AN EVALUATION OF THE PERFORMANCE OF RESIDENTIAL PROPERTY INVESTMENTS IN MINNA

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THESIS SUBMITTED TO THE POST GRADUATE SCHOOL, FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA NIGERIA IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MASTERS OF TECHNOLOGY IN ESTATE MANAGEMENT AND VALUATION

ABSTRACT

Residential property investment in urban areas in Nigeria is an important investment medium for rational investors. On this basis, this study evaluated the performance of residential property investments in Minna, Nigeria. Data for the study were collected through field survey using multi-stage sampling technique. This involved the selection of estate surveying and valuation firms which are active in the residential property market in Minna through purposive sampling technique and thereafter, residential investment properties managed by these firms were selected using simple random sampling technique. Thus, a total of 382 residential investment properties were selected from the property portfolio of estate surveying and valuation firms in the city for the study. Structured questionnaire was administered to the managers of these properties for data collection. Data collected for the study include the capital value, annual expenses in form of taxes, rates, repairs etc. and annual rental value of 1-BR, 2-BR and 3-BR apartments for the period, 2009 – 2021. Data collected for the study were analyzed using descriptive and inferential statistical techniques. The analysis of variance in total return produced calculated F-values of 2.139636, 2.928597 and 2.941148 for 1-BR, 2-BR and 3-BR apartments respectively with $p \le$ 0.05. This indicates that the variance in total return for all residential investment property types across all the study locations is statistically significant. The study also found that the risk associated with this return varies according to the residential property investment types across all the locations considered in the study. It recommends that prudent residential real estate investors in the city require impeccable pre-investment appraisal of residential property investments at all locations in the city before investing their capital, particularly if they are risk averse.

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CHAPTER ONE

INTRODUCTION

1.0 Background to the Study

Investment, can be defined as the sacrifice for something now with a later aim of benefiting from it. (Greer and Farrell, 1984). The objectives of property investment are; capital appreciation, income yield, wealth storage, and prestige. (Kalu, 2001). Agboola and Kasim (2007), posited that in most developing countries, with Nigeria inclusive the total cost of capital to be used for property development is not very easy to get. Real estate investment is an investment type that generates income for the owner. Before now, real estate was seen as an inheritance which parents transfer to their wards and descendants, knowing fully that it is a real hedge against inflation and also a source of capital appreciation.

Residential property investment, is one of the major investment types that are mostly invested in Nigeria today, compared to other investment types like shares and bonds. This has been seen as one of the most profitable investment types globally, because shelter is one of the basic needs of man and with this, a man needs to get a dwelling place for himself and his family. There has been an immense emphasis on residential property investment all over the world. As it is, its significance cannot be over emphasized. Residential property, which is linked to shelter, is the second most important need of man after food as a necessity. Babatunde (2003) explained that a place where a residential property is situated is termed location. The housing types include block of flats, bungalows, detached and semidetached houses etc.

The performance of residential property investments is very germane in times like this, as there have been few studies which have been carried out on property investment performance in Nigeria, compared to other research areas in real estate. There should be a careful investment decision making because of the impact of ongoing changes in both local and global economy on the investment decision making process. Real estate investment is a special form of investment that risk is always involved and requires a maximum skill to provide the highest return in an economy (Nwankwo, Kalu and Igwe Kalu, 2018).

According to Nissi *et al.* (2008), return is the main goal behind the sustenance of real estate investment (Residential property). It is also necessary to consider the type of real estate to invest in and the characteristics of the proposed real estate investment. This is due to the fact that the performance of the property would significantly influence the overall performance of the property investor needs to ask himself about the type of property to invest in whether it would be used for either residential, shopping malls, ware houses, or the combination of all this (Ryder, 2012). In view of these, an investor needs to guide the purchasing power of their investment fund. A notion has been perceived among real estate investors that residential property performs better than commercial property investment.

Risk and return are the basic variables used for determining the level of performance of real estate investment. According to Ajayi (1998), risk is the level of probability that required return measured in terms of capital value, and income would be achieved. There has been a lot of risks and uncertainties that affect real estate Investment in Nigeria, and there is minimal information to protect the value of property in order to reduce such effects and uncertainties.

1.2 Statement of the Research Problem

The general aim of every property investor is to maximize profit through the development of real estate, (Amidu, Aluko, Nuhu and Saibu, 2008). Real estate requires a huge amount of capital for its acquisition and development. Past studies have shown that major property investors use loans from financial institutions such as banks to fund such investment.

An investor needs to make a choice and consider a particular type of residential property type he or she wants to invest in before diving into the investment process. This would guide the investor on the relationship attached to the risk-return characteristics associated with the property type.

Ajayi (1998) cited in Oni (2012) is of the opinion that real estate investors are uncertain and are not sure about the outcomes of their plans regarding their investments. It is very difficult to forecast future events, as such forecasts may be unrealistic and unreliable. He further explained that risk is the level of probability that requires return, which is measured in terms of capital value and income. Uncertainty can be termed as an alternative outcome or probability. Most property investors in the study area who are mostly individual investors are not properly guided when it comes to real estate investments bringing in risk and return which are major factors in the performance of real estate investments. They believe that once they have gotten funds to execute a particular investment, they can decide on their own. This poses a threat of risk on the future of the investment because the bulk of funds that are usually invested in real estate are loans borrowed from financial institutions. Oni (2012) opined that risk occurs in different forms in an investment. These include systematic and unsystematic risks. Systematic risk is also called market risk. This is the risk that is common to all securities which cannot be diversified. Unsystematic risk connotes a risk that is related to asset value that is usually brought about by factors that are specific to the real estate.

These factors are attributed to location, neighborhood, and quality of buildings, age of property, tenants and lease structure. Investors in Minna do not put all of these into consideration before venturing into residential property investments. Due to their inadequate knowledge, they tend to use intrinsic modelling in forecasting the future of the property in terms of its performance. They use a particular residential property type to judge and compare its level of performance with those in another neighbouhood. That is why some residential properties are built and no prospective occupier is occupying it because it was not well planned and developed as an investment property. A property that was constructed say fifteen (15) years ago, would not perform same way it was at its prime age. The type of tenants and lease structure of the property might also affect the performance of the property. West and Worthington (2003) explained that returns on property are likely influenced by factors of demand and supply which can be measured at macro level.

The problem of this study is that most property investors in Minna don't have requisite knowledge and idea on the location, property types and their respective performance. This would help prospective property investors in the study area to maximize return on their residential property investment.

1.3 Aim and Objectives

The aim of this study is to evaluate the performance of residential property investments in Minna.

For this aim to be achieved, the following objectives are very essential. They include;

- To assess the level of residential property investment returns in the study area.
- To examine the trend in residential property investment returns in the study area.
- To evaluate whether variation in residential property investment returns across residential property types and neighbouhood in the study area is statistically significant.
- To evaluate the risk associated with residential property investment in the study area.

1.4 Research Questions

- What is the level of residential property investment returns in the study area?
- What are the trends in residential property investment returns in the study area?
- What is the variation in residential property returns across residential property types and neighbourhoods?
- What are the risk associated with residential property investment in the study area?

1.4.1 Research Hypothesis

- H₀: The difference in residential properties investment returns is not significant.
- H₁: The difference in residential properties investment returns is significant.

1.5 Justification for the Study

Residential property is one of the basic needs of man in any sane society. Every human being needs an environment where he or she can take shelter and protection against external forces and to satisfy his/ her needs personally in the area of privacy and self-fulfillment. In view of this, residential property investment is more dominant and available in the study area. For this reason, property investors need to be guided on the types of residential property investment that perform better in the study area so as to maximize returns on their investments. The outcome of this study will also contribute immensely to the field of property investment analysis in Nigeria. The study will broaden the literature scope in the field, thereby laying foundation for further studies and contributing to knowledge in the field of property investment. Also this study is important at a time like this, because there is an increased emphasis on property investment performance analysis across the world.

1.6 Scope of the Study

This study focuses on the performance of residential property investments in Minna. The study covers a period of twelve years i.e from 2009- 2021. One bedroom, two bedroom and three bedroom residential apartments are solely considered as they are the most lettable property types in the study area.

The area delineated for this study are; Tunga axis (Top medical, Bay clinic, Peter sarki) Bosso axis (Bosso, Bosso estate, Okada road, F-layout) Dutsen Kura axis(London street, Fadikwe) Maikunkele axis (Tundu Fulani ,Rafinyashi), Maitumbi, Kpakungu, Barkin sale and Sauka kahuta axis(Brighter)

1.7 Significance of the Study

The overriding purpose of every investment is to create wealth over time with such investment. This can be either through income stream or capital appreciation. Returns can either be received as rent passing on a property or capital value when such property is put on sale. This study; performance of residential property investments in Minna is very important to all investors in the study area and Nigerian real estate sector generally. The effect of the current changes in the global and local economy on the performance of real estate investments gives rise to the need for a careful thought in making decisions as regards real estate investments, knowing that Nigeria, being a developing country and also an emerging economy. Decisions are often made to invest in property, with the aim of achieving necessary financial returns. Apparently, risk has been seen as a common factor in an investment in many urban centres in Nigeria. Therefore most irrational investors carelessly take decisions regarding investments without identifying, examining and assessing the expected risk elements. According to Nwankwo (2018), an investment is considered risky because the investor is not certain of the actual returns which would be realized from his investment. This has however made this study very important and necessary by

evaluating the performance of residential property investments in Minna. Findings from this study would be very important to property investors in making decisions regarding property investment with respect to location of economic properties and also provide relevant guide to other researchers who will want to conduct similar studies

1.8 Limitations of the Study

They were a lot of limitations and challenges at every stage. These limitations range from nonaccessibility to some vital data which are germane to the study. Meanwhile time was also a limitation which wanted to affect the success of the work. Consequently respondents which were majorly estate surveying firms were reluctant to reveal essential information inform of data despite the explanation from the researcher that all information given would be treated with outmost confidentiality and would be used solely for the purpose of the research work. Also, when it was time to retrieve the information inform of questionnaires, some estate firms had not filled it, instead they were telling the researcher to come back on several occasions.

1.9 Description of the Study Areas

1.9.1 Geographical Description

Nigeria consists of 36 states, and Niger state is one of the states found in the country. It has six (6) geographical zones. Minna which is the capital of the state is made up of different tribes and religions. The religions that are predominantly practiced in the state are Islam and Christianity, but are mostly dominated by Islam. The major tribes are Gbagyi, Nupe and Hausa.

The area has a mean annual rainfall of 133mm (1,107 inches). Its highest rainfall is put at 30mm. Its seasons are characterized with a wet and dry season. The rainy season lasts for about 190-200 days. The vegetation of Minna is characterized by savannah vegetation.

1.9.2 Historical Development

The state was previously known as Niger province in 1967, it was under the North western state during the Gowon administration.3rd February 1976 was the day the state was created during the regime of Murtala Ramat Mohammed. The state began to function on the 1st of April 1976. History has it that Minna started on the pada hill and its name was gotten locally from Myina which means to spread life.

1.9.3 Administrative Structure

History has it that Niger state started functioning on the 1st of April 1976. The state comprised of nine (9) local government originally. They are Chanchaga, Rafi, Bangi, Gbako, Etswan, Suleja, Mariga, Magama and lavun. Additional local government like Agaie and Lapai were carved out of Etswan local government area. This occurred between 1979 and 1983. The then executive governor of the state was Mallam Mohammadu Awwal Ibrahim and his administration managed a total of 18 local government area. The military came on board into power in 1984 and went back to the initial LGA structure. Niger state Bureau of Statistics revealed that in 2002, the civilian administration of Engr A.A Kure came into power. The state government, local government and emirate council are the three tiers through which the state administration is done.

1.9.4 Economic Background

Niger state is compared to the Algerian settings, because of its numerous agricultural activities. This includes shear nut processing, rice, farming, yam and cotton farming. The state also supports cattle rearing. The presence of rail way routes has had a boost to the economy of the state. Also, Niger State Transport Authority (NSTA) has added to the internally generated revenue of the state through its transportation sector. The state also indulge in craft and clothing's which are made local. There are abundance of mineral resources which include; Gold,

kaolin, feldspar, fine sand, ball clays. Similarly, it is the power state and it houses the 3 major hydroelectric dams which include Kanji, jebba and Shiroro hydroelectric dam.

1.9.5 Population of the Study Area

According to 2006 population census, the population of the state is 3,950,249. According to statistics of this population, 51.5% are male and 48.5% are females. The state capital has a population of 304,113 and an annual growth rate of 3.4%.

1.9.6 Locational Characteristics

Niger state lies between latitude 3'250 and 7'40 East and longitude 80'11 and 11'30 North of the equator. The state is bounded by the north by Zamfara state; in the west by Kebbi state; in the south by Kogi state; in the south west by Kwara state; and south east by Abuja. The state has the highest land mass in Nigeria, measuring 709,995KM^{2.} This accounts for 9% of total land area in Nigeria.



Figure 1.0 Map of Nigeria displaying Niger state.

Source: Modified From Google Earth



Figure 1.1 Map Niger State displaying Minna (Bosso and Chanchaga LGA)

Source: Modified From Google Earth

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 A General Overview of Investment

The most important reason of an investment is to make wealth through appreciation of capital and also streams of income. In an investment circle, an investor who is always rational in his/her thinking would invest in a property that always have a reliable level of certainty in other to protect his or her purchasing power and also a positive rate of return that would be beneficial in the future with a minimal level of risk.

The giving up of a capital sum now for the purpose of a return or income later or in the future is what an investment entails. Every type of investment is characterized by some type of risk due to the unforeseen circumstances that could occur in the future. The risk differs in terms of various investment types. When an investment has a higher risk, it is termed to be very risky consequently, every investor is supposed to be able to maximize return and minimize risk.

Investment entails giving up a certain amount of money presently, with the aim of receiving a benefit from it in the future. Bodie, Kane and Marcus, (2007) defined investment as the current commitment of money in anticipation of recouping its future benefit. It involve setting aside a particular amount of money with a particular reason until a later date. Kalu (2001) explained that an investment is the utilization of capital in anticipation for a return or putting a lump sum of money with the intention of a future benefit.

Ogbuefi (2002), explains investment as doing away with capital that is at hand in an anticipation for a future income. He further explained that every investment primary purpose is to get a future income. This income or profit can take any of the following two forms,

- Income that are gotten in form of dividends or rents from an investment.
- Realizable profit from the appreciation of value especially when the investment is mortgaged, leased or sold for more than the original cost of the investment.

In an investment market, potential investors are faced with a number of alternatives where the fund that is involved in the investment could be placed. They include stock and shares, bonds, landed properties etc.

Proceeds in an investment always allows an investor to have a steady cash flow in form of leases which are always durable in nature which makes it a better choice when compared to other types of investment. Apparently, the inherent stability in real estate investment makes it more important because it is a venture that has life longing yield.

2.1.1 Real estate property

There are two broad categories of investment. They are;

- Financial investment.
- Real Investment.

2.1.2 Financial investments: These are also called financial or paper asset investments. They include stocks and bonds. Financial investment will not be treated deeply, since it's not the principal focus of this study.

2.2 Nature, Meaning and Overview of Property Investment

There has been different meanings given by scholars regarding the word property. Babatunde (2003) posited that property is a bundle of rights on a land or any improvement on it. These

rights can be referred as to as proprietary rights which include; possession, this is the right to let; the right to use; and also the right to sell. According to Bello (2012), property as the interest or right that a person has or possession on land. He further explained that the nature of property involves the interaction and relationship that exists between other rights to use a property.

Unlike other types of investment, real estate investment is quite different from all other investment types. They include acquisition of interest in land and landed properties in order to get a return maximally now and also in the future. These returns can either be rental or capital gain.

Oni (2012), posited that real estate investment is the management, acquisition & sale of real estate for the sole aim of getting profit. Similarly, Sirota (2004) as explained by Babatunde (2012) defined investment in real estate as setting aside a particular fund either by an individual or an institution into real estate with the aim of earning profit. Similarly, real estate investment cuts across commercial, residential, industrial and agricultural property. According to Babatunde (2012), real estate investment can be classified into direct and indirect real estate investment. Direct real estate investment means the acquisition and ownership interest in real estate asset. There is need for a day to day active routine management (property management), leasing etc.

Duregi (2011) further described property as rights that are specific which are attached to an object. This objects can be real or fictitious. They can be derived from a wider institution which grants the holder of the property a power that is recognized to put that particular object to use, dispose and also manage. He further defined property as the right of an individual with respect to a particular object.

The purpose and nature of every investment is to forego or sacrifice something that is more valuable now which is expected to be beneficial later in the future. Greer and Farrell (1984) posited that property investment or investment in property connotes two words, Property and investment. Similarly, property means real estate and real property. It can be used interchangeably which also connotes real estate. According to Udechukwu (2006), described property as land and anything that is attached to it permanently. It is the commitment of a sum of capital amount now for an anticipation of a return in the future. This returns could either be income stream or appreciation of capital. Bringing the two together, property investment or real estate investment has to do with involving money into land and landed property. Baum et al. (2011) described a property as an exchange of a capital outlay for a benefit that is futuristic. Udechukwu (2006), posited that real estate investment is the giving up of a capital sum for the preposition of acquiring a landed property for an income or a benefit which is to be received periodically. Consequently, Oyebanji (2003) defined real property investment as an investment that is majorly made up of land and buildings. The author went ahead to explain that it involves the acquisition of land, building and similar assets in other to sale or divide rent of income annually.

Similarly, indirect real estate looks at Real Estate Investment Trust (REITs) which has to do with an investor purchasing ownership certificate in trust, which in turn, uses the money to invest in real property. It is worthy to note that this type of investment is not popular in the Nigerian property market. Property investment is different from other investments with some features and characteristics. According to Kalu (2001) property is distinct in its features. Some of the features include;

- Illiquidity
- Heterogeneity
- Indivisibility
- High cost of transfer
- Perpetuity
- **Illiquidity**: illiquidity can be defined as the process where a property type can be easily converted to cash. Illiquidity is an important investment characteristics to an investor especially in Nigeria. It is not very easy for a property to convert into cash in its current market value because of its lumpiness.
- Heterogeneity: There is high level of uniqueness in every property type, when it comes to location, size of plot, design, and construction. Previous studies have revealed that it is not possible for two properties to be the same, hence they can just be similar unlike shares and bonds, where two prospective investors can have an identical holding in stock and shares. Kalu (2001), explained that the state of repairs and decoration is very necessary in the heterogeneity of a property.
- **Indivisibility**: Conversion of title, is one unique feature of a property. Unlike other forms of investment, a property cannot be divided and sold in units. There have been great

attempts to equate divisible nature of property to other forms of investment, but it has not been successful.

- **High cost of transfer**: Property investment requires huge sum of money for it to be transferred from one party to the other. Title of the property would be searched in order to confirm the real owner of the property whenever the property is to be transferred.
- **Perpetuity**: Real estate are long lasting assets compared to other investment. Its longevity is lasting. This gives a good hedge to a free hold investor to receive income in perpetuity on the investment. There are diverse reasons why investors invest in real estate. This reason differs from each other and they include.
- Profit
- Independence
- Social status and political power
- **Profit:** This investment motive of an investor, is concerned with the steady in flow of income and capital growth. The investor also is always concerned with security of the rental income. According to Kalu (2001), one of the reasons for investing in real estate (property) is receiving the capital appreciation involved in the investment.

Alternatively, the investor can make a decision to sell off the property, the capital gained from the sale is known as the profit.

• **Independence**: It is the desire of every individual to own a house rather than being a tenant. According to Egulom (2008), there is high respect for an individual who owns a property personally other than paying rent.

• Social status and political power: Some people desire to own properties for the purpose of prestige. They are always honored when their name is attributed to a particular property. A typical example to buttress this point is Buchingham palace in Britain which the main reason is prestige.

• An Overview of Residential Property Investment

Residential properties are one of the basic needs that a man desires. It has an important role on the health, welfare and how productive an individual would function. Also, houses in general (Residential Property) does not only connotes an essential need of a man, however, it is a great object of investment and also a wealth storage mechanism. However, individuals have gone extra mile to satisfy this need by buying houses, others who cannot afford it go extra mile to rent bringing about a landlord and tenant relationship in the residential property market.

There has been much pressure on residential property, due to urbanization and rapid migration of people into town and cities. After food, this is the most important need that a man craves for. Sirota (2004) as cited by Babatunde (2012) investors are investing more in residential property investments in order to reduce the pressure of inadequate housing experienced by individuals and families. Residential Property investment simply means investing in dwelling for man by producing houses with anticipation for a return. Ajayi (2003), emphasized that a nation's wealth rests on real estate asset.

Similarly, Igbinosa (2011), described residential property investment as the most popular type of property investment in the world due to its important nature. Also, he explained that residential property is a land use type with numerous housing types as compared to commercial and industrial properties.

There are different types of residential property types in Nigeria. These are:

- Tenements
- Blocks of flats
- Bungalows
- Detached Houses
- Semi-detached
- Maisionettes
- **Tenements**: A tenement is a type of building that is usually found in an area that has high density. This type of building are let in rooms which the kitchen, toilet and bathroom are shared together with a particular family. This type of building are mostly found in Maitumbi, Kpakungu and Gbeganu in Minna. In a lay man's language it is called "Face me, I face you".
- •Blocks of flats: Ifediora (2005), posited that Block of flats are self-contained residential accommodation which are within a building block. They are residential buildings that have several accommodation unit, these unit also have several conveniences. This type of property are occupied by middle income earners.
- **Bungalows**: A bungalow is a building in a form of Self-contained house on a ground floor, which has an enclosed accommodation unit, it is known as a bungalow. There are different types of Bungalows, they include 2 bedroom, 3 bedroom Bungalow.
- •Detached houses: According to Udechukwu (2006), detached house is a single accommodation existing on two floors. There accommodation always have conveniences

like kitchen, toilet on the ground floor and also a sitting and guest room. The sitting room and bedroom are normally found on the first floor.

- •Semidetached houses: These are buildings, that are normally separated by walls
- Maisionettes: Those are buildings that consist of several unit within the same building. It is like a flat, but it has two floors bedrooms are located on top of the floors and the conveniences on the lower floor. Some advantages of residential investment include;
- •A property that is well located with well finished fittings will command higher value and the returns would be regular on annual basis.
- •The property can be used as mortgage instrument for loan so that there can be a reinvestment on another Investment. This can only be possible if there is a valid and legal title.
- Low volatility return is associated with residential property investment.

There are also some disadvantages that accompanies residential property investment.

They include;

- Any property that is not properly insured against risk of fire, would not have insurance covered for it.
- Tenement rates are usually associated with residential property investment.
- For an investor to invest in residential property, a large outlay of capital is involved until other investment type.
- It takes a much longer period before it is converted to liquid.

• The Concept of Return on Property Investments

According to Adebayo (2006), property investment returns depends on many characteristics like the quality of the neighbouhood where the property is located and accessibility.

It is the wish of every investor to recover all the capital invested in a property investment by way of a profit or return. Consequently, return is the ability of an investment to yield or generate necessary profit. It is the benefit that is usually associated with an investment. To get the flow of the future income, this would be dependent on the motive of the investor. There are different ways which the return of an investment can come. It can come in the form series of payments over time.

The main purpose of an investment is to create wealth through a steady income stream. Property investment return are of paramount importance to the investor. Consequently, returns in real estate has a great role and influence to play in the Performance of different types of properties.

Gerogi (2002) and Phyhrr *et al.* (1999) differentiated between two types of cycles that affect property investments. This include micro economics and macroeconomics. They further revealed that macroeconomics cycle occurs at the regional, national and international level while microeconomic cycle works on a metropolitan area, on a property level location. Consequently, demand and supply cycle can either be macro or micro level.

There was many published articles which examined real estate pricing and its returns in relation to market efficiency using individual and commercials return data, other studies focused more on specific property types such as residential properties and foreign real estate., in the U.K, properties that are usually used for ware houses performed best, when compared with ware houses in the United State of America, the returns were very low. Lizieri *et al.* (2000), concluded that office property returns in London are volatile when compared to office properties in other British real estate market. They further explained that this might be caused by fluctuations in capital.

Data on international real estate returns are examined specifically in several studies (Baum 2002).

Returns in real estate are seen as tools that are valuable. These are used in evaluating and deforming the profitability of real estate investment. However, they allow investors sort out investment that are good from the bad ones. Real estate investors however would always want to know whether the expected returns is worth the risk taken. Performance of investment measurement may be carried out in an absolute terms or relative to the performance of other investment opportunities.

West and Worthington (2003) posited that property investment is linked to inflation hedge and there is significant relationship between inflation and property return.

Capital utilization can be effective if only return is measured. According to Kalu (2001), this is done at their level which include

- Appraisal of the performance of individual assets.
- Appraisal of the performance of the various asset sectors.
- Appraisal of the programme of the portfolios.

Individual properties returns can be assessed by investors in other to take decision on the property. Udoetuk (2008) Opined that the evaluation of property performance is difficult as it is based on the changes of capital value of the investment.

According to Kalu (2001), there are three types of performance measurement. They include money weighted rate of return, geometric mean return or time weighted average return and the arithmetic mean return: this is the total summation of returns divided by the number of periods for example, if quarterly returns are to be accessed, the entire quarterly summation of the return is divided by the number of quarters, this gives the arithmetic mean returns. Kalu (2001) affirmed that geometric mean return is the single per period return that gives the exact cumulative performance as the sequence of actual return.

(i)Income return from real estate investment are usually rent that are received periodically by lessor or the landlord. It is defined mathematically as;

 $IR_t =$

Where:

IR_t=Income return for period t

NI_t= Net income received in period t (Rent)

CV_{t-1}=CV at the end of period t-1

(ii)Capital returns is the steady increase in capital value (Capital appreciation) over the measurement period divided by the beginning investment capital value. It is used to estimate the rate of return of an investment. It is expressed mathematically as;

Capital Return (CR) =

Where:

(iii)TR= Total return

CV_{t-1}= Capital value of property at the beginning

Cvt= Capital value of property at the end

Hoesli and Mac Gregor (2000) have both identified weighted money rate of return (MWRR) with "total return" which is the ratio of net capital sum added to net income and to the initial capital value at the start of a given period. Baum (2002) posited that MWRR and the internal rate of return are effectively the same in an investment and he further explained that MWRR is approximately similar to internal rate of return (IRR). This can be possible and effective if only both rates are held for one period. It can be seen as a generic description that is applied to any form of calculation involving income and expenditure are discounted over time. The return that is gotten is the return for the whole period. In summary it is the sum of the income and capital returns If there is no further expenditure of capital on the investment during the measurement period, MWRR is expressed as follows;

Total return= CV_1 - CV_{t-1} + NI_t CV_{t-1}

Where CV_t is regarded as the capital value at the end of period t, CV_{t-1} is the capital value at the beginning period t, NI_t is the net income received. Total return approaching apart of both income and capital approach. This has been used as best performance measure in most literature when compared to other approaches. (Dabara, 2014 and Umeh, 2018).

2.5 Concept of Risk in Property Investments

Risk is the potential of loss that is associated with the return on an investment. It can also be seen as the probability that differs from an expected return in an investment. Ibiyemi and Tella (2013), explained risk as the probability of not getting a desired expectation from an investment. It is the possibility that the return from an investment may differ from what an investor is expecting (Ciauretie and Sirmas, 2006). There is no way a risk associated with a property can be eliminated completely. In view of this, it can be managed. Which can be settled with a proportional reform evidently, investors in real estate are mostly concerned and believes that actual out come in an investment would be less than the expected outcome.

There has been a lot of debate by experts whether standard deviation or semi standard deviation is the best method for measuring total risk of property investments? This question has not gotten a suitable response. Whenever standard deviation is applied, the differences between the real and expected value is always considered to represent risk. For the semi-standard deviation, the risk that is involved is the down side standard deviation that is expected by the investors. However, it is seen as the probability of earning lower income than they expect whenever an investment is to be made. I.e as a relative or real loss that is always measured against expectation. The use of standard deviation as a measure arises from the classical approach, represented mainly by the investment analysis.

A semi-standard deviation checkmates the risk of an investor who earns a lower return than they expect i.e as a real or relative loss (measured against it expectation). When using standard deviation as a tool for risk measurement this arises from the classical approach, this is mainly represented by the investment analysis. Consequently, a semi-standard deviation helps in assessing the risk of an investor who earns a lower returns than which they expect whenever an investment is to be made. This makes an investor to be more aware and conscious of the exact level of risk when compared to standard deviation .This also shows them a true risk that an investment will fall short their expectations, rather than sugarcoating the reality (Cheng, 2005). Whenever an investor gives much attention or dwells more on downside standard deviation, as against upside standard deviation as a parameter of measuring risk, this makes their returns lower than they expect. This phenomenon is termed excessive optimism (Tyska and Zieloaka 2002).

There are numerous studies which has been investigating risk and return with respect to individual assets. The confusion of most studies in the U.S property market are not different from the result of investigation into the market. Liow (2001), analyzed the rate of return and standard deviation for all stock and real estate companies that are outlined in the Singaporean stock exchange (SGX). Real estate was however analyzed with respect to three main indices; they include residential, commercial and industrial properties. The study however showed that all through the years 1975-1996, stocks yielded and gained higher returns than real estate. The viability and risk of real estate as an investment driver is discussed in many studies on the Polish market. Trojanek (2012) studied the change in price in real estate market in one of the biggest Polish cities starting from 1997 to 2011. According to his study, he was to estimate returns in real estate investment. Wolski (2016) studied the housing property mark and the capital market to determine risk-return rations for both market. The investment in property proved safer and profitable.

There has been a long debate by academia on the difference between risk and uncertainty which are mostly related to real estate investment. Generally, it is agreed that uncertainty occurs due to lack of knowledge and poor information about the state of variables. Consequently, whenever an analysis is taken into the future, the greater the uncertainty and the more uncertain the output are. However, risk is the measurement of difference between the actual and the expended outcome. Furthermore, the risk in an investment can be expressed completely by putting into consideration all possible outcomes and possibility of each. Adair and Hutchison (2005), explained risk as the probability that a target rate of return will not be realized while they also defined uncertainly as the situation where a certain outcome and their possibility is not known. In finance and conventional investments, the risk associated with a property is usually seen as the volatility that is qualified through the variance or standard deviation of its return. Therefore, variance or standard deviation can be used to summarize the spread of outcomes and this can be considered as natural indexes of risk.

Uncertainty that is not perceived cannot be operationally defined, valuers can only try to define the perception of uncertainty. Accordingly, the definition of risk are likely to carry a subjective element. This can only occur depending on the nature of the risk.

Archer and Ling, (2008) further explained that major classes of investment risks to include:

- Legal change associated risk: There are new laws and legislation having significant impact on an investment in other to recoup more income.
- Social change risk: This kind of risk occurs due to changes in demand and supply. These usually have a negative impact on the investment type.
- Interest rate risk: This occurs when there is adequate loss in an investment value due to increase in market rate.
Ajayi (1998) cited in Oni, (2012) posited that most investors in an investment are un-certain about the outcome of their investment actions. It is always difficult to forecast future events and such forecast are always unreliable over time.

Oni (2012) risk occurs in many ways at every level of the investment. This risk include systematic, unsystematic and diverse risk. He further explained down side risk as a type of risk that is derived from volatility. There variables include rent, void period, yield, cost of construction, period of building, cost of land and as well as marketing cost. This where reported by Ogunba (2002) and Ogunba *et al.* (2003)

Similarly, Baker (2001) analyzed the investment in residential rental real estate and further explained that this investment are normally affected by systematic risk also known as market risk and it cannot be affected or reduced by diversification while unsystematic risk can be eliminated by diversification. Baker (2001) further went ahead to explain that residential property investment is mostly and likely to be affected by unsystematic risk compared to systematic risk. He analyzed both as follows; systematics risk (taxation, conditions due to economy, interest rate due to changes)

And unsystematic risk (location quality of building, tenant and lease structure etc.)

According Greer and Kolbe (2003) risk elements in real estate investments can be classified as follows.

- i. Financial risks
- ii. Insurable risks
- iii. Business risks

Financial risk is the risk intrinsic in the use of borrowed funds and this is determined by choice of arrangement due to finances. Risk hazards like fire, Flood etc. can cause loss of valuables like real estate. This are all classified as insurable risk which on the other hand, the risk which occurs as a result of not taking necessary business decision or misevaluating ones economy consequences is termed as business risk. Mfam and Kalu (2012) identified that there is a notable difference between the risk involved in residential and commercial sector. They further went ahead to explain that residential investment risk is higher than commercial investment risk.

S/N	CLASSES	CAPITAL MARKET
•	Market risks	capital market risks
		Valuation risks
		Market growth risks
•	Real estate operation	operating risks
		Development risks
		Leasing risks
		Lease hold risks

Table 2.0 Classification of RisksSource: Adapted from Finlay and Tyler, 1991

Market risks are normally affected by financial markets and also macroeconomics, while real estate operating risks is related to property investments and more specifically to real estate.

• Operating risks: - operating risks is related to the probability of incurring losses due to

changes in demand input cost. In other for operating risks to be minimized, operating

and tasks expenses should be reduced drastically. This will reduce the operating income

from the property or will offset the increase in rent, which will reduce the cash flow and also the property value.

- **Development risks** :- Development risks is related to land development to some extent, it identifies the probability that any capital expenditure will earn the required rate of return to repay the investor for added risks taken when there is an additional capital added to the assets. This occurs when there is a new development or when an expansion is anticipated
- Leasing risks: Leasing risks measures the assets share at overall market absorption by making comparison of the assets performance of the whole property in the market trend. Also it can be seen as the risks that a void space will be absorbed at a rate which is lower than projected acquisition underwritten of the assets. The overall risks is of the investment is normally affected when the property is not in synchronization in the market or absorbing its fair share of the market leasing activity
- Lease hold risks: This account for the probability that the lease terms of the tenants are far above market and that there is an inflation in the purchase price of the property which results in the inflation of both the interests. In other words it is the risks to value above market rent at a higher discount rate than the main core assets.

2.6 Sources of Property Risk

Baum and Crosby (1988) noted that the source of property risk are numerous and they are unique to this investment form they are:

i. Tenant risk: This will occur if a tenant action affects returns on property investment by his/her actions. If this occurs, an investor may be griped with fear and may have no option other than to result back to chance of voids I.e the tenant vacating the premises. Even in a situation where the tenant signed a longer lease, bankruptcy must be considered.

ii. Sector risk: This is the possibility that the investment in sectorial price may affect the investment. Apparently, property investment is valuable to regional risk. Difference in performance happened between sectors and regions. These are normally caused by rent changes and capitalization rates.

iii. Structural risk: This is the chance that could occur as a result of cost of repair that is high, maintenance cost or refurbishment cost that may be necessary either through failure that occurs in the property structurally. Similarly, economic and functional obsolescence can also set in.

iv. Legislative risk: This chances can occur as a result of change in status and law which may affect investment returns directly. Rent edict, lease hold reform act, VAT etc. have not in a way favour property investors since its introduction.

V. Legal risk. This occurs as a result of a possibility of little of an investment that is unsatisfactory or that an existing right exist over the property. This is in a way affect the value of the property. It is a risk that does not review rent. This uniqueness are general to a property.

2.7 Review of Factors Influencing Real Estate Investment Performance

Few studies (Golob *et al.*, 2021; manni and Chane-Teng; 2008 Fleming; 2010; Muli, 2013; Thontteh and Omirin 2014) were found to have been carried out research in this area. Golob *et al* .(2012) using Slovenia as their case study, conducted a study on the impact of factors on the real estate market. The purpose of the study was to define necessary factors that must be considered

for an analytical forecast of trends in real estate price fluctuation. The finding of the study showed that the main group of factors with relevant impact is connected with growth, interest rates, construction quality and speed of real estate sales. Fleming (2010) studied the correlation analysis of economic factors that modern commercial real estate (CRE) performance in USA. Archival data were collected at the cause of the study which include economic bench marks, rate of employment, interest rates, gross domestic product (GDP). Manni and Chane-Teng (2008) analyzed the important factors influencing the performance of the French REIT between 2000 and 2007. Multi- factor models was adopted for the study. The result from the study showed that long term interest rate act as the principle explanatory factor.

Muli (2013) analyzed the factors affecting the growth in real-estate investment in Kenya. The factors he analyzed are Gross Domestic product (GPP) growth, influence of interest rate and growth in population. Corresponding and regression model were used to analyze the data. The study revealed that GDP took the highest share with value of 83% followed by interest rate having 75% and population growth contributed the least with a value of 29%. Kursock *et al.* (2009) investigated the factors that influence the performance of property performance in Germany based on single-property data. Their aim was to identify relevant market and property related factors as regards performance. A sample of six hundred and sixty two office properties were sampled and regression analysis was carried out and total return, income return and capital growth were adopted as dependent variable. The study showed that difference in the performance depends on property management abilities. However in Nigeria, the only study conducted in respect to the subject matter was that of Thontteh and Omirin (2014). They analyzed factors considered in property investment performance in Victoria Island area of Lagos state. Principal component analysis (PCA) was used to analyze the data obtained in order to explore the critical

factors that determine commercial property investment performance in the study area. Seventyseven factors were examined during the study, and only three were categorized as 'critical' factors. They are property physical structure and mode of transportation, possibility of natural disaster and effectiveness/efficiency of tittle processing and also regulatory framework. One of the short fall of this study was that it failed to cover more than one location, this made it difficult to draw conclusions on the entire market.

Some factors that affect performance of residential property investments are:

- Obsolescence
- Location
- Types of tenant in a property
- Property maintenance
- Obsolescence

Obsolescence can be defined as the process of declining the performance of property. It is the depreciation in value that affect a property. This loss of value could be as a result of current change in design of a property and technological development. Most studies have shown that age generally is not necessarily the cause of obsolescence in a building. Obsolescence has the tendency of affecting the performance of a property through the return that the property would produce i.e. Rental value or capital value. An obsolete property would always produce a lower rental and capital value.

Location

Location is the sum total of all the topographical, transport and other factors on land use that characterize a particular neighborhood. It can also be referred to as the proximity or nearness to transport, employment, shopping and recreational facilities. Nwuba (2004) opined that the performance of a residential property investment is influenced by many factors, among which accessibility and location stand to be very important amongst others. It has been established, that properties that are located in areas/location that are easily accessed are always sought after which brings about maximum return to the property investment.

The location of residential property in a city has an impact on the capital value of property which is to be put on sale in a property market. Consequently location present a different value in variable such as accountability, neighborhood and traffic etc.

• Type of tenant in a property

It is the desire of every property investor to receive his rent on annual basis from his property in other to recoup the money invested on the property. Also, decisions are always made to invest in property with the objective of achieving the necessary levels of financial return inform a rent.

Apparently, an agreed amount is paid by a tenant for the property he uses annually. This is termed rent. If the tenant defaults in the payment of his rent, he would be evicted and charged to a tribunal court. However, the amount which is to be paid on the property would be delayed and would disrupt the annual return on property affecting its performance. Consequently a faithful tenant would never default in the payment of rent when due. The type and nature of tenant occupying a property has a great impact on the property. Property Investors are always advised to know the financial strength and capacity of their tenant before entering into any form

of agreement. It is always easy for a tenant to pay a rent for the first year successfully, but default in subsequent years.

• Maintenance of property

Maintenance of a property is an important routine in the lifespan of a property (Zulkarnian *et al.* 2011) maintenance can be defined as the combination of all technical and associated actions that is intended to retain a property to a state in which it can perform it required function of which it was originally created. Maintenance of property is defined and necessary to keep the property in its original state and also high quality of operation. Every maintenance of a property evolves round servicing, inspections, replacement and renovation etc. Return on property investment is determined by the nature of a property. A property that is not well maintained physically would not command a higher capital value which will make it perform less and below expectation.

2.8 Investment Performance Measurement Techniques

There are several measurement techniques that may be adopted to determine the level of performance of property investment. These techniques can be categorized into four they are:

- General measures and measures of return.
- Measures of risk.
- Combined measures of return and risk.
- Measures of the degree of diversification.

- General measures and measures of return: Investment return can either be in the form of income return or capital return. Income return from real estate investment are usually rent that are received periodically by lessor or the landlord. Capital return on the other hand, are returns resulting from the appreciation of property values during the life circle of an investment.
- Measures of risk: Investment risk as the likely hood that the actual returns would be lesser than what an investment would expect. There is a general notion to this definition, there have been a general debate on the several methods of measuring risk. These methods are; variance, mean deviation and standard deviation.
- **Combined measures of return risk**: The two major classification of return and risk performance of investment are reward to variability measures. They include; coefficient of variation, sharpe ratio, Jensen ratio and treynor ratio.
- Measures of the degree of diversification: This measure of diversification involves assets that are not corrected in a portfolio with a view of spreading risks. They are portfolio balance, measure of portfolio efficiency and effectiveness of portfolio diversification.

S/N	General Measures and Measures of Returns
•	Income Yield on cost
•	Income yield on Value
•	Efficiency of income collection
•	Rate of income appreciation

•	Rate of growth in full rental value
•	Implicit rate of rental growth
•	Reversionary potential
•	Rate of capital appreciation
•	Time weighted total return
•	Money weighted total return
•	Internal rate of return
•	Financial management rate of return
	MEASURE OF RISK
•	Historic risk factors
•	Variance
•	Down-sides-semi variance
•	Down side real variance

Table 2.1 Performance measurement techniques

Source: Adapted from Finlay and Tyler, 1991

2.9 Review of Empirical Studies

There have been few studies on the performance of real estate investment both locally and at the international level. Property investment performance, which is considered in relation to other investment asset is a topic that is very wide in real estate literature.

Haw (2003) conducted a study on residential property investment in Malaysia he adopted coefficient of variation and Sharpe ratio, the result of the study showed that terrace building performed compared to other property type. Ooi and Liow (2004) examined real estate securities in developing countries of Asia in respect of their risk adjusted return. The outcome of the study showed that out of seven countries, five of which were part of the study did not perform on the basis of risk adjusted return Amidu *et al.* (2008) assessed the performance of real estate security and investment in Nigerian stock market. He used the performance indicator like nominal return and risk adjusted return for his study. The outcome of the study showed that real estate investment performed better on the basis of nominal return and under performed on the basis of risk adjusted return.

Lorenz and Truck (2008) examined the risk and return in a European market. The authors conducted a study on different property type across France, Germany, Ireland, Netherlands, and UK. The conclusion of the study revealed that retail property had a better performance in France and Germany, while the residential property performed better than retail property in Netherlands. It was also observed that there was no available data for Ireland and UK.

Ling and Narango (2002) viewed their study from an international perspective, and examined real estate securities and concluded that these are little return abnormally to be earned at international real estate market. Apparently it was observed that substantial variations in real estate were found to exist across different markets over different period.

Kim (2001) examined the investment performance and evaluation of Singapore for real estate established and property stocks for the period of twenty-five years. The outcome of the study showed that risk adjusted investment performance for residential properties performed better when compared to other real estate type and stocks.

Newell, Chau and Wong (2009) conducted a study on the importance of Chinese commercial property in an Asian property portfolio. China's commercial property market was assessed which was compared to other six developed and emerging commercial property in a pan Asia portfolio,

risk adjusted performance analysis was employed for the study. Findings drawn from the study showed that the commercial property in China has enhanced programme and diversification benefits in recent years.

Plaizier (2009) carried out a study on characteristics of returns on direct and indirect global property market in Australia, Europe, North America and Asia. This study was carried out during the first quarter of 2008. The aim was to find out the difference in returns and the factors that determine returns in the direct sections of property market. The study found out that direct property returns outperformed indirect property returns.

Zahari *et al.* (2010) conducted a study on the return of investment for commercial property and banking Johore Street, Malaysia. The study revealed the range of gross rate of return for commercial investment which was 4-8% per annum. This return is far higher than the investment in banking institution. Returns on residential investment was not evaluated which served as the basis for the study.

Boundary *et al.* (2012). Evaluated the performance of direct and indirect property investments in the United States, correlation coefficient was determined through transaction based indexes of two real estate asset classes. The study concluded that there is a strong relationship between direct and property shares in study area.

Aik (2012) compared conventional and Islamic REITS performance in Malaysia. The study found out that REITS underperformed during and immediately after global financial crisis that occurred in 2008. Koipham (2013) examined the investment performance of Asian REITs in a mixed asset portfolio. The duration of the study was between 2001 to 2012. The study found out that REITs provided a strong diversification benefits for the mix assets portfolio.

Yunus *et al.* (2012). Examined the relationship between performance of private and public property investments in Australia, Netherland, United Kingdom and United States property market. Property transaction data was adopted for the study. The result of the study showed that there is an existed long run integration between privately and publicly traded real estate in the study area.

Haran *et al.* (2013) evaluated the performance behavior of property investments in some selected developed countries. The data collected were analyzed using lead-lane correlation and co-integration models. The study concluded that returns at direct and indirect real estate investment varied and are not integrated.

Andonov *et al.* (2013) posited that there are three main reasons for adding real estate to institutional investment. They include: to diversify and reduce the overall risk of the investment portfolio: hedge against inflation and to deliver steady rental income to the investment portfolio. According to Oloke *et al.* (2015) there are two main justifications for a real estate that is securitized in a mixed asset portfolio of an investment. The first is to stabilize the portfolio, by reducing the volatility to the list minimum return. Secondly, is that real estate provides a hedge against inflation. Most studies have found out that real estate investment have been a good hedge against inflation. Gilbeto (1990) made use of equity REITs to show a common factor associated with direct and indirect property performance in the U.S.A this often explains direct property performance

Another study examined lagged REITs returns and showed that it can predict direct property returns. After having a valid control for persistence in the appraisal that in base on Rusell-NCREIF series in the U.S.A. Similarly, Myer (1993) and Webb (1994) analyzed both

ERETTs and commercial property. The study conducted showed that commercial property performed better.

Kerrigan (2014) analyzed the general over view of performance of real estate investments in the United States of America between 1983 and 2012. The study created CWI (cumulative wealth Index) for the assets and also made comparison of their total returns. The risks of all assets were also determined using sharpe and treynor indexes. The study showed that equity real estate trust out performed direct real estate investment on the basis annual real estate return on investments. Kapamba and Nnang (2016) compared return on real estate investments with return on capital investment in order to provide potential investments in Botswana with information on the performance on direct and secuterized real estate investments. Statistical measures of variation like mean, variance and standard deviation were the data used for analysis. The study revealed that the return on investment in real estate was on the high side when compared with stocks on shares.

Boshoff and cloete (2016). Conducted a study on the interrelationship between the performance of direct real estate investment and listed property shares in South Africa. Data was collected for a period of (1999 to 2009) and was analyzed using correlation statistics. The study showed that there was strong correlation between direct securitized real estate investments.

Prior to the findings on previous studies on the performance of real estate investment both risk and average return have been the major indicators of performance, making property market performance. Bello (2003) conducted a study on the performance of residential & securities investment in Lagos. Risk adjusted return was used to measure the performance which was gotten from income & capital growth Also known as capital appreciation. The study made use of

standard deviation and coefficient of variation which was used to establish the content of the investment in relation to risk. He concluded his study and it showed that residential investment performed better than securities and it yielded low risk.

Idowu (2006) conducted a study on residential property returns in Lagos and its environs between 1991 and 2004. The study discovered that real term returns displayed an un-stable pattern while rental and capital value showed an upward growth. This study faced a major limitations, by covering returns only on residential property at the city center, ignoring the satellite town.

Udoetuk (2008) conducted a study on the comparative evaluation of the performance of residential investments from 1990-2004 in some selected area of Lagos state. During the study, data on rental and capital values in Victoria Island, Ikeja Lekki Phase 1, Ikeja and Agege and vital information was collected inform of data and interviews during the study from estate surveyors and valuers. The result of the study showed that residential property investment in Victoria Island and Lekki phase 1 had the highest rental and capital growth, compared to residential property investments in Ikeja and Agege which showed a return that was low.

Mathew (2013) conducted a study on the performance of retail commercial property investments and residential property investments within a period of 11 years i.e 2000-2011 in llorin Kwara states Nigeria. In his study, he employed the use of average return, adjusted risk return, capital value, and capital growths. He used regression analysis to complete rental growth rate of the properties. The conclusion of his study showed that commercial property performed better than residential property, having a mean annual return of 1.2% against 11.8%. Also in terms of adjustment risk return commercial property investment performed better with shape index of 1.11 to 0.55 of residential property investment and also its capital growth and appreciation

Bello (2012) examined both stock markets and commercial property investments in Nigeria. His study was based on the analysis of risk and returns of commercial properties in south western part of Nigeria, the period of his study was between 2000 and 2009. He made a comparison of inflation hedging characteristics and diverse inflation potential of investing in commercial properties and selected stock market investments. Rental values and capital value were some of the primary data collected and also characteristics of the property was also put into consideration. These were collected from managers of properties through the use of questionnaires some important secondary data were gotten and sourced from Nigeria stock exchange from the period (2000-2009). From the study average returns on all selected stock investment were higher and also had a better hedging capacity than that of commercial properties. The study revealed that commercial properties are more risky when compared to stocks.

Mfam and Kalu (2012) analyzed risk and return in direct residential and commercial real estate investment in Calabar South eastern part of Nigeria. 1000 units of residential and commercial buildings were the study population which was obtained from five estate surveying firms that were active in in the property market in Calabar. In their study, they adopted judgmental sampling approach and 30 units of residential and commercial property was selected from the population. Returns gotten from the property market and appraised data were analyzed to get the implied risk over the period of 17 years. The study later showed that mean returns at sectional levels or residential and commercial properties were 23% and

23.82%, 11.27% and 10% respectively for an associated risk. Conclusively, the study showed that commercial property has been more comparative than the residential property using risk and return. Usman (2014) examined property returns across Minna, Nigeria. He identified some of the factors that are responsible for variation in the level of returns between residential and commercial property. Difference in terms of returns was tested using Analysis of variance. The conclusion of the study unveiled that residential property performed better when compared to commercial properties.

Ogunleye (2014) compared the investment performance of housing estate that are also government Reserved Areas (GRA) both in Ijapo and Alabaka in Akure Ondo state Nigeria. During the study information of rental values of residential property were collected from practicing estate surveying firms in Akure within the period of IO years (2004-2014). Simple descriptive statistical models were adopted for the analysis and also livens test for variance equality and independent samples where used to test the variability of the investment performance in the study area. Consequently the outcome of the study revealed that the rate of investments in Alabaka is higher when compared to that of Ijapo.

Adeniran (2015) conducted a study on the performance of residential property investments in Ado-Ekiti from some selected areas from 2008-2014. Rental and capital values of Government Reserved Areas (GRA), Ajilosun Ajebandele, Basiri, Adebayo and housing Oke IIa. From the study carried out, residential property investments in GRA, Adebayo and Ajilosun produced the highest rental and capital values, while residential property investments in Ajebandele, Basiri and housing Okella had a lower return Basiri and Adebayo returns showed a massive increase in the last three years when comparison was made with other areas. Adebayo (2015) conducted a study on commercial properties (shops) with the aim of advising investors in respect of commercial investment in Jos and Minna in other to know what to invest in. The study covered a period of 14years 1999-2014. The technique used for the study was systematic random sampling and it was used to determine sample population. Rental values per meter square where some of the data obtained from the study and it was collected from occupants at shop properties in the study area.

They were collected through a questionnaire that was designed solely for the purpose of the study. Also interviews and observation were also conducted. GPRS was used to take the coordinates of the shops and the size of the shops was measured using a laser tape. The conclusion of the study showed that property investments return in Jos is higher than that of Minna

Udobi *et al.* (2019) conducted an analysis on the performance of residential property investment in Anambra. Standard deviation and coefficient of variation were the tools used to determine the performance level of the investment. The result of the study revealed that both capital and rental values appreciated over time. The study concluded that residential investment rate of return is more stable when compared to bank shares between 1992-2002. He examined the comparative analysis of the performance of residential real estate investments in some selected urban areas of Anambra state. The same method of analysis was adopted as the study was conducted in Onitsha and Akwa. The return of the two urban areas was compared, annual mean return and geometric mean return approximately 8.8% over 24years period while the risk of residential property investment in Akwa was 29.2% and Onitsha was 26.3% respectively on the basic of risk, the study showed that residential property investment in Akwa

was higher than that of Onitsha and therefore residential property in Onitsha is preferred to Akwa which is slightly more risky than that of Onitsha.

Mathew (2013), investigated the performance of residential and commercial property investment in Ilorin. The study made use of standard deviation, coefficient of variation and sharpe index as indicators for performance measurement. The outcome of the study revealed that residential property measurement has been risky with a high coefficient variation (0.74) than commercial property at (0.46) coefficient variation. The total sharp index showed that commercial investment performed better when compared to residential investment.

Apparently, Umeh (2014), measured the relative performance of investment in real estate stock before and after stock market crash. He used Modigliani analysis (M²). His study showed that real estate performed better in the post market crash than it was before the crash. Also Ade (2015) analyzed the performance of residential property investments in various locations in Ado-Ekiti. The study made use of income return from residential property investments across the locations. From the study, it was discovered that rental and capital growth was tremendous overtime and the rate of growth was not static. In view of this, the return from the property investment at G.R.A is higher than those in other locations. Olanrele *et al.* (2015) analyzed REIT dividend performance in Nigeria and Malaysia between 2008-2014. He adopted risk return and risk adjusted performance indicators as performance investment basis. The outcome of the study showed that Malaysian market performed better than Nigeria market based on average return and risk adjusted return.

Wahab *et al.* (2015) evaluated the performance of three- bedroom residential property investment in four locations in Abuja. Coefficient of variability and sharpe ratio was adopted and

the result revealed that Gwarimpa market performed better than others on the basis of riskreturns.

Olaleye (2000) carried out a study on property portfolio performance in Lagos Nigeria. The study revealed that property portfolio in Ikeja in terms of mean return performed better in Ikeja as against risk free rate during the same period. The performance level in Yaba was lower than the investor's target rate. There were some shortcomings that accompanied the study. The sample size was also a limitation during the study. The effect of the small sample size has influence on the degree of statistical inference that can be drawn on the entire population.

Olaleye, Adegoke and Oyewole (2010) examined the nature of direct property investments and made a list of property Companies in comparison with other securities over the period of 2001 through 2007 in the Nigeria stock exchange. Mean return, standard deviation, correlation and Sharpe market index model were employed to evaluate the capital return and diversification potential of the investment media. The study revealed that various investment options in real estate and stock market had returns that are attractive and investment in real estate, performed better than stocks.

Ayodele and Olaleye (2015) examined the risk adjusted performance of public real estate and some other assets in the Nigeria investment market. He employed a down side risk perspective. Quarterly returns was analyzed from 2000-2013 and showed that property stocks underperformed other assets except for shares in forms of return while other asset outperformed listed property stock on risk based on down side risk value. Comparisons was made as regard excess return to risk measured by the sortino ratio, the study showed that

shares followed by listed properties stock ,outperformed other assets while debentures underperformed other assets.

Diala (2016) evaluated the risk and returns characteristic of residential and commercial investment. Abuja and Porthatcourt were the markets that were considered for the study. The aim of the study was to identify the property class and market that gives variability in returns. The data that was used for the study are; arithmetic mean return (AMR), standard deviation (SD) and coefficient of variation (CV). From the study, it was discovered that residential and commercial property investment produced good returns but very risky, as shown in their wide variability returns. Recommendations action on the study showed that property investors in real estate market should always put into consideration the risk return characteristic of the various categories of property investment, so as to ensure informed decision on investment process.

Nissi, *et al.* (2018) examined the performance measurement of low and high income real estate investment in south-eastern Nigeria between 2000 and 2013. Their study examined the performance in tenement buildings in the study area. Returns and risks were considered in the study and the result showed that Owerri having 20.2% return with 13.1% risks and 0.65% coefficient of variation. The study also showed that Enugu had 18.6% return with 9.60% risks and 0.5 coefficient of variation, Onitsha has 12.86% return with 7.87% risks and 0.61% coefficient of variation. Other location like Abakaliki has 11.3% return with 6.26% risks and 0.55% coefficient of variation and Aba 10.4% return 6.14% risks and 0.51% coefficient of variation. The study concluded that Enugu is the best performed city followed by Abakaliki, Onitsha, Aba and lastly Owerri

Awa and Anih (2018). Studied the performance of residential and commercial real estate investments in Aba and its neighborhood. Their study revealed that the difference in neighborhood characteristics added in the rentals and the capital value trend of real estate investment in Aba commercial real estate investment in Aba performed well when compared to residential properties. This recorded a higher level rental and capital values.

Igwe-Kalu and Akpan (2019). Examined residential and commercial property investments return in Kaduna metropolis from 2003 to 2015. A population of 70 registered estate surveyors and valuers were engaged and only 35 were in operation during the time of this study. The result of the study revealed that commercial property investments performed better in terms of rental value returns with 8.9 and 4.95 as against 8.52 and 4.0. The study showed statistically that there is a significant relationship between returns and commercial property investment and their correlation coefficient is 0.7734.

Diala *et al.* (2019) examined the performance of commercial and residential real property investments in Enugu urban. The period of the study was based on comparison between commercial properties (shops and office) and residential properties in Achara layout, new haven and Ogari road. Focus was made on yearly returns and risk. Purposive Sampling technique was adopted for the study and 40 units of commercial & residential properties data were collected from estate surveyors and valuation firms for the period of 8 years.

Arithmetic mean return, standard deviation and coefficient of variation were the data used for the analysis. The study concluded that residential property is more secured in new Haven than at Achara layout with a return of 7.19%, 2.83% risk and 38.86% coefficient of correlation. Residential property was also seen to be less in Achara layout with 9.4% return, 159

risk and 56.28% coefficient or variation for commercial properties offices is more secured in new Haven with a return of 10.6%, 4.36% risk and 41.13% coefficient of variation. The study indicated that commercial property investments performed better than residential property investments.

Udobi et *al.* (2019). Conducted a study on the performance of commercial and residential property investments in Onitsha metropolis. The period of the study was between 2007-2016. Annual returns, Returns risks profit of commercial and residential properties were analyzed. The data used for this study were the rental value and capital value of properties obtained from estate surveyors and values in Onitsha. Analysis of data was done through arithmetic mean return, geometric mean return standard deviation and coefficient of variation. The study concluded that commercial property investments performed better for the period under study.

CHAPTER THREE

3.0

RESEARCH METHODOLOGY

This chapter analyses the methods and frame work which were used to collect and analyze the data in other to meet up with the objectives of the research. It also explains very important issues that are considered in the selection of designs that are adequate for the entire study. Also, this chapter explains the way research hypothesis were determined empirically and also reveals how relevant methodology were adopted in the study.

3.1 Population of the Study

The group for this study were registered firms of estate surveyors and valuers in Minna.

The information and data needed from the study population are the capital value, annual expenses in form of taxes, rates, repairs etc. and also annual rental value for one (1) bedroom, two (2) bedroom and three (3) bedroom apartments respectively for the period of twelve (12) years that is 2009 to 2021. The reason for this is that the study aims to understudy and evaluate the performance of residential property investments in Minna.

3.2 Sampling Techniques

Gathering of data is very important in a research. These data are meant to contribute to a better understanding of theoretical frame work. (Bernard, 2002). Purposive sampling technique was adopted for the study. This is the deliberate choice of a participant due to basic qualities the participant possesses.

3.3 Sample Size

Sample size is a group of items that are gotten from the population for proper examination. It can also be described as the smaller part of the population. For this study sample size are basically all questionnaires that were administered to firms of estate surveyors and valuers. According to Nigeria institution of estate surveyors and valuers (NIESV) 2017 directive, it listed 15 number registered estate firms in Minna. The determination of the sample size adopted the Smith and Strattek (2010) which is used for a known population to arrive at 382. The formula is given as

Sample size n =

Where; n= sample size,

Z = standardised normal value of 95% confidence level which is 1.96

= standard deviation put at 0.5 (depicting a safe decision enhancing large enough sample)

ME = marginal error put at 5%

N = total number of properties under review which is 1213

3.4 Methods of Data Collection

Every study, needs to adopt a method of data collection because of its importance to the study. There are numerous available methods to a researcher for the collection of data. They include questionnaire, field survey, observation and interview. These were basically adopted for this study.

3.4.1 Questionnaires

Questionnaires were administered to registered estate surveying and valuation firms. Open end and closed end questions were basically what formed the questionnaires. The questionnaires were focused on estate surveyors and valuers, this contained information regarding properties in their portfolio like the capital value, annual expenses in form of taxes, rates, repairs etc. and also annual rental value.

Table 3.0 Questionnaires Administration

Location	Total Administered	Total Not Filled	Total Received	%
Minna	10	1	9	
Total	10	1	9	90.0

Source: Field Survey, 2022

A total of 10 questionnaire were administered and 9 were filled and returned and 1 was not returned. The 9 that were returned represents a total of 90.0 %

3.4.2 Personal observation and field survey

Physical survey of estate firms were carried out through the data that were supplied in their portfolio.

3.4.3 Oral interview

Some practicing estate firms were engaged in oral interview in other to compliment the data gathered. These interviews were carried out in other to get more information that were derived or not captured in the questionnaire. Also phone calls were also carried out to relevant people in other to get acute and more reliable information for the study.

3.5 Sources of Data

In other to get more quality and relevant research, data were gotten through;

3.5.1 Primary data

These are data collected from questionnaires that were structured and also interviews gotten orally from estate surveyors and valuers which complimented the data. This enabled the researcher get firsthand information necessary for the study.

3.5.2 Secondary data

Secondary data are inform of information gotten from journals that are already published in academic, professional journals, research that have already been documented conference proceedings, articles, vast textbooks. Also, vital information gotten from professional bodies and government related bodies and publications that are very relevant to the study.

3.6 Data Analysis Technique

Descriptive statistical approaches like simple tables, frequency distributions, simple percentages as well as mean were adopted for the study. Data collected and obtained from the field were tabulated and also presented to allow a proper and meaningful interpretation. Amongst the statistical tool used were micro soft excel and also statistical package for social science (SPSS), average rate of returns, standard variation, coefficient of variation and inferential statistical methods such as analysis of variance (ANOVA), holding period returns (HPR) i.e total returns.

Some of the data analytical technique used for the study are expressed as follows;

For Objective one(1), to get the total returns for each property types for various neighbourhoods and year, total returns formula, was used which is TRt =

Where: TRt is denoted as total return for period t

CV_t is denoted as capital value of direct property at end the of the period.

CV_{t-1} is denoted as capital value of direct property at the beginning of the period.

NIt is denoted as net income of direct property received during the period.

For objective Two (2), Total Return Index (TRI) was used to generate the charts which showed the different trends for residential property returns. It is calculated by dividing the total returns of each year by that of the base year for each study year then multiplied by 100%.

For objective Three (3), Analysis of Variance (AN0VA) was be used to test the variation in residential property returns across residential property types and neighbourhoods.

For objective four (4), Coefficient of variation was used get the risk that were associated with the residential property investment in the study area. It can be calculated using the formula below;

CV=<u>(S.D)</u>

Where S.D is termed the standard deviation and R is the mean return. Apparently, risk on the performance of property investment was measured by finding the standard deviation of the yearly returns from the mean holding period returns (HPR).

According to Udobi et al (2013), the measure of volatility in the investment of a property was used to arrive at standard deviation and coefficient of variation. It is expressed mathematically as;

S.D

Where X_1 is individual observation R is the mean return where N is the total number of observation.

CHAPTER FOUR

4.0 **RESULTS AND DISCUSSIONS**

4.1 Results

The data collected from this study were data obtained from estate surveyors and valuers i.e estate firms from 2009-2021. The information sourced for range from rental values, annual expenses (tax, rates, repairs etc.) and capital value of one-bedroom, two-bedroom, and three-bedroom apartments across the study areas.

4.1.1 Analysis of Data

S/N	Question Asked	Response Options	Frequency	Percent
				(%)
1	Years of Experience	1-5 years	4	44.4
		6-10 years	4	44.4
		11and above	1	11.1
		Total	9	100
2	Academic Qualification	OND	0	0
		HND	4	44.4

TABLE 4.1 Demographic Characteristics

	B.Sc./B. Tech	5	55.6
	M.sc/M. Tech	0	0
	Ph.D.	0	0
	Total	9	100

Source: Field Survey, 2022

Table 4.1 shows the distribution in terms of academic qualification. B.Tech topped the list with the highest frequency of 5 which represents 55.6%, HND has 4 representing 44.4% and OND having 0 frequency been the least in the category. The total percentage sums up to 100%

Also, the professional qualification distribution shows that ANIVS had the highest frequency of 5 which represents 55.6% while probationers had 4 which represents 44.4% and FNIVS has 0 frequency. In total , the cumulative adds up to 100%. Consequently, the distribution of the number of years of experience shows that those with 1-5 years' experience had a frequency of 4 which represents 44.4%, those with 6-10 years of experience had 4 which also represents 44.4% and lastly 11 and above years had 1 which represents 11.1%. The total frequency sums up to 100%.

Table 4.2: Total	Return on	Residential	Property	Investments in	Tunga,	Bosso a	nd D	Outsen
Kura Areas, 200	9 - 2021							

Year	Residential Neighbourhood, Property Type and Total Return (%)								
		Tunga			Bosso		D	utsen Ku	ra
	1BR	2 BR	3 BR	1BR	2 BR	3 BR	1BR	2 BR	3 BR
2009	8.4	3.1	2.5	5.6	6.0	3.1	11.1	6.4	4.5
2010	8.4	16.1	2.5	5.6	6.0	3.1	11.1	6.4	4.5
2011	15.4	28.62	26.5	6.4	26.0	18.1	11.1	8.68	17.2

2012	30.4	23.36	15.26	6.0	21.9	19.0	22.0	17.7	15.8
2013	17.0	19.63	13.5	11.7	18.8	15.1	11.0	6.2	10.54
2014	15.4	16.82	12.2	12.0	19.6	13.55	11.1	14.8	10.1
2015	15.3	14.82	14.32	17.36	17.1	11.0	21.05	15.8	11.71
2016	20.06	18.91	10.10	15.8	17.8	13.5	10.0	14.2	9.60
2017	12.0	16.29	12.0	14.6	5.6	13.0	19.7	13.1	15.6
2018	21.7	14.35	13.34	25.6	15.6	10.29	21.2	18.92	11.6
2019	14.72	16.52	12.08	21.5	12.6	9.2	5.95	16.4	11.0
2020	10.35	12.48	11.52	18.25	9.65	7.39	9.65	13.39	8.72
2021	13.23	15.50	13.0	18.42	19.5	17.2	13.8	8.6	16.77

Table 4.2 shows the total return on residential property investments in Tunga, Bosso and Dutsen Kura areas between 2009- 2021 which represents the study periods. The highest total return in Tunga for one (1) bedroom apartment was observed in 2012 which was 30.4% and the lowest was observed in 2009 which was 8.4%. For two (2) bedroom apartment, the highest was observed in 2011 which was 28.62% and lowest was in 2009 which was 3.1%. For three (3) bedroom apartment, 26.5% was the highest total return and it was observed in 2011 and the lowest was 2.5% which was observed in 2009

For Bosso area, one (1) bedroom apartment had 25.6% in 2018 which represented the highest total returns, while the lowest was recorded in 2009 which was 5.6%. Two (2) bedroom apartment in Bosso recorded 26.0% in 2011 as the highest total returns and 6.0% in 2009 which represented the least return. Three (3) bedroom apartment had 19.0% as the highest total return and 3.1% as the lowest in 2009.

Year	Residential Neighbourhood, Property Type and Total Return (%)								
	Ν	laikunke	le		Maitumb	i		Kpagung	1
	1BR	2 BR	3 BR	1BR	2 BR	3 BR	1BR	2 BR	3 BR
2009	6.5	6.0	5.6	5.37	10.0	20.0	6.14	10.22	9.85
2010	6.5	6.0	6.5	5.37	10.0	20.0	6.14	10.22	9.85
2011	6.2	9.6	13.2	9.0	23.11	15.15	5.37	10.22	9.6
2012	7.7	8.7	23.9	9.0	20.8	19.76	6.5	10.7	5.0
2013	9.0	9.4	20.5	12.3	11.18	14.47	7.51	11.3	15.5
2014	7.7	16,83	13.22	7.03	9.0	16.18	7.1	10.9	11.45
2015	13.0	15.9	5.44	7.03	15.4	12.5	6.8	15.44	11.9
2016	8.9	15.92	5.6	27.7	22.05	19.8	5.8	13.92	16.2
2017	14.47	14.78	5.6	10.33	15.0	8.9	15.6	13.33	11.34
2018	18.36	8.35	7.89	10.8	13.6	14.9	5.8	18.0	12.2
2019	17.59	17.1	6.49	11.5	12.7	10.6	12.8	16.8	11.64
2020	15.35	15.18	5.23	8.53	7.29	8.33	9.54	13.39	8.54
2021	15.0	15.21	4.0	6.07	13.9	10.6	12	18.37	10.9

Table 4.3: Total Return on Residential Property Investments in Maikunkele, Maitumbiand Kpagungu Areas, 2009 - 2021

Table 4.3 shows the total return of residential property investments in Maikunkele, Maitumbi and Kpakungu areas between 2009-2021. The highest total return in Maikunkele for one (1), two(2) and three(3) bedroom apartment are 18.36% 17.1% and 23.9% respectively. And the lowest were 6.2%, 6.0% and 4.0%. For Maitumbi the highest were 27.7%, 22.05% and 20.0% respectively. The lowest were 5.37%, 9.0% and 8.9%. For Kpakungu, the highest Total returns for one (1), two (2) and three (3) bedroom apartment are 15.6% in 2017, 18.37% in 2021 and 16.2% in 2016 respectively while the lowest were 5.37%, 10.22% and 5.0.

Table 4.4: Total Return on Residential Property Investments in Barkin Sale and SaukaKahuta Areas, 2009 - 2021

Year	Resident	Residential Neighbourhood, Property Type and Average Total Return									
		Barkin Sale		Sauka Kahuta							
	1BR	2 BR	3 BR	1BR	2 BR	3 BR					
2009	7.15	10.0	5.6	6.8	7.0	4.25					
2010	7.15	10.0	5.6	6.8	7.2	16.75					
2011	13.1	9.0	22.3	17.7	11.18	26.75					
2012	18.1	20.2	19.8	6.41	20.2	22.0					
2013	17.6	11.8	30.05	15.1	23.26	11.0					
2014	24.5	23.4	14.04	13.2	23.9	17.90					
2015	7.2	8.88	22.2	12.9	10.6	15.76					
2016	14.4	15.3	11.35	23.6	12.7	6.2					
2017	6.8	14.0	11.97	15.1	22.3	4.92					
2018	26.13	17.85	14.2	12.76	8.0	13.2					

2019	12.8	22.7	6.1	15.5	20.7	5.4
2020	10.95	17.25	4.33	8.77	15.25	10.33
2021	12.16	19.4	4.95	10.06	12.18	9.0

Table 4.4 shows the total return of residential property investments in Barkin Sale and Sauka kahuta areas between the periods of 2009-2021. One bedroom apartment in Barkin Sale had the highest total returns in 2018 which was 26.13% and the lowest total return of 7.15% in 2009. Two bedroom apartment had 23.4% in 2014 which represented the highest total returns and the lowest in 2011 which was 9.0% while three (3) bedroom apartment had 30.05% in 2013 and 4.95% which represented the highest and lowest total returns respectively.

For one (1) bedroom apartment in Sauka Kahuta, the highest total return was 23.6% which was recorded in 2016 and the lowest was in 2009 which was 6.8%. Two (2) bedroom apartment had 23.9% as the highest total return in 2014 and the lowest in 2009 which was 7.0%. Three (3) bedroom apartment had the highest total return in 2011 which was 26.75% and the lowest in 2009 which was 4.25%

 Table 4.5: Total Return Index (TRI) on Residential Property Investments in Tunga, Bosso

 and Dutsen Kura Areas, 2009 - 2021

Year	Residential Neighbourhood, Property Type and Total Return Index (TRI) (%)								
	Tunga			Bosso			Dutsen Kura		
	1BR	2 BR	3 BR	1BR	2 BR	3 BR	1BR	2 BR	3 BR
2009	100.0	100.0	100.0	100.0	100.0	100.0	100.0	`100.0	100.0
2010	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

2011	183.3	923.2	1060.0	114.3	433.3	583.9	100.0	135.6	382.2
2012	361.9	753.5	610.4	107.1	365.0	612.9	198.2	276.6	351.1
2013	202.4	633.2	540.0	208.9	313.3	487.1	99.1	96.9	234.2
2014	183.3	542.6	488.0	214.3	326.7	437.1	100.0	231.3	224.4
2015	182.1	478.1	572.8	310.0	285.0	354.8	189.6	246.9	260.2
2016	238.8	610.0	404.0	282.1	296.7	435.5	90.1	221.9	213.3
2017	142.9	525.5	480.0	260.7	93.3	419.4	177.5	204.7	346.7
2018	258.3	462.9	533.6	457.1	260.0	331.9	191.0	295.6	257.8
2019	175.2	532.9	483.2	383.9	210.0	296.8	53.6	256.3	244.4
2020	150.3	455.3	470.5	365.4	200.5	300.7	100.5	249.5	279.3
2021	157.5	500.0	520.0	328.9	325.0	554.8	124.3	135.4	372.7

Table 4.5 shows the analysis of total return index (TRI) for one (1) Bedroom apartment across the study area between the periods of the study i.e 2009-2021. From the table, the values of the total return index (TRI) indicated that there were increasing and reducing values across the study areas across the years respectively because of an unstable exchange rate volatility on real estate investment. Most of the total return index (TRI) started on a 100% value and began to move high at some point, as the year kept increasing some of the values maintained their high index, while some reduced. The total return index (TRI) for the one bedroom apartment in the study area for the period of 2009-2021 was determined by dividing the first total returns by itself for each area and was multiplied by 100%. This gave the total return index (TRI) for each year in the study area. These was repeatedly done for each year accordingly. By this process the whole total return index were determined for all years during the study period as regards the study area.

Year	Residential Neighbourhood, Property Type and Total Return Index (TRI) (%)								
	Maikunkele			Maitumbi			Kpagungu		
	1BR	2 BR	3 BR	1BR	2 BR	3 BR	1BR	2 BR	3 BR
2009	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2010	100.0	100.0	116.1	100.0	100.0	100.0	100.0	100.0	100.0
2011	95.4	160.0	235.7	167.6	231.1	75.75	87.5	100.0	97.46
2012	118.5	145.0	426.8	167.6	208.0	75.8	105.9	104.7	97.5
2013	138.5	156.7	366.1	229.1	118.8	72.35	122.3	110.6	157.4
2014	107.7	280.5	236.1	130.9	90.0	80.9	110.7	106.7	116.2
2015	117.1	265.0	97.1	130.9	154.0	61.3	110.7	151.1	120.8
2016	80.2	265.3	100.0	422.9	220.5	99.0	94.5	136.2	164.5
2017	130.4	246.3	100.0	192.4	150.0	44.5	254.1	130.4	115.1
2018	165.4	139.2	140.9	201.1	136.0	74.5	94.5	176.1	123.9
2019	158.5	285.0	115.9	214.2	129.0	53.0	208.5	164.4	118.2
2020	147.2	253.9	90.2	200.6	118.4	50.2	196.2	135.3	90.4
2021	135.1	235.5	71.4	113.0	139.0	53.0	195.4	179.7	110.7

Table 4.6: Total Return Index (TRI) on Residential Property Investments in Maikunkele,Maitumbi and Kpagungu Areas, 2009 - 2021

Table 4.6 shows the analysis of total return index (TRI) for (2) bedroom apartment across the study area during the study period form 2009-2021. Using 2009 as the base year, the total return index (TRI) at Tunga maintained a 100% down to 2010 and had an increase in 2011 and 2012. There was a decrease throughout 2012-2015 and there was an increase in 2016 with an index of 610% and in 2017 the total return index dropped and later increased in 2019 with an index of 532.9% and had drop in 2021 with an index of 500%.

For Bosso area, there was an equal index of 100% in 2009 and 2010 and later increased in 2011 with an index 433.3%. 2012 had an index of 365% and began to decrease again throughout 2013 down to 2019 with an index of 210% and later had an increase in 2021 with an index of 325%. Dutsen Kura also maintained an index of 100% between 2009 and 2010 then shoot up in 2011 and 2012 with an index 135.6% and 276.6% respectively. In 2015, there was a decrease and later increase in 2014 and 2015. There was an increase in 2016 at 265.3% and a slight decrease occurred in 2017 which was 246.3% 2018 and 2019 had an index of 139.2 and 285.0% respectively and as 2021 which was the close of the study period there was a slight decrease in the index at 23.5%.

In Maikunkele, one bedroom apartment maintained a stable index in 2009 and 2010 with a 100% index. It increased in 2011 with an index of 160%. This index fluctuated throughout 2012 - 2019 and finished at 235.5% in 2021.

For Maitumbi, there was an equal index of 100% in 2009 and 2010. 2011 had an increase in its index with a value at 231.1% and fluctuated between 2012, 2013, 2014, 2015 and 2016 with an index of 208.0%, 118%, 90%, 154% and 220.05% respectively. There was a decrease between 2017 through 2021 with index values ranging from 150%, 136%, 127%, and 139%, respectively. The highest total return index in Maitumbi was recorded in 2016 with an index of 220.5%.
The total return index (TRI) in Kpakungu was 100% both in 2009, 2010 and 2011 respectively. There was little increase in 2012 with an index of 104.7%. 2013 had an index of 110.6%, 2014 had 106.7% and 2015, 2016,2017, 2018, 2019 and 2021 had 151%, 136.2%, 130.4%, 176.1%, 164.4%, and 179.7 % respectfully.

In 2009 and 2010 Barkin Sale two (2) bedroom apartment had an index of 100% respectively. It slightly decreased in 2011 with an index 0f 90%. It grew and increased to 202% in 2012 and slightly decreased in 2013 with an index of 118%. Throughout 2014 – 2021 the total return index experienced a fluctuation which did not allow the value of the index to be stable. This is as a result of unstable exchange rate volatility on real estate investment.

In Sahukakahuta, there was numerous increase across the whole year. The total return index (TRI) increased in an orderly manner with the exception of 2015 with 151.4% and 2018 with 114.5%. The highest total return index (TRI) experienced in Sahukakahuta was in 2014 with a total return index of 341.4% and the lowest was in 2009 and 2010 with a 100% respectively.

 Table 4.7: Total Return Index (TRI) on Residential Property Investments in Barkin Sale

 and Sauka Kahuta Areas, 2009 - 2021

Year	Residential Neighbourhood, Property Type and Total Return Index(TRI)							
	Barkin Sale			Sauka Kahuta				
	1BR	2 BR	3 BR	1BR	2 BR	3 BR		
2009	100.0	100.0	100.0	100.0	100.0	100.0		
2010	100.0	100.0	100.0	100.0	102.7	100.0		
2011	183.2	90.0	398.2	260.3	159.7	629.4		
2012	253.1	202.0	353.6	94.3	288.5	517.7		

2013	246.2	118.0	536.6	220.0	332.3	258.8
2014	342.7	234.0	250.7	194.1	341.4	421.2
2015	100.7	88.8	396.4	189.7	151.4	370.8
2016	201.4	153.0	202.7	347.1	181.4	145.9
2017	95.1	140.0	213.8	222.1	318.6	115.8
2018	365.5	178.5	257.5	187.6	114.3	310.6
2019	179.0	227.0	108.9	227.9	295.7	127.1
2020	160.3	230.5	90.6	250.4	190.6	187.3
2021	170.1	194.0	88.4	147.9	174.0	211.8

Source: Data Analysis, (2022)

Table 4.7 shows the total return index (TRI) for three (3) bedroom apartment from 2009 to 2021 in the various locations across the study area. From the table, using 2009 as a base year, there was a 100% index which represented the return index and it also transcended to 2010. 2011 to 2021 had no stable return index as there was a rise and fall. However, this occurred in Tunga axis in the study area.

The Total Return Index for Bosso axis also experienced some fluctuations as most of the return index were not stable. Some were high and some were low. The highest total return index (TRI) for Bosso axis was 612.9% in 2011 and the least was in 2009 and 2010 which was 100% respectively.

Analysis of total return index (TRI) in Dutsen Kura shows that from year 2009 to 2021 there has also been fluctuations in the return indexes. 2012 showed an index of 351.1% which happens to be the highest on the table, while 2009 and 2010 maintained 100%. In other words, this shows that 2012 had the highest return throughout the study period.

Similarly in Maikunkele, the total return index (TRI) has its highest value in 2012 which was 426.8% and the lowest 71.4% in 2021. This really showed a decline in the value. Other year's total return index were fluctuating either moving high or low respectively because of unstable exchange rate volatility on real estate investment.

The value for Maitumbi was quite different from other areas as most of the total return indexes (TRI) value were less than 100%. 2009 and 2010 stood out different as they maintained their 100% index value being the base year of the study period. Also the 100% for 2009 and 2010 were the highest recorded for Maitumbi and the lowest was 53.0% for 2019 and 2020 respectively.

In Kpakungu, the total return indexes (TRI) were fluctuating as the year progresses as there was not stable total return index (TRI) values. The highest value occurred in 2016 with a value of

TOTAL RETURN INDEX (TRI) FOR THREE BEDROOM APAR

YEARS	20	009	20	10	20	011	20	012	20	013	20	014	20	015	2	016	2	017	2
TUNGA	TR	TRI	TR	TRI	TR	TRI	TR	TRI	TR	TRI	TR	TRI	TR	TRI	TR	TRI	TR	TRI	TR
	2.5	100	2.5	100	26.5	1060	15.26	610.4	13.5	540	12.2	488	14.32	572.8	10.10	404	12.0	480	13.34
BOSSO	3.1	100	3.1	100	18.1	583. 9	19.0	612.9	15.1	487.1	13.55	437.1	11.0	354.8	13.50	435.5	13.0	419.4	10.29
DUTSEN KURA	4.5	100	4.5	100	17.2	382.2	15.8	351.1	10.54	234.2	10.1	224.4	11.71	260.2	9.60	213.3	15.6	346.7	11.6
MAIKUNKELE	5.6	100	6.5	116.1	13.2	235.7	23.9	426.8	20.5	366.1	13.22	236.1	5.44	97.1	5.6	100.0	5.6	100.0	7.89
MAITUMBI	20.0	100.0	20.0	100	15.15	75.75	19.76	75.8	14.47	72.35	16.18	80.9	12.50	61.3	19.80	99.0	8.9	44.5	14.9
KPAKUNGU	9.85	100.0	9.85	100	9.6	97.46	5.0	97.5	15.5	157.4	11.45	116.2	11.9	120.8	16.2	164.5	11.34	115.1	12.2
BARKINSALE	5.6	100.0	5.6	100	22.3	398.2	19.8	353.6	30.05	536.6	14.04	250.7	22.2	396.4	11.35	202.7	11.97	213.8	14.2
SAUKAKAHUTA	4.25	100.0	16.75	100	26.75	629.4	22.0	517.7	11.0	258.8	17.90	421.2	15.76	370.8	6.2	145.9	4.92	115.8	13.2

164.5% and the lowest in 2011 with a value of 97.46%. Other years were at a point increasing and decreasing accordingly.

Apparently, Barikin Sale had 100% for both 2009 and 2010. 2011 and 2012 had 398.2% and 353.6%. 2013 and 2014 value were 536.6% and 250.7%. 396.4% and 202.7% represented 2015 and 2016 respectively 2017 and 2018 had a total return index (TRI) of 213.8% and 257.5%. During the close of the study which was 2019, 2020 and 2021, the value obtained were 108.9%

and 88.4%. There was no value for 2020 has there was no data to show for it due to the corona virus that held the whole year into hostage

Sahukakahuta which is the last location in the study area had the highest total return index (TRI) in 2012 which is 629.4% and the lowest was at the beginning of the study year which was in 2009 and 2010. Other years had different total return index (TRI) as represented in the table above.

FIGURE 4.1 Graphical Trends of Total Return Index (TRI) for One (1) Bedroom Apartment

Source: Data Analysis, (2022)

Figure 4.1 presents and indicates the trend of one bedroom investment returns in the study area across the study period in a graphical form. According to the graph, the trend shows that from 2009-2021 there has been a fluctuation of returns. The graph which represented the trend started on a 100% in 2009 and also remained stable at 100% in 2010 across the study area it then moved to 2011 which indicates a fluctuations across the study area through 2021. The graph indicated that the highest trend was in 2018 in Bosso area and the Lowest was in Dutsen Kura in 2019.

These fluctuations was as a result of an unstable exchange rate volatility on real estate investment.

Figure 4.2 Graphical Trends of Total Return Index for Two (2) Bedroom Apartment

Source: Data Analysis, (2022)

Figure 4.2 shows the graphical trends of returns of two (2) bedroom apartment across the study period from 2009 to 2021 in various study areas. The graph indicated that there was a stable trend across the study area in 2009 and 2010 with indexes of 100%. Furthermore, there has being fluctuations from 2011 to 2021 this indicated that there was a rise and fall across the return indexes as the year progresses across the study areas. The highest graph indicated that Tunga in 2011 had a return index of 923.3% which was clearly showed on the graph and the lowest was 44.5%.

Figure 4.3 Graphical Trends of Total Return Index for Three (3) Bedroom Apartment

Figure 4.3 Clearly shows the trends of total returns which was generated and extracted from table 4.7 from the total return index(TRI) of three (3) bedroom apartment across the study period from 2009 to 2021 in the various study areas. However, the graph shows that there was a dwindling movement from 2009 down to 2021. From the graph, the highest trend occurred in

2011 in Tunga with a value of 1060% which performed better amongst other location and the least from the graph was Barikin Sale with a total return index (TRI) of 88.4%

Table 4.8 Analysis of Variance (ANOVA) of Total Return for Variation Test of Residen	tial
Property Investments across all locations in the Study Areas	

Residential	Source of	Sum of	Degree	Mean	F	P-Value	F Crit @
Property	Variation	Squares	of	Square			α
Туре			freedom				= 0.05
1 BR	Between	713.6943	12	59.47453	2.139636	0.024543	1.891216
	Groups						
	Within	1973.556	71	27.79656			
	Groups						
	Total	2687.25	83				
2 BR	Between	749.5237	12	62.46031	2.928597	0.002378	1.891216
	Groups						
	Within	1514.268	71	21.32772			
	Groups						
	Total	2263.792	83				
3 BR	Between	923.3057	12	76.94214	2.941148	0.002291	1.891216
	Groups						
	Within	1857.402	71	26.16059			
	Groups						
	Total	2780.707	83				

Source: Data Analysis, (2022)

Table 4.8 shows the analysis of variance (ANOVA) of one (1) bedroom apartment analysis across the study area. This revealed that F – Statistics (2.139636) is significant at P – Value

(0.024543), which is less than 0.05 level of significant shows that returns in one (1) bedroom apartment across the study areas are statistically significant.

Also, the analysis of variance (ANOVA) of Two (2) Bedroom apartment across the study area shows that F-statistic (2.928597) significant at P-value (0.002378) which is less than 0.05 level of significance. Similarly, this Analysis of various (ANOVA) shows that returns in Two (2) bedroom apartment across study area are significant statistically.

Consequently, the result of Analysis variance (ANOVA) of the (3) Bedroom apartment was also shown in the table above across the study area. From the result, it shows that F-statistics (2.941148) is significant at P-value (0.0022991) which is less than 0.005 level of significance. However, this result also indicated that returns in there (3) bedroom apartment across the study area statistically significant.

Location	Coefficient of Variation						
	1 BR	2 BR	3BR				
Tunga	0.38	0.35	0.50				
Bosso	0.50	0.43	0.43				
Dutsen Kura	0.38	0.36	0.37				
Maikunkele	0.41	0.33	0.66				
Maitumbi	0.59	0.34	0.33				
Kpagungu	0.41	0.35	0.38				
Barkin Sale	0.48	0.35	0.58				
Sauka Kahuta	0.39	0.44	0.57				

Table 4.9: Risk associated with Residential Property Investment Return in the Study Areas

Source: Data Analysis (2022)

The coefficient of variation indicted in Table 4.9 represents the level of risk associated the residential property investments under study. For 1- bedroom apartments, Tunga had 0.38 or 38%, Bosso (0.50 or 50%), Dutsen Kura (0.38 or 38%) and Maitumbi (0.59 or 59%) risk. However, areas like Kpakungu, Barkinsale and Sahukakahuta had a risk of 0.41, 0.48 and 0.39 which represents 41%, 48% and 39% respectively. For 2-bedroom apartments, the coefficient of variation shows that risk in Tunga is 0.35 (35%), Bosso (0.43 or 43%) Dutsen Kura (0.36 or 36%), Maikunkele (0.33 or 33%), Maitumbi (0.34 or 34%), Kpakungu (0.35 or 35%), Barkinsale (0.35 or 35%) and Sahukakahuta (0.44 or 44%). However, for 3-bedroom apartments, Tunga had 50%, Bosso (43%), Dutsen Kura (37%), Maikunkele (66%), Maitumbi (33%), Kpakungu (38%), Barkinsale and Sahukakahuta had 0.58 and 0.57 which represents 58% and 57% respectively.

S/N	LOCATION	AVERAGE RATE OF	RANKINGS	RISK RETURN	RANKINGS
		RETURNS (%)			
•	Tunga	16.00	1 st	0.38	1 st
•	Bosso	13.38	4 th	0.50	7 th
•	Dutsen Kura	14.09	2 nd	0.38	1 st
•	Maikunkele	10.91	6 th	0.41	4 th
•	Maitunbi	10.13	7 th	0.59	8 th
•	Kpakungu	8.13	8 th	0.41	4 th
•	Barkin Sale	13.92	3 rd	0.48	6 th
•	Sauka Kahuta	13.03	5 th	0.39	3 rd

Table 4.10 Summary and Descriptive Analysis of Performance of One (1) Bedroom Apartment

Source: Data Analysis (2022)

Table 4.10 shows the whole summary as regards performance of one (1) bedroom apartment. This puts together the major two parameters which normally used to show the performance of a property. These two parameters include Total returns and risk-return. The average rate return for one (1) bedroom apartment represents the total returns as all total returns of each study area and the years were added up and the average was arrived at for each study area. Similarly coefficient of variation for each was gotten by dividing the standard deviation by the average rate of total returns of each study areas. After this process was done a coefficient of variation (COV) was arrived at and it represents the risk (risk return) on the property type which is one (1) bedroom apartment. After computing the results of the analysis, the following result were obtained they are; Tunga had an average rate of total returns of 16.00 and risk return of 0.38 (38%) Bosso average rate of returns was 13.38 and its risk was put at 0.5 (50%). Similarly, Dutsen kura average rate of returns was 14.09 and its risk return is 0.38 (38%), Maikunkele's average rate of returns was 10.19 and its association risk was 0.41 (41%), Maitumbi's rate of returns was 10.13 and the risk associated with it is 0.59 (59%), However, Kpakungu, Barkinsale and Sahukakahuta had the following rate of returns 8.13%, 13.92% and 13.03%. similarly, their associated risk are 0.41 (41%), 0.48 (48%), (48%) and 0.39 (39%) respectively.

Also in terms of ranking, Tunga came first (1st) on the list, followed by Dutsen Kura which came second (2^{nd}), Barkinsale came third (3^{rd}), Bosso came fourth (4^{th}), and Sahukakahuta came fifth (5^{th}) on the list of rankings. Six (6^{th}) on the list was Maikunkele while Maitumbi and Kpakungu came seventh (7^{th}) and eighth (8^{th}) provocatively.

Judging from the basis of risk analysis, Tunga and Dutsen Kura came first (1st) on the table since they both had the same coefficient of various (COV). Sahukakahuta came third (3rd) on the

ranking table, Maikunkele and Kpakungu came fourth (4^{th}) , while Barkinsale, Bosso and Maitumbi came sixth (6^{th}) , seventh (7^{th}) and eighth (8^{th}) respectively.

S/N	LOCATION	AVERAGE RATE OF	RANKINGS	RISK RETURN	RANKINGS
		RETURNS (%)			
•	Tunga	17.09	2 nd	0.35	3 rd
•	Bosso	15.54	3 rd	0.43	7 th
•	Dutsen Kura	17.27	1 st	0.39	6 th
•	Maikunkele	11.98	8 th	0.36	5 th
•	Maitunbi	14.72	6 th	0.33	1 st
•	Kpakungu	13.29	7 th	0.34	2 nd
•	Barkin Sale	15.22	4 th	0.35	3 rd
•	Sauka Kahuta	14.94	5 th	0.44	8 th

Table 4.11 Summary and Description Analysis of Performance of Two (2) Bedroom Apartment

Source: Data Analysis, (2022)

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Analysis of the summary of performance of two (2) bedroom apartment which mainly consist of total returns and risk associated with it. The average rate of return on the table was obtained by adding all individual rate of the return of a particular location in the study area and it was divided by the number of years. These was done for all locations in the study area and average rate of return was arrived at consequently, coefficient of variation (COV) for each Location was derived from the standard deviation of each study area was divided by the average rate of returns of each study area. These coefficient of variation represents the risk that was associated with the property

type and location. From the results of the analysis on the basis of average rate of return, Tunga had 17.09% and a risk of 0.43 (43%), Dutsen Kura had an average rate of return of 17.27% and a risk of 0.39 (39%). Similarly, Maikunkele and Maitumbi had an average rate of return of 11.98% and 14.72% and a risk of 0.39 (39%) and 0.33 (33%). Kpakungu, Barkinsale and Sahukakahuta had an average rate of return of 13.29%, 15.22% and 14.94% and a risk of 0.34 (34%), 0.35 (35%) and 0.44 (44%) respectively.

However from the rankings of the average rate of return Dutsen kura came first (1st), Tunga came Second (2nd), Bosso third (3rd) Barkinsale and Sahukakahuta fourth (4th) and Maikunkele came sixth (6th), seventh (7th) and earth (8th) respectively Judging from the risk analysis i.e coefficient of variation (COV), Maitumbi came first (1st), Kpakungu came second (2nd) Tunga and Barkinsale came third (3rd) respectively having the same value. Maikunkele and Dutsen Kura came fifth (5th) and sixth (6th) while Bosso and Sahukakahuta came seventh (7th) and eighth (8th).

Table 4.12 Summary and Descriptive Analysis of Performance of Three (3) BedroomApartment

S/N	LOCATION	AVERAGE RATE OF	RANKINGS	RISK RETURN	RANKINGS
		RETURNS (%)			
•	Tunga	12.28	4 th	0.50	5 th
•	Bosso	12.17	5 th	0.43	4 th
•	Dutsen Kura	11.57	6 th	0.37	2 nd
•	Maikunkele	9.82	8 th	0.66	8 th
•	Maitunbi	15.23	1 st	0.33	1 st
•	Kpakungu	11.23	7 th	0.38	3 rd

•	Barkin Sale	14.01	2 nd	0.58	7 th
•	Sauka Kahuta	12.76	3 rd	0.57	6 th

Source: Data Analysis, (2022)

Table 4.12 shows the summery of performance of three (3) bedroom apartment i.e the average rate of total returns and risk associated with the investment type. From the table, the average rate of return for the three (3) bedroom apartment represents the total returns. And the coefficient of variation (COV) represents the risk associated with the property as regards different Location. This was arrived by adding all individual rate of return of a particular location and it was divided by the total number of years. The coefficient of variation (COV) for the different location was divided by the standard deviation of each study area and was divided by the average rate of returns of each study area. It was observed that Tunga average rate of returns was 12.28% and its associated risk was 0.50 (50%), Bosso average rate of return was 12.17% and the risk was 0.43 (43%), Dutsen kura, Maikunkele and Maitumbi average rate of return were 11.57%, 9.82% and 15.23 while their risk 0.37 (37%), 0.66 (66%) and 0.33 (33%) accordingly, the average rate of returns of Kpakungu, Barkinsale and Sahukakahuta were 11.23% 14.01% and 12.76% and their risk were 0.38% (38%), 0.58% (58%) and 0.57% (57%) respectively. The result of the ranking shows that Maitumbi emerged first (1st) followed by Barkinsale which came second (2nd) on the table. Sahukakahuta and Tunga came third (3rd) and fourth (4th) respectively. Fifth (5th), sixth (6th), seventh (7th) and eighth (8th) ranking position went to Bosso, Dutsen Kura, Kpakungu and Maikunkele respectively.

On the basis of risk which is the coefficient various (COV) Maitumbi emerged first (1^{st}) from the ranking, followed by Dutsen kura which came second (2^{nd}) Kpakungu came third (3^{rd}) , Bosso and Tunga emerged fourth (4^{th}) and fifth (5^{th}) respectfully.

Sahukakahuta emerged sixth (6th) and Barkinsale and Maikunkele emerged seventh (7th) and eighth (8th) respectively.

4.2 Summary of Findings

From the study, these were the findings that were observed:

- There was an unstable trend in the total return index (TRI) from the graph as there was
 a raise and fall. These was as a result of exchange rate volatility on real estate
 investment
- One (1) bedroom apartment in Tunga had the highest Total returns of 16.00% while the lowest total return was in Kpakungu with 8.13%.
- One (1) bedroom apartment in Tunga experienced the lowest risk return of 0.38 (38%)
 which Maitumbi had the highest risk of 0.59 (59%).
- Two (2) bedroom apartment in Dutsen Kura had the highest return of 17.27% but the level of risk return was 0.39 (39%) which cannot be said to have performed well when compared to other location across the study period. Judging from table 5.5 Tunga area is a better property market for two bedroom apartment having a total return of 17.27% and a risk return of 0.35 (35%) when compared to other property type.
- Using table 5.6 as s reference, Maitumbi 3 bedroom apartment had the highest total return of 15.23% and a risk 0.33 (33%).

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The study examined the performance of residential property investments in Minna. In achieving this, the study examined the views of estate surveys and valuers in registered firms by distributing questionnaires in other to get relevant data for the study. From the findings of the study, a conclusion was drawn that performance measurement (total return and risk) are very essential tool for an investor to take a decision on the type of location or area to invest a property. From this study an investor who would want to invest in one (1) bedroom apartment should commit his/her resources and invest in Tunga because it had the highest total return of 16.00% and lowest risk return of 0.38 (38%) the implication of this is that 0.38 unit of risk was taken for every unit of return earned which is a reasonable investment idea compared to other parameters in the location. In other words, one (1) bedroom apartment in Tunga performed better.

Two (2) bedroom apartment performed better in Tunga area compared to other location it had a total return of 17.09% and a risk of 0.35 (35%). The implication of this us that 0.35 unit of risk was taken from every unit of return earned which is a reasonable investment idea when compared to other parameters in other location. An investor who plans to invest in two (2) bedroom apartment in Minna should commit his/her resources to Tunga area.

Three (3) bedroom apartment performed better in Maitumbi area when compared to other location which was 15.23% for its total return and its risk return was 0.33 (33%). This means that 0.33 unit a risk was taken from every unit of return earned which is a reasonable investment idea.

An investor who has conceived in his/her mind to invest in three (3) bedroom apartment should go and invest in Maitumbi.

Conclusively, Tunga area is better a property market for one (1) bedroom and two (2) bedroom apartment while Maitumbi is a better property market for three (3) bedroom apartment.

5.2 Recommendations

Based on the findings of this study, the following recommendations were made;

 New property investors should always seek professional advice from registered estate surveyors and valuers the location and property type to invest in and the best time to do it economically.

- Existing property investors who already have residential property should on yearly basis seek the consent of an estate surveyor and valuer for a performance measurement of their property to check maybe it is performing well or otherwise.
- Data base of relevant information such as rental value, annual expenses and capital value should be kept by estate firms on every property especially for research purpose like this in other to help academia and research students achieve their research purpose. The secrecy notion attached to relevant data should be avoided.
- Investors who are willing and interested in investing in one (1) bedroom apartment should invest in Tunga area.
- Investors who are willing and interested in investing in two (2) bedroom apartment should invest in Tunga area.
- Investors who are willing and interested in investing in three (3) bedroom apartment should invest in Maitumbi area.
- Contribution to Knowledge
 - The study indicated that one (1) bedroom apartment in Tunga performed better compared to other property types in terms of returns.
 - It also shows that two (2) bedroom apartment performed better in terms of returns in Dutsen Kura.
 - The study equally revealed that three (3) bedroom apartment in Maitumbi performed better in terms of returns.

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APPENDIX

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA DEPARTMENT OF ESTATE MANAGEMENT AND VALUATION



RESEARCH QUESTIONNAIRE

Dear Respondent,

I am a masters student of the above named institution .This questionnaire is designed to obtain vital information on the topic "An evaluation of the performance of residential property Investments in Minna Niger State". Your honest responses towards these questions will help me in gathering relevant data for the research. With this, I assure you that the data and information gotten would be treated with the highest degree of confidentiality, and would not be used for anything other than the purpose of the research.

Yours Faithfully.

Aje Philip Ayomide

(08187090162)

- Academic Qualification of respondent- OND (), HND (), B.Sc./ B.Tech (), M.sc / M.Tech (), PhD ()
- Professional Qualification- ANIVS (), FNIVS (), Probationer ()
- Number of years of Experience 1-5 (), 6-10 (), 11 and above ()
- Kindly provide the following information for one- bedroom, two- bedroom and threebedroom apartments in the following location.

TUNGA AXIS

YEAR	DESCRIPTION	RENTAL	ANNUAL	CAPITAL
	OF	VALUE(N)	EXPENSES	VALUE(N)
	PROPERTY		(Taxes, Rates	
			Repairs, etc.)	
			(₦)	
2009				
2010				
2011				
2012				
2013				
2014				
2015				
2016				
2017				
2018				
2019				
2020				
2021				

BOSSO AXIS

YEAR	DESCRIPTION	RENTAL	ANNUAL	CAPITAL
	OF	VALUE	EXPENSES	VALUE
	PROPERTY		(Taxes, Rates	
			Repairs, etc.)	
2009				

2010		
2011		
2012		
2013		
2014		
2015		
2016		
2017		
2018		
2019		
2020		
2021		

DUTSEN- KURA AXIS

YEAR	DESCRIPTION	RENTAL	ANNUAL	CAPITAL
	OF	VALUE	EXPENSES	VALUE
	PROPERTY		(Taxes, Rates	
			Repairs, etc.)	
2009				
2010				
2011				
2012				
2013				
2014				
2015				
2016				
2017				
2018				
2019				

2020		
2021		

MAIKUNKELE AXIS

YEAR	DESCRIPTION	RENTAL	ANNUAL	CAPITAL
	OF	VALUE	EXPENSES	VALUE
	PROPERTY		(Taxes, Rates	
			Repairs, etc.)	
2009				
2010				
2011				
2012				
2013				
2014				
2015				
2016				
2017				
2018				
2019				
2020				
2021				

MAITUMBI AXIS

YEAR	DESCRIPTION	RENTAL	ANNUAL	CAPITAL
	OF	VALUE	EXPENSES	VALUE

	PROPERTY	(Taxes, Rates	
		Repairs, etc.)	
2009			
2010			
2011			
2012			
2013			
2014			
2015			
2016			
2017			
2018			
2019			
2020			
2021			

KPAKUNGU AXIS

YEAR	DESCRIPTION OF	RENTAL VALUE	ANNUAL EXPENSES	CAPITAL VALUE
	PROPERTY		(Taxes, Rates	
			Repairs, etc.)	
2009				
2010				
2011				
2012				
2013				
2014				
2015				
2016				

2017		
2018		
2019		
2020		
2021		

BARKIN SALE AXIS

YEAR	DESCRIPTION	RENTAL	ANNUAL	CAPITAL
	OF	VALUE	EXPENSES	VALUE
	PROPERTY		(Taxes, Rates	
			Repairs, etc.)	
2009				
2010				
2011				
2012				
2013				
2014				
2015				
2016				
2017				
2018				
2019				
2020				
2021				

SAUKA KAHUTA AXIS

YEAR	DESCRIPTION	RENTAL	ANNUAL	CAPITAL
	OF	VALUE	EXPENSES	VALUE
	PROPERTY		(Taxes, Rates	
			Repairs, etc.)	
2009				
2010				
2011				
2012				
2013				
2014				
2015				
2016				
2017				
2018				
2019				
2020				