



**INFLUENCE OF COGNITIVE BIASES ON INVESTMENT DECISION-MAKING IN
PROPERTY MARKET IN PLATEAU STATE, NIGERIA**

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Abstract

The limitation of fundamental knowledge of cognitive biases that motivates investment behaviour has been one of the problems facing investors in the Nigerian property market. Thus, this study was aimed at establishing how cognitive biases influencing investment decision-making in property market in Plateau State, Nigeria. The objective that guided this study was; the influence of overconfidence biases on investors' decision making. The study population comprised of property agents who were investment traders at the property market in Plateau State and currently registered and licensed to operate in Plateau State property market in Nigeria. The target population comprised of 1650 registered property investors trading at the property market in Plateau State and currently licensed to operate in Plateau state property market in Nigeria. Multi-stage sampling procedure was used in the selection of representative sample comprising of purposive sampling and the normal approximation to the hyper-geometric distribution to select the sample size. The final sample size was thus comprised of 312 respondents. The regression analysis results further confirmed that there was a significant positive linear relationship between overconfidence biases on investment decision making in property market in Plateau State in Nigeria. The study concluded that overconfidence biases effect significantly investment decisions making. The main recommendation for investors is to make constant attempts to increase their awareness on behavioral finance by educating themselves on the field. Studying about the biases, and reflecting on their decisions are likely to help achieve better self-understanding of the extent and manner to which they gets influenced by emotions while making financial decisions under uncertainty. Even after satisfactory awareness is achieved it is highly recommended that they maintain a chart of the behavioral biases they are likely to be vulnerable to.

Keywords: overconfidence biases, and investors' decision making

1.1 Introduction

Investment in property is viewed as an engine of sustainable growth (Ahn & Hemmings, 2000). However, in less developed countries (LDCs) the national level of savings is very low (Javorcik & Smarznska, 2004). Thus, there is a wide gap between the required rate of investment in property market and the existing rate of such investments (Asiedu, 2006). Property investment is largely regarded as a potential basis of supporting growth and development of the developing and developed nations (Blomstrom & Kokko, 2003). According to the Global Property Guide (GPG) and the Global Housing Watch (IMF, 2015), strategies of attracting investment in the property market turned out to be a greatly used technique of many governments all over the world to advance their economies.

Investment promotion agencies (IPAs) in several parts of the globe, particularly in the well advanced economies of Europe and North America, and also the flourishing Asian economies of China, recorded great volumes of property market business and celebrated great triumph in attracting fresh investment to their countries. Generally this investment flow, however, was concentrated in the well-developed parts of the European Union, the United States and Japan which jointly accounted for 71% of global inflows from the Foreign Direct Investors (UNIDO, 2008).

Accordingly, the African share of world investment fell from its initial one percent to a further low of a meagre 0.67%. As a result, African countries were encouraged and supported to establish Investment Promotion Agencies (IPAs) so as to “promote” their attractions and fashion a one-stop-shop and to facilitate the passageway for external investors in the property market. According to (Somil, 2007), behavioural finance is the study of how human psychology, thoughts, feelings and attitudes (such as confidence) influence financial decisions and behaviours. There are two sets of psychological factors-Cognitive (the way of thinking) and Emotional (the way people feel). Behavioural finance is based on the cognitive psychology (how people think) and the limit to arbitrage (when market will be inefficient). Rather than using all the available information, people select some important information (Shiller, 2007). Psychological factors influence investment decision so that investors have been found to make irrational decision (Graham & Harvey, 2009).

People invest in the property market for different reasons. Some of the investors invest in the property market for commercial purpose, some for resale, and some for investment purpose and many other reasons. But when they invest in the property market, they do not know that certain factors affect their investment decision (Statman, Fisher & Anginer, 2008). Many people make investment emotionally, feeling fantasy; mood and sentiments have been observed to affect investment decision. There are some psychological factors that affect the investors in investment decision (Shanmugsundaram & Balakrishnan, 2011). Investors are affected by how investment problems are presented to them. They often make different choices pertaining similar scenarios depending on how the problem has been framed (Jordan & Miller, 2008).

1.1.1 Property Market Investment in Nigeria

The Nigerian property market has evolved extensively with great opportunities for investors, particularly in states like Rivers, Kano, Enugu, Kaduna, Oyo, Lagos and the capital city Abuja have witnessed great upturn of investors, plunging millions of dollars in the real estate sector, especially in the commercial sectors. The growing interest in the Nigerian Market is due to high demand raised by the increase in urban population and change in shopping culture among the increasing population. These factors have resulted in the upspring of numerous shopping malls. The Nigerian property market remains attractive with numerous opportunities in the following sectors of the market; Retail Real Estate, Office blocks and Serviced Apartments (FHA, 2015).

Based on what little real estate information available, and the macro-economic potentials of the country, the real estate sector is beginning to see dedicated capital being raised towards investment. International Private Equity firms and fund managers - most of them with an emerging market focus, having invested in other such markets as India and China - are slowly beginning to seek real estate investments in Nigeria (Federal Housing Authority, 2015).

Nigeria's real estate industry is still grossly underdeveloped, with very limited and in some cases non-existent institutional quality product. However the continued interest of investors in the region, spurred by current real estate fundamentals and a positive macro-economic outlook, point to growth in the market; if not all over the country, in the short to medium term, at least in its major markets of Lagos, Abuja and Port-Harcourt. The evolution of Nigerian real estate has been greatly influenced by the laws and institutions in which it is nested, as well as the policy environment through time. From the legal right to own land, to the limits on leasing, to the mortgage interest rate charged; all have had a bearing on the profitability of the form of real estate developed (Federal Housing Authority, 2015).

Nigeria is made up of thirty states with Abuja as the capital city. Plateau State is situated in the North-Central and the middle belt zone of Nigeria. Jos is the capital city of Plateau State, linked by road, rail and air to other parts of the country. Plateau state is known among the thirty-six states in Nigeria to be endowed with cool and temperate climate as against other states in the country with hot weather conditions. This has attracted both serving and retired top government officials and businessmen from all parts of the country to invest in the property market in the state as most of them prefer to reside in the state after their retirement. Apart from its favourable climate and tourist attractions, the state is also known to be blessed with natural resources such as tin, columbite, and lead among others. These resources have attracted investors from within and beyond which has resulted in the increase in property development by investors (Nwude, 2012). However, most of the investors tend to exhibit certain biases as overconfidence, representativeness bias and herding in making their investment decisions in the property sector in Nigeria (Obamuyi, 2013).

1.2 Statement of the Problem

Not many studies have been pursued in the developing world especially in Nigeria on cognitive biases influencing investors' decision making. Mostly, the majority of the researchers in behavioural finance in Nigeria tend to give more importance to investors' behaviour in the stock exchange rather than investor behaviour in the property market. Various scholars have attempted to establish the determinants of investors' decision making in Nigeria. Aregbeyen and Mbadiugha (2011) found that the most influencing factors on investors' decisions are: future financial security, recommendations by reputable and trusted stock brokers, management team of the company, awareness of the prospects of investing in shares, composition of the board of directors of companies and recent financial performance of the company.

Waruingi (2011) established that there are five behavioural factors affecting the investment decisions of individual investors at the Nairobi Securities Exchange: Herding, Market, Prospect, Overconfidence-gamblers fallacy, and Anchoring-availability bias. Luong and Ha, (2011) shows that there are five behavioural factors affecting the investment decisions of investors at the Ho Chi Minh Stock Exchange, Vietnam: Herding, Market, Prospect, Overconfidence-gamblers fallacy, and Anchoring-ability bias. All these studies irrationally generalized on the behavioural factors in forming investors' decision making and were not specific on the key cognitive biases determining the investors' decision making. Thus, this study was aimed at addressing this gap. This study therefore sought to establish the influence of cognitive biases on investment decision-making in property market in Plateau State, Nigeria.

1.3 General objective

The main objective of this study was to establish the influence of cognitive biases on investment decision-making in property market in Plateau State, Nigeria.

1.3.1 Specific objective

- i. To identify the influence of overconfidence on investment decision making in property market in Plateau State, Nigeria.

1.4 Research Hypotheses

H0₁: Overconfidence does not significantly influence investment decision making in property market in Plateau State, Nigeria.

2.0 LITERATURE REVIEW

2.1 Theoretical framework

This study was guided by the following theories; heuristic theory, prospect theory, Theory of planned behaviour, herding theory and Fuzzy Trace Theory (FTT) to empirically discuss the influence of overconfidence on investment decision making.

2.2 Review of literature

Overconfidence Bias and Investors' Decision Making

In its most basic form, overconfidence can be summarized as unwarranted faith in one's intuitive reasoning, judgments, and cognitive abilities (Pompian, 2006). Psychologists have determined that overconfidence causes people to overestimate their knowledge, underestimate risks, and exaggerate their ability to control events. The concept of overconfidence derives from a large body of cognitive psychological experiments and surveys in which subjects overestimate both their own predictive abilities and the precision of the information they have been given. People are poorly calibrated in estimating probabilities; events they think are certain to happen are often far less than 100 percent certain to occur. In short, people think they are smarter and have better information than they actually do (Pompian, 2006).

According to Shefrin (2000), overconfidence pertains to how well investors understand their own abilities and the limits of their knowledge on property market. Individual investors who are overconfident about their abilities tend to think they are better than they actually are. The same applies to knowledge. Individual investors who are overconfident about their level of knowledge tend to think they know more than they actually do. Overconfidence does not necessarily mean that individuals are ignorant or incompetent. Rather, it means that their view of themselves is better than is actually the case.

Kafayaat (2014) using a sample size of 220 investors from Islamabad stock exchange examined if investors of Islamabad Stock Exchange are indicating tendencies of irrational behaviour when exposed to certain psychological and cognitive dilemmas related to the financial world and what are the interrelationships among these dilemmas. The study found that overconfidence led to over-optimism, as previously proved by (Weinstein, 1980). Investors, who were overconfident about their success, showed inclination towards over-optimism. The findings on overconfidence bias showed that it negatively affects the rational decision making of investors.

Fagerström (2008) using a sample size of 670, conducted a study to investigate overconfidence and over optimism in the market and factors that affect human beings in decision making when it comes to investing and analyzing. The scientific method of the research was a quantitative back-testing exercise method based on historic data taken from IBES, Institutional Brokers' Estimate System. The data taken was a summary of consensus expected growth of profits for the companies at S&P500 for the upcoming 12 months, compared with the realized outcome for the period February 1986 to April 2008. The results showed that analysts of the S&P 500 were exaggerated by the problems of over confidence and the over optimistic biases. It also confirms theory of Anchoring and Herding.

Ngoc (2013) conducted a study to examine the behavioural factors influencing the decisions of individual investors at the Securities Companies in Ho Chi Minh City, Vietnam. Data for this research was collated from 188 responses. The findings were that investors are overconfident in their own abilities, and investors and analysts are particularly overconfident in areas where they

have some knowledge. Further, investors sold past losers and bought past winners as if past market performance could be extrapolated into the future.

Chaudhary (2013) studied on the subject perceptions of overconfidence and predictive validity in financial cues. The findings were that investors are generally overconfident regarding their ability and knowledge. They also found that investors tend to underestimate the imprecision of their beliefs or forecasts, and they tend to overestimate their ability. Finally, overconfident investors generally conduct more trade as they believe they are better than others at choosing the best properties and best times to enter or exit a position. Thus, overconfidence can cause investors to under-react to new information and that leads to earn significantly lower yields than the market.

Barber and Odean (2001) partitioned investors based on gender and, based on the previous psychological research and concluded that men are more overconfident than women in investment decisions. They documented that men trade 45% more than women, and find that men's net returns were cut by 2.5% a year while it was 1.72% for women, in data gathered from 1991 through 1997.

Chira, Adams and Thornton (2008) aimed at studying the cognitive biases and heuristics, which, the business students are subjected to. The main purpose of the study was to look at how influenced the students are by overconfidence biases, heuristics, and framing effects. The behavioural survey was administered to a sample of sixty-eight students at Jacksonville University in USA during November 2007 by administering a questionnaire and collecting empirical evidence about both undergraduate and graduate business students' own perceptions of bias. The findings concluded that students are less disposed to make the mistake of being overly confident and optimistic when there is more objectivity involved in making the assessment. Students did not display illusion of control tendencies and a tendency to be subject to the familiarity heuristic.

3.0 RESEARCH METHODOLOGY

Hypothesis testing was computed where the null hypothesis, H_0 , and the alternative hypothesis, H_a were appropriately formulated. The size(s) of the sample(s) of each hypothesis was stated. The significance level, α , for the test was also stated. The significance level is the probability of making a Type I error. A Type I error is a decision in favor of the alternative hypothesis when, in fact, the null hypothesis is true. A Type II error is a decision to fail to reject the null hypothesis when, in fact, the null hypothesis is false. Next, the test statistic that was used to conduct the hypothesis test was stated. The rejection region of the test was found, using the form of the alternative hypothesis from Step 1, the value of α from Step 2, and the distribution of the test statistic from Step 3. The choice of the random sample(s) from the population(s) was made as well as calculating the value of the test statistic, and the p-value for the test, using the gathered data. A comparison was then made through the calculated p-value to the chosen level of

significance. If the p-value is less than α , then the null hypothesis was rejected, and the alternative hypothesis was affirmed. If the p-value is greater than α , the null hypothesis was not rejected.

A linear regression model was used in this study. It was used to answer the qualitative attributes in the variable. This is denoted by:

$$Y = \beta_0 + \beta_1 X_1 + \epsilon \dots \dots \dots 3.1$$

Y= Represents the investment decision

β_0 = Constant

β_1 = Represents the regression coefficients for Overconfidence

X_1 = Overconfidence bias

4.0 RESEARCH FINDINGS AND DISCUSSION

4.1 Overconfidence Bias

The objective of the study was to determine the role of overconfidence bias on investment decision making in property market in Plateau State, Nigeria. The descriptive findings are presented in Table 4.1.

Table 4.1: Overconfidence Bias

	Never	Rarely	Some times	Often	Always	Mean	Std Dev
Property investors use predictive skills to time the market and make future decisions	2.9%	3.3%	10.5%	39.5%	43.8%	4.18	0.95
Property investors have high expectations on returns beyond market expectations	3.6%	5.1%	7.6%	41.3%	42.4%	4.14	1.01
Investors overestimate their knowledge and underestimate risks	3.6%	4.3%	7.2%	35.9%	48.9%	4.22	1.01
Investors exaggerate their ability to control events	4.3%	5.4%	4.7%	41.7%	43.8%	4.15	1.04
Investors overestimate their own predictive abilities	3.3%	5.1%	7.6%	40.9%	43.1%	4.16	0.99
Investors tend to be biased on the	3.6%	3.3%	8.7%	42.0%	42.4%	4.16	0.97

precision of information they have been given							
Investors understand their own abilities and the limits of their knowledge on property market	4.7%	3.3%	6.9%	37.7%	47.5%	4.20	1.03
Investors are overconfident to think they are better than they actually are	4.3%	4.3%	8.3%	38.0%	44.9%	4.15	1.04
Investors who are overconfident about their level of knowledge tend to think they know more than they actually do	3.6%	4.3%	6.2%	41.3%	44.6%	4.19	0.99
Investors are overconfident of their own ability when it comes to picking properties	4.3%	3.6%	7.6%	41.7%	42.8%	4.15	1.01
Investors overestimate their predictive skills and believe that they can time the market	4.7%	3.6%	6.9%	42.0%	42.8%	4.14	1.02
Investors are fond of making excessive trading due to overconfidence	4.0%	4.7%	5.4%	38.8%	47.1%	4.20	1.02

The study sought to find out whether property investors use predictive skills to time the market and make future decisions, the results showed that the statement had a mean of 4.19 which implied that majority of the respondents agreed, the study also asked respondents whether property investors had high expectations on returns beyond market expectations, similarly the statement had a mean response of 4.14 and standard deviation of 1.01. The result also showed that majority of the respondents agreed that property investors had high expectations on returns beyond market expectations. The respondents were further asked whether investors overestimate their knowledge and underestimate risks, the statement had a mean response of 4.22 which implied that majority of the investors agreed.

The study also sought to find out whether property investors in Plateau State exaggerate their ability to control events, the statement also had a mean response of above 4 which indicated that the respondents agreed with the statements. On whether, investors tend to be biased on the precision of information they have been given, the findings revealed that the respondents indicated quite often and always. The study also sought to find out whether property investors understood their own abilities and the limits of their knowledge on property market, the

statement had a mean of 4.20 and standard deviation of 1.03 which also implied that majority of the respondents were in agreement with the statements.

This study was further interested in knowing whether the property investors are overconfident to think they are better than they actually are. The statement had a mean of 4.15 and standard deviation of 1.04 which implied that majority of the respondents agreed with the statement. On whether, property investors who are overconfident about their level of knowledge tend to think they know more than they actually do, the results indicated that the respondents agreed since the statement had a mean response of 4.19 and a standard deviation of 0.99. The study finally sought to establish whether property investors were overconfident of their own ability when it comes to picking properties, whether property investors overestimated their predictive skills and believe that they can time the market and whether property investors were fond of making excessive trading due to overconfidence. All the above statements had a mean response of above 4 which implied that majority of the respondents agreed with the statement. The findings of this study implied that property investors in Plateau State, Nigeria had overconfidence bias during investment decision making.

Kafayaat (2014) also confirmed that overconfidence led to over-optimism, as previously proved by Weinstein (1980). Chaudhary (2013) also studied on the subject perceptions of overconfidence and predictive validity in financial cues. The findings were that investors are generally overconfident regarding their ability and knowledge. They also found that investors tend to underestimate the imprecision of their beliefs or forecasts, and they tend to overestimate their ability. The findings were that investors are overconfident in their own abilities, and investors and analysts are particularly overconfident in areas where they have some knowledge.

4.2 Pearson Correlation Results

Overconfidence Bias and Investment Decision Making

The study also employed Pearson correlation test to ascertain the association between Overconfidence and investors' investment decision making. The results of correlation analysis indicated that overconfidence bias had a positive and significant correlation with investors' investment decision making ($r=0.409$, $p=0.000$). The findings implied that investors with overconfidence bias easily make investment decision making compared to those without overconfidence bias. Individual investors who are overconfident about their abilities tend to think they are better than they actually are. Kafayaat (2014) also confirmed that overconfidence led to over-optimism, as previously proved by Weinstein (1980). Chaudhary (2013) also studied on the subject perceptions of overconfidence and predictive validity in financial cues. The findings were that investors are generally overconfident regarding their ability and knowledge.

Table 4.2: Overconfidence Bias and Investment Decision Making

	Overconfidence Bias	Investment Decision Making
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		Pearson Correlation	1	.409**
Overconfidence Bias		Sig. (2-tailed)		.000
		N	276	276
Investment Making	Decision	Pearson Correlation	.409**	1
		Sig. (2-tailed)	.000	
		N	276	276

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

4.3 Regression Results

Overconfidence and Investors' Investment Decision Making

The study further sought to establish the relationship between overconfidence bias and investors' investment decision making among property investors in Plateau State in Nigeria. The study used regression analysis to test this relationship. Overconfidence bias was measured using overestimation of their knowledge, belief in ability to control events and underestimation of property price.

Univariate Regression Results For overconfidence Bias and Investors' Investment Decision Making

The study conducted a univariate regression analysis to test the effects of overconfidence bias variables on the investment decision making by property investors in Plateau state in Nigeria.

Table 4.3: Model Summary for Overconfidence Bias and Investment Decision Making

Model	1
R	.759a
R Square	0.576
Adjusted R Square	0.571
Std. Error of the Estimate	0.4052
F (Sig.)	123.218 (0.000)

The results indicated that the model had R-square of 0.576 which implied that overestimation of their knowledge, belief in ability to control events and underestimation of property price anchoring biases jointly explained 57.6% of the variation in investment decision making. The F-statistic obtained was 123.218 with a p-value of 0.000 which further confirmed that there was a

significant relationship between overestimation of their knowledge, belief in ability to control events and underestimation of property price and investment decision making.

Table 4.4: Coefficient for Overconfidence Bias and Investment Decision Making

	B	Std. Error	Beta	t	Sig.
(Constant)	1.545	0.136		11.363	0.000
Ability to Control Events	0.232	0.028	0.377	8.153	0.000
Overestimate their Knowledge	0.216	0.028	0.333	7.616	0.000
Underestimated Property Price	0.163	0.028	0.265	5.75	0.000

a Dependent Variable: Investment Decision

Investment Decision Making = 1.545 + 0.232 (*Ability to Control Events*) + 0.216 (*Overestimate their Knowledge*) + 0.163 (*Underestimated Property Price*) + ϵ

The findings for regression coefficients further revealed that overestimation of their knowledge; belief in ability to control events and underestimation of property price had a significant relationship with investment decision making. The effect of belief in ability to control events was greater, followed by overestimation of their knowledge then underestimation of property price had the least influence on investment decision making.

Chaudhary (2013) also studied on the subject perceptions of overconfidence and predictive validity in financial cues. The findings were that investors are generally overconfident regarding their ability and knowledge. They also found that investors tend to underestimate the imprecision of their beliefs or forecasts, and they tend to overestimate their ability. The findings were that investors are overconfident in their own abilities, and investors and analysts are particularly overconfident in areas where they have some knowledge.

Overall Regression Results for Overconfidence Bias and Investors' Investment Decision Making

The results for summary and ANOVA are provided in the tables below. The results of the model summary indicated that overconfidence bias accounted for 16.7% of the variation in investors' investment decision making.

Table 4.5: Model Summary for overconfidence and Investment Decision Making

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.409 ^a	.167	.164	.56579

a. Predictors: (Constant), Overconfidence Bias

F-test was further carried out to test the null hypothesis that there is no significant impact of overconfidence bias and investors' investment decision making in property market in Plateau State in Nigeria. The results of ANOVA test show that the F value is 54.982 with a significance of p-value = 0.000 which was less than 0.05, meaning that null hypothesis was rejected and conclude that there is a relationship between overconfidence bias and investors' investment decision making in property market in Plateau State in Nigeria. The results further implied that overconfidence bias was a significant predictor of investors' investment decision making.

Table 4.6: ANOVA Result for Overconfidence Bias and Investment Decision Making

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.601	1	17.601	54.982	.000 ^b
	Residual	87.712	274	.320		
	Total	105.313	275			

a. Dependent Variable: Investment Decision Making

b. Predictors: (Constant), Overconfidence Bias

The results on the beta coefficient of the resulting model showed that the constant $\alpha = 2.531$ was significantly different from 0, since the p-value = 0.000 was less than 0.05. The coefficient $\beta = 0.375$ was also significantly different from 0 with a p-value = 0.000 which was less than 0.05. The results imply that a unit change in overconfidence bias would result in 0.375 units change in investment decision making in property market in Plateau State in Nigeria. This further confirmed that there was a significant positive linear relationship between overconfidence bias and investors' investment decision making in property market in Plateau State in Nigeria.

Table 4.7: Coefficient for Overconfidence Bias and Investment Decision Making

	B	Std. Error	Beta	t	Sig.
(Constant)	2.531	0.214		11.839	0
Overconfidence Bias	0.375	0.051	0.409	7.415	0

a Dependent Variable: Investment Decision Making

Kafayaat (2014) also confirmed that overconfidence led to over-optimism, as previously proved by Weinstein (1980). Chaudhary (2013) also studied on the subject perceptions of overconfidence and predictive validity in financial cues. The findings were that investors are generally overconfident regarding their ability and knowledge. They also found that investors tend to underestimate the imprecision of their beliefs or forecasts, and they tend to overestimate their ability. The findings were that investors are overconfident in their own abilities, and investors and analysts are particularly overconfident in areas where they have some knowledge.

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings

The main objective of this study was to establish the influence of cognitive biases on investment decision-making in property market in Plateau State, Nigeria. The study specifically sought to determine the influence of overconfidence bias on investment decision making in property market in Plateau State, Nigeria.

The descriptive analysis findings of this study revealed that property investors in Plateau State in Nigeria exhibited overconfidence bias during investment decision making. The study also employed Pearson correlation test to ascertain the association between Overconfidence and investors' investment decision making. The results of correlation analysis indicated that overconfidence bias had a positive and significant correlation with investors' investment decision making.

The results of univariate regression analysis further confirmed that overconfidence bias played a significant role in investment decision making therefore the result implied that null hypothesis was rejected and conclude that there is a relationship between overconfidence bias and investors' investment decision making in property market in Plateau State in Nigeria. The results further implied that overconfidence bias was a significant predictor of investors' investment decision making. In the multivariate regression model, overconfidence bias was found to have a positive but significant relationship with investors' investment decision making in property market in Plateau State, Nigeria. The results imply that a unit change in overconfidence bias would result in 0.375 units change in investment decision making in property market in Plateau State in Nigeria. This further confirmed that there was a significant positive linear relationship between overconfidence bias and investors' investment decision making in property market in Plateau State in Nigeria.

5.2 Conclusion

The study established that overconfidence bias had a significant influence on investment decision making. The study therefore concluded that investors need to identify whether they are influence by overconfidence bias so as to develop the strategies to overcome these sorts of biases. The study also concluded that investors in property markets seek advice and opinion from consultants before making decisions in order to overcome the overconfidence bias.

5.3 Recommendations of the Study

This study recommends that property investors should adjust their predictions enough to reflect new information, and they should not be conservative to the initial reference point. Similarly, investors should be aggressive when they face new information, to avoid overestimating the influence of new information.

On the Overconfidence Bias, people need to identify the biases and develop the strategies to overcome these biases and people require proper allocations strategies and identify the risk and return in investment decision. The study recommends that investment consultants should conduct trainings for investors to help them identify the biases hence develop strategies against excessive trading as a result of bias which lead to poor investment decision.

5.4 Suggestions for Further Research

The findings of this study provide evidence that various cognitive biases influence investors' investment decision making in the property market. The study could be extended in details to other behavioural biases that could have an impact on investors' investment decision. Future studies should focus on establishing other factors that influence investment decision making other than cognitive biases such as experience of the investor, resources available to the investors among others.

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