Effect of Managerial Overconfidence on Ranking of Financing Decisions by Financial Managers of Firms Listed In NSE

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Effect of Managerial Overconfidence on Ranking of Financing Decisions by Financial Managers of Firms Listed In NSE

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Abstract

Purpose: The purpose of this study was to determine the effect of overconfidence on the ranking of financing decisions by financial managers of firms listed on the Nairobi Securities Exchange (NSE).

Methodology: The study employed a positivist philosophy and a descriptive correlational design. Two tier sampling was applied where a census at the firm level and purposive sampling at the financial manager level resulted in the selection of the top 3 senior and middle financial managers from each firm. The target population was the top three financial managers in each of the firms listed on the NSE resulting in a target population of 192 financial managers from a total of 64 firms. A questionnaire was utilised to collect primary data from the target population. Descriptive statistics, Analysis of Variance (ANOVA) and multinomial logit regression were employed in data analysis.

Results: The findings depict a significant effect of overconfidence in the ranking of financing decisions by managers in the listed firms. Managers who were predisposed to overconfidence bias were more inclined towards equity and debt compared to internal capital, with equity most preferred followed by debt then internal sources of capital.

Unique Contribution to Theory Practice and policy: Consequently, it is recommended that the implications of overconfidence be considered by financial managers 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.

Keywords: Managerial overconfidence, ranking of financing decisions and financial managers.

1.0 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, the celebrated father of value investment, investigated comparable ideas in the 1930s. Though Graham is known for his work in the 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 the 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 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) Turning to the dynamics of managerial bias, there is evidence suggesting that managers tend to attribute good performance excessively to their own abilities rather than to luck. Bias in managerial self-attribution has been found in the contexts of repeated acquisitions (Billett & Qian, 2008) and in the issuance of management earnings forecasts after past successes (Hilary & 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 on 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 in the year 2015 to 31st March 2016 (Mwikya, 2013). Another example is Uchumi Supermarkets whose overly ambitious expansion plans led to its collapse and delisting in 2006 though it 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 the Nakumatt and the Uchumi chain of supermarkets not being able to meet 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 their business activities.

Using behavioral economics, we can comprehend how these errors arise, why they persist, and what can be done to minimize them. Financing decisions have a great impact on the value of a firm and the economy as a whole yet scholars the 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 the ranking of financing decisions.

1.3 Research Objective

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

2.0 LITERATURE REVIEW

2.1 Theoretical Literature Review

2.1.1 Pecking Order Theory

Myers (1984) developed the pecking order theory where firms prefer internal sources of finance to those external. He further declared 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. Pandey (2005) found a negative inverse relationship between profitability and debt ratio within an industry using the pecking order theory but not in multiple industries. Grinblatt, and Han (2005) and Quan (2002) considered the pecking order theory as more appropriate for Medium Sized Enterprises' since 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.

On the contrary, Cosh and Hughes (2000) found that small and medium sized enterprises when compared to large enterprises are inclined towards holding liquid assets and depended 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 overconfidence of managers to the financing options in reference to the presence of pecking order choice.

2.2 Empirical Literature Review

Fairchild (2007) conducted a study on Managerial overconfidence, agency problems, financing decisions and firm performance. The study found 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 and Kengatharan (2014) investigated the behavioral factors influencing individual investors' decisions at the Colombo Stock Exchange. The relations between these factors and investment performance were also examined in the study. Results showed that herding, the 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 an influence on the investment performance.

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. Pourjiban, Setayesh and Janani (2014) assessed only the impact of investors' overconfidence bias on investment in the Tehran Stock Exchange. They found that overconfidence bias has a significant impact on investment in the Tehran Stock Exchange. 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 a 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 the Bhubaneshwar Stock Exchange are victims of psychological biases namely: overconfidence, anchoring, regret and loss aversion and hence their decision making is 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, allowing

memorable occurrences in the past to dictate their view of what might be possible now (Hammond *et al.,*2006).

Glaser and Weber (2003) conducted an empirical study on overconfidence and trading decisions. They directly tested the hypothesis of the relationship between overconfidence and trading decisions 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 the impact of overconfidence and gender on investment decisions. This study aimed at examining the effects of overconfidence on stock-prices' bubbles and on the economic behaviour of traders using an experimental method conducted to 56 students at the University of York. The results reveal 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.

Hackbarth (2004a) puts into consideration the impacts of managerial boldness. He 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. Hackbarth (2004b) puts into consideration the effect of managerial boldness on stakeholder conflicts. He argues that boldness can reduce under investment and intensify risk-shifting troubles. A study by Johnson, Lindbon and Platan (2002) on factors that influenced the speculative bubble during the period 1998-2000 involved a survey of 160 private investors drawn from Aktiesprarna Association in South Sweden in December 2001 and 47 institutional investors comprising of banks, mutual funds and investments banks was conducted by use of a questionnaire. The study findings were that herd instincts, cognitive dissonance, anchoring and loss aversion contributed significantly to the speculative bubbles as well as overconfidence.

Agrawal's (2012) study reveals that overconfidence affects not only the behavior of secondary market traders but also investors in the primary market. Hsu & Shiu (2010) investigated the level of 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 the impact of behavioural biases on investors' decision making, Male vs. Female, found 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 that a market with very high overconfidence can

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also have superior price quality to a rational market when there is a high amount of private information acquired relative to publicly available information.

Paluch (2011) discovered that overconfidence bias had an impact on different levels of managerial decision making. Different levels of management require varied and unique levels of skills, values and decision making processes and styles. The study found that there were differences in overconfidence bias between different levels of management (Paluch, 2011).

Chen et al. (2007) used transaction data of a large Chinese brokerage house to analyze overconfidence in Chinese investors. The authors found that individual investors in China trade more frequently than US individual investors. Acker and Duck (2008) used a stock market game and predictions of examination marks to measure overconfidence among Asian and British students. They found that Asian students were more overconfident than British students. These findings imply that level of overconfidence can be different among different 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 (2001) 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 almost 53% of their portfolios while men turn 77% annually indicating that men trade 45% more than women annually. The findings of Barber and Odean (2001), 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.

Fama and French (1997) reported a study in which questionnaires were sent out to 2,000 wealthy individual investors and 1,000 institutional investors; there were 605 completed responses from individuals and 284 responses from institutions. One of the questions asked was: "Did you think at any point on October 19, 1987 that you had a pretty good idea when a rebound was to occur?" Of the individual investors, 29.2% said yes; of the institutional investors, 28.0% said yes. These numbers seem to be surprisingly high: one wonders why people thought they knew what was going to happen in such an unusual situation. Among those who bought on that day, the numbers were even higher, 47.1% and 47.9% respectively. The next question on the questionnaire was "If yes, what made you think you knew when a rebound was to occur?" Here, there was a conspicuous absence of sensible answers; often the answers referred to "intuition" or "gut feeling." It would appear that the high volume of trade on the day of the stock market crash, as well as the occurrence, duration, and reversal of the crash were in part determined by overconfidence in such intuitive feelings.

Oliver's (2005) study investigated the confidence of managers and its impact on capital structure decisions. He looked at 290 US companies between 1978 and 2004, and employed ordinary least squares. The proxy used for management confidence was the University of Michigan Consumer Sentiment Index and he found that management confidence was highly significant in explaining

firm financing choices. In essence, when management confidence was higher firms had higher levels of debt.

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).

3.0 RESEARCH METHODOLOGY

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

4.0 RESULTS

4.1 General Information

4.1.1 Response Rate

The number of questionnaires administered was 192 out of which a total of 158 were properly filled and returned. A small number of the respondents (6) returned the questionnaires half-filled while others declined to return despite constant and aggressive follow up. The response rate result is shown in Table 1.

Table 1: Response Rate

Response	Frequency	Percent
Returned	158	82.29%
Unreturned/rejected	34	17.71%
Total	**192**	**100%**

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

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4.1.2 Classification of Respondents by Management Level

The respondents were asked to indicate their management level for their current position. The results are shown in figure 1.
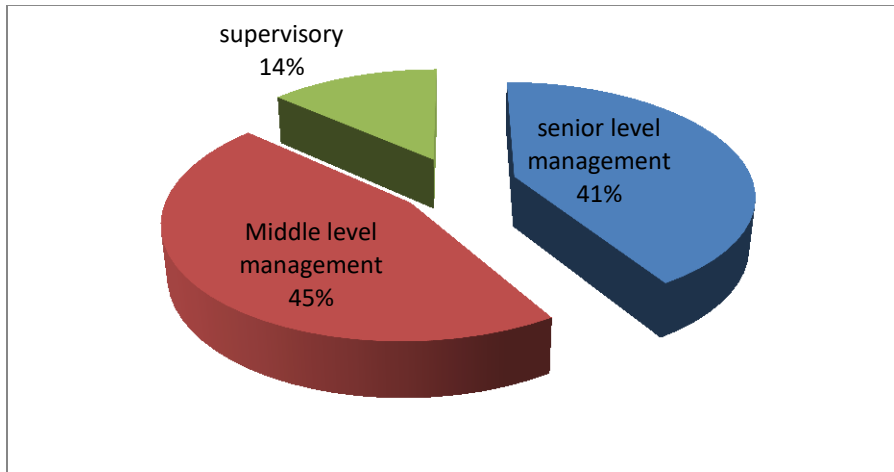

Figure 1: Management Level

The results in figure 1 indicate that 45% of respondents were middle level managers followed by 41% who were in senior level management while 14% were at the supervisory level of management. This implies that the majority of the respondents were top notch managers.

4.1.3 Classification of Respondents by Gender

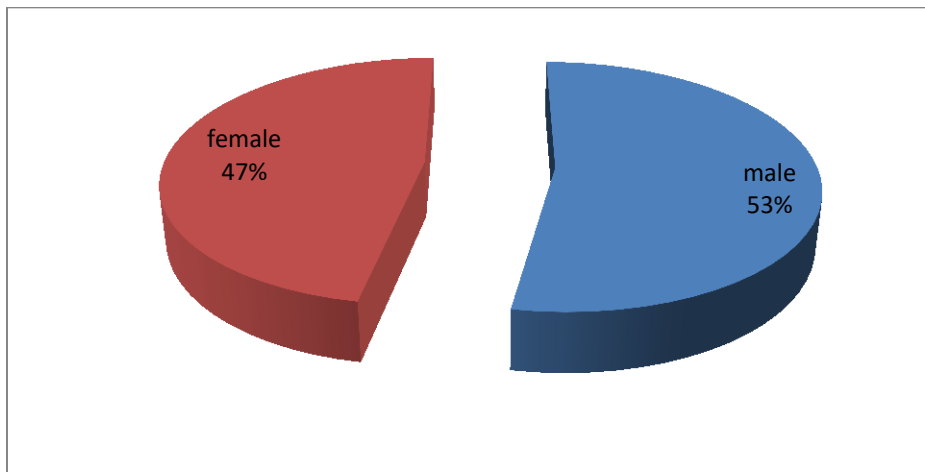The respondent were asked to indicate their gender. Figure 2 shows the results.

Figure 2: Classification of Respondents by Gender

The results in figure 2 show that 53% of the respondents were male whilst 47% were females.

4.1.4 Classification of Respondents by Age

The respondents were also asked to indicate their age bracket. Figure 3 depicts the results.
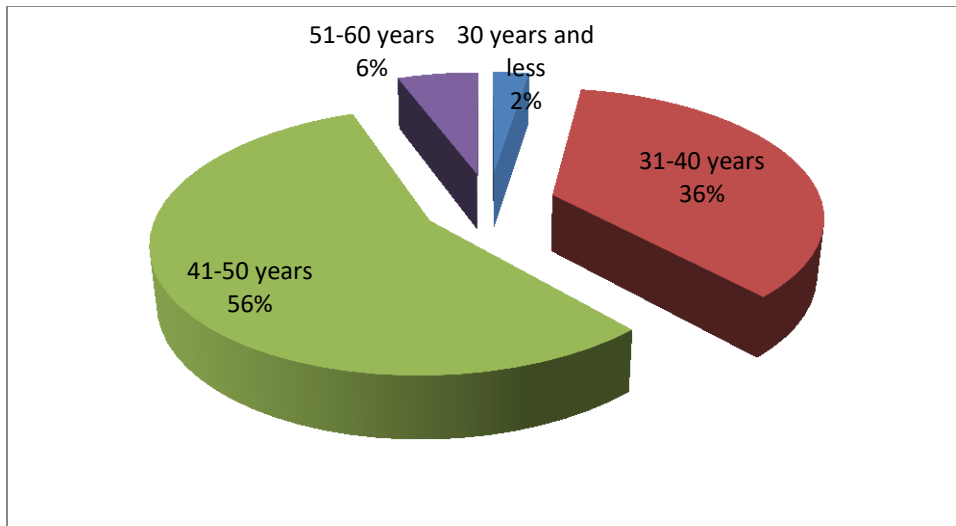
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Figure 3: Classification of Respondents by Age

The results revealed that 56% of the respondents, were aged between 41-50 years, 36% were between 31-40 years, and 6 % were aged between 51-60 years while only 2% were aged 30 years or less.

4.1.5 Classification of Respondents by Level of Education

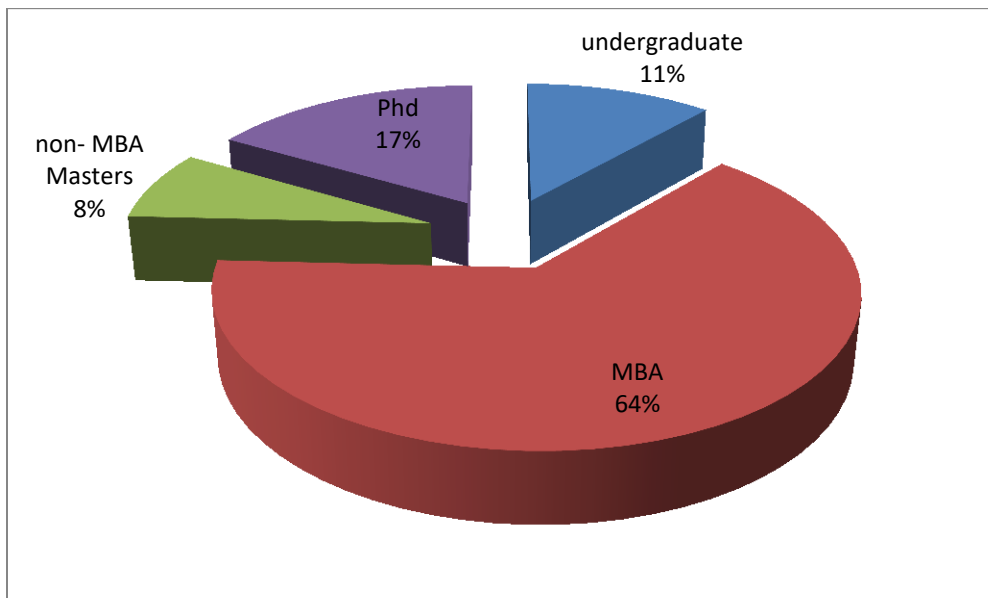The respondents were further asked to indicate their highest level of education. The results are shown in figure 4

Figure 4: Classification of Respondents by Level of Education

The results in figure 4 indicate that 64% of the respondents had their highest level of education as an MBA, 17% had a PhD as their highest level of education, 11% had an undergraduate degree while 8% had a non-MBA Master degree.

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4.1.6 Classification by Duration in the Role of Making Financing Decisions

The respondents were asked to indicate for how long they had been in their current role of financing decision making. Figure 5 show the results.
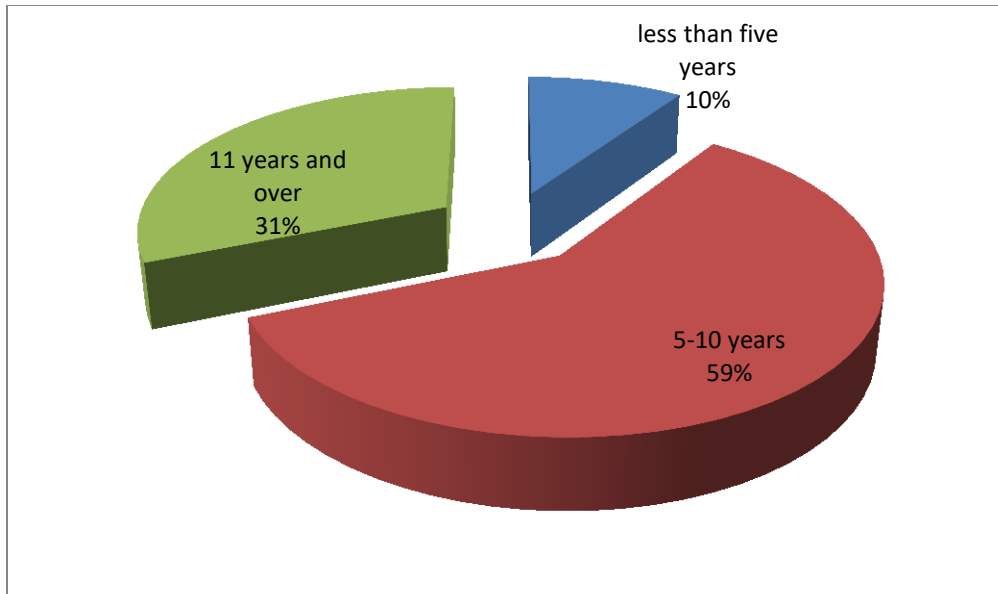

Figure 5: Duration in the Current Role of Making Financing Decisions

The results in figure 5 show that 59% of the respondents had been in the current role of making financing decisions 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.

4.1.7 Extent Involved in Decision Making

The respondents were asked to indicate the extent to which they were involved in making the following decisions. The results are shown in Table 2

Table 2: Extent Involved in Decision Making

Decisions	not at all	lesser extent	moderate extent	larger extent	very large extent
Working capital management	3.20%	6.40%	10.20%	70.70%	9.60%
Capital expenditure (CAPEX)	3.20%	7.60%	10.20%	57.30%	21.70%
Operating expenditure (OPEX)	2.50%	5.10%	12.70%	31.20%	48.40%
Budgeting	3.80%	1.30%	8.30%	36.90%	49.70%

The results in Table 2 indicate that 70.70% of the respondents 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

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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.

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

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

4.2.1 Descriptive Analysis

Respondents were asked to indicate their level of agreement on the following statements on overconfidence. Table 3 show the results.

Table 3: Managerial Overconfidence

Statements	Strongly disagree	Disagree	Moderate-ly agree	Agree	Strong-ly agree	Mean	Std. Deviat-ion
The price of my firm's stock is generally undervalued	14.00%	49.70%	26.80%	9.60%	0.00%	2.32	0.832
Takeovers are not value-destroying on average	3.20%	48.40%	28.70%	19.70%	0.00%	2.65	0.831
Estimated costs of large projects are too low	2.50%	24.20%	53.50%	19.70%	0.00%	2.9	0.732
I consider debt to have lower risk compared to equity.	1.90%	11.50%	45.90%	40.80%	0.00%	3.25	0.733
I usually under estimate the cost of the undervalued investment projects	3.20%	23.20%	26.50%	43.90%	3.20%	3.21	0.945
I frequently overestimate my personal competences	2.60%	16.00%	26.30%	53.80%	1.30%	3.35	0.856
I usually overestimate my ability	1.90%	11.00%	27.90%	52.60%	6.50%	3.51	0.85
I usually underestimate financial distress costs	0.00%	13.40%	26.10%	53.50%	7.00%	3.54	0.812
I usually over estimate my ability to control financial outcomes	1.30%	15.30%	14.00%	52.90%	16.60%	3.68	0.968
Average						**3.16**	**0.84**

The results in Table 3 revealed that 63.70% of the respondents disagreed with the statement that "the price of my firm's stock is generally undervalued". The results also revealed that 51.60% of the respondents disagreed with the statement that "takeovers are not value-destroying on average". On the other hand; results revealed that 53.50% of the respondents moderately agreed that "estimated costs of large projects 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".

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The results further indicated that 47.10% agreed with the statement that "I usually under estimate the cost of the undervalued investment projects". Also the results indicated that 55.10% agreed with the statement that "I frequently overestimate my personal competences". Results also revealed that 59.10% agreed 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 found out that 69.50% agreed with the statement that "I usually over estimate my ability to control financial outcomes". Using a five-point Likert scale, the overall mean of the responses was 3.16 with a standard deviation of 0.84.

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

A preliminary test on the influence of overconfidence on the ranking of financing decisions by managers of firms listed on the NSE was conducted using ANOVA. The financing preference was grouped into three categories which were internal financing, debt financing and equity financing. The results in Table 4 show that there is a significant relationship between overconfidence and the ranking of financing decisions by managers of firms listed on the 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 supported the same findings.

Table 4: ANOVA Results

		Sum of Squares	df	Mean Square	F	Sig.
Mean Overconfidence	Between Groups	5.287	2	2.644	12.471	0.000
	Within Groups	32.646	154	0.212		
	Total	37.934	156			

4.3.3 Post Hoc Analysis

Post hoc analysis was conducted in order to have an in depth analysis of the ANOVA results. The results in Table 5 revealed that there was a significant difference in 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 show that there was a significant difference 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 5: Post Hoc Analysis Results

Dependent Variable	(I) Ranking of Financing decisions	(J) Ranking of Financing decisions	Mean Difference (I-J)	Std. Error	Sig.
Mean Overconfidence	Internal Financing	Debt Financing	-.1610334	.0916799	.081
		Equity Financing	-.4366484*	.0874327	.000
	Debt Financing	Internal Financing	.1610334	.0916799	.081
		Equity Financing	-.2756150*	.1019638	.008
	Equity Financing	Internal Financing	.4366484*	.0874327	.000
		Debt Financing	.2756150*	.1019638	.008

LSD*. The mean difference is significant 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 listed in the NSE. The 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.
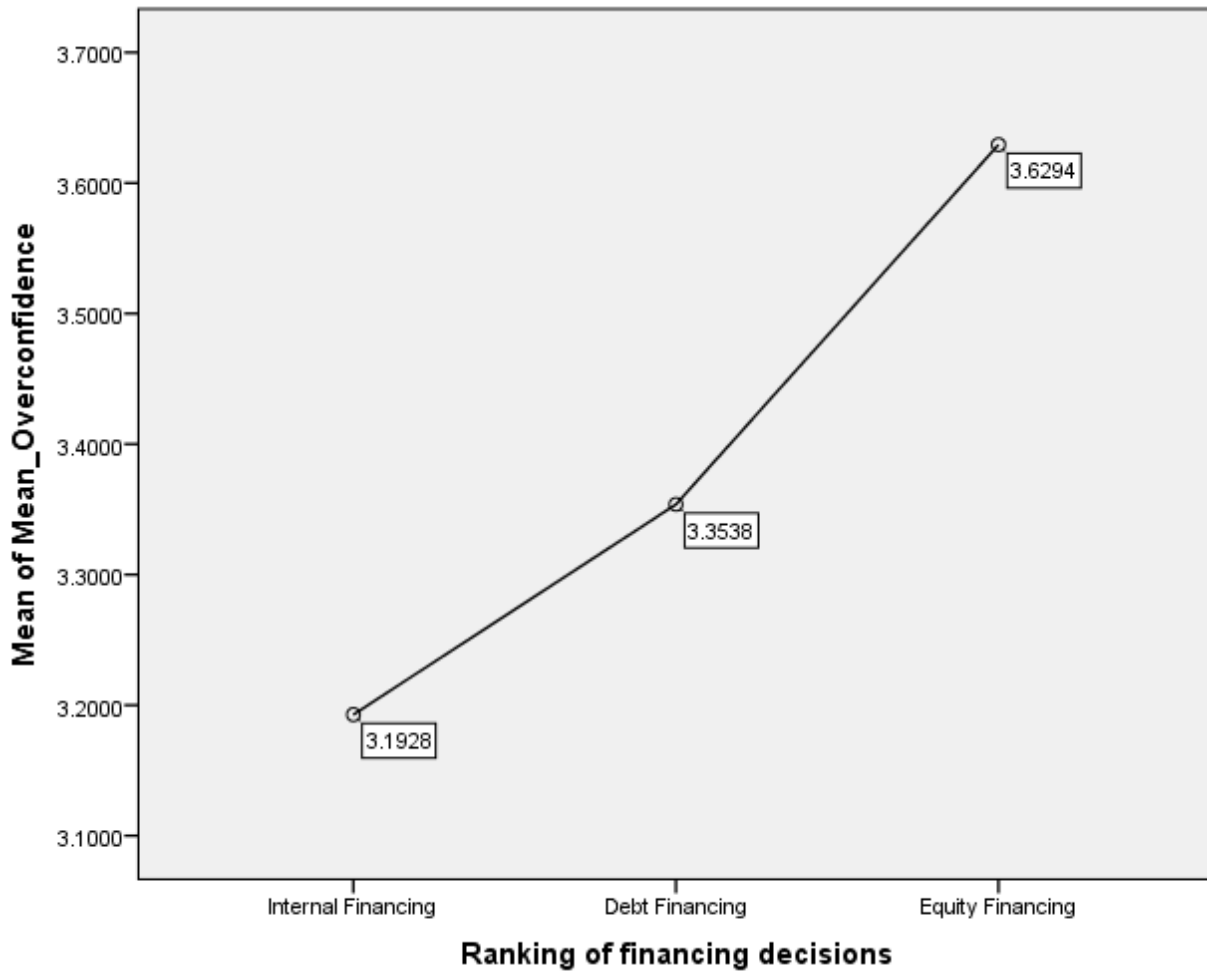
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Figure 6: Means Plot for Overconfidence against Ranking of Financing Decisions

4.2.5 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 unit increase in the level of overconfidence. The results are presented in table 4.13.

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Table 6: Multinomial logit Regression Analysis for Overconfidence and on Ranking of Financing Decisions by Managers of Firms Listed in NSE

. mlogit Ranking of Financing decisions Mean Overconfidence, base(1)

Iteration 0: log likelihood = -165.28636
Iteration 1: log likelihood = -154.00464
Iteration 2: log likelihood = -153.68788
Iteration 3: log likelihood = -153.68755
Iteration 4: log likelihood = -153.68755

Multinomial Logistic Regression

Number of obs	157
LR chi2(2)	23.2
Prob > chi2	0.000
Pseudo R2	0.0702
Log likelihood =	-153.68755

Ranking of Financing decisions	Coef.	Std.err	z	P>z
Internal Financing (base outcome)				
Debt Financing				
Mean Overconfidence	0.7614626	0.440895	1.73	0.084
_cons	-3.171745	1.467185	-2.16	0.031
Equity Financing				
Mean Overconfidence	2.031096	0.456742	4.45	0.000
_cons	-7.459949	1.591389	-4.69	0.000

Results in table 6 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:

$$\log \frac{\Pr(Y=Debt\ capital)}{\Pr(Y=internal\ capital)} = -3.171+0.76\ Overconfidence$$

$$\log \frac{\Pr(Y=Equity\ capital)}{\Pr(Y=internal\ capital)} = -7.459+2.031\ Overconfidence$$

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

There was a statistically significant relationship between overconfidence bias and ranking of financing decisions. The study concluded that an overconfidence 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.

5.2 Recommendations

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.

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