RESEARCHARTICLE OPENACCESS

Comparative Analysis of Yield Variations from Residential Properties in Selected Locations of Benin City (2011 – 2020)

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Abstract

Yield is defined as rate of return from property investment mathematically indicated as the ratio of net current income (rental value) to price (capital value) expressed as a percentage. The Yield from similar residential property types may vary from one location to another as a result of some factors. The aim of this study is to analyze and compare the Yields from residential properties (2 bedroom flats and 3 bedroom flats) in selected locations (GRA, Sapele road, Airport road, Ekenwan, Siluko, Ugbowo, Sakponba road, Ikpoba Hill and Aduwawa) in Benin in order to identify the level and significance of variation among them within the period of 2011 t0 2020. The research methodology employed was survey research. Responses were got from Estate Surveying and Valuation Firms involved in property management in Benin. Data retrieved were analyzed using Tables and One-way ANOVA. The study revealed that there are no significant variations in Yields from 2 bedroom flats while in contrast, that there are significant variations in Yields from 3 bedroom flats among the selected locations, with higher Yields from 3 bedroom flats than from 2 bedroom flats. It was concluded that these variations could be attributed to some factors such as; Accessibility, cost of building materials, urbanization and population growth, etc. It was recommended that intending investors should consult Estate Surveying and Valuation Firms before making investment decisions on residential property investments

Keywords: Yield, Variations, Residential Properties, Locations, Comparative Analysis, Benin City.

1.0 Introduction

Compared to other forms of investments such as stocks and shares, real estate investment usually involves huge capital outlays and due to these considerable sums, the knowledge and understanding of the performance of the sector is of utmost importance in providing a basis for better investment evaluation, decision and risk management (Fraser, 1993). However, traditionally, residential real estate has been perceived as a relatively low risk asset class,

showing returns above bank deposits and bonds but below the more volatile equity market (Hargreaves, 2005).

A good measuring benchmark for performance evaluation and standardized indicator of good return on real estate investment is the yield derivable from it. Yield is defined as the rate of return from an investment (Udobi, 2010), which is gotten in terms of financial profit through rents received from tenants. However, according to Egolum (2002), there are several motives for investing in land and landed property ownership beyond financial profit, which include; fulfillment of economic and social need, independence, social status and political power, community or communal benefits, and religious reasons.

Investment performance in real estate is basic to all investors. The purpose of investing fund in real estate is to get financial returns like any other investment besides other motives. Such financial returns are income receivable on the property, net of operating cost which could be divided by the capital employed for the year to arrive at yields on the investment (investproperty.co.uk, 2016). Meanwhile, the capital value principle stands as 'the higher the risk, the higher the yield (Ratcliff, 1971) and vice versa.

This study therefore compare the yields from flats (3 bedrooms and 2 bedrooms respectively) residential property investments in GRA, Sapele road, Airport road, Ekenwan, Siluko, Ugbowo, Sakponba road, Ikpoba Hill and Aduwawa, in order to deduce any statistically significant variations among the selected areas, within an investment period of 2011 – 2020. In order to achieve the objective, the study used flats of similar physical features and design in all the three selected locations

2.0 Literature Review

2.1 Concept of Property

Property is a legal concept encompassing all the interests, rights and benefits related to its ownership. Property consists of the rights of ownership which entitles the owner to a specific interest or interests in what is a physical entity and its ownership which is a legal concept (Uzoigwe and Emoh, 2012). The ownership of real estate is called real property while the combination of rights associated with the ownership of real property is in some states, referred to as the bundle of rights. The bundle of right concept likens property to bundles of sticks with each stick representing a distinct and separate right of the property owner, e.g. the right to sell, to lease, to give away or to choose to exercise all or none of these rights.

According to Hanks (1988) as stated in Kuye (2011), property is defined as land or real estate, immovable property especially freehold land. Property is also looked at as the interest, benefits and rights inherent in the ownership of the physical estate. It is the very base and framework on and within social, political, and economic activities of a nation function. Kuye (2011) further stated that in one way or another land provides the shelter, privacy, workplace, services and recreation that are crucial in sustaining life; property is therefore the most valuable resource of an individual, citizen, business organization and the nation in general. He further opined that property, especially residential and office accommodation is an agent of human integration as it brings people together from different social, cultural and religious background. Udechukwu (2006), described property as a legal concept encompassing all the interest, rights and benefits related to ownership.

2.2   Types of Properties

Kuye (2011) categorized the various properties according to the use they are put into. These include the following;

1. **Residential properties:** These are properties meant for dwelling purposes either by an individual or corporate body. This could be in form of block of flats, detached houses, duplexes, terrace buildings, or tenement buildings. Udechuckwu (2014) described residential properties to include any type of property that is used for dwelling space. He proposed it as the largest source of demand for the services of professional property managers and can be built in large variety of configuration as listed above. Residential properties are also of different types which include;, Bungalows, Flats, Duplexes, Tenements and Mansions.

2. **Commercial properties:** These types of properties are developed for trading and business purposes. They are solely used for commercial activities and these includes, shopping complexes, purpose built office buildings, and blocks of offices among others according to Udechukwu, they are various types of income producing properties, generally considered to be public accommodations, a private entity that produces goods, services, facilities or accommodation to the public. Thus, even though commercial properties are privately owned, the public has certain rights to use them.

3. **Industrial properties:** These types of properties cover all structures developed for the purposes of manufacturing activities or storage of goods produced. Such developments include warehouses and all buildings used for production of goods and materials. Industrial properties may be a large individually owned and occupied property or a large industrial park with several tenants.

4. **Agricultural properties:** These refer to land and buildings used for farming and rearing purposes, for example; dairy farms, poultry farms, cattle ranches, etc. Ogunba (2013) further explained agricultural properties as land suitable to or used for the production of

commodities intended either directly or indirectly for human consumption. IVSC (2007) classified such properties into seven groups as follows; crop farms, irrigated lands, perennial plantings, livestock ranches/stations, dairy farms, forestry/timberland, and special purpose properties.

5. **Institutional properties:** This covers properties used for operations and functions of various institutions such as churches, mosques and shrines. Also the properties used for learning like schools fall under this category. It also comprise of government properties like state houses and the like.

6. **Recreational properties:** Such properties are developed and meant for recreational or relaxation purposes. They could be owned by individuals or government, for example, hotels, recreational parks, golf courses, game reserves and resort centres, etc.

7. **Other properties:** This comprises landed developments such as roads, dams, canals, bridges, etc. These kinds of developments enhance the functioning of the aforementioned types of properties.

For the purpose of this study, we shall focus on residential properties as a type of properties, and Flats as a Residential property type which is discussed as follows;

2.3 Flats as a Residential Property Type:

These are also called apartment buildings and are designed in blocks (block of flats). It comprises several separated home units with all the spaces on the same floor level i.e. sitting room, kitchen, bedrooms, toilets, etc. all on the same floor. They can also be described as single units with all the facilities in-built, it could be in a detached form or in blocks with 2 No. bedrooms, 3 No. bedrooms, etc. They are majorly built for letting, and may be designed and constructed having several levels.

2.4   Concept of Value

Value by its ordinary definition particularly in basic economics is the utility or satisfaction which a good or service offers. In real estate profession, value means the worth of an interest in land or land and building or claim on chattels accessed by appropriate valuation methods (Udechukwu, 2006). Thus value can be seen from the investment, cost, comparison or profit perspective among others, however, the concern here is on the investment or income relative value of properties.

2.5   Concept of Capital Value

Capital value according to Udechukwu (2006) has been variously described as the price, which a property might be expected to realize if sold in the market by a willing seller. It was explained to be the best/highest price at which an interest in a property might be expected to be sold by private treaty at date of valuation assuming a willing seller, a reasonable period within which to negotiate the sale, taking no account the nature of the property and the state of the market, values will remain constant throughout the period, the property will be freely exposed to the market and that no account would be taken of additional bid by a special purchaser.

The Nigeria Valuation Standards (2019) defined market value to be the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller, in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion, However, capital value in this context defines the transaction market value finally agreed upon by the parties to a sale/purchase of a property and thus also termed the sale price for the sake of this study. Thus, it is the best

price reasonably obtainable by the seller and the most advantageous price reasonably obtainable by the buyer in a market transaction.

2.6 Concept of Rental Value

Land rent is a specialized concept. It represents the earning of land resources and may be defined simply as the economic return that accrues or should accrue to land for its use in production (Nuhu 2008). The concept applies to all the theoretical earning of land sites and their improvements. The concept of rent is differentiated in three forms by Barlowe (1978); contract rent, land rent and economic rent. However, for the sake of this research work, we are concerned about the contract concept of rent which refers to the actual payments which tenants make to the landlord of a property for their use of the property. The amount to be paid is agreed upon by the landlord and tenant subject to market forces and stems from mutuality between them.

The Nigeria Valuation Standards (2019) defined the concept of market rent as the estimated amount for which an interest in real property should be leased on the valuation date between a willing lessor and willing lessee on appropriate lease terms in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently, and without compulsion. It was further stated that market rent may be used as a basis of value when valuing a lease or an interest created by a lease. In such cases, it is necessary to consider the contract rent and, where it is different, the market rent.

2.7 Concept of Yield

According to Udechukwu (2006) yield is an income derived from an investment, usually expressed as a percentage of its current price or capital value. Yield is different from interest as he further stated that yield also gives an indication of the degree of risk attached to an investment. A greater risk involvement in an investment naturally should result in greater return

in order to convince an investor to venture into such investment and vice versa. However there are other investment characteristics which an investor considers before venturing into an investment, these include;

➢ Security of income

➢ Regularity of income

➢ Security of capital

➢ Liquidity of capital

➢ Cost of transfer of investment

➢ Tax advantage on investment

Yield is defined as the annual return on the capital investment and is usually expressed as a percentage of the capital value. Mbah and Udobi (2019) defined Return as the true income from a property or appreciation in the value of capital. Yield is seen as a yardstick for measuring the expected returns from an investment in terms of the capital invested which indicates the future cash flow of the investment. The formula for Yield is therefore presented as follows:

Yield = $\underline{\text{Net Current Income}}$ x 100%
  Price/capital value   (Udechukwu, 2014)

3.0 Research Methodology

The research design method employed in this study is the survey research method. According to Check and Schutt (2012), Survey research can be defined as the collection of information from a sample of individuals through their responses to questions. Questionnaires were used to retrieve relevant data from the population of study which comprised professionals involved in property management who are practicing under the registered Estate Surveying and Valuation Firms in Benin City. One-way Analysis of Variance (One-way ANOVA) was used in

testing the hypothesis, with $p \leq 0.05$ indicating there is a significant variation among the mean scores on the dependent variable (Pallant, 2011).

4.0   Data Presentation and Analysis

A total of Forty-nine (49) questionnaires were distributed to Estate Surveying and Valuation Firms out of the Fifty-four (54) Firms in Benin of which Forty (40) were retrieved successfully.

4.1   The Yield from Residential properties (Flats) from the Selected Locations of Benin between 2011 to 2020

Tables 1 and 2 display the Yields derivable from 2 bedroom flat and 3 bedroom flat residential properties respectively in GRA, Sapele road, Airport road, Ekenwan, Siluko, Ugbowo, Sakponba road, Ikpoba Hill and Aduwawa between 2011 to 2020 as obtained from Estate Surveying and Valuation Firms in the study area.

Table 1: The Yields from 2 Bedroom flats in Selected Locations between 2011-2020

Year	2011 – 2013	2014 – 2016	2017 – 2019	2020
Residential location (2 Bedroom flat)	Yield/flat (%)	Yield/flat (%)	Yield/flat (%)	Yield/flat (%)
GRA	3.0000	3.0088	3.3088	3.2500
Sapele road	3.0556	3.2222	3.2174	3.5000
Airport road	2.6506	2.9630	3.1746	3.3333
Ekenwan	2.7143	2.8409	3.1373	3.5345
Siluko	2.8333	2.9333	3.2222	3.5185
Ugbowo	2.9412	3.1000	3.0000	3.5926
Sakponba road	3.3562	3.2051	3.1111	3.4000
Ikpoba Hill	3.2364	3.1429	3.1750	3.4934
Aduwawa	3.2727	3.1285	3.1750	3.5590

From Table 1, the Yields from 2 Bedroom flats in the selected locations of the study area between 2011 and 2020 shows a relatively steady rate of variation. However, the least is indicated to be 2.6505% for 2011 to 2013 in Airport road, 2.8409% for 2014 to 2016 in

Ekenwan, 3.0000% for 2017 to 2019 in Ugbowo and 3.2500% for 2020 in GRA, with slightly better yields in Ikpoba Hill, Siluko and Aduwawa. However, best yields are indicated to be 3.3562% for 2011 to 2013 in Sakponba road, 3.2222% for 2014 to 2016 in Sapele road, 3.3088% for 2017 to 2019 in GRA and 3.5926% for 2020 in Ugbowo.

Table 2: The Yields from 3 Bedroom flats in Selected Locations between 2011-2020

Year Residential location (3 Bedroom flat)	2011 – 2013 Yield/flat (%)	2014 – 2016 Yield/flat (%)	2017 – 2019 Yield/flat (%)	2020 Yield/flat (%)
GRA	4.4167	4.7904	4.6296	4.4000
Sapele road	4.1520	4.4406	4.7786	4.9744
Airport road	4.7818	4.8485	4.6711	4.6596
Ekenwan	4.6250	4.7012	4.9513	4.7267
Siluko	4.9529	5.2000	4.6947	4.3833
Ugbowo	4.6571	5.0363	5.0105	4.5739
Sakponba road	4.7191	4.6347	4.4238	4.1149
Ikpoba Hill	4.2149	4.3059	4.2600	4.2500
Aduwawa	4.4379	4.4310	4.2095	4.1599

From Table 2, the Yields from 3 Bedroom flats in the selected locations of the study area between 2011 and 2020 shows a relatively steady rate of variation. However, the least is indicated to be 4.1520% for 2011 to 2013 in Sapele road, 4.3059% for 2014 to 2016 in Ikpoba Hill, 4.2095% for 2017 to 2019 in Aduwawa and 4.1149% for 2020 in Sakponba road, with slightly better yields in GRA, Airport road and Ekenwan. However, best yields are indicated to be 4.9529% for 2011 to 2013 and 5.2000% for 2014 to 2016 respectively in Siluko, 5.0105% for 2017 to 2019 in Ugbowo and 4.9744% for 2020 in Sapele road.

4.2 The Levels of Yield Variations from Residential Property Types among the selected locations in Benin City

The level of Yield variation from 2 Bedroom flats and 3 Bedroom flats among GRA, Sapele road, Airport road, EKenwan, Siluko, Ugbowo, Sakponba road, Ikpoba Hill and

Aduwawa are with the use of One-way Analysis of Variation (One-way ANOVA) presented and analyzed as follows:

Table 3: Showing the Level of Yield (%) variations from Flat residential property type among the selected locations of the study area from 2011 to 2020

Residential property type Residential location	2 Bedroom flat	3 Bedroom flat
GRA	3.14^A	4.559175^{AB}
Sapele road	3.25^A	4.586400^{AB}
Airport road	3.03^A	4.740250^B
Ekenwan	3.06^A	4.751050^B
Siluko	3.13^A	4.807725^B
Ugbowo	3.16^A	4.819450^B
Sakponba road	3.27^A	4.473125^{AB}
Ikpoba Hill	3.26^A	4.257700^A
Aduwawa	3.28^A	4.309575^A

Means in a column with different superscripts are significantly in variation at 5% level of significance

Table 3 is constructed to display and indicate if the yields from respective residential property types vary among the selected locations and at what levels. For mean yields from 2 Bedroom flats, such properties have relatively the same level of yields in all the selected locations of Benin City indicated by superscript A, with Airport road having 3.03% and Aduwawa having 3.28% as least and best respectively.

For mean yields from 3 Bedroom flats, such properties in Aduwawa and Ikoba Hill axes have the least yields indicated by superscript A respectively in relation to Sapele road, GRA and Sakponba road having slightly better yields indicated by AB, with Ugbowo, Siluko, Ekenwan and Airport road having the best yields indicated by superscript B respectively

Therefore, 2 bedroom flats indicated no significant Yield variation but with slight differences in Yields among the selected locations, while 3 bedroom flats indicated significant level of Yield variations among the selected locations in Benin City..

4.3. Test of Hypotheses

H_{01}: There is no significant variation in the yields (rate of returns) derivable from residential property (Flats) among the selected locations (GRA, Sapele road, Airport road, EKenwan, Siluko, Ugbowo, Sakponba road, Ikpoba Hill and Aduwawa) of the study area from 2011 to 2020

The data in Table 1 and 2 were used to test the Hypothesis above, using One-way Analyisi of Variance (ANOVA).

One-way ANOVA is carried out to test the variation between the mean of yields (rates of return) from the residential property types among the selected locations from 2011 to 2020 The data in Table 4 is analyzed to carry out the analyses for 2 bedroom flats and 3 bedroom flats to determine whether there is a significant variation between the yields from such residential properties among the nine (9) selected locations in the study area as follows:

Table 4: One-way ANOVA for Yield variations from Flat residential property types among the selected locations of the study area

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
2 Bedroom Flat	Between Groups	.288	8	.036	.597	.772
	Within Groups	1.631	27	.060		
	Total	1.920	35			
3 Bedroom Flat	Between Groups	1.409	8	.176	3.376	.008
	Within Groups	1.409	27	.052		
	Total	2.818	35			

The null hypothesis states that there is no significant variation in the Yields derivable from 2 Bedroom flats and 3 Bedroom flats respectively among GRA, Sapele road, Airport road, Ekenwan, Siluko, Ugbowo, Sakponba road, Ikpoba Hill and Aduwawa in Benin City, From the ANOVA result presented above; we accept the null hypotheses for 2 Bedroom flats because the p-value calculated (0.772) is higher than 0.05 and strongly reject the null hypothesis for 3 Bedroom flats because the p-value calculated (0.008) is far less than 0.05. We therefore make our conclusions as follows:

i. That there **is no** statistically significant variation in the Yields derivable 2 Bedroom flats among the selected locations.

ii. That there **is** statistically significant variation in the Yields derivable from 3 Bedroom flats among the selected locations.

5.0   Findings and Conclusion

5.1   Findings

The study revealed that the Yields derivable from 2 bedroom flats do not vary while the Yields derivable from 3 bedroom flats vary respectively among the selected locations; GRA, Sapele road, Airport road, Ekenwan, Siluko, Ugbowo, Sakponba road, Ikpoba Hill and Aduwawa, in Benin. From the analysis carried out in Table 3, the study revealed that there are different ranges of Yield from 2 bedroom flats among the selected locations of the study area but insignificant to indicate variations as analyzed in Table 4 where the One-way ANOVA test conducted produced p-value of 0.772 which is higher than 0.05, but revealed that there are different ranges of Yield as analyzed in Table 3 from 3 Bedroom flats which is significant enough to indicate variations as analyzed in Table 4 where the One-way ANOVA test conducted produced a p-value of 0.008 which is lower than 0.05.

Therefore, we accepted the null Hypothesis that states that there is no significant variation in the Yields derivable from residential properties among the selected locations foe 2 bedroom flats and accept the alternative which states that there is significant variation in the Yields derivable from residential properties among the selected locations for 3 bedroom flats respectively.

The range of average Yields from the residential properties in the selected locations is observed from Table 3 to be better in 3 Bedroom flats compared to 2 Bedroom flats. These ranges as well as variations in Yield from the residential property in the selected locations of Benin City was attributed to numerous factors which majorly included; Level of accessibility, cost of building materials,, urbanization and population explosion, availability of infrastructure and trend in market, property location, inflation, among other factors as indicated by respondents..

5.2   Conclusion

The study has been able to analyze and compare the Yield from residential properties of 2 bedroom and 3 bedroom flats respectively between 2011 and 2020 in the major selected predominant residential locations of Benin City, and thus established that there is no Yield variation in 2 bedroom flats but in 3 bedroom flats respectively. These variations could be attributed to some factors such as; Accessibility, cost of building materials, urbanization and population growth, etc.

5.3 Recommendations

The study therefore recommends that an investor can invest in 2 bedroom flats in any area of Benin expecting same range of Yield, but should consider comparing Yields variations

when intending to invest in 3 bedroom flats before making an investment decision. This can be achieved by consulting the expertise of an Estate Surveying and Valuation Firm.

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