decisions involving greater risk and therefore rational managers will postpone the decision to exercise real options longer, in the best interest of shareholders. Malmendier and Tate (2008) adds that, if the corporation undertakes a risky new venture, the stockholders may not be very concerned, because they can balance this new risk against other
risks of portfolios they are holding. The managers, however, do not have a portfolio of employers. If the corporation does badly because the new venture fails, they do not have any risks except the one taken by the same corporation to balance against it. They are hurt by a failure more than the stockholders, who also hold stock in other corporations.

2.3.5.2 Holding poorly performing shares

Regret aversion is a well-established psychological theory that suggests that some people have regrets when they see that their decisions turn out to be wrong even if they appeared correct with information available ex-ante. Regret aversion arise from the investors desire to avoid pain of regret arising from a poor investment decision (Singh, 2015). This aversion encourages investors to hold poorly performing shares as avoiding their sale also avoids the recognition of the associated loss and bad investment decision. Regret aversion creates a tax inefficient investment strategy because investor can reduce their taxable income by realizing capital losses. Past research on regret aversion can be broadly divided into two streams based on the scientific tradition: mostly economic research developing formal theories of choice and psychological research focusing more on empirical investigation.

The effect of regret aversion is that investors will be too conservative in their choices content with the pain of a missed opportunity rather than an active mistake (Singh, 2015). Once they’ve made one bad move, they are more hesitant to start making bold investment choices again. To a degree this is only natural, it’s once regret aversion continues over a long period of time that underperformance starts to become an issue. Conservatism appears when in the face of new evidence individual do not change their beliefs as much as would be rational. Actually, the more useful the evidence, bigger the gap between actual updating and rational updating appear to be. One explanation for conservatism is that processing new information and updating beliefs is costly. (Singh, 2015).

Regret is a negative emotion experienced upon the realization that, had an alternative course of action been chosen, your current situation could have been improved. Psychologists and behavioral economists have long been interested in the extent to which both the anticipation and experience of this emotion can affect choice behavior, when faced with the prospect of decision making under uncertainty and risk, where the resolution of uncertainty can have a
significant effect on the degree to which an individual may regret the choice they ultimately decide to make. The sensitivity to regret is known as regret aversion (Lovelady, 2014). Martin and Roychowdhury (2015) argue that look back options are a valuable asset for regret averse individuals. At retirement, many retirees convert their pension wealth into a life annuity and regret aversion plays an important role in the timing of the life annuity purchase. It is therefore unlikely that optimization of life cycle functions ignoring regret aversion leads to life annuity look back option purchases. Hence accounting for regret aversion results in fundamentally different investment strategies than observed in standard non regret averse investor strategies.

Regret aversion is characterized by a utility function that includes disutility from having chosen ex-post suboptimal alternatives. The manager optimally opts for zero leverage if risk aversion is relatively more important than regret aversion in representing the manager’s preferences. Otherwise, the optimal capital structure is interior such that the optimal amount of debt increases when regret aversion becomes increasingly more important than risk aversion in representing the manager’s preferences. The firm’s market leverage ratio is inversely related to the project’s profitability and to the firm’s market-to-book ratio. (Wong, 2015).

2.3.6 Mental Accounting

Mental accounting is a cognitive form of bookkeeping that individuals practice to keep track of expenses and control consumption (Marais, 2007). Consumers often use mental accounts to constrain spending by allocating budget limits in certain categories. In this role, expenses in a category are assigned to a reserved mental account, and these expenses are monitored to avoid overspending on tempting products. Another role played by mental accounts is transaction specific, where consumers set up an account for a transaction, debit the expense, and credit the benefit accrued from consumption. Transaction specific mental accounts compel individuals to consume products they have purchased and not to abandon them in the face of tempting alternatives. Mental accounting procedures have evolved to economize on time and thinking costs, and also to deal with self-control problems. Thaler’s assertion about the economizing role of mental accounts suggests that these accounting processes include an element of imprecision or ambiguity (Thaler, 2008).
Mental accounting implies that managers maintain separate mental accounts for different decision variables (Loktionov, 2009). Mental accounting may lead to sub-optimal decisions if managers ignore the possible interdependencies of the decision variables when making decisions, managers make decisions for each mental account separately (Loktionov, 2009). Mental accounting describes the tendency of people to place events into different mental accounts based on superficial attributes (Shefrin, and Thaler, 2008). Shefrin, and Thaler (2008) suggest 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.

Mental accounting is used by individuals to track their gains and losses relative to a reference point with a resultant feeling of reward or punishment respectively. It involves narrow framing, wherein people separately optimize different kinds of gains and losses that are placed in different mental accounts (Thaler, 2008 and Hirshleifer, 2014).

Mental accounting affects not only the personal finances but is common phenomenon in the complex world of investment. When an investor buys a new stock, he starts maintaining a new virtual account for this stock in his mind. Each decision, action, and outcome about that stock is placed in that account. Once an outcome is assigned a mental account it is difficult to view that outcome in another way. When interaction among assets in different accounts is overlooked, this mental process can adversely affect investor wealth since the influence of loss aversion on mental accounting is enormous, for example loosing $100 hurts more than gaining $100 (Bryman, and Bell 2007; Chandra, 2008; Shefrin, and Thaler 2008; Loktionov, 2009 and Kahneman, 2011).

2.3.6.1 Selling of shares acquired from exercising options than shares acquired through required stock investments

Sautner and Weber (2009) report that managers are more likely to sell shares acquired from exercising options than shares acquired through required stock investments. This behaviour is consistent with mental accounting. Schmidt and Sevak, (2006) Women’s investment has historically been lower than men’s for several reasons, including social and various demographic concerns. However, the differences continue to be significant even after controlling for individual characteristics. Loktionov (2009) finds that self-reported risk
tolerance best describes differences in both portfolio diversification and portfolio turnover across individual investors. Dushnitsky (2010) admits that although personality factors can change over an extended period of time, the process is slow and tends to be stable from one situation to another. Therefore, these factors are expected to influence the decision making behaviour of an individual. Barnewall (2007) finds that an individual investor can be found by lifestyle characteristics, risk aversion, control orientation and occupation. Barnewall (2008) suggests the use of psychographics as the basis of determining an individual’s financial services needs and takes one closer to the truth from the customers’ perspective of need to build a marketing program.

Karlsson, Garling, and Selart, (2007) conducted a study on effects of mental accounting on inter temporal choice. Two experiments with undergraduates as subjects were carried out with the aim of replicating and extending previous results showing that the implication of the behavioral life-cycle hypothesis (Shefrin and Thaler, 2008) that people classify assets in different mental accounts (current income, current assets, and future income) may explain how consumption choices are influenced by temporary income changes. The results of both experiments supported the role of mental accounts in demonstrating that subjects were unwilling to pay in cash after an income decrease even though they had access to saved money. Thus, in effect they chose to pay more for the good than they had to. Indicating a need for further refinement of the concept of mental account, choices to pay in cash after an income decrease tended to be more frequent when the consumption and savings motives were compatible than when they were incompatible. Furthermore, increasing the total assets made subjects more willing to pay in cash after an income decrease (Shefrin et al., 2008).

2.3.6.2 Under pricing

Lee (2010) provide an explanation for IPO under-pricing based on mental accounting. He notes that managers do not mind under pricing as long as it is not larger than the gain between the midpoint of the filing price range and the first day closing price.

Dirinea, and Iordănescu, (2013) conducted a study on mental account barriers and transaction purpose. Using the models provided by scientific literature, the relationship between the basic structure of mental accounts, transaction utility and consumer decision, together with perceived comfortability. The procedure was carried out using undergraduate students of
Lucian Blaga University of Sibiu, with similar proportions of sexes and with resembling ages. Results have shown that influence of mental accounting structuring and transaction utility on decision and perceived comfortability is insignificant, taken into account the differences between sexes. The presented results bring knowledge into the economic behaviour of the individuals involved.

As Kahneman, (2011) indicated, decision can be influenced not by the overall wealth, but according to an a priori reference point. Thus, experience and certain personality traits influence the way individuals make decisions. Thaler (2008) stated that mental accounting, a cognitive process that explains the way individuals manage values such as money, influences, in accordance to Kahneman’s (2011) framing of decisions, the way people spend money and decide to save it. Mental accounting answers a lot of questions regarding why individuals group and classify resources, and whether that grouping and classification system satisfies them (Collard, 2009).

Research in mental accounting theory covers four main areas: framing and editing, budgeting and fungibility (Thaler, 2008), transaction utility theory, and choice dynamics and grouping (Hastings and Shapiro, 2012). Framing and editing, according to Kahneman (2011), follows the main principles of hedonic framing: segregation of gains, integration of losses, integration of small losses in big gains, segregation of small gains in big losses. Gärling, Kirchler, Lewis, and Van Raaij (2009) conducted a study on Psychology, financial decision making, and financial crises. In general people individually use their cognitive and other resources in sensible ways, and collectively they have developed procedures that effectively regulate economic and other transactions. It is likewise true that sometimes some demands are beyond people’s capacity, individually as well as collectively. It is therefore essential that scientific knowledge of people’s cognitive and other limitations is brought to bear on the issue of how to prevent such overtaxing demands. Arguably, financial markets such as those for stocks and credit overtax actors’ capacity to make rational judgments and decisions. In product markets with full competition, prices represent the true value of the products offered. This does however not seem to hold in stock markets where stock prices, due to excessive trading, are more volatile than they should be if reflecting the true value of the stocks (Garling, 2009).
2.3.7 Conservatism

Conservatism has continued to influence accounting practice over the last 500 years (Basu 2007). Conservatism became an American accounting principle in 1938 and was incorporated in Japanese accounting principles in 1949. The principle of conservatism has been formally adopted in International Financial Reporting Standards, IFRS (Zhang, 2008).

Accounting conservatism is the tendency to undervalue net asset value relative to its market value due to information asymmetry and is associated with lower financial flexibility (Ruch and Taylor 2011). Documented empirical reviews have examined the effect of conservatism on debt levels. Ball, Bushman, and Vasvari, (2008) proposed two mechanisms for mitigating debt holder manager conflicts. The first method is imposing a downward bias on reported net worth to alleviate managers’ tendency to bias net worth upwards and secondly by compelling managers to recognizing bad news in a timely manner. That way, conservative managers are constrained from transfer of wealth to shareholders at the expense of debt holders. Debt holders are disadvantaged due to information asymmetry in relation to the net worth of the firm, they lack insider information so to speak (Guay and Verrecchia, 2006).

One of the implications of conservatism is the accelerated recognition of losses vis-a-vis the recognition of gains and the mismatch between revenue and costs by reporting of expenses in advance of corresponding revenue, which over time leads to underestimated net assets. Conservatism may be practised in response to stringent demand for timely and accurate information imposed by regulatory bodies and stakeholders at large (Wickham, 2006; Waruingi, 2007; LaFond and Watts, 2008; Zhang, 2008; Lee, 2011 and Biddle, Ma, and Wu, 2012).

Lenders are more amenable to conservative financial reporting compared to aggressive reporting especially over the duration of a debt contract since it allows for monitoring of cashflows and reacting to any. They are averse to rewriting debt contracts in account of significant downward restatement of accounting numbers. Finally, because of information asymmetry, lenders prefer to contract on verifiable information (Gigler, Kanodia, Sapra and Venugopalan (2009) and Subash, 2012).
Roychowdhury (2010) contends that conservatism may also lead to unintended negative consequences due to under reported earnings thus affecting appetite for future investments. Recent studies point out two ways in which conservatism can be utilized in terms of recognizing expenses. They can be recognized by way of amortization and impairment. It is however important to note that impairment recognizes the expenses when the value declines whilst amortization recognizes expenses before the value declines. The time lag exists between impairment and amortization in terms of the timing of recognizing expenses results in underestimating of net asset values differs between these two methods (Ryan 2006).

Shareholders and creditors often contract with a firm manager based on accounting numbers. However, because information asymmetry exists between the manager and shareholders or creditors, the manager has incentive to bias earnings and equity upward by recognizing losses later to maximize his or her own welfare. This is likely to impair both shareholder and creditor wealth. Wickham (2006) argues that (conditional) conservatism improves contracting efficiency to offset this upward bias.

Recent empirical research finds that both shareholders and creditors demand conditionally conservative accounting by firms and reports reliance on covenants in public debt contracts is positively associated with the degree of timely loss recognition (Qiang (2007); LaFond and Roychowdhury (2008); Nikolaev (2010) and Iyengar and Zampeli (2010).

Furthermore, some studies provide evidence that firms share in the shareholder and creditor benefits arising from conditional conservatism. For instance, Bauwhede (2007) examines U.S. firms and finds evidence that the credit ratings of firms in industries with more conditional conservatism are significantly more favourable. Zhang (2008) also shows that conservative borrowers are more likely to violate debt covenants following a negative price shock and that lenders offer lower interest rates to more (conditionally) conservative borrowers. Wittenberg-Moerman (2008) focuses on U.S. firms and reports that timely loss recognition (conditional conservatism) reduces the bid–ask spread in the secondary loan market. In addition, Lara (2014) examine U.S. firms and find that increase in firm-level conditional conservatism leads to a future decrease in the bid–ask spread and in stock returns volatility.
In summary, existing reported studies provide evidence that conditional conservatism improves contracting efficiency. At the same time, the economic rationality of unconditional conservatism is questioned. For example, Ball et al., (2008) argue that unconditional conservatism does not function to improve contracting efficiency. Although unconditional conservatism biases both earnings and equity downward, this downward bias occurs independently of any economic value reduction. Thus, unconditional conservatism does not provide fresh insight into contracting, while on the other hand, it introduces noise into decisions based on accounting information and reduces contracting efficiency. Qiang (2007) shows that a higher debt equity ratio induces a lower unconditional conservatism level. In addition, Bauwhede (2007) finds that the credit ratings of firms in industries with more unconditional conservatism are significantly less favourable. Zhang (2008) also show that more (unconditional) conservative borrowers are less likely to violate debt covenants following a negative price shock and that the degree of (unconditional) conservatism is positively related to interest rates.

It has also been demonstrated that accounting conservatism can reduce the information asymmetry between inside and outside investors and increase the precision of public and private information which in turn will reduce the investors’ required rate of return and subsequently reduces the cost of equity capital (Huges, Liu and Liu, 2007; Lambert, Leuz and Verrecchia, 2011).

Göx, and Wagenhofer (2010) established a theoretical model in which they show that a commitment to a system of accounting conservatism can substitute for voluntary disclosure. This result suggests that if voluntary disclosure reduces the cost of equity capital, as is documented by much empirical research (Hail and Leuz 2007; Lambert et al, 2011), then accounting conservatism can be viewed as acting like voluntary disclosure to reduce the cost of equity capital. According to Ball Bushman, and Vasvari (2008), if conditional conservatism homogenously improves (reduces) contracting efficiency between countries, then countries should exhibit homogeneous demand for conservatism.

These studies suggest that the economic consequences of conservatism are likely to vary across countries, corporate governance types. Under shareholder governance, a firm’s ownership is widely dispersed, and the information asymmetry between managers and
shareholder/creditors increases. While managers essentially have incentives to disclose
goodness, they are apt to hold back bad information to maximize their own welfare. Because
managers try to hide bad news as information asymmetry increase, shareholder and creditors
demand conditional conservatism by firms to counteract this tendency (Nikolaev 2010).

In contrast, under stakeholder governance, a firm’s ownership includes founder families, the
bank, and employees, and is often highly concentrated. These stakeholders are also actively
involved in managing the company. Thus, they can reduce information asymmetry via
informal communication with managers. This decreases the demand for conditional
conservatism found in the stakeholder governance model. On the other hand, the stakeholder
governance model generates different demand for firms from the shareholder governance
model. Under stakeholder governance, because firm’s ownership is highly concentrated on
stakeholders and they develop long-term relationships with the firm, they cannot easily
transfer their ownership to somebody else. Therefore, shareholders are concerned with the
firm’s long-term financial viability (Ding et al. 2008).

Ding et al. (2008) suggest that conservatism is possible to satisfy their demand. Accounting
income is related to payments such as employee compensation executive compensation, dividends, and tax. Because unconditional conservatism biases accounting income
downward, it can reduce payments related to accounting income. Therefore, unconditional
conservatism overcomes doubts over firms’ long-term financial viability. Biddle et al. (2012)
provide evidence supporting this opinion, finding that unconditional conservatism mitigates
ex ante bankruptcy risk and reduces incidence of real bankruptcy by enhancing firms’ cash
holdings.

Nakamura (2008) focuses on Japanese firms and show that a firm’s degree of unconditional
 conservatism is negatively related with interest rates. Although this finding is highly
suggestive, scrupulous attention is required to interpret them because I am unable to identify
when the interest rates listed in the financial statements are determined. Therefore, the study
cannot directly analyse whether unconditional conservatism benefits firms. The study focus
on proceeds from long-term loans payable in order to examine the economic consequences of
unconditional conservatism because it is an easily available form of cash flow statement that
allows identification of when firms borrow money from banks.
Armstrong *et al.* (2010) provide an excellent discussion on information problems between firms and creditors, and how accounting conservatism can help address them. The intuition is as follows. Debt holders of a firm have an asymmetric payoff with respect to net assets. As a result, they are concerned with the lower ends of the earnings and net assets distributions. In assessing a potential loan, lenders require verifiable lower bound measures of the current value of net assets and use those as inputs in the loan decision. Further, they use those lower bound measures to monitor the borrower’s ability to pay during the life of the loan. Debt contracts use the lower bound measures of net assets to trigger technical default that allows the loan to be called and to restrict managerial actions that reduce the value of net assets or otherwise reduce the value of the loan. Without such restrictions (i.e., debt covenants based on conservative accounting numbers), companies could not borrow because management’s ability to distribute the assets, together with limited liability, make creditors wary of recovering their loans. Consistent with these arguments, recent studies document that debt holders demand conservative financial reporting (e.g., Beatty et al. 2008; Nikolaev 2010; Tan 2013) and reward more conservative borrowers with easier access to finance and a lower cost of debt (e.g. Zhang 2008). Gox and Wagenhofer (2010) show analytically that conservatism is the optimal accounting policy for a financially constrained firm.

Based on the above contracting explanations for accounting conservatism, we predict that accounting conservatism played an especially important role in mitigating underinvestment during the financial crisis. The crisis substantially limited a firm’s borrowing capacity, thus highlighting the importance of accounting conservatism in strengthening a firm’s funding ability. The global financial crisis was characterized by the drying-up of liquidity in the banking system (Ivashina and Scharfstein 2010 and Watts and Zuo, 2012).

Conservative financial reporting makes managers less likely to invest in negative NPV projects in the first place, since the enforcement of timely loss recognition will reduce their earnings-based compensation and damage their reputation. Consistent with these arguments, Francis and Martin (2010) find that firms with more timely incorporation of economic losses into earnings make more profitable acquisitions. They also find these firms are less likely to make post-acquisition divestitures, but when they do, they act more quickly to divest. Thus, conservatism improves a firm’s investment efficiency by reducing potential overinvestment.
However, several studies point out the possible dysfunctional effects of accounting conservatism in inducing underinvestment by promoting overly cautious investment behavior (Guay et al., 2006; Roychowdhury 2010; Bushman et al. 2011).

Nikolaev (2010) documents that firms with more extensive use of covenants in their public debt contracts exhibit a greater degree of accounting conservatism. Tan (2013) finds that firms’ financial reporting becomes more conservative immediately after covenant violations and that this effect persists for at least eight quarters. Using antitakeover laws passed by several states in the mid-1980s and early 1990s as an exogenous increase in agency conflicts, Jayaraman and Shivakumar (2013) find an increase in asymmetric timeliness of loss recognition after the passage of antitakeover laws for firms with high contracting pressures. Similarly, using a natural experiment setting wherein a Delaware court ruled that the fiduciary duties of the directors of near insolvent Delaware companies extend to creditors, Aier et al. (2014) find that firms subject to the ruling significantly increased their accounting conservatism. Martin and Roychowdhury (2015) document a decline in borrowing firms’ reporting conservatism after the initiation of trading in credit default swaps that reduces lenders’ demand for conservative accounting. Beatty et al. (2008) further document that both reporting conservatism and conservative contract modifications are required to fulfill lenders’ demand for conservatism.

Gox and Wagenhofer (2009) show in an analytical model that conservatism is the optimal accounting policy of a financially constrained firm that pledges assets to raise debt capital for financing a risky project, and that “it maximizes the ex-ante probability of obtaining financing. Smith (2015) models the role of accounting conservatism in a setting in which a firm seeking financing has private information about a project’s expected return and shows that conservatism is useful for projects with relatively high ex ante expected returns. Both Loktionov (2009) and Kravet (2014) document that conservative financial reporting mitigates risk shifting by aiding debt holders in monitoring and disciplining firms’ investment decisions.

Donovan et al. (2015) provide evidence that the creditors of firms with more conservative accounting prior to default have significantly higher recovery rates. The contracting explanations for conservatism extend to product markets as well. Hui et al. (2012) provide
evidence that a firm’s long-term suppliers and customers demand conservative financial reporting to reduce potential overinvestment in relationship-specific assets. Zhang (2008) and Haw, Lee and Lee (2014) document that lenders offer lower interest rates to more conservative borrowers. Wittenberg-Moerman (2008) shows that timely loss recognition reduces the bid ask spread in the secondary loan market. Thus, one direct benefit of conservative financial reporting is a lower interest expense. Gormley et al. (2012) find that more timely loss recognition was associated with better access to credit markets following foreign bank entry into India and conclude that lenders value timely loss recognition when making lending decisions. Hence, given a lower cost of debt and better access to external finance, firms with more conservative financial reporting will be able to invest projects that produce positive NPVs; such projects would not be pursued if the cost of debt were higher. Accounting conservatism improves investment efficiency by mitigating potential underinvestment.

Nevertheless, an opposing view exists that conservatism causes users of financial statements, including equity investors and creditors, to make incorrect inferences. Using a theoretical model, Gigler et al. (2009) claim that conservatism could increase the probability of false alarms, and this by itself would detract from the efficiency of debt contracts. These arguments are in line with the FASB’s recent criticism of accounting conservatism. Despite the FASB’s strong assertions, there is little, if any, empirical evidence to support their claims. In fact, several recent empirical studies contradict their conclusions (LaFond and Watts 2008; Lara et al., 2011, 2014; Kim et al., 2013; Artiach and Clarkson 2014; D’Augusta et al., 2015; Li, 2015; Louis and Urcan 2015; Kim and Zhang 2016). On the theory side, Chen et al. (2007) show that accounting conservatism reduces managers’ incentives for earnings management and improves contract efficiency. In a similar vein, Gox and Wagenhofer (2010) and Gao (2013) provide analytical formalizations of the debt contracting explanation of conservatism and argue that the FASB’s official reason for eliminating conservatism from the conceptual framework is flawed from the contracting perspective. Dichev et al. (2013) document that several CFOs practise conservative accounting support the idea that the FASB should put in place conservative accounting policies.
2.3.7.1 Lower Assets and Revenues

Wickham (2006) believe that conservatism is defined as recognizing less earnings and lower evaluation of the assets. Conservatism includes identifying the whole potential losses and non-recognition of the possible earnings. Basu (2007) defines conservatism as a process in which higher degree of reliability is used to recognize and record the earnings and optimistic news (incremental value); while lower degree of reliability is applied to recognize the losses and undesirable news. Accounting conservatism is composed of selecting an estimated method of accounting by which the book value of the assets is clearly shown at a lower level.

Mohammadi, Heyrani, and Golestani, (2013) conducted a study on impact of conservatism on the Accounting Information Quality and Decision Making of the Shareholders and the Firms Listed on the Tehran Stock Exchange. This study mainly aimed at investigating the impact of conservatism on the quality of the accounting information and decisions of the shareholders and the Tehran listed firms. To achieve this goal, the impact of conservatism on the three characteristics of relevancy, reliability and timeliness of the accounting information has been explored. The main objective of the study was defined and examined in terms of one hypothesis along with the other subsidiary objectives. The paper was an applied study using cross-sectional correlations. The required data is obtained from the whole firms listed on the Tehran Stock Exchange for six years covering the years from 2006 to 2011. The samples were selected by a filtering technique and finally 300 firms are chosen. The data and hypotheses are analysed by using simple linear regression. The findings reveal that there is a relationship between conservatism and information quality. It is also documented that conservatism positively influences on each characteristic of relevancy, reliability and timeliness. Therefore, the market might become more efficient after requiring the timely reporting and providing transparent and complete financial statements. It contributes the investors and participants of the stock exchanges make appropriate decisions.

The most popular measures of conservatism include net assets, earnings and accruals measure, and earnings-return relationship measure. The market value of assets and liabilities includes the net variations in the assets of each period, but all these changes are not recorded in the accounts and are not reflected on financial reports. According to the conservatism, increasing assets’ value (earnings) which is not sufficiently confirmable will not be recorded;
while their decreasing value with a similar conformability will be reduced. As a result, the net assets will be low magnified. Fischhoff, Slovic, and Lichtenstein, (2007) model is usually used to estimate the assets at a level lower than the real assets. These models include those parameters with low magnificence of operating assets based on this assumption that the accounting depreciation is bigger than the economic depreciation. Taking other factors constant, using conservative accounting leads to reporting lower net assets and lower ratio of book value to market value (Watts and Zuo, 2012).

2.3.7.2 Earnings Measure and Accruals (Earnings to Accruals Ratio)

Conservatism documents that the earnings are more persistent than the losses because the insusceptible increases in the value of the assets (earnings) are not recognized when they occur; however, these increases will be realized during the future periods by creating cash flows. The losses are not normally repeatable in future periods and they have less persistency than the earnings. Instability of losses and persistency of the earnings and their variations provide a measure of conservatism. This asymmetric behavior of conservatism with the profits and losses will lead to asymmetry in realizing accruals. As Gao, (2013) document, conservatism causes the retained earnings to be declined over time. They believe that the sign and the level of retained accruals over the time are some measures of conservatism. Taking other factors constant, clear stability of the negative accruals (such as reserves) among the firms during a long period is an indicator of conservatism and the accumulation rate of negative accruals indicates the level of changes at the conservatism level during the time (Gao, 2013).

2.3.7.3 Earnings-Stock Return Measure

Stocks market value tends to show the changes in the assets value at the time of occurrence; these changes might be in form of decrease of assets’ value or increases in their value. As a consequence, it can be concluded that the stock return has a propensity to be timely. Conservatism leads accounting losses to be realized more timely than earnings. Accordingly, it is predicted that the accounting losses are more consistent with the stock returns than the accounting incomes. Basu (2007) explained that stock return and accounting income tend to show the losses of a same period, but the stock returns reflect the incomes earlier than
accounting income. Basu (2007) defines conservatism as the faster reflection of bad news than the good news in the earnings. He used stock return to measure the news and applied the regression between earnings and stock return. Additionally, he found that the response of earnings to the bad news (negative stock return) is timelier than the response of earnings to the good news (positive stock return). He also showed that the persistency of the negative changes in the earnings is less persistent than their positive changes. Basu (2007) provided a measure to evaluate the conservatism in which there was a profit or loss perspective and is called timely asymmetry.

Gox (2013) findings suggest that conservatism is the selection among one accounting approach under uncertain situation which would finally magnify the least assets and revenues and conveys the least positive impact on the owner’s equity. Wickham, (2006) also found strong evidences suggesting that conservatism is defined as the slower identification of the earnings and lower evaluation of the assets. Increasing audit functions and audit fees are the respective consequences of reducing conservatism. They used the seven years’ observations of Hong Kong listed firms and found that conservative accounting and the average audit fees are inversely associated.

Dietrichs, Muler and Ridel (2013) tested the time-related asymmetric measure in evaluating the conservatism and identified those characteristics of estimating time-related asymmetry which lead to bias in statistical tests in the situations of lack of limited laboratory situations. Using a set of data which lack the time-related asymmetry in the reported income, they showed that this bias causes some evidences about the conservatism to be provided. Balachandran and Mohanram (2006) explored the relationship between conservatism and information content (relevancy of the information). They measured conservatism as a downward bias in book values and time-related asymmetry of earnings by using the extended approach of Penman and Zhang (2002) and Basu (2007). They found no evidences regarding that the upward conservatism (conditional or unconditional) which is related to the downward information content. In total, their results indicated that relating upward information content to the upward conservatism is not a rationale task.

Beatty et al., (2007) and Zhang (2008) concluded that conservatism plays a more vital role in debt contracts and it conveys joint interests for the creditors and borrowers. Lafond and
Watts (2008) think that the investors require conservatism in their evaluations and reports. They assume the main reason of this request is the lack of information asymmetry which includes the correct execution of the conservatism.

Barth et al., (2008) applied three variables of earnings management, faster recognition of loss and relevancy of the accounting figures in evaluating accounting quality. Beatty et al (2009) studied the impact of monitoring and personal information on the role of accounting quality in making investment decisions and documented that the availability of banks in financial firms is limited to the personal information and constraining cost of capitals which would reduce the accounting quality.

2.3.8 Personal Skills and Competence

Hirsh and Bevan (2008) conducted a content analysis of 100 competence frameworks from 40 organisations. Three key features of the notion of competence emerged; that competence concerned managers in the context of their organisation and a job role, that competence was associated with superior job performance and that competencies were described in terms of behaviours which could be observed in the job. Some of the commonest items in the frameworks examined in the IES research were communication, leadership, judgement, initiative, organising, and motivation. While these frameworks had a strong 'family resemblance' in the terms they contained, their meaning (as defined by more detailed behavioral statements) was quite context specific.

2.4 Empirical Review

2.4.1 Overconfidence and Ranking of Financing Decisions

Fairchild (2007) conducted a study on Managerial overconfidence, agency problems, financing decisions and firm performance. The study found out that overconfidence may result in a decrease in debt (the rational manager knows that the new project is value-reducing and uses high debt to commit not to invest in it, while the overconfident manager perceives the new project as value-increasing, and reduces debt in order to make the investment). Again, the effect of overconfidence on firm value is ambiguous, since a project that may have been value-reducing under a rational manager may indeed be value-increasing
under an overconfident manager, as the overconfident manager exerts higher effort. Kengatharan (2014) investigated the behavioral factors influencing individual investors’ decisions at the Colombo Stock Exchange. Furthermore, the relations between these factors and investment performance were also examined. The results showed that herding, heuristics (overconfidence and availability bias), prospect and market factors all have effect on the investment decisions of individual investors at the Colombo Stock Exchange. Most of the factors have moderate impacts except for the anchoring variable from heuristics factor that exhibits high influence on investment decision. On the other hand, only three of the variables examined have influence on the investment performance. The variables are the desire of stock from herding factor with negative influence on the performance, overconfidence variable from heuristics with negative influence and lastly anchoring from heuristics with positive influence on investment performance. There is also a positive correlation between investment decisions with risk averse, prospect, anchoring and herding (Vijaya, 2014).

Lin (2012) examined the relationship between psychological biases, namely the overconfidence bias, conservatism bias, herding and regret and the decision making of investors in the Malaysian share market. He found out that overconfidence, conservatism bias and regret have positive significant impacts on investors’ decision making. However, herding behavior was found to have no impact on investors’ decision making.

Pourjiban, Setayesh and Janani (2014) assessed only the impact of investors’ overconfidence bias on investment in Tehran stock exchange market. They found that overconfidence bias has a significant impact on investment in Tehran Stock Exchange Market. Qadri and Shabbir (2014) conducted an empirical study to investigate the impact of overconfidence and illusion of control on investors’ decision making in the Islamabad Stock Exchange. Their findings showed that overconfidence and illusion of control have positive significant impact on investors’ decisions. Tripathy (2014) examined the role of psychological biases on the cognitive decision making process of individual investors. The findings suggested that investors of Bhubaneshwar Stock Exchange are victims of psychological biases namely: overconfidence, anchoring, regret and loss aversion and hence their decision making are affected.
According to Hammond et al. (2006) before deciding on a course of action, prudent managers evaluate the situation confronting them. Unfortunately, some managers are cautious to a fault, taking costly steps to defend against unlikely outcomes. Others are overconfident, underestimating the range of potential outcomes, still others are highly impressionable, and allowing memorable occurrences in the past to dictate their view of what might be possible now (Hammond et al., 2006).

Glaser and Weber (2013) conducted an empirical study on Overconfidence and Trading decisions. They directly tested this hypothesis by correlating individual overconfidence scores with several measures of trading volume of individual investors (number of trades, turnover). Approximately 3000 online broker investors were asked to answer an internet questionnaire which was designed to measure various facets of overconfidence (miscalibration, the better than average effect, illusion of control, unrealistic optimism). The measures of trading volume were calculated by the trades of 215 individual investors who answered the questionnaire. They found that investors who think that they are above average in terms of investment skills or past performance trade more.

Deaves, et al., (2008) conducted a study on an experimental test of the impact of overconfidence and gender on trading activity. This study aims to examine the effects of overconfidence on stock-prices’ bubbles and on economic behaviour of traders using an experimental method conducted to 56 students at the University of York. Results show that people are generally overconfident. Most of them perceive themselves above average and overestimate their abilities and the precision of their knowledge. Further, the individuals that are relatively more overconfident trade more frequently and yet earn lower profits. Moreover, overconfidence is found to be domain specific: traders are less overconfident when they face financial questions. Finally, traders causing bubbles in the market are the ones that are more overconfident.

According to Agrawal (2012), overconfidence affects not only the behavior of secondary market traders but also investors in the primary market. In a recent study, Hsu and Shiu (2010) examined the investment returns of investors in discriminatory auctions taking place in the Taiwan stock market and found that frequent bidders under-perform infrequent bidders. Overconfidence led to aggressive bidding and higher payment for securing the
auctioned shares. Bashir, Rasheed, Raftar, Fatima, and Maqsood, (2013) in their study on impact of behavioral biases on investors decision making Male Vs Female found out that overconfidence generally improves market efficiency over rationality provided overconfidence is not too high because it introduces information into the market while having a comparatively small effect in generating mispricing. The study also found out that a market with very high overconfidence can also have superior price quality to a rational market when there is a high amount of private information acquired relative to publicly available information.

In his study Paluch, 2011 reveal that the cognitive biases such as overconfidence bias impact on different level of managerial decision making. Different level of management requires different level of skills, values and decision making processes and styles. By using statistical techniques this study found that there were differences in overconfidence bias between levels of management (Paluch, 2011).

Chen et al. (2007) use transaction data of a large Chinese brokerage house to analyze overconfidence in Chinese investors. The authors find that individual investors in China trade more frequently than US individual investors. Acker and Duck (2008) use a stock market game and predictions of examination marks to measure overconfidence among Asian and British students. They find that Asian students are more overconfident than British students. These findings imply that level of overconfidence can be different among cultures.

Graham et al. (2009) find that wealthier and highly educated investors are more likely to perceive themselves as competent, implying overconfidence. On the other hand, Ekholm and Pasternack (2007) confirm that investors with smaller portfolios are more overconfident compared to investors with larger portfolios as these investors are more experienced and wealthier.

Barber and Odean (2012) test whether men are more overconfident than women by partitioning investors on gender. The authors use data from a nationwide brokerage house for the period 1991-1996 by focusing on common stock investments of households. The authors define overconfidence as annual turnover and find that women turn their portfolios almost 53% while men turn 77% annually indicating that men trade 45% more than women.
annually. Findings of Chen et al. (2007), Acker and Duck (2008), Graham et al. (2009), Grinblatt and Keloharju (2009), Hoffmann et al. (2010) also support the view that men are more overconfident than women.

Hirshleifer, Teoh, and Low (2012) using options and press-based proxies for CEO overconfidence, further document that firms with overconfident CEOs invest more in innovation activities and achieve greater innovative success for given research and development expenditures. Making investment decisions is an integral and vital part of managing a firm. An efficient investment decision may be expected to enhance firm valuation. Although previous studies provide evidence that corporate investment is affected by managerial personal preference or behavior biases, these studies do not further address how managerial optimism affects a firm’s investment efficiency or whether managerial optimism helps to improve corporate investment efficiency and its association with firm valuation. 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 (Pompian 2012).

A manager who is overconfident of his ability will tend to be optimistic about his firm’s prospects as well. Overconfidence has a bright side, as it encourages entrepreneurs to engage in socially desirable experimentation. Survey evidence confirms that entrepreneurs tend to be over optimistic about their future success. Overconfidence and over optimism have obvious costs, but can also help shareholders by encouraging risk averse managers to take good risky or innovative projects (Campbell, et al., 2011). This leads to a benefit to matching managerial optimism or confidence appropriately to firms (Goel and Thakor (2008). Different degrees of optimism between entrepreneurs and outside investors can result in inefficient screening of projects, creating a role for rational banks to act as a bridge between these two groups Hirshleifer, 2014).

Both overconfidence and over optimism are associated with greater corporate investment (Ben-David, Graham and Harvey (2013). Potentially on the bright side, overoptimistic managers spend more on RandD, and obtain more patents relative to their RandD spending, perhaps because of greater willingness to bear risk (Hirshleifer et al., 2012).
2.4.2 Over Optimism and Ranking of Financing Decisions

According to Agrawal (2012), optimism is about expecting a favourable outcome irrespective of the actual effort or skills devoted by individual to bring about the outcome. Over-optimism is the tendency to overvalue the possibility of desired outcomes and undervalue the occurrence of unfavourable events. The authors note that investors’ earnings forecast errors are significantly optimistic for buy recommendations and significantly pessimistic for sell recommendations.

The negative relationship between profits and past volume is optimistic driven by investors according to Baker and Haugen (2012) found that the most important considerations of expected returns are past returns, trading volume and accounting ratios. No proof that risk measures such as systematic and total volatility are materials for returns was found.

Overoptimistic managers prefer debt financing to external equity financing, overoptimistic managers tend to accept that the market underestimates the value of their firm. Believing that the market undervalues shares of their firms, overoptimistic managers avoid issuing equity when they have other financing choices (Marciukaityte, and Szewczyk, 2011).

Chen, and Lin (2013) investigated the relationship between managerial optimism, investment efficiency, and firm valuation. The study followed the Campbell’s measurement for managerial optimism and investigated the influences of the different levels of managerial optimism on improving investment efficiency and firm value when firms tend to under-invest or over-invest. They found out that an under-invested firm with a CEO who has a higher level of managerial optimism can improve the firm’s investment efficiency by reducing the degree of underinvestment, which further increases the firm’s value. However, when firms tend to overinvest, there is insufficient evidence to show that a firm with a lower level of CEO managerial optimism will effectively improve the firm’s investment efficiency and increase firm value by reducing the degree of overinvestment.

Luu (2014) examined the behavior patterns of individual investors in Ho Chi Minh stock market. It was found that overconfidence; anchoring, herding, loss aversion and regret aversion have moderate impacts on the investors while market factors have the highest impact among all on the investors’ decision making. Kafayat (2014) examined if investors in
Islamabad Stock Market were suffered from self-attribution bias, overconfidence and over-optimism biasing making rational decisions. The study concluded that all the factors mentioned are negatively correlated with investors’ decision making.

Optimistic managers prefer internal financing to external financing because they believe market investors underestimate the value of their firm and thus hesitate to raise funds from the financial markets. Several empirical studies, such as Lin et al. (2008) and Hackbarth (2008), confirm this theoretical prediction and show that managerial optimism can explain pecking order preferences in financial decisions.

Barros and Silveira (2009) further show that firms with optimistic managers will choose a more aggressive financing policy, resulting in firms that have higher leverage ratios, affecting their capital structure.

Managers may invest in negative NPV projects due to self-interest. This agency cost between managers and shareholders may thus cause overinvestment, resulting in investment distortions. The existence of information asymmetry between a firm’s managers and outsiders will cause distorted investments, thus reducing the efficiency of capital investments (La Rocca La Rocca, and Gerace, 2008).

Marciukaityte, and Szewczyk, (2011) examined whether discretionary accruals of firms obtaining substantial external financing can be explained by managerial manipulation or managerial over optimism. They found out that discretionary current accruals peak when firms obtain equity financing. However, we also find that discretionary accruals peak when firms obtain debt financing. Furthermore, discretionary accruals are higher for firms that rely on debt financing rather than equity financing. The results are robust to controlling for firm characteristics, excluding small and distressed firms, and using alternative measures of discretionary accruals. These findings supported the hypothesis that managerial over optimism distorts financial statements of firms.

Gombola and Marciukaityte, (2007) compared long-run stock performance following debt financing and equity financing for a sample of rapidly growing firms. They found out that if managers are subject to overly optimistic predictions for their asset acquisitions, they are more likely to finance asset growth by debt rather than by equity. The managerial over
optimism hypothesis predicts worse long-term performance for debt-financed asset acquisitions than equity-financed asset acquisitions. If, on the other hand, managers take advantage of “windows of opportunity” for issuing equity, we expect worse performance following equity issuance than following debt issuance. Consistent with the managerial over optimism hypothesis, we find that debt financing is followed by significantly worse stock performance than equity financing. Managerial over optimism seems to be a significant factor affecting the choice between debt and equity financing and post-financing stock performance.

Kuchler (2012) classified CEOs as overoptimistic based on their option exercise behavior, and found that overoptimistic CEOs are more likely to pay with cash when market-wide valuations are (moderately) above their long-term trend, but not when market valuations are low. In contrast to rational CEOs, overoptimistic CEOs view their stock as overly costly and prefer cash payment, even during times of high market valuation. He showed that stock, but not cash acquisitions of overoptimistic CEOs therefore outperform those of rational CEOs during times of high market valuation. These findings suggested an important interaction between CEO over optimism and market misevaluation when analyzing corporate decisions such as the method of payment in acquisitions.

In Malmendier and Tate (2008) opinion “if CEOs are too optimistic about the value they can generate, then stock and options are not helpful in improving corporate decision-making. Overconfident CEOs do not need incentives to maximize the market value of the firm’s equity. Options could even push them towards risk-loving behavior and investments which are riskier (and lower NPV) than shareholders prefer, especially given that the CEOs already overestimates the expected value of those “gambles”.

Optimistic CEOs also use less external finance, especially equity (Malmendier et al. (2011)), and finance relatively more with short-term debt (Graham et al. (2013)). The investment of firms with overoptimistic managers (as proxied by voluntarily retaining equity-like claims in the firm), is more sensitive to cash flow (Malmendier and Tate, 2008). This suggests that such managers view their firm as undervalued, making external capital seem expensive to them.
Smith (2015) analyzed two key aspects of entrepreneur strategic choice of financing: the role of financial leverage in the early financing of new high-tech firms and the relationship between initial financing choice and subsequent innovation trajectory. The researcher used the micro data in the confidential Kauffman Firm Survey (KFS) dataset, a panel of nearly 5,000 US firms started in 2004. The researcher exploited the role of entrepreneurial optimism to discern the relationship between debt financing and innovation outcomes. Results show that optimistic entrepreneurs choose higher levels of debt financing relative to equity in keeping with behavioral finance expectations. The results suggest that for young, private firms in high-tech industries, i.e. those that are most information-opaque, access to different sources of financing may serve to provide greater organizational slack and facilitate innovation.

Balasuriya, Muradoglu, and Ayton, (2010) developed three heuristics to measure financial optimism: financial expectation, a priori optimism, and a posteriori optimism. The study found out that financial optimism has a significant positive effect on risk taking behavior. Optimistic investors choose risky portfolios over risk-free portfolios for their investments and have higher personal debt borrowing. They used more than six million observations from the British Household Panel Survey covering the period 1991 to 2007 in the analysis. Optimistic, pessimistic and neutral respondents have significantly different demographic characteristics. Optimists are significantly younger, more likely being male, have higher educational qualifications, more likely to have business ownership, borrow more personal debt and take on a larger mortgage than pessimists. However, they also have a lower accumulated financial wealth and higher average unemployment rate than people who are pessimistic or neutral towards their financial situation.

Balasuriya, (2012) claim optimism about reaching goals could sustain motivation and help individuals to overcome obstacles. But at same time, optimistic biases lead to the neglect of risks and could do harm. They find research in public health often finds that people who believe that their risk is lower than their peers are less likely to take precautions than those who acknowledge personal risk. In assessing the likelihood of future negative events, it is not so much that individuals believe that negative events will not happen, but rather that these events are unlikely to happen to them.
Managers’ decisions are affected by the way their attention is focused on critical performance targets and managers may overestimate the probability of success and underestimate the risk of a decision. Managers are “optimistic” when they systematically overestimate the probability of good firm performance and believe capital markets undervalue their firm’s risky securities therefore they may decline positive net present value projects that must be financed externally. Optimistic managers might also invest in negative net present value projects even when they are loyal to shareholders (Balasuriya, 2012).

Hackbarth (2008) found that optimistic managers overestimate corporate assets’ growth rate and underestimate the assets’ riskiness. They tend to choose higher debt levels and issue new debt more often compared to otherwise identical unbiased managers. Since the managers believe that equity is more underpriced than debt, equity is the last resort for funding projects following internal capital and debt.

Optimistic bias in relative ability is one explanation for the high amount of business startups and failures. They created an experimental setting with basic features of business entry situations. In the experiments, most subjects who enter think the total profit earned by all entrants will be negative, but their own profit will be positive. These findings are consistent with the prediction that optimistic bias leads to excessive business entry (Tor, 2013).

Nofsinger (2007) argue that when social mood is high and more people are optimistic, some of these people will start businesses. When social mood is low and most people are pessimistic, thus fewer entrepreneurs have the confidence to start a business. Hence, the number of business starts reflects the level of social mood.

Bucchianeri and Minson (2013) present a model of how investors form expectations of future earnings. Their model predicts that stock prices overreact to consistent patterns of good or bad news. After the announcements of series of good news, the investor becomes overly optimistic that future news announcements will also be good and hence overreacts, causing stock prices to increase. If subsequent news contradicts his optimism, the investor will achieve lower returns. (Bucchianeri and Minson 2013) also predicts stock prices under react to earnings announcements. They suggest that investors might use annual earnings numbers over five to seven years to estimate the growth rate in reality. If earnings have grown rapidly
over the past five years, an investor might become over-optimistic about the future growth rates. Holding the estimated long-run growth rate of earnings constant, investors might under react to the quarterly earnings announcement.

2.4.3 Anchoring and Ranking of Financing Decisions

Ngode (2012) in a study to determine the effect of behavioral biases on the mutual fund choices by investors, anchored in four specific objectives. These included the effects of: the disposition effect behaviour, the narrow framing behaviour, the overconfidence behaviour and the lottery stock preference behaviour on investors’ mutual fund choices. The study highlights evidence of the existence of behavioral biases of mutual fund choices by investors in Kenya. It also indicated that investors exhibit a positive bias, consistent with earlier studies carried on the same subject.

A study by Leung and Tsang (2011) on anchoring and loss aversion in the housing market and the implications on price dynamics was carried out in Hong Kong. They used 28 housing transaction data provided by the Economic Property Research Center (EPRC) as their main source of data. Data set of housing transactions from 1992 to 2006 was used. They found out that Price dispersion and volume are positively correlated with the average house price. They observed that when the housing market was in a boom, a larger number of transactions and more disperse prices prevailed. Using a sample of repeated sales, they show that both anchoring and loss aversions are present in the Hong Kong housing market.

Muriithi (2014) showed that subjects will sometimes bias judgments towards the anchor even in events where the anchor is of little value or is irrelevant. The findings explained that the presence of a primary effect in the grounds of the anchoring and adjustment strategies may be the existence of an internal anchor. Thus, despite being expressly aware of the anchoring effect, participants were still unable to avoid it. Traditional finance has developed overtime although not without its deficiencies and the fact that security markets are not affected demand and supply shifts only to regulate the prices, thus developments in Behavioral finance seems to play a role in stock markets that cannot otherwise be explained by the traditional finance models.
Anchoring occurs as investors assume that current prices are about right, putting too much weight on recent experiences (Raines and Leathers, 2011). Gwily (2009) observed that heterogeneous agents make portfolio choice based on expectations that are not rational in conventional sense, but based on one or two simple heuristically rules. Agents keep switching between the rules depending on how profitable the rule was in the preceding period. Investors often fail to do enough research because there is simply too much data to collect and analyze. Instead, they take action based on a single factor figure that should have little or no bearing on their decision, while ignoring more important information (Chandran, 2008).

Murithi, (2014) sought to establish whether anchoring had an effect on investment decisions of individuals in Kenya. The study established that individual investment decisions are affected by anchoring behavior and that decisions are affected by experience of their past performance suggesting the effect of anchoring.

Jetter and Walker (2016) analyzed 12,596 wagering decisions of 6,064 contestants in the US game show Jeopardy, focusing on the anchoring phenomenon in financial decision-making. They found that contestants anchor heavily on the initial dollar value of a clue in their wagering decision, even though there exists no rational reason to do so. More than half of all wagers occur within $500 of the initial dollar value, although the maximum possible wagering value averages $5,914. This anchoring phenomenon remains statistically significant on the one percent level, even after controlling for scores, clue category, time trends, and player-fixed effects. When exploiting within-player variation only and implicitly controlling for a host of individual behavioral attitudes and preferences, raising the anchoring amount by 10 percent translates to an increase of 3.1 percent in the wager. In terms of magnitude, anchoring is marginally more pronounced for women with an elasticity of 0.34 versus 0.28 for males. Finally, this paper also investigates anchoring among children and teenagers. We find little evidence for anchoring among children under the age of 13, but the effect begins to emerge for teenagers and further manifests itself among college students. Overall, our findings suggest anchoring plays a substantial role in financial decision-making under pressure.
According to Englich, Mussweiler and Strack (2006) the research found that experts (those with high knowledge, experience, or expertise in some field) were more resistant to the anchoring effect. Since then, however, numerous studies have demonstrated that while experience can sometimes reduce the effect; even experts are susceptible to anchoring. In a study concerning the effects of anchoring on judicial decisions, researchers found that even experienced legal professionals were affected by anchoring. This remained true even when the anchors provided were arbitrary and unrelated to the case in question.

Kaustia et al. (2008) and students and investment professionals anchor future expectations of stock returns to prior performance. This effect becomes smaller with experience and expertise, but does not disappear. Further, Liao et al. (2013) found foreign investor trading behavior to be robustly related to previous investing behavior. Closely related, Bucchianeri and Minson (2013) found evidence for anchoring in the US real estate market.

### 2.4.4 Regret Aversion and Ranking of Financing Decisions

Reb (2008) conducted a study on the effect of regret aversion on decision process quality: In his study, through the five experiments conducted, Reb examined the effect of making regret salient on decision process quality. The results suggest that regret aversion can lead to better, in the sense of more careful, decision making. Implications of the findings and suggested studies were presented.

A study on the effect of gamblers fallacy on investors conducted by (Wera, 2006) showed that most investors at NSE will gamble with hope of breaking even by holding the stock for a month. This indicates that all investors are risk averse. Connolly and Reb (2008) suggested that self-blame regret can be either option regret, the outcome of selecting an unjustifiable option, or decision process regret, the result of involving in an unjustifiable decision process. The latter could, refer to a decision maker not information before choosing which employment offer to accept.

Reb (2008) believes that anticipatory regret is mostly functional, leading to vigilant decision making. Thus, individuals feeling anticipatory regret will be more motivated to search for additional options or information concerning existing options and perform a more careful comparison of their options. Reb however argues that, in extreme cases, anticipatory regret
can lead to dysfunctional procrastination and decision avoidance. Findings in a study by Li, et al., 2012 reveal that reproducing causes selectively erased loss aversion in men and in contrast the self-protective causes led both men and women to become more loss-averse. Overall loss aversion come into sight to be sensitive to evolutionarily-important reasons, telling that it may be a domain-specific bias operating according to an adaptive logic of recurring threats and opportunities in different evolutionary domains. Research shows that the classic bias of loss aversion make worse, erased, and even reversed when the decision context is the evolutionarily-important domain of mate-seeking (Li, 2006).

Babajide et al., (2012) conducted an empirical study about investors’ behavioral biases on the Nigerian security market. The study found strong evidence that loss aversion bias exist among Nigerian investors. A weak negative relation between the bias and stock market performance is also established. Mbaluka, et al., (2012) examined the behavioral factors namely framing and loss aversion effects on investors’ decision-making process at the Nairobi Securities Exchange, Kenya. The study found out that investors are frame dependent and loss-averse.

In a study the large extent of loss aversion revealed by the loss adverse choices, the average loss premium is positive for most choice situations. Female subjects exhibit both a more frequent occurrence and a larger extent of loss aversion. This study finds a systematic relationship between loss attitude and assessment probability (Bashir, Rasheed, Raftar, Fatima, and Maqsood, 2013).

The results of another study reveal that the pattern predicted by the loss aversion assertion emerges only under very specific conditions. Losses appear to loom larger than gains in some environments but not in others. These and similar results can be captured with the assertion that the exact effect of losses is not a result of a stable value function rather than the effect of losses might depend on the similarity of the current decision environment to past experiences (Ert and Erev, 2010).

A consequence of risk aversion is that managers may spend excessive amount of resources on activities which reduce the riskiness of firm returns or pass up valuable but high risk
investment opportunities thereby causing shareholders opportunity losses (Guay *et al*., 2006). This is the risk-related agency problem as viewed by traditional agency theory.

### 2.4.5 Mental Accounting and Ranking of Financing Decisions

Mental accounting in financial decision making is frequently observed in the construction of portfolios. According to rational portfolio theory, investors should only care about the expected utility of their portfolios and not about the specific portfolio components (von Neumann and Morgenstern, 1947 and Savage, 1954). In contrast, a tendency of investors to split up their investments into a safe account, designed for securing the wealth level, and a risky account for speculation is often observed. Shefrin *et al*., (2008) report that mutual fund companies often recommend constructing portfolios as pyramids of assets with cash in the bottom layer, bonds in the middle layer, and stocks in the top layer. Such a behavior is captured in the behavioral portfolio theory (BPT-MA).

Aduda, (2012) while conducting the study on the behaviour and financial success of investors in the selling and buying of shares of companies listed at the NSE, Kenya with the first objective of their study being, to find out how individual investors make their investment decisions, they found out that, influence from friends (3.65 on Likert of 1-5), famous ideas in the market (3.58) and from the most recent share cost movement (3.53) were indications of the behaviour in National Stock Exchange.

A study on the impacts of Mental Accounting on Sales Decisions of Stock owners in Tehran Stockholders conducted by (Bilal, *et al*., 2013) showed that investors cluster sales of wins over different days and sales of losses on the same day. The study also showed that the loss or gain on the transaction is the way to the decision method for the sale of stock by investors and the decisions made by the individual investors is in line with the mental accounting principles. The study also showed that individual investors put together all the losses and separate the profits.

Loktionov, (2009) examined how mental accounting of multiple outcomes affects the behaviour of market participants in various fields of finance. However, there has been no theory that completely sorts out the investors' behaviour of for mental accounting in the case of several exposure units.
Kaustia (2004) conducted a study on market-wide impact of the disposition effect. The study evaluated the merits of investor loss aversion through trading volume on the IPO. In this study the existence of loss aversion impact on the New York Stock Exchange investors was investigated. The findings has shown that unless the IPO price is less than the IPO trading level will be lower than normal and only on condition that when IPO price is more than the initial price offer then the trading volume will be raised.

In their behavioral life-cycle hypothesis, Shefrin and Thaler (2008) used mental accounting as a description of how people code and impose restrictions on monetary assets. According to this theory, people categorize assets in three mental accounts: current income, current assets, and future income. An important implication for economic theory is that the principle of fundability of money is violated (Thaler, 2008).

Agbato (2016) found that a larger percentage would buy a new theater ticket if they had lost the equivalent amount of money as compared to the percentage of subjects that would replace a lost theater ticket. As an explanation of these results they suggested that subjects evaluated the loss of the ticket and the price of a new ticket in the same mental account while the loss of money and the price of a ticket were evaluated separately. This coding of outcomes into mental accounts is specific to the decision to be made. It can be distinguished from the mental accounts referred to by Shefrin and Thaler (2008) in their behavioral life-cycle hypothesis which instead are prior held mental accounts that are part of people’s financial knowledge. Although these on-going mental accounts have attracted some research (Thaler, 2008) the impact they have no decisions have not been extensively investigated.

2.4.6 Conservatism and Ranking of Financing Decisions

Mohammadi et al., (2013) conducted a study on effect of Conservatism on the Accounting Information Quality (AIQ) and Decision Making of the stakeholders and the Firms Listed on the Tehran Stock Exchange. The study mainly aimed at investigating the effect of conservatism on the quality of the accounting information and decisions of the stakeholders and the Tehran listed firms. To achieve this objective, the effect of conservatism on the characteristics of relevancy, reliability and timeliness of the accounting information has been discovered. The main goal of the study has been defined and examined in terms of one
hypothesis along with the other objectives. The present paper is a study applied using cross-sectional correlations. The required data is obtained from all the firms listed on the Tehran Stock Exchange (TSE) for 6 years covering the years 2006 to 2011. The samples are selected by a filtering technique and finally 300 firms are selected. The data was analysed by using OLS. The findings indicated that there is a relationship between conservatism and information quality. It is also documented that conservatism positively influences on each characteristic of relevancy, reliability and timeliness.

A study on the role of Accounting Conservatism on the Quality of Financial Statements conducted by (Kordlouie, et al, 2013) showed that there is a significant positive relationship between the quality of financial reports and accounting conservatism.

Nahandi, Hasanzadeh and Mahmudzadeh (2012) conducted a study on the relation between mechanisms of firms’ strategies and conservatism on the financial reporting. Conservatism has the ability to positively impact the strategies of the firms since it reduces the level of investment, forces the management to report losses accrued from selling assets and makes the managers to avoid the continuation of investment on projects with negative current value.

There is a contrary relationship between uncertainty of bankruptcy and unconditioned conservatism according to (Biddle, Ma and Song 2010). This can result to deliberation significance of conservatism rather than facing the encounter of the company. Sun and Wang (2011) stated that creditors request for employment of accounting conservatism due to the breaking of the promise by the managers for the giving up of rights to them.

Basly, (2007) in a study examined the effectiveness of accounting conservatism in monitoring and controlling managers’ decision making regarding opportunistic investment. We find that accounting conservatism is negatively associated with over-investment. This suggests that conservative accounting policies serve as an efficient monitoring and controlling mechanism for opportunistic investment decisions. We also find a stronger negative association between accounting conservatism and over-investment in firms with low managerial ownership and low ownership by foreign investors. The results of our analysis imply that the impact of timely loss recognition on over-investment is more significant in firms with high agency problems and weaker monitoring ability, and that this factor
complements other governance mechanisms, thereby helping to control managers’ myopic investment decisions. We provide evidence for a role of financial disclosure in mitigating managers’ opportunistic over-investment decisions. Though managers’ over investment decisions are motivated by private gain, which reduces firm performance and compromises investors welfare, limited research exists on the role of financial information in alleviating such behavior. We suggest that timely loss recognition in financial statements can serve as an effective monitoring mechanism to aid in control of managers’ myopic over-investment.

Lee, (2010) investigated whether financial reporting conservatism is related to firms’ financial flexibility and their financial decisions. If conservatism facilitates monitoring and governance by capital providers, they should be more willing to extend financing and increase firms’ access to capital. However, because conservatism leads to systematic understatement of net worth and weakens the appearance of firms’ balance sheet strength, it may reduce firms’ access to capital. This study tests these two opposing views of the relation between conservatism and financial flexibility and its resultant effect on corporate financial activities. He found that firms with greater reporting conservatism exhibit less financial flexibility in their corporate liquidity management, their debt or equity issuance decisions, the sensitivity of their investments to financing constraints and their pay out policies. Overall, the results suggested that while firms enjoy lower debt contracting costs and mitigate agency conflicts by reporting conservatively, they forgo some financial flexibility in future access to capital which affects their financial decisions.

Zhang (2008) finds that conservatism is associated with lower initial interest rates and higher likelihood of covenant violations following large negative shocks, which she interprets as suggestive of the contractual benefits of conservatism to both lenders and borrowers. Subsequent work also finds empirical support for the role of conservatism in mitigating firms’ and debt holders’ conflicts in private debt markets (Beatty, Weber and Yu, 2008; Wittenberg-Moerman, 2008), public debt markets (Nikolaev, 2010), and syndicated loan markets (Ball, Bushman and Vasvari, 2008).

LaFond and Watts (2008) posit that conservatism mitigates information asymmetry between managers and shareholders and limits managers’ ability to manipulate and overstate financial performance. They find that accounting conservatism increases in response to an increase in
information asymmetry. Francis and Martin (2010) and Srivastava and Tse (2009) find that acquisition profitability and the likelihood of early termination of unprofitable projects are increasing in timely loss recognition, respectively. These results are consistent with the idea that conservatism provides important information to shareholders that disciplines and constrains opportunistic managers” incentive to engage in value-destroying activities.

Ishida (2014) examines how unconditional conservatism and conditional conservatism affect Japanese firms’ financing activity, in particular, borrowing money from banks. This study obtained that practicing a higher level of unconditional conservatism borrow more money from banks under the condition of facing a funding shortfall and the degree of their conditional conservatism does not significantly relate with the degree of proceeds from loans. In addition, he finds that firms having a strong relationship with the main bank benefit from unconditional conservatism and conditional conservatism is useful for firms having a weak relationship with the main bank. Further, economic consequences of conservatism vary across institutional factors and suggests the possibility that the nature of conservatism has been misjudged by focusing only on the accounting system when considering its economic consequences.

Balakrishnan, Watts, and Zuo, (2016) examines the effect of accounting conservatism on firm-level investment during the 2007 to 2008 global financial crisis and find that firms with less conservative financial reporting experienced a sharper decline in investment activity following the onset of the crisis compared to firms with more conservative financial reporting. This relation was stronger for firms that were financially constrained, faced greater external financing needs, or had higher information asymmetry. They also find that more conservative firms experienced lower declines in both debt raising activity and stock performance. The evidence suggests that accounting conservatism reduces underinvestment in the presence of information frictions.

Ghavi, Najafi, and Arfai (2013) investigated the relation between accounting conservatism and flexibility in financial decisions, such as liquidity, decisions on stock or debt issuance and the sensitivity of investment cash flows. Therefore, some hypotheses were tested during the period 2001 to 2010. The statistical sample consisted of 100 companies operating indifferent parts of Tehran Stock Exchange which are selected considering five limitations
and by a screening method. The test procedure which was analyzed using E-views software is correlation analysis, and the relationship between dependent and independent variable is estimated using panel data. The results indicate that at time interval of the study and at confidence interval of 95% in the manufacturing companies at Tehran Stock Exchange Market, conservative accounting has a direct and significant relationship with liquidity management, and a significant and inverse relationship with the sensitivity of investment cash flows. In addition, there is not any significant relationship between conservative accounting, decisions on the distribution of cash dividends and decision to issue shares and using debt.

2.4.7 Personal Skills and Competence and Ranking of Financing Decisions

Graham, Harvey, and Huang (2009) conducted a study on finance managers’ competence, trading frequency, and home bias. Managers are more willing to make decisions on their own judgments when they feel skilful or knowledgeable. Finance managers who feel competent make decisions often and have a more internationally diversified portfolio.

Nkundabanyanga, Opiso, Balunya, Nkote, (2015) conducted a study to establish the relationship between managerial competence, managerial risk-taking behaviour and financial service outreach of microfinance institutions (MFIs). In this cross-sectional and correlational study, the authors surveyed 52 branches of MFIs from a population of 60 branches of 20 MFIs in eastern Uganda. Two respondents, a branch manager and a senior loan officer, were the units of enquiry for each branch. The authors put forward and tested four hypotheses relating to the significance of the relationship between perceived managerial competence, risk-taking behaviour and financial service outreach using SPSS version 20. The authors established the hypothesized relationships using Pearson correlation coefficients and obtain a mediating effect of risk-taking behaviour using partial corrections and regression analysis. The results suggest positive and significant relationships between perceived managerial competence, risk-taking behaviour and financial service outreach. However, while the direct relationship between managerial competence and financial service outreach without the mediation effect of risk-taking behaviour of managers was found to be significant, its magnitude reduces when mediation of risk-taking behaviour is allowed. Thus, the entire effect does not only go through managerial competence but majorly also, through risk-taking
behaviour of managers. Szczepańska-Woszczyna, (2013) conducted a study on Managerial Competencies in Time of the financial crisis. Financial crises are common both in organizations and in their environment – they have become a characteristic feature of the operation in the current market conditions. The effectiveness of management in times of the crisis depends largely on organizational competences of managers. Given the escalation of the crisis, crisis management has become an important skill of managers and the crisis is a test of leadership skills. Undoubtedly, in times of the crisis managers are required to be more stress-resistant, to have the ability to make quick and non-standard decisions, often under conditions of information uncertainty, as well as the ability to take risks.

Managerial competency is one of the rare, valuable, and difficult to imitate resources to enable firms to attain superior financial stability. It involves knowledge, skills, personal traits and abilities (Kerr and Werther, 2008), which are predictors of success in the job that in turn affect the firms’ performance.

According to Herrera (2011), there are several key competences a manager needs during the crisis. They are both functional and personal. Functional competencies mean that the manager has mastered various aspects of organization management and his or her role in the organization and responsibility. These include: the ability to create strategies, to evaluate the set objectives, operational management skills, information management skills, and resources management skills (especially human resources). Personal competencies combine understanding of his or her internal capabilities, the potential with mental and physical strength (self-awareness, self-evaluation, physical conditions, and mental conditions). Based on the findings of studies conducted among managers of the U.S. companies, Herrera presents a set of competencies that managers need to have in times of crisis: leadership skills, skills to manage, control and help employees, the ability to quickly resolve unexpected problems, resistance to a long-term physical and mental effort as well as to stress, the ability to recognize in unusual situations what is the most appropriate in a given situation, independence, decisiveness and responsibility, professional competence and knowledge of specific issues in crisis management, the ability to organize and coordinate tasks and activities of team members, management skills, ability to use information, knowledge of database systems, the ability to use them to the full extent, knowledge of law, regulations and
other standards that restrict tasks and activities, communication skills, listening skills, understanding information and signals, negotiation skills, influencing and persuasion skills, the ability to take feedback, to formulate decisions and commands clearly and concisely, and experience in handling non-standard situations.

2.5 Chapter summary

The chapter introduced the theoretical framework by explaining the effect of behavioral biases on financing decisions. The theoretical framework was developed by reviewing relevant theories which inform the discussion on behavioral biases and financing decisions. This chapter also demonstrates the possible effect of managerial overconfidence, optimism, anchoring, regret aversion; mental accounting and conservatism on financing decisions. The conceptual framework developed outlines the dependent, independent, and moderating variables. The chapter closes by reviewing relevant literature based on the research questions. The next chapter discusses the research methodology used in this study describing the methods and procedures used to carry out the study.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The research methodology adopted is presented in this chapter. The study population, sample and the sampling techniques, data collection methods, data analysis and data presentation methods employed in the study are discussed herein.

3.2 Research Philosophy

Research philosophy is a belief about the way data pertaining to a specific phenomenon is gathered, analysed and consumed (Sekaran and Bougie, 2013). It is a framework for contextualizing the way a study ought to be conducted to ascertain the facts (Pat, 2006). Creswell (2014) provides a framework of four philosophies that can be applied when conducting contemporary research in business topics. These are: positivism, critical realism, constructionism and pragmatism. It is argued that the most important determinant of which position to adopt is the research questions.

Constructionism is the recognition that reality is a product of human intelligence interacting with experience in the real world. The philosophy behind constructivist pedagogies is that humans can understand only what they have themselves constructed (Har, 2005). In attempting to make sense of the social world, social constructionists view knowledge as constructed as opposed to created (Andrews 2012).

In critical realism, the researcher is objective and exists independently of human mind but interpreted out of social situation (Creswell 2014). Critical realists are thus concerned with ontological depths and identifying causally efficacious mechanisms. These mechanisms are considered relatively enduring, and bear more weight within a constructionist ontology and epistemology. Critical realists argue for a shift from prediction to explanation, the use of abstraction, and reliance on interpretive forms of investigation (Creswell 2014).

Pragmatism concerns thinking that choosing between one position (epistemology, ontology, or axiology) and the other is somewhat unrealistic in practice (Creswell 2014). Pragmatist
philosophers generally reject attempts to understand human knowledge by appeal to some special set of "foundational" beliefs that support all the others. For pragmatism, both specific beliefs and general methods of inquiry should be judged by their consequences, by their usefulness in achieving human goals. Although pragmatists stress the role of knowledge in guiding action and solving practical problems, it is an error to see pragmatism as claiming that the direction of research, or choices between rival theories, should be guided substantially by practical or commercial demands (Creswell 2014).

This research adopted a positivism approach. According to Creswell (2014), Positivism applies where the observer is independent, external and objective of that being researched. Blumberg, Cooper and Schindler (2014) posit that, positivism rests on measurable observations that lend themselves to statistical analysis. As a philosophy, positivism is in harmony with the realist view that information emanates from human experience. It has an atomistic, ontological opinion of the world as encompassing distinct, evident elements and events that interrelate in an obvious, determined and regular manner (Creswell, 2014).

The principles of positivism include an observable social reality and only observable phenomena to produce credible data (Saunders, Lewis and Thornhill, 2009). Theory creates hypotheses that can be tested, whilst research tests the theories and provides material for the development of laws (Bryman and Bell, 2007). Ideally, the researcher is independent and should neither affect nor be affected by the subject of research, the end product of research generate generalizations similar to those that are produced by natural scientists, and positivism emphasizes quantifiable observations that are used for statistical analysis (Remenyi et al, 2005).

The study identified and described associations, as well as cause and effect relationships where positive findings form the basis for additional research. Data which does not support their theory may result in necessary revisions followed by additional testing. The study adopted a quantitative, multiphase research taking a positivistic approach of building theory from bottom up, considering how knowledge can be produced and argued for.

Positivism was chosen because the study was scientific in nature by attempting to establish how behavioral biases affect ranking of financing decisions. The adoption of positivism
philosophy is because it the study is in line with the notion of development and testing of hypotheses (Blumberg et al., 2014) which is in line with the study (six hypotheses were developed and tested). Further to this, the study applied a scientific method in selecting the sample, in data analysis and drawing of conclusions (Christensen, Johnson and Turner, 2014).

3.3 Research Design

Research designs are plans that guide the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy providing the glue that holds the research thesis together (Blumberg et al., 2014). A design is used to mould the research, to indicate how all of the major parts of the research project; the samples or groups, measures, treatments or programs, and methods of assignment, work hand in hand to address the central research questions (Trochim, 2006). Research design is a comprehensive plan for data collection in an empirical research project (Blumberg et al., 2014). Research design is the blueprint for empirical research aimed at answering specific research questions or testing specific hypotheses and must specify the following processes, that is, development of instrument, sampling process, pre-test and data collection (Bhattacherjee, 2012; Saunders, et al 2011).

Descriptive correlational research design aims to discover or establish the existence of relationships or associations or interdependence between two or more aspects of situations (Kumar, 2011). Descriptive research designs help provide answers to the questions of who, what, when, where, and how associated with a particular research problem (Blumberg et al., 2014). Descriptive research is used to obtain information concerning the current status of the phenomena and to describe what exists with respect to variables or conditions in a situation. Descriptive research offers accurate and valid representation of the relevant variables that correspond to selected research questions (Creswell, 2014). A correlation is defined as a relationship between two variables. The purpose of using correlations in research is to figure out which variables are connected. Correlational research represents a general approach to research that focuses on assessing the co-variation among naturally occurring variables (Creswell, 2014). The goal of correlational research is to identify predictive relationships by using correlations or more sophisticated statistical techniques (Blumberg et al., 2014).
A descriptive correlational design was adopted in this study. The design was deemed suitable because focus of the study was to determine the extent to which managerial behavioral biases (independent variables) affected ranking of financing decisions (dependent variable). The descriptive approach was also chosen because it gave the researcher the opportunity to use quantitative data in order to find common characteristics about the population or phenomenon that was being studied (Zikmund, Babin, Carr and Griffin, 2010). In this case, data on behavioral biases such as overconfidence, optimism, regret aversion, mental accounting, anchoring, conservatism and ranking of financing decisions was analyzed quantitatively in testing the hypotheses. Lastly, this design was adopted since it describes what exists and subsequent discovery of new facts thus broadens the setting the stage for further studies (Creswell, 2014).

3.4 Target Population

A population can be defined as all people or items with characteristics which one wishes to study (Saunders et al., 2012). According to Blumberg et al., (2014), a population is defined as the sum of all elements which we shall make some inferences. The target population was 192 financial managers who are involved in making financing decision drawn from all the firms listed in NSE. A schedule of the target population is contained in Appendix 3.

3.5 Sampling Design

A sampling design provides a plan that guides how cases are to be selected for observation (Blumberg et al., 2014). The design therefore, maps out the procedure to be followed to draw the study’s sample based on sample size (Saunders et al, 2016). According to Kothari (2006) sampling design refers to the method used to select respondents. The important test of a sample design is how well it represents the population characteristics it implies.

3.5.1 Sampling Frame

A sampling frame is an accessible section of the target population from which a sample can be drawn. It is put together to provide means for selecting the particular individuals of the target population that are to be assessed in the survey (Saunders et al, 2012). The sampling frame consisted of the 192 senior financial managers from the 64 firms listed in NSE (as at
The top three financial managers from each of the 64 listed companies were selected since they are the ones who are involved in financing decision making on behalf of their respective entities.

3.5.2. Sampling Technique

Sampling technique refers to all systems and processes that a researcher uses to select the sample size (Blumberg et al., 2014). Sampling technique can be either probability or non-probability or both probability and non-probability (Bhattacherjee, 2012; Blumberg et al., 2014; Saunders et al, 2012). A two tier sampling was applied in the research; a census at the firm level and purposive sampling at financial manager level resulting with a selection of the top 3 financial managers from each firm. According to Oladipo (2015), a census includes the entire population into a study and it’s convenient when the total population is less than 100. The adoption of a census was also preferred because of its benefits. First, all respondents have the same opportunity to participate, in this case, all the top 3 senior financial managers in the 64 firms listed in the NSE had this opportunity. Secondly, when effectively applied, census surveys are certainly capable of yielding representative results (Saunders et al, 2016; Blumberg et al., 2014).

The financial manager is charged with two key responsibilities; making sound investment decisions and raising capital required to meet investment and operating needs, the financing decisions (Gallagher and Andrew, 2000). Top management is charged with this responsibility hence the selection of the top 3 financial managers in the selected firms.

3.5.3 Sample Size

A sample, according to Kombo and Tromp (2009), is a subsection of the population that has been selected and represents characteristics of a population. A census of all the firms listed in NSE was taken. The top three financial managers from each of the 64 listed firms were included in the sample size. The top financial managers, senior financial managers and middle or supervisory level financial managers from each of the 64 listed companies were included in the sample size.
3.6 Data Collection Methods

Primary data was collected using a structured questionnaire. The questionnaire was presented in two parts. The first part collected demographic data whereas the second part had seven sections, representing the six research objectives and the moderating variable. The questionnaire was closed ended. A five point Likert scale was used to measure the answers of the respondents in the second part of the tool. A commentary section under each research question was also included to allow for additional comments from the respondents. Collection of data was done using drop and pick method of administering a structured questionnaire to respondents. The questionnaire also employed a scenario based approach in testing the variables of study. The questionnaire is among the most popular data collection methods in business studies (Ghayri and Gronthug, 2015). The success strategies deployed included pre-survey contact during which the aim of the study was explained and elaborated to respondents, printing of the questionnaire in full color, precise delivery, follow ups and timely collections as expressed by the opinions of few respondents in the target population.

3.7 Research Procedures

The questionnaire was developed and organized based on the specific objectives of the study to ensure relevance to the research problem. To examine the instruments of data collection a pilot study will be conducted. Pilot testing is a study done before the main research in order to measure the validity and reliability of instruments prior to full data collection (Kothari, 2006). The pilot study was tested on twenty different subjects, five senior financial managers who are key in making financing decisions participated and appropriate revisions made based on the results of the pilot test.

Three research assistant were carefully selected, trained and engaged in the administration of the questionnaire to selected respondents. The researcher ensured that distribution of the questionnaire was done within a period of two weeks and allowed the respondents two weeks to complete the questionnaire.
3.7.1 Pilot Testing

Prior to using a questionnaire to collect data it should be pretested. The aim of the pretesting is to refine the questionnaire to avoid ambiguity and any other issues in responding to the questions and recording data. In addition, it will enable one to obtain some assessment of the question's validity and the likely consistency of the data that will be collected. Preliminary analysis using the pilot test data can be undertaken to ensure that the data collected will enable the investigative questions to be answered (Saunders et al, 2012).

In this study, the data collection instrument which is a questionnaire was tested on 10% of the sample to ensure that it is relevant and effective. Therefore, twenty respondents (20) were randomly selected from the top financial managers such as group finance director, financial controller and chief accountant.

3.7.2 Instrument Reliability

Reliability is defined as the repeatability, stability or internal consistency of a questionnaire (Jack and Clarke, 1998). Cronbach’s alpha was used to test the reliability of the measures in the questionnaire (Cronbach, 1995). According to Blumberg et al., (2014), Cronbach’s alpha has the most utility for multi-item scales at the interval level of measurement, requires only a single administration and provides a unique, quantitative estimate of the internal consistency of a scale.

Baker, Veit and Powell (2001) states that the size of a sample to be used for piloting testing varies depending on time, costs and practicality, but the same would tend to be 5-10 per cent of the main survey. According to Blumberg et al., 2014, the respondents in a pilot test do not have to be statistically selected when testing the validity and reliability of the instruments.

The data collection instrument, a questionnaire, was tested on 10% of the sample of the questionnaires to ensure that it is relevant and effective. Reliability was tested using questionnaire duly completed by twenty (20) randomly selected respondents. These respondents were not included in the final study sample to control for response biasness.
The questionnaire responses were keyed into a statistical package for social sciences (SPSS) and Cronbach’s alpha coefficient generated to assess reliability. The closer Cronbach’s alpha coefficient is to 1, the higher the internal consistency reliability (Sekaran, 2006).

**Table 3.1: Reliability Tests**

<table>
<thead>
<tr>
<th>Number</th>
<th>Variable</th>
<th>Cronbach's Alpha</th>
<th>No. of Items</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Overconfidence</td>
<td>0.701</td>
<td>9</td>
<td>Reliable</td>
</tr>
<tr>
<td>2.</td>
<td>Managerial optimism</td>
<td>0.747</td>
<td>9</td>
<td>Reliable</td>
</tr>
<tr>
<td>3.</td>
<td>Regret Aversion</td>
<td>0.749</td>
<td>6</td>
<td>Reliable</td>
</tr>
<tr>
<td>4.</td>
<td>Managerial Anchoring</td>
<td>0.864</td>
<td>5</td>
<td>Reliable</td>
</tr>
<tr>
<td>5.</td>
<td>Mental Accounting</td>
<td>0.706</td>
<td>5</td>
<td>Reliable</td>
</tr>
<tr>
<td>6.</td>
<td>Managerial Conservatism</td>
<td>0.716</td>
<td>5</td>
<td>Reliable</td>
</tr>
<tr>
<td>7.</td>
<td>Personal Competency</td>
<td>0.732</td>
<td>6</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

The Cronbach alpha for the objective 1, 2, 3, 4, 5, 6 and 7 was 0.701, 0.747, 0.749, 0.864, 0.706, 0.716, and 0.732 respectively which is above the threshold of 0.7 was achieved during pilot testing. Therefore, all sections of the questionnaire relating to the entire construct were reliable. Items deleted revealed that statistically there was no need to adjust any of the sections of the questionnaire. However, there was further refining of the data collection instrument in the following areas: Aligning of the expected responses (Likert scale) in line with the behavioral inclination of the respondent so that ranking of decisions is consistent, serializing of all questionnaires, inclusion of extra comments section below the closed ended questions, inclusion of respondents’ contact details though optional.

### 3.7.3 Instrument Validity

Validity refers to whether a tool is measuring what it purports to measure (Bryman and Cramer 1997). It describes validity as the degree of congruence between the explanations of the phenomena and the realities of the world. While absolute validity is difficult to establish, demonstrating the validity of a developing measure is very important in research (Bowling, 1997). This study used both construct validity and content validity.

Construct validity is the appropriateness of inferences made based on observations or measurements (often test scores), specifically whether a test measures the intended construct.
Constructs are abstractions that are deliberately created by researchers to conceptualize the latent variable, which is the cause of scores on a given measure (although it is not directly observable) (Bryman and Cramer 1997). Construct validity examines the question: Does the measure behave like the theory says a measure of that construct should behave. Construct validity is essential to the perceived overall validity of the test. For construct validity, the questionnaire was divided into several sections to ensure that each section assessed information for a specific objective, and ensured that the same closely ties to the conceptual framework for this study (Saunders et al, 2016).

Content validity, sometimes called logical or rational validity, is the estimate of how much a measure represents every single element of a construct. Content validity is often seen as a prerequisite because it is a good indicator of whether the desired trait is measured. If elements of the test are irrelevant to the main construct, then they are measuring something else completely, creating potential bias (Saunders et al, 2012). To ensure content validity, the questionnaire was subjected to thorough examination by 5 randomly selected financial managers. They were asked to evaluate the statements in the questionnaire for relevance and whether they were meaningful, clear and loaded. Based on the evaluation, the instrument was adjusted appropriately before subjecting it to the final data collection exercise. Their review comments were used to ensure that content validity is enhanced.

3.7.4 Administration of the Instrument

The questionnaires were distributed at the respective offices of the respondents in the month of July 2016. The respondents were requested to complete the questionnaire and to return the respective organizations reception which served as the central collection point. Regular reminders were sent through the central contact person in each organisation. Completed questionnaires were collected after every two weeks through to the end of September 2016.

3.7.5 Ethical Considerations

To maintain high standards of ethics, the researcher upheld a high level of confidentiality, anonymity and privacy. Personalized information like name and respondent’s telephone and email contacts were made optional in the questionnaires. In addition, requisite permission to conduct research was obtained University through the Chandaria School of Business dean`s
office and National Commission for Science, Technology and Innovation (NACOSTI). This assured the respondents that the research was purely for academic purpose. The researcher also obtained consent from the respondents and assured them that their responses would not be shared among their peers either.

3.8 Data Analysis Methods

Data is a collection of figures and facts relating to a particular activity under study. For data to be useful, it must provide answers to the research questions (Blumberg et al., 2014).

3.8.1 Data Preparation

Collected data was prepared in readiness for analysis by editing, handling blank responses, coding, categorizing and keying into statistical package for social sciences (SPSS) computer software for analysis. SPSS and Stata software programmes were used to produce frequencies, descriptive and multinomial logit regression which was used to derive conclusions and generalizations regarding the population. The descriptive statistics were frequencies, mean scores and standard deviation. The inferential statistics were ANOVA analysis, post hoc analysis and multinomial logit regression analysis.

The multinomial logit regression results were used to reveal the overall model significance. The calculated F statistic was compared with the tabulated f statistic. A critical p value of 0.05 was also be used to determine whether the overall model was significant or not. The individual regression coefficients were checked to see whether the independent variables significantly affected the financing decisions. A critical p value of 0.05 was also used to determine whether the individual variables are significant or not.

3.8.2 Multinomial Probit and Logit Model Specification

The multinomial probit and logit models are two types of categorical regressions which are more advanced than the binary probit or binary logit models.

3.8.2.1 Multinomial Probit

In statistics and econometrics, the multinomial probit model is a generalization of the probit model used when there are several possible categories that the dependent variable can fall
into. As such, it is an alternative to the multinomial logit model as one method of multiclass classification. It is not to be confused with the *multivariate* probit model, which is used to model correlated binary outcomes for more than one independent variable.

It is assumed that we have a series of observations \( Y_i \), for \( i = 1 \ldots n \), of the outcomes of multi-way choices from a categorical distribution of size \( m \) (there are \( m \) possible choices). Along with each observation \( Y_i \) is a set of \( k \) observed values \( x_{i,1}, \ldots, x_{i,k} \) of explanatory variables (also known as independent variables, predictor variables, features, etc.).

The multinomial probit model is a statistical model that can be used to predict the likely outcome of an unobserved multi-way trial given the associated explanatory variables. In the process, the model attempts to explain the relative effect of differing explanatory variables on the different outcomes.

Formally, the outcomes \( Y_i \) are described as being categorically-distributed data, where each outcome value \( h \) for observation \( i \) occurs with an unobserved probability \( p_{i,h} \) that is specific to the observation \( i \) at hand because it is determined by the values of the explanatory variables associated with that observation. That is:

\[
\Pr[Y_i = h|x_{1,i}, \ldots, x_{k,i}] = p_{i,h}, \text{ for } i = 1, \ldots, n,
\]

**Latent variable model**

\[
y_i^{1*} = \beta_1 X_i + \varepsilon_1 y_i^{2*} = \beta_2 X_i + \varepsilon_2
\]

Where:

\( \varepsilon \sim N(0, \Sigma) \)

Then

\[
Y = \begin{cases} 
1 & \text{if } y_i^{1*} > y_i^{2*}, \ldots, y_i^{m*} \\
2 & \text{if } y_i^{2*} > y_i^{1*}, y_i^{3*}, \ldots, y_i^{m*} \\
\ldots & \ldots \\
m & \text{otherwise}
\end{cases}
\]
That is:

\[ Y_i = \arg \max_{h=1}^{m} V_i^{h*} \]

\[
\Pr[Y_i = 1|x_{1,i}, ..., x_{k,i}] = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \mu
\]

\[
\Pr[Y_i = 2|x_{1,i}, ..., x_{k,i}] = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \mu
\]

\[
\Pr[Y_i = 3|x_{1,i}, ..., x_{k,i}] = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \mu
\]

Where:
1= internal capital
2=Debt capital
3= Equity capital

3.8.2.2 Multinomial logit regressions

The general multinomial logistic regression model is given as:

\[ P_{ij} = \frac{e^{X_{ij}^T \beta}}{1 + \sum_{j'} e^{X_{ij'}^T \beta}} \]

Where \( j' \) is the reference financing decision Internal capital

To model which of the three financing decision was preferred by finance mangers given overconfidence, over optimism, regret aversion, anchoring, mental accounting and conservatism.

\[ \log \frac{\Pr(Y=j)}{\Pr(Y=j')} = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \epsilon \]

Where \( j' \) is the reference financing decision Internal capital

\[ \log \frac{\Pr(Y=1)}{\Pr(Y=\text{internal capital})} = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \epsilon \]

Where I = refers to debt.
\[
\frac{\Pr(Y=2)}{\Pr(Y=\text{internal capital})} = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \epsilon
\]

Where 2 refers to equity

\(X_1=\text{Overconfidence}\)

\(X_2=\text{Over optimism}\)

\(X_3=\text{Regret aversion}\)

\(X_4=\text{Anchoring}\)

\(X_5=\text{Mental accounting}\)

\(X_6=\text{Conservatism}\)

Using statistical software STATA, predictions were made about the probability of a finance manager choosing any of the three financing options due to either of the X variables.

### 3.8.2.3 Choice between Multinomial Probit and Multinomial Logit

Independence of Irrelevant Alternatives (IIA) requires that an individual evaluation of an alternative relative to another alternative should not change if a third (irrelevant) alternative is added or dropped to the analysis. If a finance manager is twice as likely to prefer internal capital to debt, he should remain twice as likely to prefer internal capital to debt even if a third option of financing (equity) is introduced. When IIA is violated, MNL is an incorrectly specified model and MNL coefficients estimates are biased and inconsistent.

The advantage of multinomial probit over multinomial logit is that multinomial probit does not assume the independence of irrelevant alternatives and is easy to compute. The multinomial logit has been the most commonly used model for analysis of discrete choice data. Kropko (2008) indicates that even though MNP is assumed to be more accurate because it doesn’t assume the independence of the irrelevant alternatives (IIA), empirical research which compare MNP and MNL reveal that MNL outperforms MNP in all but the most severe violations of IIA. For this particular reason, this study used MNL.
3.8.2.4 Test for the moderating effect of Personal Competency

The moderating effect was tested using Baron and Kenny (1986) model

\[
\log \left( \frac{Pr(Y=1)}{Pr(Y=internal\ capital)} \right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X^2 X_7 + \mu \\
\]

Model 1

Where;

\( Y_1 = \) Ranking of Financing Decisions
\( X_1 = \) Overconfidence
\( X_2 = \) Over optimism
\( X_3 = \) Anchoring
\( X_4 = \) Regret aversion
\( X_5 = \) Mental accounting
\( X_6 = \) Conservatism
\( X_7 = \) Personal Skills and Competency
\( X = \) Composite of all the Independent Variables (\( X_1 \ldots X_7 \)).

In the model, \( \beta_0 = \) the constant term while the coefficient \( \beta_i = 1 \ldots 6 \) was used to measure the sensitivity of the dependent variable (\( Y \)) to unit change in the predictor variables \( X_1, X_2, X_3, X_4, X_5, \) and \( X_6 \). \( \mu \) is the error term which captures the unexplained variations in the model.

The variables were operationalized as indicated in Table 3.2 below.
<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Independent Variables</th>
<th>Dependent variable</th>
<th>Scale</th>
<th>Measure</th>
<th>Test</th>
<th>Number of Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Overconfidence</td>
<td>Financing decision</td>
<td></td>
<td>Mean score</td>
<td>Multinomial logit (F test/ANOVA)</td>
<td>9</td>
</tr>
<tr>
<td>H2</td>
<td>Over optimism</td>
<td>Financing decision</td>
<td></td>
<td>Mean score</td>
<td>Multinomial logit (F test/ANOVA)</td>
<td>9</td>
</tr>
<tr>
<td>H3</td>
<td>Anchoring</td>
<td>Financing decision</td>
<td></td>
<td>Mean score</td>
<td>Multinomial logit (F test/ANOVA)</td>
<td>5</td>
</tr>
<tr>
<td>H4</td>
<td>Regret Aversion</td>
<td>Financing decision</td>
<td></td>
<td>Mean score</td>
<td>Multinomial Probit (F test/ANOVA)</td>
<td>6</td>
</tr>
<tr>
<td>H5</td>
<td>Mental Accounting</td>
<td>Financing decision</td>
<td></td>
<td>Mean score</td>
<td>Multinomial logit (F test/ANOVA)</td>
<td>5</td>
</tr>
<tr>
<td>H6</td>
<td>Conservatism</td>
<td>Financing decision</td>
<td></td>
<td>Mean score</td>
<td>Multinomial logit (F test/ANOVA)</td>
<td>5</td>
</tr>
<tr>
<td>H7</td>
<td>Personal Skills and Competence</td>
<td>Financing decision</td>
<td></td>
<td>Mean score</td>
<td>Multinomial logit (F test/ANOVA)</td>
<td>6</td>
</tr>
</tbody>
</table>
Research has demonstrated that Likert scales can be broken down adequately as interim scales (Baker et al., 2001; Blumberg et al., 2014; and Kothari, 2006). Allen and Seaman (2013) support regarding Likert scales as interim data with certain somewhat sensible stipulations: The scale should be no less than five and contain have seven classifications. Another case of investigating Likert scales as interim esteems is the point at which the arrangements of Likert things can be consolidated to frame records. In any case, there is a solid caveat to this approach: Most researcher demand such combination of scales pass the Cronbach’s alpha or the Kappa trial of relationship and validity. Rasch analysis can be utilized to break down and enhance Likert scales and also change them into genuine interim scales (Allen and Seaman (2013).

3.8.3 Diagnostic Tests

Before running a regression model pre estimation and post estimation tests were done. The pre estimation test directed for this situation was the multicollinearity test while the post estimation tests were test for heteroscedasticity. This is typically performed to maintain a strategic distance from spurious results.

The Independence of Irrelevant Alternatives (IIA) implies that including or erasing elective result classifications would not influence the chances among the rest of the results. Trial of the IIA presumption can be performed by utilizing the Stata summon mlogtest, iia. In any case, as of April 23, 2010, mlogtest, iia does not work with factor variables. There are alternative demonstrating techniques that unwind the IIA presumption, for example, alternative specific multinominal probit models or nested logit models (Cheng and Long, 2007).

Pseudo-R-Squared: R-squared generated in the yield is fundamentally the log probability adjustment from the intercept model to the present model. It does not convey the same information as the R-square for linear regression, even though it is still “the higher, the better”
### Results of the IAA Assumption/Parallel Odd Assumption

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>(b) partial</th>
<th>B (all)</th>
<th>(b-B) Difference</th>
<th>Sqrt (diag (V_b-V_B))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managerial</td>
<td>0.5144003</td>
<td>0.5095747</td>
<td>0.0048256</td>
<td>0.0123338</td>
</tr>
<tr>
<td>Behavioral biases</td>
<td>constant</td>
<td>0.2678043</td>
<td>0.2633838</td>
<td>0.0044205</td>
</tr>
</tbody>
</table>

\[ b = \text{consistent under Ho and Ha; obtained from mlogit} \]

\[ B = \text{inconsistent under Ha, efficient under Ho; obtained from mlogit} \]

Test: \( \text{Ho: difference in coefficients not systematic} \)

\[
\text{chi2}(3) = (b-B)'[(V_b-V_B)^{-1}](b-B)
\]

\[ = 0.08 \]

\[ \text{Prob}>\text{chi2} = 0.9944 \]

\[ (V_b-V_B \text{ is not positive definite}) \]

In conclusion, a p value of 0.994 indicates that we fail to reject the null hypothesis, that is, the difference in coefficients not systematic. The IIA assumption is therefore not violated. Therefore, adding or deleting alternative outcome categories does not affect the odds among the remaining outcomes.

### 3.8.3.1 Test for Multicollinearity

As per William et al. (2013), multicollinearity alludes to the nearness of relationships between's the indicator factors. In serious instances of ideal connections between indicator factors, multicollinearity can infer that an exceptional slightest squares answer for a relapse investigation cannot be registered (Field, 2009). Multicollinearity swells the standard mistakes and certainty interims prompting temperamental assessments of the coefficients for singular indicators (Belsley et al., 1980). Multicollinearity was surveyed in this examination utilizing the difference expansion factors (VIF). As per Field (2009) VIF esteems in
abundance of 10 means that the nearness of Multicollinearity. The outcomes in Table 3.3 present difference expansion factors comes about and were built up to be 1.22 which is under 10 and consequently as indicated by Field (2009) demonstrates that there is no Multicollinearity.

**Table 3.3: Multicollinearity results using VIF**

<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>1/VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managerial Over Optimism</td>
<td>1.34</td>
<td>0.743573</td>
</tr>
<tr>
<td>Managerial Anchoring</td>
<td>1.33</td>
<td>0.750223</td>
</tr>
<tr>
<td>Mental Accounting</td>
<td>1.3</td>
<td>0.769539</td>
</tr>
<tr>
<td>Managerial Regret Aversion</td>
<td>1.21</td>
<td>0.824332</td>
</tr>
<tr>
<td>Personal Skills and Competence</td>
<td>1.16</td>
<td>0.859923</td>
</tr>
<tr>
<td>Managerial Conservatism</td>
<td>1.15</td>
<td>0.86854</td>
</tr>
<tr>
<td>Overconfidence</td>
<td>1.01</td>
<td>0.991719</td>
</tr>
<tr>
<td>Mean VIF</td>
<td>1.22</td>
<td></td>
</tr>
</tbody>
</table>

**3.8.3.2 Test for Normality**

A valuation of the ordinariness of data is basic for some measurable tests since ordinary data is a hidden presumption in parametric testing (Saunders et al., 2012). To test for ordinariness the data utilized two methodologies; the graphical strategy and the Jarque-Bera test. The results from the graphical method are presented in the figure 3.1 below, indicating that the residuals are normally distributed.
3.8.3.4 Heteroskedasticity Test

Changed Wald test was utilized to test for heteroskedasticity. The null hypothesis in the test is that mistake terms have a consistent change (ought to be Homoskedastic). The results in the Table 3.4 below indicate that the error terms are heteroskedastic, given that the p-value is greater than the 5% (0.274).

Table 3.4: Heteroskedasticity Test Results

<table>
<thead>
<tr>
<th>Breusch-Pagan / Cook-Weisberg test for heteroskedasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho: Constant variance</td>
</tr>
<tr>
<td>Variables: fitted values of Financial Decisions</td>
</tr>
<tr>
<td>$\chi^2 (1) = 1.20$</td>
</tr>
<tr>
<td>Prob $&gt; \chi^2 = 0.2740$</td>
</tr>
</tbody>
</table>
3.9 Chapter Summary

This chapter presented positivism as the research philosophy. It explained the research design, data collection methods, population, sampling frame and described stratified random sampling as the sampling technique used in the study. The chapter elaborated research procedures, administration of the questionnaire and how higher response rate was elicited. Data gathered was investigated utilizing descriptive statistics and inferential measurements. The following chapter presents results and findings of the study.
CHAPTER FOUR

RESULTS AND FINDINGS

4.1 Introduction

This chapter presents the analysed data and findings in respect to the research questions of the study. Data was analysed in line with the varying themes of the research objectives and results are presented in tables and charts enhance interpretation and understanding of the research findings. Statistical inferences were made by use of correlation and regression analysis. Regression models were estimated to show the relationship between ranking of financing decisions and selected behavioral biases.

4.2 General Information

4.2.1 Response Rate

192 questionnaires were administered out of which 158 were properly completed and returned. A small number of the respondents (6) or 3% returned the questionnaires half filled while others declined to return despite constant and aggressive follow up. The response rate result is detailed and table 4.1 below.

Table 4.1: Response Rate

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Returned</td>
<td>158</td>
<td>82.29%</td>
</tr>
<tr>
<td>Unreturned/rejected</td>
<td>34</td>
<td>17.71%</td>
</tr>
<tr>
<td>Total</td>
<td>192</td>
<td>100%</td>
</tr>
</tbody>
</table>

The response rate of 82.29% which is deemed quite adequate demonstrates the effectiveness of strategies used to elicit responses.

4.2.2 Demographic Characteristics

This section consists of information that describes basic characteristics which include respondent’s management level at their current position, gender of respondent, age, level of education, duration in the current role and extent to which the respondent is involved in making financing decisions.
4.2.2.1 Classification of Respondents by Management Level

The respondents were requested to provide the management level for their current position. Results are shown in figure 4.1.

![Figure 4.1: Management Level](image)

Results in figure 4.1 indicate that 45% of respondents were middle level managers followed by 41% who were in senior level management while 14% were at supervisory level of management. This implies that majority of the respondents were top notch managers.

4.2.2.2 Classification of Respondents by Gender

Respondent were also requested to indicate their gender. Figure 4.2 shows the results.
Results in figure 4.2 show that 53% of the respondents were male whilst 47% were females.

4.2.2.3 Classification of Respondents by Age

Respondents were requested to indicate their respective age brackets. Figure 4.3 depicts the results.

Figure 4.2: Classification of Respondents by Gender

Figure 4.3: Classification of Respondents by Age
Results revealed that 56% of the respondents, were between 41-50 years, 36% were 31-40 years, and 6% were 51-60 years while only 2% were 30 years of age and less.

4.2.2.4 Classification of Respondents by Level of Education

Respondents were further requested to disclose their highest levels of education. Figure 4.4 shows the results

![Pie Chart]

**Figure 4.4: Classification of Respondents by Level of Education**

Figure 4.4 results shows that 64% of those who responded had their highest level of education as MBA, 17% had PhD as their highest level of education, 11% were undergraduates while 8% had non-MBA Masters degrees.

4.2.3 Classification by Duration in the Role of Making Financing Decisions

The respondents were requested to specify how long they had held their current role of participating in making financing decision making. Figure 4.5 show the results.
Figure 4.5 results reveal that 59% of those that responded had been in the current role of making financial decision for 5-10 years, 31% had been in the current role for 11 years and above, while 10% had been in the current role for less than five years.

4.2.4 Extent Involved in Decision Making

The respondents were requested to indicate the extent to which they were involved in making the following decisions. Table 4.2 shows the results.

Table 4.2: Extent Involved in Decision Making

<table>
<thead>
<tr>
<th>Decisions</th>
<th>not at all</th>
<th>less extent</th>
<th>moderate extent</th>
<th>large extent</th>
<th>very large extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working capital management</td>
<td>3.20%</td>
<td>6.40%</td>
<td>10.20%</td>
<td>70.70%</td>
<td>9.60%</td>
</tr>
<tr>
<td>Capital expenditure (CAPEX)</td>
<td>3.20%</td>
<td>7.60%</td>
<td>10.20%</td>
<td>57.30%</td>
<td>21.70%</td>
</tr>
<tr>
<td>Operating expenditure (OPEX)</td>
<td>2.50%</td>
<td>5.10%</td>
<td>12.70%</td>
<td>31.20%</td>
<td>48.40%</td>
</tr>
<tr>
<td>Budgeting</td>
<td>3.80%</td>
<td>1.30%</td>
<td>8.30%</td>
<td>36.90%</td>
<td>49.70%</td>
</tr>
</tbody>
</table>
Results in table 4.2 show that 70.70% of the respondents who were indicated that they are involved in decision making on working capital management to a large extent. Results also revealed that majority of the respondents who were 57.30% were involved in decision making on capital expenditure (CAPEX) to a large extent. Results further indicated that 48.40% of the respondents were involved in decision making on operating expenditure (OPEX) to a very large extent. Further, results revealed that 49.70% of the respondents were involved in decision making on budgeting to a very large extent. The results imply that most of the respondents were involved in financing decision making further implying that the managers combine their competences and capabilities in making the financial decisions.

Table 4.3: Correlation Results on Demographic Information

<table>
<thead>
<tr>
<th>Management Level</th>
<th>Gender</th>
<th>Age</th>
<th>Education Level</th>
<th>Experience</th>
<th>Working Capital Management</th>
<th>CAPEX</th>
<th>OPEX</th>
<th>Budgeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management level</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-0.012</td>
<td>1</td>
<td>-0.024</td>
<td>0.175*</td>
<td>-0.042</td>
<td>0.885</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.027</td>
<td>0.1</td>
<td>0.743</td>
<td>0.024</td>
<td>-0.042</td>
<td>0.885</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Education Level: -0.178* -0.024 0.175* 1
Experience: -0.172* 0.021 0.354** 0.364** 1
working Capital Management: -0.107 -0.139 0.409** 0.251** 0.356** 1
Capital Expenditure: -0.028 -0.15 0.308** 0.270** 0.332** 0.823** 1
Operating Expenditure: -0.045 -0.129 0.392** 0.251** 0.347** 0.729** 0.789** 1
Budgeting: -0.12 -0.219** 0.301** 0.225** 0.310** 0.753** 0.808** 0.850** 1

Results on table 4.3 reveal that there is no significant relationship between management level and decision making on working capital management and that there is a significant relationship between management level and capital expenditure, operating expenditure and budgeting decisions. Results also indicate that there is no significant relationship between
gender and decision making on working capital management, capital expenditure, operating expenditure but there is a significant relationship between gender and budgeting decisions. Results further show that there is significant relationship between management level and decision making on working capital management, capital expenditure, operating expenditure and budgeting. Furthermore, results indicate that there is a significant relationship between level of education and working capital management, capital expenditure, operating expenditure and budgeting decisions by managers in the firms listed in NSE.

**4.2.5 Descriptive Statistics on Ranking of Financing Decisions**

Respondents were asked to indicate what financing approach they would prefer for long term financing, medium term financing and short term financing respectively. Results are as shown in table 4.4 below.

**Table 4.4: Descriptive Statistics on Ranking of Financing Decisions**

<table>
<thead>
<tr>
<th>Statements</th>
<th>internal capital</th>
<th>debt capital</th>
<th>equity capital</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long term finance - repayable for over 5 years (for financing property, plant and equipment)</td>
<td>0.60%</td>
<td>92.90%</td>
<td>6.40%</td>
<td>2.06</td>
<td>0.26</td>
</tr>
<tr>
<td>Medium term finance - repayable within 2 to 5 years (financing purchase of computers, furniture, vehicles)</td>
<td>19.90%</td>
<td>55.80%</td>
<td>24.40%</td>
<td>2.04</td>
<td>0.666</td>
</tr>
<tr>
<td>Short term finance - Repayable within 1 year (for financing working capital for inventory, meeting current liabilities)</td>
<td>66.00%</td>
<td>6.40%</td>
<td>27.60%</td>
<td>1.62</td>
<td>0.891</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>66.00%</td>
<td>6.40%</td>
<td>27.60%</td>
<td>1.907</td>
<td>0.606</td>
</tr>
</tbody>
</table>

Results in table 4.4 demonstrate that 92.90% of the respondents indicated that they would prefer debt capital, 6.40% indicated they would use equity capital while 0.60% would prefer internal capital for long term finance - repayable for over 5 years (for financing property, plant and equipment). The results also showed that 55.80% indicated that they would use debt capital, 24.40% would prefer equity financing and 19.90% indicated that they would use internal capital for medium term finance - repayable within 2 to 5 years (financing purchase of computers, furniture, vehicles). Further results indicate that 66.00% of the respondents preferred internal capital, 27.60% equity financing while 6.40% preferred debt financing for short term finance, payable within 1 year.
4.2.6 Cross Tabulation between Demographic Characteristics and Ranking of Financing Decisions

4.2.6.1 Management Level

A cross tabulation between management level and ranking of financing decisions was performed. The null and alternative hypothesis were stated as follows;

\[ H_0: \text{Management level does not have a significant effect on ranking of financing decisions.} \]

\[ H_1: \text{Management level has a significant effect on ranking of financing decisions.} \]

Table 4.5: Cross Tabulation between Management Level and Ranking of Financing Decisions

<table>
<thead>
<tr>
<th>Mean Financing</th>
<th>senior level management</th>
<th>Middle level management</th>
<th>supervisory</th>
<th>Chi value (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3333</td>
<td>6</td>
<td>15</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1.6667</td>
<td>22</td>
<td>16</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>1.6667</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>13</td>
<td>19</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>2.3333</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2.3333</td>
<td>17</td>
<td>10</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2.6667</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>17.56(0.013)</td>
</tr>
</tbody>
</table>

Null hypothesis was rejected since the p-value was 0.013 < 0.05, implying that management level had a significant effect on ranking of financing decisions.

4.2.6.2 Gender

A cross tabulation between gender and ranking of financing decisions was performed. The null and alternative hypothesis was stated as follows;

\[ H_0: \text{Gender does not have a significant effect on ranking of financing decisions.} \]

\[ H_1: \text{Gender has a significant effect on ranking of financing decisions.} \]
Table 4.6: Cross Tabulation between Gender and Ranking of Financing Decisions

<table>
<thead>
<tr>
<th>Mean Financing</th>
<th>Male</th>
<th>Female</th>
<th>Chi value(p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3333</td>
<td>16</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>1.6667</td>
<td>27</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>1.6667</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>21</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>2.3333</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2.3333</td>
<td>11</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>2.6667</td>
<td>5</td>
<td>5</td>
<td>8.234(0.221)</td>
</tr>
</tbody>
</table>

P-value was 0.221> 0.05, therefore null hypothesis was not rejected thus, gender did not have a significant effect on ranking of financing decisions.

4.2.6.3 Age

A cross tabulation between age and ranking of financing decisions was performed. The null and alternative hypothesis was stated as follows;

H₀: Age does not have a significant effect on ranking of financing decisions.

H₁; Age has a significant effect on ranking of financing decisions.

Table 4.7: Cross Tabulation between Age and Ranking of Financing Decisions

<table>
<thead>
<tr>
<th>Mean Financing</th>
<th>30 years and less</th>
<th>31-40 years</th>
<th>41-50 years</th>
<th>51-60 years</th>
<th>Chi value(p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3333</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1.6667</td>
<td>0</td>
<td>27</td>
<td>22</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>1.6667</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>15</td>
<td>15</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>2.3333</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2.3333</td>
<td>1</td>
<td>4</td>
<td>27</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2.6667</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>38.848(0.003)</td>
</tr>
</tbody>
</table>

Based on the rule of thumb, that is, if the probability value of chi square is less than 0.05, the rejection of null hypothesis done. Therefore, since the p-value was 0.003< 0.05, null hypothesis was rejected and thus, implying that age had a significant effect on ranking of financing decisions.


4.2.6.4 Education Level

A cross tabulation between education level and ranking of financing decisions was performed. The null and alternative hypothesis was stated as follows;

H₀: Education level does not have a significant effect on ranking of financing decisions.

H₁: Education level has a significant effect on ranking of financing decisions.

Table 4.8: Cross Tabulation between Education Level and Ranking of Financing Decisions

<table>
<thead>
<tr>
<th>Mean Financing</th>
<th>undergrad uate</th>
<th>MBA</th>
<th>non-MBA Masters</th>
<th>Phd</th>
<th>Chi value(p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3333</td>
<td>1</td>
<td>21</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1.6667</td>
<td>9</td>
<td>29</td>
<td>4</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>1.6667</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>22</td>
<td>3</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>2.3333</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2.3333</td>
<td>2</td>
<td>21</td>
<td>3</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>2.6667</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>17.112 (0.515)</td>
</tr>
</tbody>
</table>

The rule of thumb is that if the probability value of the chi square is less than 0.05, thus the rejection of null hypothesis. Therefore, since p-value was 0.515 > 0.05, null hypothesis was not rejected and thus, education level does not have a significant effect on ranking of financing decisions.

4.2.6.5 Duration in the Current Role of Making Financing Decisions

A cross tabulation between duration in the current role and ranking of financing decisions was performed. The null and alternative hypothesis was stated as follows;

H₀: Duration in the current role does not have a significant effect on ranking of financing decisions.

H₁: Duration in the current role has a significant effect on ranking of financing decisions.
Table 4.9: Cross Tabulation between Duration in the Current Role and Ranking of Financing Decisions

<table>
<thead>
<tr>
<th>Mean Financing</th>
<th>less than five years</th>
<th>5-10 years</th>
<th>11 years and over</th>
<th>Chi value(p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3333</td>
<td>5</td>
<td>14</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>1.6667</td>
<td>6</td>
<td>28</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>1.6667</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>23</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>2.3333</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2.3333</td>
<td>0</td>
<td>19</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>2.6667</td>
<td>0</td>
<td>8</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

15.457 (0.217)

Since p-value was 0.217 > 0.05 the rejection of was not done and thus, duration in current role does not have a significant effect on ranking of financing decisions.

4.3 Effect of Managerial Overconfidence on Ranking of Financing Decisions by Managers of Firms Listed in NSE

Here, the main objective of the study was to determine the effect of managerial overconfidence on ranking of financing choices by financial managers of firms listed in the NSE.

4.3.1 Descriptive Analysis

The level of concurrence in relation with the accompanying statements on overconfidence was solicited from each of the respondents. Table 4.10 demonstrates the feedback on each statement.
Table 4.10: Managerial Overconfidence

<table>
<thead>
<tr>
<th>Statements</th>
<th>strongly disagree</th>
<th>disagree</th>
<th>moderately agree</th>
<th>agree</th>
<th>strongly agree</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The price of my firm’s stocks are generally undervalued</td>
<td>14.00%</td>
<td>49.70%</td>
<td>26.80%</td>
<td>9.60%</td>
<td>0.00%</td>
<td>2.32</td>
<td>0.832</td>
</tr>
<tr>
<td>Takeovers are not value crushing by and large</td>
<td>3.20%</td>
<td>48.40%</td>
<td>28.70%</td>
<td>19.70%</td>
<td>0.00%</td>
<td>2.65</td>
<td>0.831</td>
</tr>
<tr>
<td>Assessed expenses of substantial undertakings are too low</td>
<td>2.50%</td>
<td>24.20%</td>
<td>53.50%</td>
<td>19.70%</td>
<td>0.00%</td>
<td>2.9</td>
<td>0.732</td>
</tr>
<tr>
<td>I consider debt to have lower risk compared to equity.</td>
<td>1.90%</td>
<td>11.50%</td>
<td>45.90%</td>
<td>40.80%</td>
<td>0.00%</td>
<td>3.25</td>
<td>0.733</td>
</tr>
<tr>
<td>I usually underestimate the cost of the undervalued investment projects</td>
<td>3.20%</td>
<td>23.20%</td>
<td>26.50%</td>
<td>43.90%</td>
<td>3.20%</td>
<td>3.21</td>
<td>0.945</td>
</tr>
<tr>
<td>I frequently overestimate my personal competences</td>
<td>2.60%</td>
<td>16.00%</td>
<td>26.30%</td>
<td>53.80%</td>
<td>1.30%</td>
<td>3.35</td>
<td>0.856</td>
</tr>
<tr>
<td>I usually overestimate my ability</td>
<td>1.90%</td>
<td>11.00%</td>
<td>27.90%</td>
<td>52.60%</td>
<td>6.50%</td>
<td>3.51</td>
<td>0.85</td>
</tr>
<tr>
<td>I usually underestimate financial distress costs</td>
<td>0.00%</td>
<td>13.40%</td>
<td>26.10%</td>
<td>53.50%</td>
<td>7.00%</td>
<td>3.54</td>
<td>0.812</td>
</tr>
<tr>
<td>I usually over estimate my ability to control financial outcomes</td>
<td>1.30%</td>
<td>15.30%</td>
<td>14.00%</td>
<td>52.90%</td>
<td>16.60%</td>
<td>3.68</td>
<td>0.968</td>
</tr>
<tr>
<td>Average</td>
<td>1.30%</td>
<td>15.30%</td>
<td>14.00%</td>
<td>52.90%</td>
<td>16.60%</td>
<td>3.68</td>
<td>0.968</td>
</tr>
</tbody>
</table>

The outcomes in table 4.10 revealed that 63.70% of the respondents couldn't help contradicting the statement that "the cost of my company's stocks is for the most part underestimated". The results additionally uncovered that 51.60% of the respondents couldn't help contradicting the statement that "takeovers are not value annihilating all things considered". On the other hand; results revealed that 53.50% of the respondents moderately agreed that "assessed expenses of substantial undertakings are too low'. Results further revealed that 45.90% of the respondents moderately agreed that, ‘I consider debt to have lower risk compared to equity’.

The results further indicate that 47.10% concurred with the statement that “I usually underestimate the cost of the undervalued investment projects”. Results indicated that 55.10% concurred with the statement that “I frequently overestimate my personal competences”. Results also revealed that 59.10 concurred with the statement that “I usually overestimate my ability”. Further the results found out that 60.50% of the respondents agreed that “I usually
underestimate financial distress costs”. Finally, the results also show that 69.50% agreed with the statement that “I usually over estimate my ability to control financial outcomes”. Utilizing a five-point scale Likert mean, the response comprehensive mean was 3.16 with a standard deviation of 0.84.

### 4.3.2 ANOVA Results on Overconfidence and Ranking of Financing Decisions by Managers of Companies listed in NSE

A preliminary test on the effect of overconfidence on the ranking of financing decisions by managers of firms listed in NSE was conducted using ANOVA. The financing preference was grouped into three: internal financing, debt financing and equity financing. Results in Table 4.11 reveal a significant relationship between overconfidence and ranking of financing decisions by managers of firms listed in NSE. This is supported by an F statistic of 12.471 which was larger than the tabulated F statistic. A p-value of 0.000 which was less than the critical p value of 0.05 supports findings.

**Table 4.11: ANOVA Results**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Overconfidence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>5.287</td>
<td>2</td>
<td>2.644</td>
<td>12.471</td>
<td>0.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>32.646</td>
<td>154</td>
<td>0.212</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>37.934</td>
<td>156</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 4.3.3 Post Hoc Analysis

To gain an in depth analysis of the ANOVA results, Post hoc analysis was conducted. Results in Table 4.12 reveal a significant difference in the mean overconfidence between internal and equity financing (-.4366, p value of 0.000). The results imply that finance managers who chose equity financing were more likely to be overconfident than those who chose internal financing. Results also demonstrate that there is a significant variation in mean overconfidence between debt and equity financing (-0.276, p value of 0.008). The results imply that the finance managers who chose equity financing were more overconfident than those who chose debt financing.
### Table 4.12: Post Hoc Analysis Results

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>(I) Ranking of Financing decisions</th>
<th>(J) Ranking of Financing decisions</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Overconfidence</td>
<td>Debt Financing</td>
<td>-.1610334</td>
<td>.0916799</td>
<td>.081</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equity Financing</td>
<td>-.4366484*</td>
<td>.0874327</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internal Financing</td>
<td>.1610334</td>
<td>.0916799</td>
<td>.081</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equity Financing</td>
<td>-.2756150*</td>
<td>.1019638</td>
<td>.008</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internal Financing</td>
<td>.4366484*</td>
<td>.0874327</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Debt Financing</td>
<td>.2756150*</td>
<td>.1019638</td>
<td>.008</td>
<td></td>
</tr>
</tbody>
</table>

LSD*. The mean difference is huge at the 0.05 level.

#### 4.3.4 Means plot

A means plot was used to present the linear relationship between overconfidence and ranking of financing decisions by financial managers of firms recorded in the NSE. Mean overconfidence of those who chose internal financing was 3.1928, those who chose debt was 3.3538 and for those who chose equity financing was 3.6294. This implies that those who chose equity financing were more overconfident followed by those who chose debt and finally those who chose internal financing.
Figure 4.6: Means Plot for Overconfidence against Ranking of Financing Decisions

4.3.5 Multinomial logit Regression Analysis for Overconfidence and on Ranking of Financing Decisions by Managers of Firms Listed in NSE

Multinomial logit regression was used to assess the log likelihood that a finance manager chose a particular type of financing over the base choice (internal financing) given a unitary increase in the level of overconfidence. Table 4.13 presents the outcomes.
Table 4.13: Multinomial logit Regression Analysis for Overconfidence and on Ranking of Financing Decisions by Managers of Firms Listed in NSE

<table>
<thead>
<tr>
<th>Iteration</th>
<th>Log likelihood</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-165.28636</td>
</tr>
<tr>
<td>1</td>
<td>-154.00464</td>
</tr>
<tr>
<td>2</td>
<td>-153.68788</td>
</tr>
<tr>
<td>3</td>
<td>-153.68755</td>
</tr>
<tr>
<td>4</td>
<td>-153.68755</td>
</tr>
</tbody>
</table>

Multinomial Logistic Regression

<table>
<thead>
<tr>
<th></th>
<th>Coef.</th>
<th>Std.err</th>
<th>z</th>
<th>P&gt;z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Financing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debt Financing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Overconfidence</td>
<td>0.7614626</td>
<td>0.440895</td>
<td>1.73</td>
<td>0.084</td>
</tr>
<tr>
<td>_cons</td>
<td>-3.171745</td>
<td>1.467185</td>
<td>-2.16</td>
<td>0.031</td>
</tr>
<tr>
<td>Equity Financing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Overconfidence</td>
<td>2.031096</td>
<td>0.456742</td>
<td>4.45</td>
<td>0.000</td>
</tr>
<tr>
<td>_cons</td>
<td>-7.459949</td>
<td>1.591389</td>
<td>-4.69</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Results in table 4.13 indicate that a unitary increase in overconfidence would result in an increase in the log odds of choosing debt capital over internal capital by 0.76 units. Further, a unitary increase in overconfidence would result in an increase in the log odds of choosing equity capital over internal capital by 2.03 units.

Thus, the model is:

\[
\log \left( \frac{Pr(Y=Debt \ capital)}{Pr(Y=internal \ capital)} \right) = -3.171 + 0.76 \text{ Overconfidence}
\]

\[
\log \left( \frac{Pr(Y=Equity \ capital)}{Pr(Y=internal \ capital)} \right) = -7.459 + 2.031 \text{ Overconfidence}
\]

4.3.6 Hypothesis Testing

The calculated log likelihood-statistic (LR chi2 (2) of 23.20 was more than the tabulated/critical chi square statistic. A 0.000 P-value supported the results findings. The null
hypothesis was rejected thus managerial overconfidence has a significant effect on ranking of financing decisions.

4.4 Effect of Managerial Over optimism on Ranking of Financing Decisions by Managers of Firms Listed in NSE

The second objective of the study was to establish the effect of over optimism on ranking of financing decisions by financial managers of firms listed in the NSE.

4.4.1 Descriptive Statistics

Respondents were asked to indicate their level of agreement with statements that support managerial optimism. Table 4.14 displays the results.

**Table 4.14: Optimism**

<table>
<thead>
<tr>
<th>Statements</th>
<th>strongly disagree</th>
<th>disagree</th>
<th>moderately agree</th>
<th>agree</th>
<th>strongly agree</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>overestimate the frequency of favorable outcomes under estimate the frequency of unfavourable outcomes</td>
<td>0.60%</td>
<td>10.80%</td>
<td>19.70%</td>
<td>52.20%</td>
<td>16.60%</td>
<td>3.73</td>
<td>0.887</td>
</tr>
<tr>
<td>overestimate the growth rate of earnings</td>
<td>0.00%</td>
<td>12.10%</td>
<td>14.00%</td>
<td>40.80%</td>
<td>33.10%</td>
<td>3.95</td>
<td>0.979</td>
</tr>
<tr>
<td>company's shares are highly demanded and traded.</td>
<td>1.30%</td>
<td>10.80%</td>
<td>31.80%</td>
<td>34.40%</td>
<td>21.70%</td>
<td>3.64</td>
<td>0.981</td>
</tr>
<tr>
<td>decline a viable project if there weren’t sufficient funds</td>
<td>0.00%</td>
<td>5.70%</td>
<td>40.80%</td>
<td>47.10%</td>
<td>6.40%</td>
<td>3.54</td>
<td>0.702</td>
</tr>
<tr>
<td>overestimate financial ability of their firms</td>
<td>0.00%</td>
<td>11.50%</td>
<td>31.20%</td>
<td>51.60%</td>
<td>5.70%</td>
<td>3.52</td>
<td>0.773</td>
</tr>
<tr>
<td>I tend to play inherent uncertainty when making financing decisions</td>
<td>0.00%</td>
<td>10.20%</td>
<td>30.60%</td>
<td>47.80%</td>
<td>11.50%</td>
<td>3.61</td>
<td>0.822</td>
</tr>
<tr>
<td>my firm is generally successful in making financing decisions</td>
<td>0.00%</td>
<td>12.10%</td>
<td>19.10%</td>
<td>58.60%</td>
<td>10.20%</td>
<td>3.67</td>
<td>0.82</td>
</tr>
<tr>
<td>I generally overestimate my ambitions when making decision on financing</td>
<td>0.60%</td>
<td>5.70%</td>
<td>7.00%</td>
<td>76.40%</td>
<td>10.20%</td>
<td>3.9</td>
<td>0.672</td>
</tr>
<tr>
<td>Average</td>
<td>0.00%</td>
<td>8.90%</td>
<td>10.80%</td>
<td>61.80%</td>
<td>18.50%</td>
<td>3.9</td>
<td>0.802</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>3.72</strong></td>
<td><strong>0.83</strong></td>
</tr>
</tbody>
</table>

Results in table 4.14 revealed that 68.80% of the respondents agreed with the statement that “I usually overestimate the frequency of favourable outcomes”. Results also revealed that 73.90% agreed with the statement that “I usually under estimate the frequency of unfavorable outcomes”. The results also revealed that 56.10% of the respondents agreed with statement that “I usually overestimate the growth rate of earnings”.

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Further results indicate that 53.50% of the respondents agreed with the statement that “it seems to me that in the securities market, my company's shares are highly demanded and traded”. Results further revealed that 57.30% of the respondents agreed with the statement that “I wouldn’t decline a viable project if there weren’t sufficient funds internally to finance the investment”. The results further revealed that 59.30% agreed with the statement that “Managers overestimate financial ability of their firms”.

The results also revealed that 68.80% of the respondents agreed with the statement that “I tend to play inherent uncertainty when making financing decisions”. Also the results revealed that 86.60% of the respondents agreed with the statement that “I believe that my firm is generally successful in making financing decisions”. Finally, the results revealed that 80.30% of the respondents agreed with the statement that “I usually over estimate my ambitions when making decision on financing”. Using a five-point scale Likert mean, the overall mean of the responses was 3.72 with a standard deviation of 0.83.

4.4.2 ANOVA Results on Over Optimism and on Ranking of Financing Decisions by Managers of Firms Listed in NSE

A preliminary test on the effect of over optimism on ranking of financing decisions by financial managers of firms listed in the NSE was conducted using ANOVA. The financing preference was grouped into three categories: internal financing, debt financing and equity financing. Results in Table 4.15 reveals a significant relationship between over optimism and ranking of financing decisions by financial managers of firms listed in the NSE. This is supported by an F statistic of 11.391 which was larger than the tabulated F statistic. A p-value of 0.000 which was less than the critical p value of 0.05 supported the same findings.

Table 4.15: ANOVA Results on Over Optimism and on Ranking of Financing Decisions by Managers of Firms Listed in NSE

<table>
<thead>
<tr>
<th>Mean Over optimism</th>
<th>Sum of Squares df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>9.375</td>
<td>2</td>
<td>4.687</td>
<td>11.391</td>
</tr>
<tr>
<td>Within Groups</td>
<td>63.369</td>
<td>154</td>
<td>0.411</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>72.744</td>
<td>156</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.4.3 Post Hoc Analysis

Post hoc analysis was conducted to gain an in depth analysis of the ANOVA results. Results in table 4.16 revealed that there was a significant difference in mean over optimism between internal and debt financing (\(-0.5355, p\) value of 0.000). The results imply that finance managers who chose debt financing were more likely to be over optimistic than those who chose internal financing. Results also show that there was a significant difference in mean over optimism between internal and equity financing (\(-0.4400, p\) value of 0.000). The results imply that the finance managers who chose equity financing were more over optimistic than those who chose internal financing.

**Table 4.16: Post Hoc Analysis Results**

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>(I) Ranking of Financing decisions</th>
<th>(J) Ranking of Financing decisions</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Over optimism</td>
<td>Internal Financing</td>
<td>Debt Financing</td>
<td>-0.5355945*</td>
<td>0.127731</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Internal Financing</td>
<td>Equity Financing</td>
<td>-0.4400337*</td>
<td>0.121813</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Debt Financing</td>
<td>Internal Financing</td>
<td>0.5355945*</td>
<td>0.127731</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Equity Financing</td>
<td>Equity Financing</td>
<td>0.095561</td>
<td>0.142058</td>
<td>0.502</td>
</tr>
<tr>
<td></td>
<td>Equity Financing</td>
<td>Internal Financing</td>
<td>0.4400337*</td>
<td>0.121813</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Equity Financing</td>
<td>Debt Financing</td>
<td>-0.09556</td>
<td>0.142058</td>
<td>0.502</td>
</tr>
</tbody>
</table>

* The mean variation is significant at 0.05 level.

4.4.4 Means Plot

A means plot was used to present the linear relationship between over optimism and the preferred choice of financing. The mean over optimism of those who chose internal financing was 3.184, those who chose debt was 3.719 and for those who chose equity financing was 3.624. This implies that those who chose debt financing were more over optimistic followed by those who chose equity and finally those who chose internal financing.
4.4.5 Multinomial logit Regression Analysis for Over optimism and on Ranking of Financing Decisions by Managers of Firms Listed in NSE

Multinomial logit regression was used to assess the log likelihood that finance manager chose a particular type of financing over the base choice (internal financing) given a unit increase in the level of over optimism. The results are presented in table 4.17.
Table 4.17: Multinomial logit Regression Analysis for over optimism and on Ranking of Financing Decisions by Managers of Firms Listed in NSE


| Iteration 0: | log likelihood = -165.28636 |
| Iteration 1: | log likelihood = -154.56368 |
| Iteration 2: | log likelihood = -154.5133 |
| Iteration 3: | log likelihood = -154.51326 |
| Iteration 4: | log likelihood = -154.51326 |

Multinomial Logistic Regression

<table>
<thead>
<tr>
<th></th>
<th>Number of obs</th>
<th>157</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LR chi2(2)</td>
<td>21.55</td>
</tr>
<tr>
<td></td>
<td>Prob&gt;chi2</td>
<td>0.000</td>
</tr>
<tr>
<td>Log, Likelihood</td>
<td>-154.51326</td>
<td>Pseudo R2</td>
</tr>
</tbody>
</table>

| Ranking of Financing decisions | Coef.       | Std. err  | z     | P>|z| |
|--------------------------------|-------------|-----------|-------|------|
| Internal Financing (base outcome) |            |           |       |      |
| Debt Financing                  | 1.348511    | 0.368358  | 3.66  | 0.000|
| Constant                        | -5.368021   | 1.337106  | -4.01 | 0.000|
| Equity Financing                | 1.041319    | 0.324105  | 3.21  | 0.001|
| Constant                        | -4.093185   | 1.149158  | -3.56 | 0.000|

Results in table 4.17 indicate that a unitary increase in over optimism would result in an increase in the log odds of choosing debt capital over internal capital by 1.35 units. Further, a unitary increase in over optimism would result in an increase in the log odds of choosing equity capital over internal capital by 1.041 units.

Thus, the model for the study is;

\[
\log \frac{Pr(Y=Debt \text{ } capital)}{Pr(Y=\text{internal } capital)} = -5.368+1.349 \text{ over optimism}
\]

\[
\log \frac{Pr(Y=Equity \text{ } capital)}{Pr(Y=\text{internal } capital)} = -4.093+1.041 \text{ over optimism}
\]

4.4.6 Hypothesis Testing

Results above show that the calculated log likelihood-statistic (LR chi2 (2) of 21.55 was more than the tabulated/critical chi-square statistic. The findings were further supported by a p-value of 0.000. As a result, the null hypothesis was rejected hence managerial over optimism had a significant effect on ranking of financing decisions.
4.5 Effect of Regret Aversion on Ranking of Financing Decisions by Managers of Firms Listed in NSE

The third objective of the study was to determine the effect of regret aversion on ranking of financing decisions by financial managers of firms listed in the NSE.

4.5.1 Descriptive Statistics

Respondents were asked to indicate their level of agreement on regret aversion. Table 4.18 shows the results.

Table 4.18: Managerial Regret Aversion

<table>
<thead>
<tr>
<th>Statements</th>
<th>strongly disagree</th>
<th>disagree</th>
<th>moderately agree</th>
<th>agree</th>
<th>strongly agree</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>I fail to take action due to fear of bad outcomes</td>
<td>28.20%</td>
<td>32.10%</td>
<td>8.30%</td>
<td>29.50%</td>
<td>1.90%</td>
<td>2.45</td>
<td>1.235</td>
</tr>
<tr>
<td>I hold poorly performing shares due to fear that the firm will lose when</td>
<td>18.60%</td>
<td>37.80%</td>
<td>18.60%</td>
<td>24.40%</td>
<td>0.60%</td>
<td>2.51</td>
<td>1.075</td>
</tr>
<tr>
<td>its prices increases in the future</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I act wisely while making financing decisions due to the fear of unknown</td>
<td>0.60%</td>
<td>10.90%</td>
<td>42.90%</td>
<td>35.30%</td>
<td>10.30%</td>
<td>3.44</td>
<td>0.844</td>
</tr>
<tr>
<td>The past losses prevent me from deviating from a highly repeated and</td>
<td>1.90%</td>
<td>15.40%</td>
<td>31.40%</td>
<td>47.40%</td>
<td>3.80%</td>
<td>3.36</td>
<td>0.857</td>
</tr>
<tr>
<td>consistent course when favorable opportunities arise.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I often purchase short-term bonds due to uncertainty of stock-market</td>
<td>4.50%</td>
<td>15.40%</td>
<td>32.10%</td>
<td>44.20%</td>
<td>3.80%</td>
<td>3.28</td>
<td>0.927</td>
</tr>
<tr>
<td>volatility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The past losses prevent me from breaking bond-buying habit to capitalize</td>
<td>3.20%</td>
<td>14.10%</td>
<td>18.60%</td>
<td>51.30%</td>
<td>12.80%</td>
<td>3.56</td>
<td>0.991</td>
</tr>
<tr>
<td>on the purchase of high yield stocks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>3.10</strong></td>
<td><strong>14.10</strong></td>
<td><strong>18.60%</strong></td>
<td><strong>51.30%</strong></td>
<td><strong>12.80%</strong></td>
<td><strong>3.56</strong></td>
<td><strong>0.991</strong></td>
</tr>
</tbody>
</table>

Results revealed that 60.30% of the respondents disagreed with the statement that “I fail to take action due to fear of bad outcomes”. Results also revealed that 56.40% of the respondents disagreed with the statement that “I hold poorly performing shares due to fear that the firm will lose when its prices increases in the future”. The results also revealed that 45.60% of the respondents agreed with statement that “I act wisely while making financing decisions due to the fear of unknown”.

Further, the results found out that 51.20% of the respondents agreed with the statement that “past losses prevent me from deviating from a highly repeated and consistent course when
favorable opportunities arise”. Results further revealed that 48.00% of the respondents agreed with the statement that “I frequently buy short-term bonds for fear of stock-market volatility”. The results further revealed that 64.10% agreed with the statement that “the past loses prevent me from breaking bond-buying habit to capitalize on the purchase of high yield stocks”. Using a five point scale Likert mean, the overall mean of the responses was 3.10 which indicates that majority of the respondents agreed to the statement of the questionnaire. Additionally, the standard deviation of 0.99 indicates that the responses were varied.

4.5.2 ANOVA Results on Regret Aversion and on Ranking of Financing Decisions by Managers of Firms Listed in NSE

A preliminary test on the effect of regret aversion on ranking of financing decisions by financial managers of firms listed in the NSE was conducted using ANOVA. The financing preferences was grouped into three categories: internal financing, debt financing and equity financing. Table 4.19 results demonstrates a significant relationship between regret aversion and financing preference. This is supported by an F statistic of 11.806 which was larger than the tabulated F statistic. A 0.000 P-value that was less than the basic p value of 0.05 supported same findings.

Table 4.19: ANOVA Results on Regret Aversion and on Ranking of Financing Decisions by Managers of Firms Listed in NSE

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Regretted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>8.237</td>
<td>2</td>
<td>4.118</td>
<td>11.806</td>
<td>0.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>53.723</td>
<td>154</td>
<td>0.349</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>61.96</td>
<td>156</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.5.3 Post Hoc Analysis

Post hoc examination was conducted to gain an in depth analysis of the ANOVA results. Results in table 4.20 demonstrated a significant difference in mean regret aversion between internal and debt financing means (0.2796, p value of 0.019). The results prove that finance managers who went for internal financing were highly rated as regret averse compared to those who preferred debt. Findings demonstrated that there was a significant difference in regret aversion mean between internal and equity financing (0.5388, p value of 0.000). The findings suggest that managers who went for internal financing had high rate of regret
aversion than those who preferred equity financing. Additionally, findings revealed a significant variation in regret aversion mean between debt and equity financing (0.2591, p value of 0.049). Results therefore suggests that finance managers who went for debt financing had high level of regret aversion than those who preferred equity.

**Table 4.20: Post Hoc Analysis Results**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>(I) Ranking of Financing decisions</th>
<th>(J) Ranking of Financing decisions</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Regretted Internal Financing</td>
<td>Debt Financing</td>
<td>.2796374*</td>
<td>0.1176079</td>
<td>0.019</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equity Financing</td>
<td>.5388081*</td>
<td>0.1121595</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Debt Financing</td>
<td>Internal Financing</td>
<td>-.2796374*</td>
<td>0.1176079</td>
<td>0.019</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equity Financing</td>
<td>.2591707*</td>
<td>0.1308002</td>
<td>0.049</td>
<td></td>
</tr>
<tr>
<td>Equity Financing</td>
<td>Internal Financing</td>
<td>-.5388081*</td>
<td>0.1121595</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Debt Financing</td>
<td>-.2591707*</td>
<td>0.1308002</td>
<td>0.049</td>
<td></td>
</tr>
</tbody>
</table>

* The mean variation is significant at 0.05 level.

**4.5.4 Means plot**

A means plot was used to present the linear relationship between regret aversion and ranking of financing decisions by financial managers of firms listed in the NSE. The mean regret aversion of those who chose internal financing was 3.3191, those who chose debt was 3.0395 and for those who chose equity financing was 2.7803. This implies that those who chose internal were more regret averse followed by those who chose debt and finally those who chose equity financing.
Figure 4.8: Means Plot for Regret Aversion and Ranking of Financing Decisions

4.5.5 Multinomial logit Regression Analysis for Regret Aversion and on Ranking of Financing Decisions by Managers of Firms Listed in NSE

Multinomial logit regression was used to assess the log likelihood that finance manager chose a particular type of financing over the base choice (internal financing) given a unit increase in the level of regret aversion. The results are presented in table 4.21.
Table 4.21: Multinomial logit Regression Analysis for Regret Aversion and on Ranking of Financing Decisions by Managers of Firms Listed in NSE

<table>
<thead>
<tr>
<th>Iteration, Likelihood 1</th>
<th>-165.28636</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iteration, Likelihood 2</td>
<td>-154.55974</td>
</tr>
<tr>
<td>Iteration, Likelihood 3</td>
<td>-154.33829</td>
</tr>
<tr>
<td>Iteration, Likelihood 4</td>
<td>-154.33818</td>
</tr>
<tr>
<td>Iteration, Likelihood 5</td>
<td>-154.33818</td>
</tr>
</tbody>
</table>

Multinomial, logistic regression

<table>
<thead>
<tr>
<th>Number of obs</th>
<th>157</th>
</tr>
</thead>
<tbody>
<tr>
<td>LR chi2(2)</td>
<td>21.9</td>
</tr>
<tr>
<td>Prob&gt; chi2</td>
<td>0.000</td>
</tr>
<tr>
<td>Log, likelihood</td>
<td>-154.338</td>
</tr>
<tr>
<td>Pseudo R2</td>
<td>0.0662</td>
</tr>
</tbody>
</table>

| Coef.   | Std. Err | z    | P>|z| |
|---------|----------|------|------|
| Internal Financing (base outcome)      |          |      |      |
| Debt Financing                        | -0.7638276 | 0.335341 | -2.28 | 0.023 |
| Constant                                | 1.749858  | 1.072339 | 1.63  | 0.103 |
| Equity Financing                      | -1.509878 | 0.352069 | -4.29 | 0.000 |
| Constant                                | 4.064584  | 1.067618 | 3.81  | 0.000 |

Results in table 4.21 indicate that a unitary increase in regret aversion would result in an increase in the log odds of choosing debt capital over internal capital by -0.76 units. Further, a unitary increase in regret aversion would result in an increase in the log odds of choosing equity capital over internal capital by -1.51 units.

Thus, the model is:

\[
\log \frac{Pr(Y=\text{Debt capital})}{Pr(Y=\text{Internal capital})} = 1.749 - 0.76 \text{ Regret aversions}
\]

\[
\log \frac{Pr(Y=\text{Equity capital})}{Pr(Y=\text{Internal capital})} = 4.065 - 1.509 \text{ Regret aversions}
\]

4.5.6 Hypothesis Testing

Results above show that the calculated log likelihood-statistic (LR chi2 (2) of 21.90 was more than the tabulated/critical chi square statistic. A 0.000 P-value supports the findings.
The null hypothesis was rejected thus managerial regret aversion has a significant effect on ranking of financing decisions.

4.6 Effect of Anchoring on Ranking of Financing Decisions by Managers of Firms Listed in NSE

The study’s fourth objective was to determine the effect of anchoring on ranking of financing decisions by financial managers of firms listed in the NSE.

4.6.1 Descriptive Statistics

Respondents were requested to indicate their level of concurrence with selected statements on anchoring. Table 4.22 shows the results.

<table>
<thead>
<tr>
<th>Statements</th>
<th>strongly disagree</th>
<th>disagree</th>
<th>moderately agree</th>
<th>agree</th>
<th>strongly agree</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I frequently rely too heavily on initial piece of information when making decision on financing</td>
<td>0.00%</td>
<td>8.90%</td>
<td>24.80%</td>
<td>63.70%</td>
<td>2.50%</td>
<td>3.6</td>
<td>0.687</td>
</tr>
<tr>
<td>I usually prejudge prices lower than the initial price</td>
<td>0.60%</td>
<td>8.30%</td>
<td>27.60%</td>
<td>59.00%</td>
<td>4.50%</td>
<td>3.58</td>
<td>0.736</td>
</tr>
<tr>
<td>I am frequently sensitive to shares information which I have experienced in the past</td>
<td>0.00%</td>
<td>2.60%</td>
<td>25.00%</td>
<td>53.20%</td>
<td>19.20%</td>
<td>3.89</td>
<td>0.732</td>
</tr>
<tr>
<td>I usually take time to adjust on the price shares due to the initial market price</td>
<td>0.00%</td>
<td>1.90%</td>
<td>17.20%</td>
<td>58.60%</td>
<td>22.30%</td>
<td>4.01</td>
<td>0.689</td>
</tr>
<tr>
<td>I usually make purchase decisions based on initial prices of well performing companies</td>
<td>0.00%</td>
<td>3.20%</td>
<td>11.50%</td>
<td>55.40%</td>
<td>29.90%</td>
<td>4.12</td>
<td>0.728</td>
</tr>
<tr>
<td>Average</td>
<td>0.00%</td>
<td>3.20%</td>
<td>11.50%</td>
<td>55.40%</td>
<td>29.90%</td>
<td>4.12</td>
<td>0.728</td>
</tr>
</tbody>
</table>

Results in Table 4.22 revealed that 66.20% of the respondents agreed with the statement “I frequently rely too heavily on initial piece of information when ranking financing decisions”. Results also revealed that 63.50% of the respondents agreed with the statement “I usually prejudge prices lower than the initial price”. The results also revealed that 72.40% of the respondents agreed with statement “I am frequently sensitive to shares information which I
have experienced in the past”. Further, the results found out that 80.90% of the respondents agreed with the statement “I usually take time to adjust on the price shares due to the initial market price”.

Results further revealed that 85.30% of the respondents agreed with the statement “I usually make purchase decisions based on initial prices of well performing companies”. Using a five-point scale Likert mean, the overall mean of the responses was 3.84 and a standard deviation of 0.71.

**4.6.2 ANOVA Results on Anchoring and on Ranking of Financing Decisions by Managers of Firms Listed in NSE**

A preliminary test on the effect of managerial anchoring on ranking of financing decisions by financial managers of firms listed in the NSE was conducted using ANOVA. The financing preference was grouped into three categories: internal financing, debt financing and equity financing. Results in Table 4.23 show that there is a significant relationship between anchoring and ranking of financing decisions by financial managers of firms listed in the NSE. This is supported by an F statistic of 10.898 which was larger than the tabulated F statistic. A p-value of 0.000 which was less than the critical p value of 0.05 supported the same findings.

<table>
<thead>
<tr>
<th>Sum of squares of df</th>
<th>mean square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>12.264</td>
<td>6.132</td>
<td>10.898</td>
</tr>
<tr>
<td>Within Groups</td>
<td>86.655</td>
<td>0.563</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>98.919</td>
<td>156</td>
<td></td>
</tr>
</tbody>
</table>

**4.6.3 Post Hoc Analysis**

Post hoc analysis was conducted to gain an in depth analysis of the ANOVA results. Results in table 4.24 revealed that there was a significant difference in mean anchoring between internal and debt financing (-.4921, p value of 0.001). The results imply that finance managers who chose debt financing were more likely to have anchoring bias than those who chose internal financing. Results also show that there was a significant difference in mean
anchoring between internal and equity financing (-0.6064, p value of 0.000). The results imply that the finance managers who chose equity financing were more anchoring biased than those who chose equity financing.

Table 4.24: Post Hoc Analysis Results

<table>
<thead>
<tr>
<th>(I) Ranking of Financing decisions</th>
<th>(J) Ranking of Financing decisions</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Financing</td>
<td>Debt Financing</td>
<td>-.4920702</td>
<td>.1493663</td>
<td>.001</td>
</tr>
<tr>
<td>Equity Financing</td>
<td>Internal Financing</td>
<td>-.6066242</td>
<td>.1424467</td>
<td>.000</td>
</tr>
<tr>
<td>Debt Financing</td>
<td>Equity Financing</td>
<td>.4920702</td>
<td>.1493663</td>
<td>.001</td>
</tr>
<tr>
<td>Equity Financing</td>
<td>Internal Financing</td>
<td>-.1143541</td>
<td>.1661211</td>
<td>.492</td>
</tr>
<tr>
<td>Equity Financing</td>
<td>Debt Financing</td>
<td>.1143541</td>
<td>.1661211</td>
<td>.492</td>
</tr>
</tbody>
</table>

*. The mean variation is significant at 0.05 level.

4.6.4 Means plot

A means plot was used to present the linear relationship between anchoring and ranking of financing decisions by financial managers of firms listed in the NSE. The mean anchoring of those who chose internal financing was 3.4027, those who chose debt was 3.8947 and for those who chose equity financing was 4.0091. This implies that those who chose equity financing were more anchoring followed by those who chose debt and finally those who chose internal financing.
Figure 4.9: Means Plot Results for Anchoring and Ranking of Financing Decisions by Managers of Firms Listed in NSE

4.6.5 Multinomial logit Regression Analysis for Anchoring and Ranking of Financing Decisions by Managers of Firms Listed in NSE

Multinomial logit regression was used to assess the log likelihood that finance manager chose a particular type of financing over the base choice (internal financing) given a unit increase in the level of anchoring. The results are presented in table 4.25.
Table 4.25: Multinomial logit Regression Analysis for Anchoring and Ranking of Financing Decisions by Managers of Firms Listed in NSE

| Iteration, likelihood 1 | -165.28636 |
| Iteration, likelihood 2 | -154.93303 |
| Iteration, likelihood 3 | -154.88806 |
| Iteration, likelihood 4 | -154.88803 |
| Iteration, likelihood 5 | -154.88803 |

Multinomial logistic regression

| Number of obs | 157 |
| LR chi2(2)    | 20.8 |
| Prob>chi2     | 0.000 |

Log likelihood -154.888

| Coef.         | Std. Err | z    | P>|z| |
|---------------|----------|------|------|
| Internal Financing (base outcome) |           |      |      |
| Debt Financing | 0.8634905 | 0.291955 | 2.96 | 0.003 |
| Constant      | -3.843804 | 1.11649 | -3.44 | 0.001 |
| Equity Financing | 1.122893  | 0.300128 | 3.74 | 0 |
| Constant      | -4.722615 | 1.167331 | -4.05 | 0 |

Results in table 4.25 indicate that a unitary increase in anchoring would result in an increase in the log odds of choosing debt capital over internal capital by 0.86 units. Further, a unitary increase in anchoring would result in an increase in the log odds of choosing equity capital over internal capital by 1.12 units.

Thus, the Model for the Study is:

\[
\log \left( \frac{Pr(Y=\text{Debt capital})}{Pr(Y=\text{internal capital})} \right) = -3.844 + 0.863 \text{Anchoring}
\]

\[
\log \left( \frac{Pr(Y=\text{Equity capital})}{Pr(Y=\text{internal capital})} \right) = -4.723 + 1.123 \text{Anchoring}
\]

4.6.6 Hypothesis Testing

Results above show that the calculated log likelihood-statistic (LR chi2 (2) of 20.8) was more than the tabulated/critical chisquare statistic. The findings were further supported by a p-
value of 0.000. The null hypothesis was rejected hence managerial anchoring had a significant effect on ranking of financing decisions.

4.7 Effect of Mental Accounting on Ranking of Financing Decisions by Managers of Firms Listed in NSE

Study’s fifth objective was to determine the effect of mental accounting on ranking of financing decisions by financial managers of firms listed in the NSE.

4.7.1 Descriptive Statistics

Respondents were asked to indicate their level of agreement on statements on mental accounting. Results are shown in Table 4.26.

Table 4.26 Mental Accounting

<table>
<thead>
<tr>
<th>Statements</th>
<th>strongly disagree</th>
<th>disagree</th>
<th>moderately agree</th>
<th>agree</th>
<th>strongly agree</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I usually sell shares acquired from exercising options than shares acquired through required stock investments</td>
<td>0.00%</td>
<td>17.20%</td>
<td>55.40%</td>
<td>25.50%</td>
<td>1.90%</td>
<td>3.12</td>
<td>0.701</td>
</tr>
<tr>
<td>I usually underprice shares in the company</td>
<td>6.40%</td>
<td>25.50%</td>
<td>29.30%</td>
<td>38.20%</td>
<td>0.60%</td>
<td>3.01</td>
<td>0.961</td>
</tr>
<tr>
<td>I frequently make decisions based on previous wins and gains</td>
<td>0.00%</td>
<td>1.30%</td>
<td>15.50%</td>
<td>79.40%</td>
<td>3.90%</td>
<td>3.86</td>
<td>0.476</td>
</tr>
<tr>
<td>I frequently make decisions based on profits and losses</td>
<td>0.60%</td>
<td>0.00%</td>
<td>10.80%</td>
<td>75.20%</td>
<td>13.40%</td>
<td>4.01</td>
<td>0.549</td>
</tr>
<tr>
<td>I usually do not finish loss-making projects</td>
<td>0.00%</td>
<td>12.80%</td>
<td>10.90%</td>
<td>54.50%</td>
<td>21.80%</td>
<td>3.85</td>
<td>0.907</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>3.57</strong></td>
<td><strong>0.72</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results in Table 4.26 revealed that 55.40% of the respondents moderately agreed with the statement “I usually sell shares acquired from exercising options than shares acquired through required stock investments”. Results also revealed that 38.80% of the respondents agreed with the statement “I usually underprice shares in the company”. The results also revealed that 83.30% of the respondents agreed with statement “I frequently make decisions based on previous wins and gains”. Further, the results found out that 88.60% of the respondents agreed with the statement “I frequently make decisions based on profits and losses”. Results further revealed that 76.30% of the respondents agreed with the statement “I usually do not finish loss-making projects”.
4.7.2 ANOVA Results on Mental Accounting and Ranking of Financing Decisions by Managers of Firms Listed in NSE

A preliminary test on the influence of mental accounting on ranking of financing decisions by financial managers of firms listed in the NSE was conducted using ANOVA. The financing preference was grouped into three categories: internal financing, debt financing and equity financing. Results in Table 4.27 show that there is a significant relationship between mental accounting and ranking of financing decisions by financial managers of firms listed in the NSE. This is supported by an F statistic of 12.24 which was larger than the tabulated F statistic. A p-value of 0.000 which was less than the critical p value of 0.05 supported the same findings.

Table 4.27: ANOVA Results on Mental Accounting and Ranking of Financing Decisions by Managers of Firms Listed in NSE

<table>
<thead>
<tr>
<th></th>
<th>Sum of squares</th>
<th>df</th>
<th>mean square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental Accounting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>3.903</td>
<td>2</td>
<td>1.951</td>
<td>12.24</td>
<td>0.000</td>
</tr>
<tr>
<td>Within groups</td>
<td>24.55</td>
<td>154</td>
<td>0.159</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28.452</td>
<td>156</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.7.3 Post Hoc Analysis

Post hoc analysis was conducted obtain an in depth analysis of the ANOVA results. Results in table 4.28 revealed that there was a significant difference in mean mental accounting between internal and equity financing (-.3740, p value of 0.000). The results imply that finance managers who chose equity financing were more likely to do more mental accounting than those who chose internal financing. Results also show that there was a significant difference in mean mental accounting between debt and equity financing (-0.2640, p value of 0.003). The results imply that the finance managers who chose equity financing do more mental accounting than those who chose debt financing.
Table 4.28: Post Hoc Analysis

<table>
<thead>
<tr>
<th>(I) Ranking of Financing decisions</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Financing</td>
<td>Debt Financing</td>
<td>-.1100351</td>
<td>.0795020</td>
</tr>
<tr>
<td>Equity Financing</td>
<td>Internal Financing</td>
<td>-.3740303*</td>
<td>.0758189</td>
</tr>
<tr>
<td>Debt Financing</td>
<td>Equity Financing</td>
<td>.1100351</td>
<td>.0795020</td>
</tr>
<tr>
<td>Equity Financing</td>
<td>Internal Financing</td>
<td>-.2639952*</td>
<td>.0884199</td>
</tr>
<tr>
<td>Equity Financing</td>
<td>Debt Financing</td>
<td>.3740303*</td>
<td>.0758189</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.7.4 Means plot

A means plot was used to present the linear relationship between mental accounting and the ranking of financing decisions by financial managers of firms listed in the NSE. The mean mental accounting of those who chose internal financing was 3.14373, those who chose debt was 3.5474 and for those who chose equity financing was 3.8114. This implies that those who chose equity financing do more mental accounting followed by those who chose debt and finally those who chose internal financing.
Figure 4.10: Means Plot for Mental Accounting and Rankin of Financing Decisions

4.7.5 Multinomial logit Regression Analysis for Mental Accounting and Ranking of Financing Decisions by Managers of Firms Listed in NSE

Multinomial logit regression was used to assess the log likelihood that finance manager chose a particular type of financing over the base choice (internal financing) given a unit increase in the level of mental accounting. The results are presented in table 4.29.
Table 4.29: Multinomial logit Regression Analysis for Mental Accounting and Ranking of Financing Decisions by Managers of Firms Listed in NSE

<table>
<thead>
<tr>
<th>mlogit Financial preference mean accounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iteration log likelihood 1</td>
</tr>
<tr>
<td>Iteration log likelihood 2</td>
</tr>
<tr>
<td>Iteration log likelihood 3</td>
</tr>
<tr>
<td>Iteration log likelihood 4</td>
</tr>
<tr>
<td>Iteration log likelihood 5</td>
</tr>
</tbody>
</table>

Multinomial logistic regression

<table>
<thead>
<tr>
<th>Number of obs</th>
<th>LR chi2(2)</th>
<th>Prob&gt; chi2</th>
</tr>
</thead>
<tbody>
<tr>
<td>157</td>
<td>24.25</td>
<td>0</td>
</tr>
</tbody>
</table>

Log likelihood=-153.163

<table>
<thead>
<tr>
<th>Pseudo R2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0733</td>
<td></td>
</tr>
</tbody>
</table>

| Coef. | std.Err | z     | P>|z| |
|-------|---------|-------|------|

| Ranking of Financing decisions | Coef. | std.Err | z     | P>|z| |
|--------------------------------|-------|---------|-------|------|
| Internal Financing (base outcome) |       |         |       |      |
| Debt Financing                  | 0.7474979 | 0.539349 | 1.39  | 0.166|
| Constant                        | -3.291545 | 1.905225 | -1.73 | 0.084|
| Equity Financing                | 2.584576  | 0.602412 | 4.29  | 0    |
| Constant                        | -9.897172 | 2.210668 | -4.48 | 0    |

Results indicate that a unitary increase in mental accounting would result in an increase in the log odds of choosing debt capital over internal capital by 0.747 units. Further, a unitary increase in mental accounting would result in an increase in the log odds of choosing equity capital over internal capital by 2.58 units.

Thus, the model is:

$$log \frac{Pr(Y=\text{Debt capital})}{Pr(Y=\text{internal capital})} = -3.292 + 0.747 \text{ Mental accounting}$$

$$log \frac{Pr(Y=\text{Equity capital})}{Pr(Y=\text{internal capital})} = -9.89 + 2.585 \text{ Mental Accounting}$$
4.7.6 Hypothesis Testing

Results above show that the calculated log likelihood-statistic (LR chi2(2) of 24.25 was more than the tabulated/critical chisquare statistic. The findings were further supported by a p-value of 0.000. The null hypothesis was rejected hence managerial mental accounting had a significant effect on ranking of financing decisions.

4.8 Effect of Conservatism on Ranking of Financing Decisions by Managers of Firms Listed in NSE

The sixth objective of the study was to determine the effect of conservatism on ranking of financing decisions by financial managers of firms listed in the NSE.

4.8.1 Descriptive Statistics

Respondents were asked to indicate their level of agreement on statements on conservatism. Results are shown in Table 4.30.

Table 4.30 Conservatism

<table>
<thead>
<tr>
<th>Statement</th>
<th>strongly disagree</th>
<th>disagree</th>
<th>moderately agree</th>
<th>agree</th>
<th>strongly agree</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I usually under value net assets of the company</td>
<td>21.00%</td>
<td>55.40%</td>
<td>8.90%</td>
<td>14.60%</td>
<td>0.00%</td>
<td>2.17</td>
<td>0.928</td>
</tr>
<tr>
<td>I usually undervalue forecasted revenues of the firm</td>
<td>20.40%</td>
<td>52.20%</td>
<td>15.90%</td>
<td>11.50%</td>
<td>0.00%</td>
<td>2.18</td>
<td>0.89</td>
</tr>
<tr>
<td>I usually realize more accounting losses than earnings</td>
<td>1.30%</td>
<td>15.60%</td>
<td>63.60%</td>
<td>16.20%</td>
<td>3.20%</td>
<td>3.05</td>
<td>0.708</td>
</tr>
<tr>
<td>I as a rule limit obligation so we have enough internal assets accessible to seek after new tasks when they tag along</td>
<td>1.30%</td>
<td>14.00%</td>
<td>21.00%</td>
<td>58.60%</td>
<td>5.10%</td>
<td>3.52</td>
<td>0.844</td>
</tr>
<tr>
<td>I more often than not issue obligation when our current benefits (internal assets) are not adequate to support our exercises</td>
<td>0.00%</td>
<td>8.30%</td>
<td>14.00%</td>
<td>66.20%</td>
<td>11.50%</td>
<td>3.81</td>
<td>0.744</td>
</tr>
<tr>
<td>Average</td>
<td>2.95</td>
<td>0.82</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results in Table 4.30 revealed that 76.40% of the respondents disagreed with the statement “I usually under value net assets of the company”. Results also revealed that 72.60% of the respondents disagreed with the statement “I usually undervalue forecasted revenues of the
firm. The results also revealed that 63.60% of the respondents moderately agreed with statement that “I usually realize more accounting loses than earnings”. Further, the results found out that 63.70% of the respondents agreed with the statement “I usually restrict debt so we have enough internal funds available to pursue new projects when they come along”. Results further revealed that 77.70% of the respondents agreed with the statement “I usually issue debt when our recent profits (internal funds) are not sufficient to fund our activities”.

4.8.2 ANOVA Results on Conservatism and Ranking of Financing Decisions by Managers of Firms Listed in NSE

A preliminary test on the effect of conservatism on ranking of financing decisions by financial managers of firms listed in the NSE was conducted using ANOVA. The financing preference was grouped into three categories: internal financing, debt financing and equity financing. Results in Table 4.31 show that there is a significant relationship between conservatism and ranking of financing decisions by financial managers of firms listed in the NSE. This is supported by an F statistic of 25.728 which was larger than the tabulated F statistic. A p-value of 0.000 which was less than the critical p value of 0.05 supported the same findings.

Table 4.31: ANOVA Results on Conservatism and Ranking of Financing Decisions by Managers of Firms Listed in NSE

<table>
<thead>
<tr>
<th>Sum of squares</th>
<th>df</th>
<th>Mean</th>
<th>Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>17.693</td>
<td>2</td>
<td>8.847</td>
<td>25.728</td>
<td>0.000</td>
</tr>
<tr>
<td>Within groups</td>
<td>52.954</td>
<td>154</td>
<td>0.344</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>70.647</td>
<td>156</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.8.3 Post Hoc Analysis

Post hoc analysis was conducted in order to have an in depth analysis of the ANOVA results. Results in table 4.32 revealed that there was a significant difference in mean conservatism between internal and debt financing 0.3481, p value of 0.003). The results imply that finance managers who chose internal financing were more likely to be conserved than those who chose debt financing. Results also show that there was a significant difference in mean conservatism between internal and equity financing (0.7969, p value of 0.000). The results
imply that the finance managers who chose internal financing were more conserved than those who chose equity financing. Results further show that there was a significant difference in mean conservatism between debt and equity financing (0.4488, p value of 0.000). The results imply that the finance managers who chose debt financing were more conserved than those who chose equity financing.

**Table 4.32: Post Hoc Analysis Results**

<table>
<thead>
<tr>
<th>(I) Ranking of Financing decisions</th>
<th>(J) Ranking of Financing decisions</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Financing</td>
<td>Debt Financing</td>
<td>.3481053*</td>
<td>.1167629</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>Equity Financing</td>
<td>.7969091*</td>
<td>.1113537</td>
<td>.000</td>
</tr>
<tr>
<td>Debt Financing</td>
<td>Internal Financing</td>
<td>-.3481053*</td>
<td>.1167629</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>Equity Financing</td>
<td>.4488038*</td>
<td>.1298605</td>
<td>.001</td>
</tr>
<tr>
<td>Equity Financing</td>
<td>Internal Financing</td>
<td>-.7969091*</td>
<td>.1113537</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Debt Financing</td>
<td>-.4488038*</td>
<td>.1298605</td>
<td>.001</td>
</tr>
</tbody>
</table>

* The mean difference is significant at the 0.05 level.

**4.8.4 Means plot**

A means plot was used to present the linear relationship between conservatism and the ranking of financing decisions by financial managers of firms listed in the NSE. The mean conservatism of those who chose internal financing was 3.306, those who chose debt was 2.9579 and for those who chose equity financing was 2.5091. This implies that those who chose internal financing were more conserved followed by those who chose debt and finally those who chose equity financing.
4.8.5 Multinomial logit Regression Analysis for Conservatism and Ranking of Financing Decisions by Managers of Firms Listed in NSE

Multinomial logit regression was used to assess the log likelihood that finance manager chose a particular type of financing over the base choice (internal financing) given a unit increase in the level of conservatism. The results are presented in table 4.33.

Figure 4.11: Means Plot for Conservatism and Ranking of Financing Decisions
Table 4.33: Multinomial logit Regression Analysis for Conservatism and Ranking of Financing Decisions by Managers of Firms Listed in NSE

<table>
<thead>
<tr>
<th>Iteration log likelihood 1</th>
<th>-165.28636</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iteration log likelihood 2</td>
<td>-143.88177</td>
</tr>
<tr>
<td>Iteration log likelihood 3</td>
<td>-142.66654</td>
</tr>
<tr>
<td>Iteration log likelihood 4</td>
<td>-142.65481</td>
</tr>
<tr>
<td>Iteration log likelihood 5</td>
<td>-142.65481</td>
</tr>
</tbody>
</table>

Multinomial logistic regression

<table>
<thead>
<tr>
<th>Number of obs</th>
<th>157</th>
</tr>
</thead>
<tbody>
<tr>
<td>LR chi2(2)</td>
<td>45.26</td>
</tr>
<tr>
<td>Prob &gt; chi</td>
<td>0</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-142.655</td>
</tr>
<tr>
<td>Pseudo R2</td>
<td>0.1369</td>
</tr>
</tbody>
</table>

| Ranking of Financing decisions | Coef. | std. Err | z     | P>|z| |
|--------------------------------|-------|----------|-------|------|
| Internal Financing (base outcome) |       |          |       |      |
| Debt Financing                  | -0.9415689 | 0.345734 | -2.72 | 0.006 |
| constant                        | 2.267913  | 1.08345  | 2.09  | 0.036 |
| Equity Financing                | -2.376588 | 0.431604 | -5.51 | 0     |
| constant                        | 6.320812  | 1.225054 | 5.16  | 0     |

Results indicate that a unitary increase in conservatism would result in an increase in the log odds of choosing debt capital over internal capital by -0.942 units. Further, a unitary increase in conservatism would result in an increase in the log odds of choosing equity capital over internal capital by -2.377 units.

Thus, the model:

\[
\log \frac{\text{Pr}(Y=\text{Debt capital})}{\text{Pr}(Y=\text{internal capital})} = 2.268 - 0.942 \text{ Conservatism}
\]

\[
\log \frac{\text{Pr}(Y=\text{Equity capital})}{\text{Pr}(Y=\text{internal capital})} = 6.321 - 2.377 \text{ Conservatism}
\]

4.8.6 Hypothesis Testing

Results above show that the calculated log likelihood-statistic (LR chi2 (2) of 45.26 was more than the tabulated/critical chisquare statistic. The findings were further supported by a
p-value of 0.000. The null hypothesis was thus rejected hence managerial conservatism had a significant effect on ranking of financing decisions.

4.9 Multinomial Logit Regression before Moderation

A multinomial logit regression was conducted before moderation. Results are as indicated in table 4.34 below.

**Table 4.34: Multinomial Logit Regression before Moderation**

<table>
<thead>
<tr>
<th>Multinomial Logistic Regression</th>
<th>Number of obs</th>
<th>157.000</th>
</tr>
</thead>
<tbody>
<tr>
<td>LR chi2(16)</td>
<td>chi2(16)</td>
<td>140.640</td>
</tr>
<tr>
<td>Prob &gt; chi2</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>likelihood</td>
<td>-94.964</td>
</tr>
<tr>
<td>Pseudo R2</td>
<td></td>
<td>0.426</td>
</tr>
</tbody>
</table>

| Ranking of Financing Decisions | Coef. | Std. Err. | z    | P>|z| | [95% Conf. Interval] |
|-------------------------------|-------|-----------|------|------|---------------------|
| Internal Financing (base outcome) |       |           |      |      |                     |
| Debt Financing                 | Overconfidence | 1.193     | 0.553| 2.160| 0.031              | 0.110  | 2.277               |
|                               | Over Optimism  | 1.312     | 0.491| 2.670| 0.008              | 0.350  | 2.275               |
|                               | Regret Aversion| -0.723    | 0.412| -1.750| 0.079              | -1.532 | 0.085               |
|                               | Anchoring      | 0.787     | 0.372| 2.110| 0.035              | 0.057  | 1.516               |
|                               | Mental Accounting| 0.532    | 0.663| 0.800| 0.423              | -0.769 | 1.832               |
|                               | Conservatism   | -1.628    | 0.467| -3.480| 0.000              | 2.544  | -0.712              |
|                               | Constant       | -6.558    | 3.727| -1.760| 0.078              | -13.862| 0.746               |
| Equity Financing              | Overconfidence | 3.300     | 0.827| 3.990| 0.000              | 1.678  | 4.921               |
|                               | Over Optimism  | 1.131     | 0.646| 1.750| 0.080              | -0.134 | 2.397               |
|                               | Regret aversion| -2.299    | 0.631| -3.640| 0.000              | -3.536 | -1.062              |
|                               | Anchoring      | 2.024     | 0.603| 3.350| 0.001              | 0.842  | 3.207               |
|                               | Mental Accounting| 3.797    | 1.086| 3.500| 0.000              | 1.668  | 5.926               |
|                               | Conservatism   | -3.508    | 0.668| -5.250| 0.000              | -4.817 | -2.199              |
|                               | Constant       | -20.304   | 6.059| -3.350| 0.001              | -32.179| -8.429              |

Results in Table 4.34 indicate that all the independent variables were significant since their p values were less than 0.05. The $R^2$ value was 42.6%. This means that all the independent variables explain 42.6% of the variation in ranking of financing decisions.
4.10 Effect of Moderating Variable (Personal Skills and Competence) on Ranking of Financing Decisions by Managers of Firms Listed in NSE

The seventh objective of the study was to examine the moderating effect of personal skill and competence on the relationship between managerial behavioral biases and ranking of financing decisions by financial managers of firms listed in the NSE.

4.10.1 Descriptive Statistics

Respondents were asked to indicate their level of agreement on statements on Personal Skill and competence. Table 4.35 shows the results.

Table 4.35: Personal Skill and competence

<table>
<thead>
<tr>
<th>Statements</th>
<th>strongly disagree</th>
<th>disagree</th>
<th>moderately agree</th>
<th>agree</th>
<th>strongly agree</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I regularly attend professional accountancy conferences</td>
<td>0.00%</td>
<td>0.60%</td>
<td>30.80%</td>
<td>63.50%</td>
<td>5.10%</td>
<td>3.73</td>
<td>0.56</td>
</tr>
<tr>
<td>I am highly familiar with IFRS</td>
<td>0.00%</td>
<td>0.60%</td>
<td>16.70%</td>
<td>78.20%</td>
<td>4.50%</td>
<td>3.87</td>
<td>0.47</td>
</tr>
<tr>
<td>I have extensive experience in finance from this organization</td>
<td>0.00%</td>
<td>0.00%</td>
<td>12.80%</td>
<td>71.20%</td>
<td>16.00%</td>
<td>4.03</td>
<td>0.538</td>
</tr>
<tr>
<td>I have extensive experience in finance from other organization</td>
<td>0.00%</td>
<td>1.30%</td>
<td>18.60%</td>
<td>50.60%</td>
<td>29.50%</td>
<td>4.08</td>
<td>0.727</td>
</tr>
<tr>
<td>I have pursued professional courses in the field of finance</td>
<td>0.00%</td>
<td>0.00%</td>
<td>1.90%</td>
<td>70.50%</td>
<td>27.60%</td>
<td>4.26</td>
<td>0.48</td>
</tr>
<tr>
<td>I regularly attend in-house trainings conducted in our finance department</td>
<td>0.00%</td>
<td>0.60%</td>
<td>6.40%</td>
<td>54.50%</td>
<td>38.50%</td>
<td>4.31</td>
<td>0.618</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>0.00%</strong></td>
<td><strong>0.60%</strong></td>
<td><strong>6.40%</strong></td>
<td><strong>54.50%</strong></td>
<td><strong>38.50%</strong></td>
<td><strong>4.31</strong></td>
<td><strong>0.618</strong></td>
</tr>
</tbody>
</table>

Results revealed that 68.60% (63.50%+5.10%) of the respondents agreed with the statement “I regularly attend professional accountancy conferences”. Results also revealed that 82.70% of the respondents agreed with the statement that “I am highly familiar with IFRS”. The results also revealed that 87.20% of the respondents agreed with statement that “I have extensive experience in finance from this organization”. Further, the results found out that 80.10% of the respondents agreed with the statement “I have extensive experience in finance from other organization”. Results further revealed that 98.10% of the respondents agreed with the statement “I have pursued professional courses in the field of finance”. The results
further revealed that 93.10% agreed with the statement “I regularly attend in-house trainings conducted in our finance department”.

4.10.2 ANOVA Results on Personal Skills and Competence and Ranking of Financing Decisions by Managers of Firms Listed in NSE

A preliminary test on the influence of personal skills and competency on ranking of financing decisions by financial managers of firms listed in the NSE was conducted using ANOVA. The financing preference was grouped into three categories which were internal financing, debt financing and equity financing. Results in Table 4.36 show that there is a significant relationship between personal skills and competency and financing preference. This is supported by an F statistic of 15.026 which was larger than the tabulated F statistic. A p-value of 0.000 which was less than the critical p value of 0.05 supported the same findings.

Table 4.36: ANOVA Results on Personal Competency and Ranking of Financing Decisions by Managers of Firms Listed in NSE

<table>
<thead>
<tr>
<th></th>
<th>Sum of squares</th>
<th>df</th>
<th>mean square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean personal competence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>8.249</td>
<td>2</td>
<td>4.124</td>
<td>15.026</td>
<td>0.000</td>
</tr>
<tr>
<td>Within groups</td>
<td>42.27</td>
<td>154</td>
<td>0.274</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>50.519</td>
<td>156</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.10.3 Post Hoc Analysis

Post hoc analysis was conducted in order to have an in depth analysis of the ANOVA results. Results in table 4.37 revealed that there was a significant difference in mean personal skills and competence between internal and debt financing (-.3956, p value of 0.000). The results imply that finance managers who chose debt financing were more likely to be more competent than those who chose internal financing. Results also show that there was a significant difference in mean personal competency between internal and equity financing (-0.5016, p value of 0.000). The results imply that the finance managers who chose equity financing were more competent than those who chose debt financing.
Table 4.37: Post Hoc Analysis Results

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Financing</td>
<td>Debt Financing</td>
<td>-0.3955556</td>
<td>0.1043215</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Equity Financing</td>
<td>-0.5016162*</td>
<td>0.0994886</td>
<td>0.000</td>
</tr>
<tr>
<td>Debt Financing</td>
<td>Internal Financing</td>
<td>0.3955556*</td>
<td>0.1043215</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Equity Financing</td>
<td>-0.1060606</td>
<td>0.1160234</td>
<td>0.362</td>
</tr>
<tr>
<td>Equity Financing</td>
<td>Internal Financing</td>
<td>0.5016162*</td>
<td>0.0994886</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Debt Financing</td>
<td>0.1060606</td>
<td>0.1160234</td>
<td>0.362</td>
</tr>
</tbody>
</table>

* The mean difference is significant at the 0.05 level.

4.10.4 Means plot

A means plot was used to present the linear relationship between personal skills and competence and ranking of financing decisions by financial managers of firms listed in the NSE. The mean personal competency of those who chose internal financing was 3.7711, those who chose debt was 4.1667 and for those who chose equity financing was 4.2727. This implies that those who chose equity financing were more competent followed by those who chose debt and finally those who chose internal financing.
4.10.5 Multinomial logit Regression Analysis for Personal Skills and Competence and Ranking of Financing Decisions by Managers of Firms Listed in NSE

Multinomial logit regression was used to assess the log likelihood that finance manager chose a particular type of financing over the base choice (internal financing) given a unit increase in interaction term. The results are presented in table 4.38.
Multinomial regression results show that a unitary increase in interaction term would result in an increase in the log odds of choosing debt capital over internal capital by -0.414 units. Further, a unitary increase in interaction term would result in an increase in the log odds of choosing equity capital over internal capital by 0.453 units.

Thus, the model:

\[
\log \frac{\Pr(Y=\text{Debt capital})}{\Pr(Y=\text{internal capital})} = 0.301 - 0.414 \text{ interaction term}
\]

\[
\log \frac{\Pr(Y=\text{Equity capital})}{\Pr(Y=\text{internal capital})} = -12.35 + 0.453 \text{ interaction term}
\]
4.10.5.1. Multinomial Regression between all the Independent Variables and Personal Skills and Competence

Table 4.39: Multinomial Regression between all the Independent Variables and Personal Skills and Competence

<table>
<thead>
<tr>
<th>Multinomial Logistic Regression</th>
<th>Number of obs</th>
<th>157.000</th>
</tr>
</thead>
<tbody>
<tr>
<td>LR chi2(16)</td>
<td>chi2(16)</td>
<td>164.030</td>
</tr>
<tr>
<td>Prob &gt; chi2</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>likelihood</td>
<td>-83.273</td>
</tr>
<tr>
<td>Pseudo R2</td>
<td></td>
<td>0.496</td>
</tr>
</tbody>
</table>

### Ranking of Financing Decisions

| Coef. | Std. Err. | z    | P>|z| |
|-------|-----------|------|-----|
| Internal Financing (base outcome) |           |      |     |
| Debt Financing                  |           |      |     |
| Overconfidence                  | 1.205     | 0.579| 2.080| 0.037|
| Over Optimism                   | 1.128     | 0.512| 2.200| 0.028|
| Regret aversion                 | -0.685    | 0.457| -1.500| 0.134|
| Anchoring                       | 0.803     | 0.414| 1.940| 0.052|
| Mental Accounting               | -0.253    | 0.788| -0.320| 0.748|
| Conservatism                    | -2.247    | 0.601| -3.740| 0.000|
| Personal competence             | 0.602     | 0.621| 0.970| 0.332|
| Interaction IV Personal skills and competence | 0.469 | 0.198 | 2.360 | 0.018 |
| Constant                        | -10.075   | 4.639| -2.170| 0.030|

### Equity Financing

| Coef. | Std. Err. | z    | P>|z| |
|-------|-----------|------|-----|
| Overconfidence                  | 3.581     | 0.908| 3.940| 0.000|
| Over Optimism                   | 1.086     | 0.709| 1.530| 0.126|
| Regret aversion                 | -2.610    | 0.741| -3.520| 0.000|
| Anchoring                       | 1.975     | 0.674| 2.930| 0.003|
| Mental accounting               | 2.982     | 1.241| 2.400| 0.016|
| Conservatism                    | -4.176    | 0.799| -5.230| 0.000|
| Personal Skills and competence  | 0.406     | 0.880| 0.460| 0.645|
| Interaction IV Personal skills and competence | 0.895 | 0.275 | 3.250 | 0.001 |
| Constant                        | -29.058   | 7.914| -3.670| 0.000|

Multinomial logit results in table 4.39 show that the interaction between the composite of all the independent variables and personal skills and competence on debt financing decision was significant as reflected by a p value of 0.018. This means that personal skills and competence moderates the relationship between managerial behavioral biases and debt financing given internal financing as a base category. Further, the results revealed that the interaction between the composite of all the independent variables and personal skills and competence on equity financing decision was significant as reflected by a p value of 0.001. This means
that personal skills and competence moderates the relationship between managerial behavioral biases and equity financing given internal financing as a base category.

With the introduction of moderating variable (personal skills and competence), the $R^2$ improved from 42.6% (before moderation) to 49.6% (after moderation). This implies that personal skills and competence has a moderating effect on the relationship managerial behavioral biases and ranking of financing decisions.

### 4.10.6 Hypothesis testing for the moderator (Personal Skill and Competence)

The seventh objective was to establish the moderating effect of personal skill and competence on the relationship between managerial behavioral biases and ranking of financing decisions of firms listed in the Nairobi Securities Exchange. Results above show that the calculated log likelihood-statistic (LR chi2 (2) of 47.85 was more than the tabulated/critical chisquare statistic. The findings were further supported by a p-value of 0.000. The null hypothesis was thus rejected hence personal competence moderates the relationship between managerial behavioral biases and ranking of financing decisions.

### 4.11 Overall Regression for all Variables

Multinomial logit regression was used to assess the log likelihood that finance manager chose a particular type of financing over the base choice (internal financing) given a unit increase in mean overall variables. The results are presented in table 4.40.

Iteration 0: log likelihood = -165.28636
Iteration 1: log likelihood = -159.40194
Iteration 2: log likelihood = -159.1145
Iteration 3: log likelihood = -159.11323
Iteration 4: log likelihood = -159.11323
Table 4.40: Overall Regression for All Variables

|                | Coef.   | Std.Err |    z  |  p>|z| |
|----------------|---------|---------|-------|-------|
| Internal financing (base outcome) |         |         |       |       |
| Debt Financing | 0.3669334 | 0.532491 | 0.69  | 0.491 |
| constant       | -1.868924 | 1.743669 | -1.07 | 0.284 |
| Equity Financing | 2.20448  | 0.68914  | 3.2   | 0.001 |
| constant       | -7.891468 | 2.332081 | -3.38 | 0.001 |

Multinominal regression results in table 4.40 show that a unitary increase in mean independent variables would result in an increase in the log odds of choosing debt capital over internal capital by -0.367 units. Further, a unitary increase in interaction term would result in an increase in the log odds of choosing equity capital over internal capital by 2.204 units.

Thus, the model:

\[
\log \frac{Pr(Y=\text{Debt capital})}{Pr(Y=\text{internal capital})} = -1.869 + 0.367 \text{ Mean IV}
\]

\[
\log \frac{Pr(Y=\text{Equity capital})}{Pr(Y=\text{internal capital})} = -7.891 + 2.204 \text{ Mean IV}
\]

4.12 Chapter Summary

The chapter begins with the general information, constituting of demographic characteristics of the respondents, before presenting the descriptive and inferential statistics for all the variables of study. Chapter four has provided results and findings as per the data collected from the respondents who were the financial managers of firms listed in the NSE and analysis on the background information.

The subsequent chapter presents the discussions of the results which are also compared with those of other similar studies indicating whether the results of this study agree or disagree with them. It also presents the conclusions and finally makes some recommendations and suggestions for further research.
CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the findings, the conclusion and recommendations presented in line with the objectives of the study. Areas of further research were suggested whilst considering the scope and limitations of the study. This research pursued six objectives and six hypotheses upon which conclusions were aligned.

5.2 Summary of Findings

This study sought to investigate the effect of behavioral biases on ranking of financing decisions by financial managers of firms listed at NSE. The research objective was to establish the effect of overconfidence, over optimism, regret aversion, anchoring, mental accounting and conservatism on ranking of financing decisions. The study incorporated one moderating variable: personal skills and competency, in establishing the effect of managerial behavioral biases on ranking of financing decisions by financial managers of NSE listed firms.

The research was guided by positivism philosophy and a descriptive correlational design was used to conduct the study. The target population was made up of 192 senior financial managers. A self-administered questionnaire was used for data collection in this study. A pilot study was conducted to assess the validity and reliability of the tool. The data collected was analysed and informed the finalization of the questionnaire used for the main study. The questionnaire was subjected to reliability and validity tests and found to be sound. Reliability was tested using Cronbach alpha and the results were greater than 0.7 implying that the constructs of study variables were all reliable. The questionnaire which used a 5 point Likert scale was then sent out to 192 financial managers of the drawn from the 64 entities listed at the NSE.

A total of 158 employees responded, leading to reasonably good response rate of 82%. Of these respondents; 53% were male and 47% female, most of whom (86%) were in senior and middle level management, as such the survey’s respondents were top notch managers. 57.8% percent of the respondents were male while 38.9% percent were female. On the management level of the
manager who were supervisors, were 53% male and 47% female. On the duration of employment, most the respondents had worked long enough to understand the characteristics of the nature of financing because 90% had been in their current employment for at least 5 years. This equally correlates with the fact that 92% of these financial managers were above the age of 30 years. In addition, 64% were MBA holders and 17% with PhDs. Most importantly, 92% were on a day to day basis involved in various aspects of financing decisions leading to a good precision in selecting and achieving the targeted population.

Findings depict a significant effect of overconfidence, over optimism, regret aversion, anchoring, mental accounting and conservatism on ranking of financing decisions by managers in firms listed in NSE. Detailed analysis of results revealed that managers who were predisposed to overconfidence, anchoring and mental accounting biases were more inclined towards debt and equity compared to internal capital, with equity most preferred followed by debt then internal sources of capital. However, those with over optimism bias ranked debt highest followed by equity with the lowest ranking for internal capital. On the other hand, managers with a predisposition towards regret aversion and conservatism behavioral biases highly ranked internal capital and debt compared to equity, internal capital was most preferred followed by debt then equity. Further results indicate a significant interaction between moderating variable (personal skills and competency) and managerial behavioral biases on ranking of financing decisions.

5.3 Discussion of Results

5.3.1. Effect of Overconfidence on Ranking of Financing Decisions by Managers of Firms Listed in NSE

The study aimed at finding out the effect of managerial overconfidence on ranking of financing decisions of firms listed in the Nairobi Securities Exchange. ANOVA results showed there was a significant relationship between overconfidence and ranking of financing decisions. Results of Post hoc analysis revealed a significant difference in mean overconfidence between internal and equity financing. Results also showed that there was a significant difference in mean overconfidence between debt and equity financing. Mean plot showed that those who chose equity financing were more overconfident followed by those
who chose debt and finally those who chose internal capital. Multinomial logit regression results indicate that a unitary increase in overconfidence would result in an increase in the log odds of choosing debt capital over internal capital by certain units. Further, a unitary increase in overconfidence would result in an increase in the odds of choosing equity capital over internal capital by certain units. The alternative hypothesis was not rejected and thus managerial overconfidence had a significant relationship with ranking of financing decisions.

These finding are in line with Hackbarth (2008) who found that overconfident managers selected higher debt levels, issue new debt more frequently, need not follow a pecking order of funding, and tend to time capital structure decisions. In the second version of Hackbarth’s model, the agency problem of free cash flow exists. An overconfident manager chooses a higher debt level than a rational manager. This serves to mitigate the free cash flow problem, hence aligning managers’ and shareholders’ objectives. Results on the other hand contradict with those of Fairchild (2007) who found out that overconfidence may result in a decrease in debt (the rational manager knows that the new project is value-reducing and uses high debt to commit not to invest in it, while the overconfident manager perceives the new project as value-increasing, and reduces debt in order to make the investment.

Lin (2012) found out that overconfidence has positive significant impacts on investors’ decision making. Baker and Wurgler (2011) document empirically that overconfident managers are more likely to issue equity when their stock market values are higher than book and past market values. In other words, overconfident managers time the market when making capital structure decisions. When confidence is high, firms have higher levels of debt. Therefore, overconfident managers tend to issue more debt.

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. Tekçe et al., (2016) contend that due to aggressive trading behavior, overconfident investors may have to pay significant amount of debt. They further state that, overconfident investors may hold riskier portfolios than they should tolerate due to their underestimation of risks. In conclusion, they note that overconfidence affects financial markets and prices. This is in line with the present study results.
According to Shefrin (2008), overconfidence may motivate a manager to adopt an overly heavy sub optimal debt laden capital structure. This contradicts with present study results which indicated that equity is preferred to debt by overconfident managers. Heaton (2002) argues that overconfidence leads to managers overestimating the net present value of new investment projects. Therefore, they will invest in negative NPV projects that they mistakenly believe to be positive NPV; hence overconfidence is value-reducing. Similarly, Malmandier and Tate (2004) argue that overconfidence may result in corporate investment distortions leading to over investment when there is abundance of internal funds, and they under invest when they require external financing. These findings are contrary to the present study since according to the present study, internal financing is considered least among the overconfident managers. Shyam-Sunder and Myers (2009), contend that the choice of capital fund is a function of rational decision guided by costs and benefits consideration associated with leverage. This implies that the behavioral bias of overconfidence in a manger will affect the financing sources a company will use.

5.3.2. Effect of Over Optimism on Ranking of Financing Decisions by Managers of Firms Listed in NSE

The second objective of the study was to establish the effect of over optimism on ranking of financing decisions. ANOVA results show a significant relationship between over optimism and ranking of financing decisions. Post hoc analysis results revealed that there was a significant difference in mean over optimism between internal and debt financing. Results also showed that there was a significant difference in mean over optimism between internal and equity financing. Mean plot results showed that those who chose debt financing were more over optimistic followed by those who chose equity and finally those who chose internal financing. Multinomial logit regression results indicate that a unitary increase in over optimism would result in an increase in the odds of choosing debt capital over internal capital by certain units. Further, a unitary increase in over optimism would result in an increase in the log odds of choosing equity capital over internal capital by certain units. The alternative hypothesis was not rejected and thus over optimism had a significant relationship with ranking of financing decisions.
Findings concur with Heaton (2002) who argued that overoptimistic managers prefer debt financing to external equity financing, overoptimistic managers tend to accept that the market underestimates the value of their firm. Believing that the market undervalues shares of their firms, overoptimistic managers avoid issuing equity when they have other financing choices. Findings also agree with Gombola and Marciukaityte, (2007) who found out that if managers are subject to overly optimistic predictions for their asset acquisitions, they are more likely to finance asset growth by debt rather than by equity. Further findings agree with those of Smith (2015) who showed that optimistic entrepreneurs choose higher levels of debt financing relative to equity in keeping with behavioral finance expectations and, after taking into account the endogeneity of the financing mix, higher leverage (that is, higher debt relative to equity) facilitates innovation using both patent-based and product-based measures. In contrast, Lin et al. (2008) found that optimistic managers prefer internal financing to external financing because they believe market investors underestimate the value of their firm and thus hesitate to raise funds from the financial markets. Azouzi and Jarboui (2012) further found out that CEO optimism level is positively correlated with a preference for internally generated resources and debt but negatively associated with capital increase. They prefer to fund projects primarily through internal capital debt and then finally external equity.

De Meza, Irlenbusch and Reyniers (2008) provides theory and evidence that financial decision making is influenced by optimism Dushnitsky (2010); Landier et al., (2009); Puri et al., (2007). The entrepreneur selects financing based on a number of factors, including her overall assessment of the likelihood of failure. The entrepreneur has private information regarding the likelihood (or expectation) of success that is essentially unavailable to outsiders, where “success” in this case can be thought of as successful innovation. This may arise because the entrepreneur chooses to keep this information hidden leading to the archetypical “lemons problem”. Alternatively, this information asymmetry may be a function of the external finance providers’ inability to fully understand the complexities involved over time to the same degree as the entrepreneur. In either event, if the entrepreneur is able to correctly assess the likely success in innovation, then she may choose her financing mix accordingly, relying more heavily on equity if failure is more likely (in which case there is adverse selection) and relying more heavily on debt if success is more likely.
Because over optimistic entrepreneurs underestimate the likelihood of failure, they are willing to take on more short-term debt (Landier et al., 2009). Likewise, overoptimistic entrepreneurs will rely upon higher leverage than their more realistic counterparts (Dai and Ivanov (2017); De Meza, Irlenbusch and Reyniers (2008). Similarly, Hackbarth (2008) finds that over-optimistic managers overestimate growth potential and profitability while simultaneously underestimating the risk of failure; in conjunction, these effects lead over-optimistic managers to issue greater amounts of debt. This is in line with the present study results.

Over optimism is also present in business environment. Entrepreneurs are extremely optimistic regarding their future outcomes when compared to investors. The over optimism bias particularly affects the financial decision making, the main cause of debt problems today is due to over optimism of financial managers (He gave most emphasis on the literature identifying behavioral decision-making attributes that are likely to have systematic effects on financial market behavior. This agrees with the present study findings.

According to Hayward, Shepherd and Griffin (2006), over optimism may also translate directly into a reluctance to enter into equity arrangements. They consider a “hubris theory of entrepreneurship” in which over-confident or over-optimistic entrepreneurs will reduce the liquidity of ventures by not accepting equity based deals (giving up control), preferring instead to rely on greater debt (which is subject to default). In a similar vein, technology entrepreneurs with knowledge-based assets that can be selectively revealed to investors, optimism is associated with a preference for contingent payment contracting rather than disclosure of knowledge (Dushnitsky (2010). This further agree with the findings of the current study. Contrary to the present study results, Mohamed Fairchild and Bouri (2014) found out that managerial optimism leads managers to accept that an efficient capital market underestimates their firm's risky securities. Thus, managerial optimism leads to a preference for internal finances that can be socially expensive. Optimistic managers dependent on external funds sometimes decline positive NPV projects, believing that the cost of external finance is simply too high. Free cash flow can, therefore, be valuable.
5.3.3. Effect of Regret Aversion on Ranking of Financing Decisions by Managers of Firms Listed in NSE

ANOVA analysis results show that there is a significant relationship between regret aversion and ranking of financing decisions. Post hoc analysis results revealed that there was a significant difference in mean regret aversion between internal and debt financing. Results also showed that there was a significant difference in mean regret aversion between internal and equity financing. Further, results show that there was a significant difference in mean regret aversion between debt and equity financing. Mean plot results indicated that those who chose internal financing were more regret averse followed by those who chose debt and finally those who chose equity financing.

Results indicate that a unitary increase in regret aversion would result in an increase in the odds of choosing debt capital over internal capital by certain units. Further, a unitary increase in regret aversion would result in an increase in the odds of choosing equity capital over internal capital by certain units. The alternative hypothesis was not rejected and thus regret aversion had a significant relationship with ranking of financing decisions.

Findings agree with Helliar et al. (2006), who argue that loss aversion leaders seek to avoid the worst-case scenarios. They not only use the tools of risk management to reduce the variance of cash flows but rather to avoid the worst scenarios that influence the risk of bankruptcy or preventing the company to take advantage of profitable investment. They refuse to debt financing (avoided the risk of bankruptcy) and prefer self-financing.

Azouzi and Jarboui, (2012) found that CEO loss aversion level is negatively correlated with firms’ leverage ratios and capital increase. CEO recognizes firms’ operational risk level and loss aversion seeks to reduce its firms’ total risk by using low of external funding including debt. CEO of high operational firms tries to control the total risk by limiting the financial risk introduced by debt and the issuance of new shares. He prefers to finance its investment projects through internal funds. These current study results are in line with these findings by Azouzi and Jarboui (2012); Ulla Jamil Qamar and Waheed (2012) observed that managers use the level of debt in their capital structure in accordance with the size of the firm.
The larger the size of firm, the larger the portion of debt is implied in the capital structure. Managers of the firms with high sale growth use the internal financing so that firm can avoid bankruptcy risk.

Regret aversion is primarily concerned with how a prior anticipation of possible regret can influence decision making (Baker and Nofsinger, 2010). People exhibiting regret aversion avoid taking decisive actions because they fear that, in hindsight, whatever course they select will prove less than optimal. It is a cognitive phenomenon that often arises in risk averse investors, causing them to hold onto losing positions too long in order to avoid admitting errors and realizing losses. Regret aversion also makes people unduly apprehensive about breaking into financial markets that have recently generated losses (Pompian, 2006). In contrast to the expected utility theory, prospect theory assumes that people’s utility is defined over their gains or losses in comparison with some reference point and not over the value of their final assets. It also assumes that people’s utility from gain is lower than their disutility from the same loss and that people are risk-averse over gains and risk-loving over losses. In addition to these loss aversion assumptions, prospect theory assumes that people tend to overweight low probabilities and underweight high probabilities (Dodonova and Khoroshilov, 2005).

Regret aversion is characterized by a utility function that includes disutility from having chosen ex-post suboptimal alternatives. The manager optimally opts for zero leverage if risk aversion is relatively more important than regret aversion in representing the manager’s preferences. Otherwise, the optimal capital structure is interior such that the optimal amount of debt increases when regret aversion becomes increasingly more important than risk aversion in representing the manager’s preferences. The firm’s market leverage ratio is inversely related to the project’s profitability and to the firm’s market-to-book ratio. (Wong, 2015).

5.3.4. Effect of Anchoring on Ranking of Financing Decisions by Managers of Firms Listed in NSE

ANOVA results showed that there is a significant relationship between anchoring and ranking of financing decisions. Post hoc analysis results revealed that there was a significant
difference in mean anchoring between internal and debt financing. Results also show that there was a significant difference in mean anchoring between internal and equity financing. Means plot results showed that those who chose equity financing were more anchoring followed by those who chose debt and finally those who chose internal financing. Multinomial logit results indicate that a unitary increase in anchoring would result in an increase in the log odds of choosing debt capital over internal capital by certain units. Further, a unitary increase in anchoring would result in an increase in the log odds of choosing equity capital over internal capital by certain units. The alternative hypothesis was not rejected and thus anchoring had a significant relationship with ranking of financing decisions.

Soufani, Tse, Cole and Aboulamer (2012) found a mix changing levels of debt and equity capital adopted by anchoring managers. Karaa (2011) found out that anchoring bias caused never borrowing orientation of managers leave the firm to face lower cash flows which they can obtain high levels of cash flow in use of debt instead. He found out that anchoring managers avoid debt and rather use internal resources. The current results disagree with the findings of this study.

Filbeck, Gorman and Preece (2006) study found that firms may actually make decisions based on the financing decisions of some industry leader. Ari (2009) found out that anchoring occurs when one becomes stuck to a particular reference point as a basis for making judgments and decisions and it is common for traders to anchor to an entry point after entering a position. Many traders refuse to take a loss, instead waiting for the market to return to the entry point to allow them to scratch the trade.

According to Bretton (2009) many traders refuse to exit a bad position that moved to within ticks of their entry, fixed on exiting at the anchored point of entry and the result is that they often end up taking much larger losses when sheer pain becomes their stop-loss mechanism. People are most likely to anchor decisions to criteria that capture their attention and for that reason traders commonly anchor to high points and low points in market movements, including obvious points of support and resistance (Muriithi, 2014). Traders will gravitate to these points for the placement of their stops as well as their entries for breakout trades. If a trader anchors to a support or resistance level to enter a breakout trade, the trader may be
completely unaware of the demand or supply that rests below or above those anchor levels. Similarly, if a trader places a stop near an obvious region of high low prices, he may increase the odds that normal market probes will take out those levels in the search for value (Muriithi, 2014).

5.3.5. Effect of Mental Accounting on Ranking of Financing Decisions by Managers of Firms Listed in NSE

ANOVA results show that there is a significant relationship between mental accounting and ranking of financing decisions.

Post hoc analysis results revealed that there was a significant difference in mean mental accounting between internal and equity financing. Results also show that there was a significant difference in mean mental accounting between debt and equity financing. Mean plot results indicated that those managers who chose equity financing) were more overconfident followed by those who chose debt and finally those who chose internal financing. Multinomial logit results indicated that a unitary increase in mental accounting would result in an increase in the log odds of choosing debt capital over internal capital by certain units. Further, a unitary increase in mental accounting would result in an increase in the log odds of choosing equity capital over internal capital by certain units. The null hypothesis was rejected and thus mental accounting had a significant relationship with financing decisions.

Barandagh and Hasanzadeh (2013) shows that there is a negative significant relationship between mental accounting and decisions of investors, assessments of financial activities, assessments of financial dictons. There is no significant relationship between mental accounting and resource allocations.

Karlsson, Garling, and Selart, (2007) conducted a study on effects of mental accounting on inter temporal choice. Two experiments with undergraduates as subjects were carried out with the aim of replicating and extending previous results showing that the implication of the behavioral life-cycle hypothesis (Thaler, 2008) that people classify assets in different mental accounts current income, current assets, and future income) may explain how consumption choices are influenced by temporary income changes. The results of both experiments
supported the role of mental accounts in demonstrating that subjects were unwilling to pay in cash after an income decrease even though they had access to saved money. Thus, in effect they chose to pay more for the good than they had to. Indicating a need for further refinement of the concept of mental account, choices to pay in cash after an income decrease tended to be more frequent when the consumption and savings motives were compatible than when they were incompatible. Furthermore, increasing the total assets made subjects more willing to pay in cash after an income decrease (Shefrin, 2008).

5.3.6. Effect of Conservatism on Ranking of Financing Decisions by Managers of Firms Listed in NSE

ANOVA results showed that there is a significant relationship between conservatism and ranking of financing decisions. Post hoc analysis results revealed that there was a significant difference in mean conservatism between internal and debt financing. Results also showed that there was a significant difference in mean conservatism between internal and equity financing. Results further showed that there was a significant difference in mean conservatism between debt and equity financing.

Means plot was used to present the linear relationship between conservatism and the choice of financing. Results showed that those who chose internal financing were more conserved followed by those who chose debt and finally those who chose equity financing. Multinomial results indicate that a unitary increase in conservatism would result in an increase in the log odds of choosing debt capital over internal capital by certain units. Further, a unitary increase in conservatism would result in an increase in the log odds of choosing equity capital over internal capital by certain units. The alternative hypothesis was not rejected and thus conservatism had an insignificant relationship with ranking of financing decisions.

Findings concur with Souhei (2014) who observed that firms practicing a higher level of unconditional conservatism borrow more money from banks under the condition of facing a funding shortfall. Lee, (2010) also found that firms with greater reporting conservatism exhibit less financial flexibility in their corporate liquidity management, their debt or equity issuance decisions. Results further disagree with those of Ghavi, Najafi, and Arfai (2013) who found out that there is not any significant relationship between conservative accounting
and using debt. Qiang (2007) focuses on U.S. firms and shows that higher debt equity ratio induces a greater level of conditional conservatism. In addition, using a sample of U.S. firms, Nikolaev (2010) reports that reliance on covenants in public debt contracts is positively associated with the degree of timely loss recognition (i.e., conditional conservatism). On the other hand, LaFond and Roychowdhury (2008) examine (conditional) conservatism from the shareholders’ perspective. They show that (conditional) conservatism increases in the presence of agency problems between managers and shareholders. Iyengar and Zampeli (2010) also analysed the relationship between (conditional) conservatism and the sensitivity of executive pay to accounting performance. Using a sample of U.S. firms, they found that the sensitivity of executive pay to accounting performance is higher for firms that report (conditionally) conservative accounting earnings.

Zhang (2008) also show that conservative borrowers are more likely to violate debt covenants following a negative price shock and that lenders offer lower interest rates to more (conditionally) conservative borrowers. Lambert et al, 2011), then accounting conservatism can be viewed as acting like voluntary disclosure to reduce the cost of equity capital. (Watts et al., 2012). Thus, firms that embrace more conservative financial reporting are more likely to obtain funding (via better borrowing terms) from banks or other creditors, especially given the increased costs of external funds and intensified capital rationing in the crisis period. These results agree with the present study results.

Zhang (2008) and Haw (2014) document that lenders offer lower interest rates to more conservative borrowers. Wittenberg-Moerman (2008) shows that timely loss recognition reduces the bid ask spread in the secondary loan market. Thus, one direct benefit of conservative financial reporting is a lower interest expense. Gormley et al. (2012) find that more timely loss recognition was associated with better access to credit markets following foreign bank entry into India and conclude that lenders value timely loss recognition when making lending decisions. Hence, given a lower cost of debt and better access to external finance, firms with more conservative financial reporting will be able to invest in projects that produce positive NPVs; such projects would not be pursued if the cost of debt were higher. Accounting conservatism improves investment efficiency by mitigating potential underinvestment. These prior findings are in line with the present study results.
5.3.7. Effect of Personal Skills and Competence on Ranking of Financing Decisions by Managers of Firms Listed in NSE

The seventh objective of the study was to examine the moderating effect of personal skill and competence on the relationship between managerial behavioral biases and financing decisions. ANOVA results showed that there is a significant relationship between personal competence and ranking of financing decisions.

Post hoc analysis revealed that there was a significant difference in mean personal competency between internal and debt financing. Results also show that there was a significant difference in mean personal skills and competency between internal and equity financing. Means plot results showed that those who chose equity financing were more competent followed by those who chose debt and finally those who chose internal financing. The alternative hypothesis was not rejected and thus personal skill and competence have a significant moderating effect between managerial behavioral biases and ranking of financing decision of firms listed in the Nairobi Securities Exchange.

Findings correspond with those of Graham, Harvey, and Huang (2009) who found out that managers are more willing to make decisions on their own judgments when they feel skilful or knowledgeable. Finance managers who feel competent make decisions often and have a more internationally diversified portfolio.

Managers are more willing to make decisions on their own judgments when they feel skilful or knowledgeable. Finance managers who feel competent make decisions often and have a more internationally diversified portfolio (Graham, Harvey, and Huang 2009).

Nkundabanyanga, Opiso, Balunywa, Nkote, (2015) suggested a positive and significant relationships between perceived managerial competence, risk-taking behaviour and financial service outreach. However, while the direct relationship between managerial competence and financial service outreach without the mediation effect of risk-taking behaviour of managers was found to be significant, its magnitude reduces when mediation of risk-taking behaviour is allowed. Thus, the entire effect does not only go through managerial competence but majorly also, through risk-taking behaviour of managers.
Financial crises are common both in organizations and in their environment – they have become a characteristic feature of the operation in the current market conditions. The effectiveness of management in times of the crisis depends largely on organizational competences of managers. Given the escalation of the crisis, crisis management has become an important skill of managers and the crisis is a test of leadership skills. Undoubtedly, in times of the crisis managers are required to be more stress-resistant, to have the ability to make quick and non-standard decisions, often under conditions of information uncertainty, as well as the ability to take risks (Szczepańska-Woszczyna, 2013).

Managerial competency is one of the rare, valuable, and difficult to imitate resources to enable firms to attain superior financial stability. It involves knowledge, skills, personal traits and abilities (Ahmad and Schroeder, 2013), which are predictors of success in the job that in turn affect the firms’ performance.

5.4 Conclusions

5.4.1. Effect of Overconfidence on Ranking of Financing Decisions by Managers of Firms Listed in NSE

There was a statistically significant relationship between overconfidence bias and ranking of financing decisions. The study concluded that an overconfident manager would prefer equity capital followed by debt and finally internal capital. This is because an overconfident manager perceives the new project as value increasing.

5.4.2. Effect of Over Optimism on Ranking of Financing Decisions by Managers of Firms Listed in NSE

There was a statistically significant relationship between over optimism bias and ranking of financing decisions. It was further concluded that overoptimistic managers prefer debt financing to external equity financing since these managers tend to accept that the market underestimates the value of their firm. Believing that the market undervalues shares of their firms, overoptimistic managers avoid issuing equity when they have other financing choices.
5.4.3. Effect of Regret Aversion on Ranking of Financing Decisions by Managers of Firms Listed in NSE

There was a statistically significant relationship between regret aversion and ranking of financing decisions. Based on the study findings, it was concluded that regret aversion affected financial decisions ranking as regret averse managers would choose internal financing over debt and equity. This is because a regret adverse manager seeks to reduce its firms’ total risk by using low of external funding including debt. On effect of anchoring on financial decisions ranking, the study concluded that anchoring influences the ranking of financial decisions by firm’s managers. A manager who anchors on past good performance of the firm and will therefore prefer using equity.

According to Baker and Nofsinger, 2010), regret aversion is primarily concerned with how a prior anticipation of possible regret can influence decision making. People exhibiting regret aversion avoid taking decisive actions because they fear that, in hindsight, whatever course they select will prove less than optimal. It is a cognitive phenomenon that often arises in risk averse investors, causing them to hold onto losing positions too long in order to avoid admitting errors and realizing losses. Regret aversion also makes people unduly apprehensive about breaking into financial markets that have recently generated losses (Pompian, 2006). In contrast to the expected utility theory, prospect theory assumes that people’s utility is defined over their gains or losses in comparison with some reference point and not over the value of their final assets. It also assumes that people’s utility from gain is lower than their disutility from the same loss and that people are risk-averse over gains and risk-loving over losses. In addition to these loss aversion assumptions, prospect theory assumes that people tend to overweight low probabilities and underweight high probabilities (Dodonova and Khoroshilov, 2005).

5.4.4. Effect of Anchoring on Ranking of Financing Decisions by Managers of Firms Listed in NSE

There was a statistically significant relationship between anchoring and ranking of financing decisions. Based on the study findings, it was concluded that regret aversion affected
financial decisions ranking as regret averse managers would chose internal financing over debt and equity.

5.4.5. Effect of Mental Accounting on Ranking of Financing Decisions by Managers of Firms Listed in NSE

There was a statistically significant relationship between mental accounting and ranking of financing decisions. Mental accounting was found to affect financing decision ranking. The study concluded that a manager who does mental accounting will prefer using equity financing then debt and finally internal capital.

5.4.6. Effect of Conservatism on Ranking of Financing Decisions by Managers of Firms Listed in NSE

There was a statistically significant relationship between conservatism and ranking of financing decisions. On conservatism, the study concluded that conservatism affects the way a manager makes decisions on financing. It was concluded that a conserved manager would prefer internal capital then debt capital and finally equity capital. It was further concluded that personal skills and competence moderates that relationship between behavioral biases and financing decision ranking.

5.4.7. The Moderating Effect of Skills and Competence on Ranking of Financing Decisions by Managers of Firms Listed in NSE

There was a statistically significant relationship between level of individual skills and competence and ranking of financing decisions. The study concludes that while behavioral biases have an effect on ranking of financing decision, the effect varies depending on the manager’s level of the skills and competence.

5.5 Recommendations

The recommendations are in line with the objectives, findings and conclusions of the study.
5.5.1 Suggestions for Improvement

5.5.1.1 Overconfidence

Following the study results, it is recommended that the implications of overconfidence be considered by financial managers to constantly refine their financing ranking decisions. This will help handle the new set of challenges that come with every day of investment.

5.5.1.2 Over Optimism

Over optimistic financial managers are recommended to consider focusing on the present as they turn their minds towards the future as future focus when making financial decisions can be harmful. It is recommended that these individuals shift their focus away from the future and back towards the present when it comes to making financing decisions.

5.5.1.3 Regret Aversion

Financial managers are advised to consider referring to decision makers who have experience in money matters especially if the financial matter is complicated. To avoid being adversely affected by regret aversion, financial managers could pay attention to budgeting and long term financial planning.

5.5.1.4 Anchoring

Based on the findings in this study, managers are advised to always have a rigorous critical thinking. It’s most helpful to seek information when there is no huge financial stakes in it yet and when not under time pressure. Once it is time to take action, the full knowledge gained will be the anchor.

5.5.1.5 Mental Accounting

The study recommends firms to have mental accounting principles such as segregation of gains, integration of losses, integration of small losses in big gains, segregation of small gains in big losses which are procedures that effectively regulate economic and other transactions.
5.5.1.6 Conservatism

Financial managers in the firms are recommended to adopt a financially conservative policy so that when faced with earnings shortfall caused by unanticipated exogenous impacts, firms can rely on their financial flexibility preserved by adopting the conservative financial policy to raise money for profitable investment opportunities.

5.5.1.7 Personal Skills and Competence

Firms ‘financial managers were recommended to develop ability to make quick and non-standard decisions, often under conditions of information uncertainty, as well as the ability to take risks to enhance the effectiveness of management in times of the crisis that is have a risk-taking behaviour.

5.5.2 Areas for Further Study

The quality of financing decisions can have far reaching implications on the value of the firm and the economy as a whole. The study sought to investigate the effect that behavioral biases have on ranking of financing decisions by financial managers of firms listed in the NSE. Given the restricted population of study, other researchers should consider the effect of behavioral biases on ranking of financing decisions by financial managers in other sectors not represented in the NSE, particularly SMEs and make a comparison to the findings herein. There are other behavioral aspects such as stability, pattern recognition bias, chasing trends and limited attention span that were not included in this study but could be considered by future researchers. Additionally, it would be interesting to consider a wider geographical scope beyond Kenya and the continent. Inclusion of secondary data highlighting the performance trends of the firms within which the selected financial managers have been working may reveal interesting results and relationships, it is therefore recommended that this be considered by future researchers.
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APPENDICES

APPENDIX 1: COVER LETTER

JUDITH B.K. NYAKUNDI

USIU-A

P. O. BOX 14634 - 00800,

NAIROBI, KENYA

Dear Respondent,

I am carrying out a research on the effect of managerial behavioral biases on financing decisions of firms listed in the NSE. This is in partial fulfilment of the requirement for the award of the degree of Doctor of Business Administration at USIU-A. This study intends to use data from senior executives and non-executive members of listed firms from which you are part of the selected sample of respondents whose views we seek on the above mentioned matter.

Attached is a questionnaire, of which you’re kindly requested to answer all the questions accordingly. All information given in the questionnaire will be treated with strict confidentiality and used for the purpose of this dissertation only.

A copy of the final report will be availed to the respondents/firms upon request.

Thank you for taking your time to fill in the questionnaire.

Thank you in advance,

Yours sincerely,

Judith Nyakundi
APPENDIX 2: QUESTIONNAIRE

Kindly fill the questionnaire. Your responses will be kept confidential and used only for academic purposes. Please provide the following information about yourself.

PART IA: GENERAL INFORMATION

Kindly answer all the questions either by ticking in the boxes or writing in the spaces provided.

1. Please tick the appropriate management level for your current position
   i. Senior level Management (e.g. Head of department/division) □
   ii. Middle level management (e.g. directly reports to department/divisional head) □
   iii. Supervisory □

2. Please tick against your appropriate gender
   i. Male □
   ii. Female □

3. Please indicate your age bracket
   i. 30 years and less □
   ii. 31-40 years □
   iii. 41-50 years □
   iv. 51-60 years □
   v. 61 years and over □

4. Please indicate your highest level of education
   i. Undergraduate □
   ii. MBA □
   iii. non-MBA Masters □
   iv. PhD □
   v. Other _____________

5. How long have you been in your current role of making financing decisions?
   i. Less than 5 years □
   ii. 5-10 years □
   iii. 11 years and over □
6. To what extent are you involved in the making of the following decisions? (tick against appropriate response)

<table>
<thead>
<tr>
<th>Decisions</th>
<th>Not at all</th>
<th>Less extent</th>
<th>Moderate extent</th>
<th>Large extent</th>
<th>Very large extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working capital management</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Capital expenditure (CAPEX)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Operating expenditure (OPEX)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Budgeting</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
PART IB: CHOICE OF FINANCING

(1) Ranking of Financing Decisions (General)

Which of the following sources of finance do you prefer for long term, medium term and short term financing? Tick one only.

1) Internal capital (  )
2) Debt capital (  )
3) Equity capital (  )

(2) Ranking of Financing Decisions (With Scenarios)

If you are carrying out long term financing, medium term financing and short term financing, which type of financing approach would you choose. Tick one financing approach (Internal capital, debt capital and equity capital) for each scenario.

<table>
<thead>
<tr>
<th>Financing;</th>
<th>Internal capital</th>
<th>Debt capital</th>
<th>Equity capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long term finance - repayable for over 5 years (for financing property, plant and equipment)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Medium term finance - repayable within 2 to 5 years (for financing purchase of computers, furniture, vehicles)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Short term Finance - Repayable within 1 year (for financing working capital for inventory, meeting current liabilities)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
PART II: THE EFFECT OF OVERCONFIDENCE ON FINANCING DECISIONS

Please tick the numeric value corresponding to your personal opinion for each statement. Use the following Likert scale.

Strongly disagree=1, disagree=2, moderately agree=3, Agree=4, strongly agree=5.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The price of my firm’s stocks are generally undervalued</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Takeovers are not value-destroying on average</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Estimated costs of large projects are too low</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I consider debt to have lower risk compared to equity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I usually underestimate the cost of the undervalued investment projects</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I frequently overestimate my personal competences</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. I usually overestimate my ability</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. I usually underestimate financial distress costs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. I usually overestimate my ability to control financial outcomes</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

In what other ways do you view yourself as over confident…………………………………………………………………………………………

……………………………………………………………………………………………………………………………………………………………………

………..
PART III: THE EFFECT OF MANAGERIAL OPTIMISM ON FINANCING DECISIONS

Please tick the numeric value corresponding to your personal opinion for each statement. Use the following Likert scale.

Strongly disagree=1, disagree=2, moderately agree =3, Agree=4, strongly agree=5.

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Moderately agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I usually overestimate the frequency of favourable outcomes</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. I usually under estimate the frequency of unfavourable outcomes</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I usually overestimate the growth rate of earnings</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. It seems to me that in the securities market, my company's shares are highly demanded and traded.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I wouldn’t decline a viable project if there weren’t sufficient funds internally to finance the investment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Managers overestimate financial ability of their firms</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. I tend to play inherent uncertainty when making financing decisions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. I believe that my firm is generally successful in making financing decisions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. I usually overestimate my ambitions when making decision on financing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
In what other ways do you view yourself as over optimistic.
**PART IV: THE EFFECT OF MANAGERIAL REGRET AVERSION ON FINANCING DECISIONS**

Please tick the numeric value corresponding to your personal opinion for each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Moderately agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I fail to take action due to fear of bad outcomes</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. I hold poorly performing shares due to fear that the firm will lose when its prices increases in the future</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I act wisely while making financing decisions due to the fear of unknown</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. The past losses prevent me from deviating from a highly repeated and consistent course when favorable opportunities arise.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I frequently buy short-term bonds for fear of stock-market volatility</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. The past loses prevent me from breaking bond-buying habit to capitalize on the purchase of high yield stocks</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Have you ever regretted after making a poor financing decision?

a) Yes

b) No

If yes, explain how.................................................................
PART V: THE EFFECT OF MANAGERIAL ANCHORING ON FINANCING DECISIONS

Please tick the numeric value corresponding to your personal opinion for each statement.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Moderately agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I frequently rely too heavily on initial piece of information when making decision on financing</td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>2.</td>
<td>I usually prejudge prices lower than the initial price</td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>3.</td>
<td>I am frequently sensitive to shares information which I have experienced in the past</td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>4.</td>
<td>I usually take time to adjust on the price shares due to the initial market price</td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>5.</td>
<td>I usually make purchase decisions based on initial prices of well performing companies</td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
</tbody>
</table>

In what other ways do you view yourself as anchoring on past information on financing options….................................................................................................................................
........................................................................................................................................................................................................
........................................................................................................................................................................................................
........................................................................................................................................................................................................
........................................................................................................................................................................................................
........................................................................................................................................................................................................
### PART VI: THE EFFECT OF MENTAL ACCOUNTING ON FINANCING DECISIONS

Please tick the numeric value corresponding to your personal opinion for each statement.

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Moderately agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I usually sell shares acquired from exercising options than shares acquired through required stock investments</td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>2. I usually under-price shares in the company.</td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>3. I frequently make decisions based on previous wins and gains</td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>4. I frequently make decisions based on profits and losses</td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>5. I usually do not finish loss-making projects</td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
</tbody>
</table>

In what other ways do you view yourself as using mental accounting………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………
………………………………

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226
PART VII: THE EFFECT OF MANAGERIAL CONSERVATISM ON FINANCING DECISIONS

Please tick the numeric value corresponding to your personal opinion for each statement.

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Moderately agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I usually under value net assets of the company</td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>2. I usually undervalue forecasted revenues of the firm</td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>3. I usually realize more accounting loses than earnings</td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>4. I usually restrict debt so we have enough internal funds available to pursue new projects when they come along</td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>5. I usually issue debt when our recent profits (internal funds) are not sufficient to fund our activities</td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
</tbody>
</table>

In what other ways do you view yourself as conservatism……………………………………………………………………………………………………..
……………………………………………………………………………………………………………………………………………………………………..
……………………………………………………………………………………………………………………………………………………………………..


PART VIII: MODERATING EFFECT OF PERSONAL COMPETENCE AND SKILLS

Please tick the numeric value corresponding to your personal opinion for each statement.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Moderately agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I regularly attend professional accountancy conferences</td>
<td></td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>2. I am highly familiar with IFRS</td>
<td></td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>3. I have extensive experience in finance from this organization</td>
<td></td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>4. I have extensive experience in finance from other organizations</td>
<td></td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>5. I have pursued professional courses in the field of finance</td>
<td></td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
<tr>
<td>6. I regularly attend in-house trainings conducted in our finance department.</td>
<td></td>
<td>①</td>
<td>②</td>
<td>③</td>
<td>④</td>
<td>⑤</td>
</tr>
</tbody>
</table>

Your Name and Signature …………………………………………………………………………………
Your Mobile Number……………………………………………………………………………………
Email Address…………………………………………………………………………………………
Name of the firm………………………………………………………………………………………
Official Stamp………………………………………………………………………………………
Date ………………………………………………………………………………………………………

THANK YOU FOR TAKING YOUR TIME TO COMPLETE THE QUESTIONNAIRE
## APPENDIX 3: TARGET POPULATION

<table>
<thead>
<tr>
<th>Firms Listed in NSE</th>
<th>No. of Top Financial Managers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agricultural</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>21</td>
</tr>
<tr>
<td>1. Eaagads Ltd</td>
<td>3</td>
</tr>
<tr>
<td>2. Kakuzi Ltd</td>
<td>3</td>
</tr>
<tr>
<td>3. Kapchorua Tea Co. Ltd</td>
<td>3</td>
</tr>
<tr>
<td>4. The Limuru Tea Co. Ltd</td>
<td>3</td>
</tr>
<tr>
<td>5. Rea Vipingo Plantations Ltd</td>
<td>3</td>
</tr>
<tr>
<td>6. Sasini Ltd</td>
<td>3</td>
</tr>
<tr>
<td>7. Williamson Tea Kenya Ltd</td>
<td>3</td>
</tr>
<tr>
<td><strong>Automobiles and Accessories</strong></td>
<td>9</td>
</tr>
<tr>
<td>8. Car and General (K) Ltd</td>
<td>3</td>
</tr>
<tr>
<td>9. Marshalls (E.A.) Ltd</td>
<td>3</td>
</tr>
<tr>
<td>10. Sameer Africa Ltd</td>
<td>3</td>
</tr>
<tr>
<td><strong>Banking</strong></td>
<td>33</td>
</tr>
<tr>
<td>12. CFC Stanbic of Kenya Holdings Ltd</td>
<td>3</td>
</tr>
<tr>
<td>13. Diamond Trust Bank Kenya Ltd</td>
<td>3</td>
</tr>
<tr>
<td>14. Equity Bank Ltd</td>
<td>3</td>
</tr>
<tr>
<td>15. Housing Finance Co. Kenya Ltd</td>
<td>3</td>
</tr>
<tr>
<td>16. I and M Holdings Ltd</td>
<td>3</td>
</tr>
<tr>
<td>17. Kenya Commercial Bank Ltd</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Company Name</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>19</td>
<td>NIC Bank Ltd</td>
</tr>
<tr>
<td>20</td>
<td>Standard Chartered Bank Kenya Ltd</td>
</tr>
<tr>
<td>21</td>
<td>The Co-operative Bank of Kenya Ltd</td>
</tr>
<tr>
<td>22</td>
<td><strong>Commercial and Services</strong></td>
</tr>
<tr>
<td>23</td>
<td>Express Ltd</td>
</tr>
<tr>
<td>24</td>
<td>Nation Media Group</td>
</tr>
<tr>
<td>25</td>
<td>Standard Group Ltd</td>
</tr>
<tr>
<td>26</td>
<td>TPS Eastern Africa (Serena) Ltd</td>
</tr>
<tr>
<td>27</td>
<td>Scangroup Ltd</td>
</tr>
<tr>
<td>28</td>
<td>Hutchings Biemer Ltd</td>
</tr>
<tr>
<td>29</td>
<td>Longhorn Publishers Ltd</td>
</tr>
<tr>
<td>30</td>
<td>Atlas Development and Support Services</td>
</tr>
<tr>
<td>31</td>
<td>Deacons (East Africa) Plc</td>
</tr>
<tr>
<td>32</td>
<td><strong>Construction and Allied</strong></td>
</tr>
<tr>
<td>33</td>
<td>ARM Cement Ltd</td>
</tr>
<tr>
<td>34</td>
<td>Bamburi Cement Ltd</td>
</tr>
<tr>
<td>35</td>
<td>Crown Paints Kenya Ltd</td>
</tr>
<tr>
<td>36</td>
<td>E.A.Cables Ltd</td>
</tr>
<tr>
<td>37</td>
<td>E.A.Portland Cement Co. Ltd</td>
</tr>
<tr>
<td>38</td>
<td><strong>Energy and Petroleum</strong></td>
</tr>
<tr>
<td>39</td>
<td>KenGen Co. Ltd</td>
</tr>
<tr>
<td>40</td>
<td>KenolKobil Ltd</td>
</tr>
<tr>
<td>41</td>
<td>Kenya Power and Lighting Co Ltd</td>
</tr>
<tr>
<td>42</td>
<td>Total Kenya Ltd</td>
</tr>
<tr>
<td>No.</td>
<td>Company Name</td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>40</td>
<td>Umeme Ltd</td>
</tr>
<tr>
<td>41</td>
<td>British-American Investments Co. Ltd</td>
</tr>
<tr>
<td>42</td>
<td>CIC Insurance Group Ltd</td>
</tr>
<tr>
<td>43</td>
<td>Jubilee Holdings Ltd</td>
</tr>
<tr>
<td>44</td>
<td>Kenya Re Insurance Corporation Ltd</td>
</tr>
<tr>
<td>45</td>
<td>Liberty Kenya Holdings Ltd</td>
</tr>
<tr>
<td>46</td>
<td>Pan Africa Insurance Holdings Ltd</td>
</tr>
<tr>
<td>47</td>
<td>Centum Investment Co Ltd</td>
</tr>
<tr>
<td>48</td>
<td>Olympia Capital Holdings Ltd</td>
</tr>
<tr>
<td>49</td>
<td>Trans-Century Ltd</td>
</tr>
<tr>
<td>50</td>
<td>Home Afrika Ltd Ord 1.00</td>
</tr>
<tr>
<td>51</td>
<td>Kurwitu Ventures</td>
</tr>
<tr>
<td>52</td>
<td>Nairobi Securities Exchange Ltd</td>
</tr>
<tr>
<td>53</td>
<td>B.O.C Kenya Ltd</td>
</tr>
<tr>
<td>54</td>
<td>British American Tobacco Kenya Ltd</td>
</tr>
<tr>
<td>55</td>
<td>Carbacid Investments Ltd</td>
</tr>
<tr>
<td>56</td>
<td>East African Breweries Ltd</td>
</tr>
<tr>
<td>57</td>
<td>Mumias Sugar Co. Ltd</td>
</tr>
<tr>
<td>58</td>
<td>Unga Group Ltd</td>
</tr>
<tr>
<td>59</td>
<td>Eveready East Africa Ltd</td>
</tr>
<tr>
<td></td>
<td>Company Name</td>
</tr>
<tr>
<td>---</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td>60</td>
<td>Kenya Orchards Ltd</td>
</tr>
<tr>
<td>61</td>
<td>A. Baumann CO Ltd</td>
</tr>
<tr>
<td>62</td>
<td>Flame Tree Group Holdings Ltd</td>
</tr>
<tr>
<td></td>
<td><strong>Telecommunications and Technology</strong></td>
</tr>
<tr>
<td>63</td>
<td>Safaricom Ltd</td>
</tr>
<tr>
<td></td>
<td><strong>Real Estate Investment Trust</strong></td>
</tr>
<tr>
<td>64</td>
<td>Stanlib Fahari I-REIT</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>
TO WHOM IT MAY CONCERN.

MAY 19, 2016

Dear Sir/Madam,

REF: PERMISSION TO CONDUCT RESEARCH – NYAKUNDI, JUDITH BONAREKI; STUDENT ID. NO. 620873

We wish to inform you that the bearer of this letter is a Doctorate Student at United States International University (USIU) – Africa, pursuing Doctor in Business Administration –Post Graduate program.

She is conducting a Research Dissertation on: “Effect of Managerial Behavioral biases on financing Decisions”, which is in partial fulfillment of the requirement for her to qualify for graduation. Please, note that any information provided will be treated with confidentiality and at no instance will it be used for any other purpose, other than for this research project.

Kindly, accord her the desired assistance and contact the undersigned should you have any queries.

Yours Faithfully,

[Signature]

Dr. George Achoki,
Dean - Chandaria School of Business (USIU-Africa),
Tel: 020 3606 415
Email: gachoki@usiuc.ac.ke
APPENDIX 5: NACOSTI RESEARCH CLEARANCE PERMIT

THIS IS TO CERTIFY THAT:

MS. JUDITH BONARERI NYAKUNDI

of UNITED STATES INTERNATIONAL UNIVERSTY-AFRICA, 2054-207
NAIROBI, has been permitted to conduct research in Kajiado, Kericho, Kiambu, Machakos, Mombasa, Nairobi Counties

on the topic: EFFECT OF BEHAVIOURAL BIASES ON FINANCING DECISIONS OF FIRMS LISTED IN THE NAIROBI SECURITIES EXCHANGE

for the period ending: 10th October, 2017

Permit No: NACOSTI/P/16/89370/13636
Date Of Issue: 10th October, 2016
Fee Received: Ksh 2000

Applicant’s Signature

Sincerely,
Director General
National Commission for Science, Technology & Innovation

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit.

2. Government Officer will not be interviewed without prior appointment.

3. No questionnaire will be used unless it has been pre-arranged.

4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.

5. You are required to submit at least two (2) hard copies and one (1) soft copy of your final report.

6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.

REPUBLIC OF KENYA

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A11224

CONDITIONS; see back page
APPENDIX 6: NACOSTI AUTHORIZATION TO UNDERTAKE RESEARCH

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471, 2241349, 3310571, 2219420
Fax: +254-20-338248, 318249
Email: dgi@nacosti.go.ke
Website: www.nacosti.go.ke
When replying Please quote:

Ref: No.
NACOSTI/P/16/89370/13636

Date:
10th October, 2016

Judith Bonareri Nyakundi
United States International University
P.O. Box 14634-00800
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Effect of behavioral biases on financing decisions of firms listed in the Nairobi Securities Exchange,” I am pleased to inform you that you have been authorized to undertake research in selected Counties for the period ending 10th October, 2017.

You are advised to report to the Directors of selected Companies, the County Commissioners and the County Directors of Education of the selected Counties before embarking on the research project.

On completion of the research, you are expected to submit two hard copies and one soft copy in pdf of the research report/thesis to our office.

BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO

Copy to:
The Directors
Selected Companies.
The County Commissioners
Selected Counties.

National Commission for Science, Technology And Innovation is ISO 9001:2008 Certified

The County Directors of Education
Selected Counties.