Journal of Biodiversity and Environmental Research
January, 2025 Editions
www.ssaapublications.com

JBER
Vol.7, No.4, E-ISSN 3027-1916
P-ISSN 3026-9466
Sahara African Academic

INVESTMENT RISKS AND RETURNS IN THREE-STAR HOTELS IN ENUGU CITY, SOUTH EAST NIGERIA

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DOI: https://doi.org/10.70382/sjber.v7i4.017

Abstract

The measurement of risks and returns are the variables for determining the performance of real estate investments. Risk is the probability of variation between actual and expected outcomes, while return is the profit realized from investment. Factors such as capital expenditure, operating expenditure, location, and scale are important variables in hotel investment. However, since this study concentrates on three-star hotels, scale was not considered as all hotels under consideration were of the same scale. This study analysed the risks and returns of investment in three-star hotels in Enugu city between 2015 and 2024 by calculating the Arithmetic Mean Return (AMR), Standard Deviation (SD), and Coefficient of Variation (COV) over the period. From a study population of fifty (50) three-star hotels in seven (7) locations in the city namely: Independence Layout, New Haven, Ogui Road, GRA, Trans Ekulu, Ebeano Tunnel, and Abakpa Nike, seven (7) hotels were selected,one from each location for the study. Data on the net annual income and capital

values of the hotels between 2015 and 2024 were obtained through questionnaires sent to the general manager of each of the selected hotels. The results of the study found an inverse relationship between risks and returns among hotels with high capital values; risks were high while returns were lower. Hotels located in the city centre also had less returns due to higher expenditure and competition associated with central location. The study recommends that hoteliers should increase their returns and reduce risks by reducing their capital and operating expenditure.

Keywords: risks, returns, location, capital expenditure, operating expenditure, net income

Introduction

Investment involves making of a sacrifice in the present with the hope of deriving future benefits. One of the main objectives of real estate investment is returns. This is measured in terms of holding period (time) returns and should be periodically assessed to gauge the necessity for retention or disposal of the asset. The measurement of risks and returns are the variables for determining the performance of real estate investments. Risk is the probabilityof variation between actual and expected outcomes, while return is the profit realized from real estate investment. Investment in real estate can be spread on bare land, residential properties, office buildings, strip stores, shopping centres, industrial properties and diverse realty investments such as hotels and motels (Sirota, 2004). Hotels are considered specialized real estate investments because they serve many purposes including residential, commercial, and recreational (Frehse, 2007). This makes hotel investment a very risky one which requires quantitative investment analysis before making capital commitment. The real basis of investment analysis is the identification, measurement, and assessment of risk and the ways the investor can deal with risk (Woods, 2020). Therefore, the concept of risk is fundamentalto any form of investment including hotel

investment as lack of due attention to the analysis of the above variables have really affected performance of investment in the sector. The study is to guide prospective investors in the industry for maximum performance.

Risk is the probability that the expected cash flow or return will not be received. It is a concept that investors, developers, and lenders associate strongly with the hotel industry. Many people consider investing in hotel a high-risk use of time and capital because investors not only acquire an interest in a volatile form of real estate, but also participate in the highly specialized task of operating a service-oriented business. However, both activities affect the risk and returns associated with hotel investment. Risk exists in hotel investment because investors cannot make perfect forecasts that their investment will yield a certain rate of return over a given period. Hotel investment analysis provides point estimates (i.e. single-parameter estimates such as IRR, debt coverage ratio, loan-to-value ratio, and market value). Point estimates are the most probable numbers, not the only possible numbers. Recognizing and dealing with other possibilities is a major function of risk analysis. However, if all the variables affecting the risk-return relationship are explicitly identified, quantified, and measured, more accurate projections can be made about the risks associated with a hotel investment.

In Nigeria, there appears to be greater focus on returns than risks (Kalu, 2005), however, Bello (2003) emphasized that risk is a factor which investors need to know about when investing in real estate at any location. The stakeholders in the hotel industry need to spend as much time undertaking quantitative risk analysis as they do calculate rate of return (Woods,2020). This study therefore undertakes a quantitative analysis of the factors affecting the risk-return relationship in hotel investment in Nigeria with a focus on three-star hotels in Enugu city, South East Nigeria.

The remainder of this paper is structured as follows: Section 2 discusses the theoretical framework of risk and return; Section 3 reviews extant literature on risks and returns in hotel investment; Section 4 presents the research

methodology, whereas Section 5 analyzes data on risks and returns from three-star hotels in Enugu city and the results; Section 6 discusses the findings of the study. Finally, Section 7 offers conclusion and recommendations from a managerial perspective.

Theoretical Framework

The theoretical framework of this study was discussed under two (2) sub-sections: theory of risk and theory of return

Theory of Risk

Risk is fundamental to investment choice and is a common feature of all forms of investment including real estate investment which involves the creation of new income yielding assets from land and its resources based on capital analysis of expected costs and benefits within a given period. Risk is the probability of variation between actual and expected returns (Greer & Farrell, 1984). Byrne and Cadman (1984) define risk as the measurement of loss, identified as a possible outcome of a decision. Risk relates to loss of capital, delay in repayment of capital, non-payment of return or variability of returns. According to Udoudoh (2016), risk is the probability of loss of income, assets or condition of mishap, unfortunate situation or circumstances that result in the decline of revenue or loss of income, property, wealth and other items of economic and financial value. Risk is a combination of internal and external factors which make return projections liable to vary from the actual. The riskiness of an investment proposal is the variability of its possible returns (Horne, 1980). As the creation of real property products is often speculative and in anticipation of an unknown future demand, risk and uncertainty are key elements of real estate investment (Byrne, 1996; Fisher & Robson, 2006; Ratcliffe, Stubbs, & Keeping, 2009). Real estate investment is subject to a number of risk factors (Morley, 2002). However, if the risk involved in an investment is clearly analyzed and investors heed to such, the probability of loss will be

considerably reduced. The management of risks is based on corporate objectives and results in the management being permanently faced with considerations regarding opportunities and risks (Wiegelmann, 2012).

Generally, risk has a mostly negative connotation and describes the possibility of unfavourable future developments. Consequently, it is mostly perceived as an undesirable situation and therefore should be avoided. However, such interpretation does not always include the insight that the assumption of risk is an integral part of entrepreneurial action, or only notes this fact in passing. Hence, a business activity that promises profits or other positive effects for an enterprise is nearly always exposed to potential negative effects(Wiegelmann, 2012). A risk definition restricted to the risk of loss therefore falls short of today's understanding of risk concept (Duncan, 2002).Vaugham (1996, p. 8) defines risk as "a condition in which there is a possibility of an adverse deviation from a desired outcome thatis expected or hoped for." As only losses (negative deviation) constitute a serious threat to the continued existence of an enterprise, the risk concept is often restricted to being a *downside risk*. However, the possibility of a positive discrepancy between the actual value and the expected value (e.g. a profit) is described as an opportunity or *upside potential* (Lewin, 2001). Therefore, both positive and negative deviations from a predefined objective are attainable, with uncertainty of outcome, whether positive opportunity or negative threatconceivable (Royal Institution of Chartered Surveyors [RICS], 2003). Ajayi (1998) posited that risk has two perspectives; the downside risk and upside potential. He explained further that the amount by which actual outcome falls short of expected outcome is downside risk, while the amount by which the actual outcome exceeds expected outcome is called upside potential.

The foregoing definitions imply that risk involves both positive and negative deviations from the expected outcome. While a potential negative deviation is often described as risk in the strictest sense, the possibility of a positive or negative deviation entails risk in the widest sense, with the positive

divergence constituting an opportunity (Hommel & Lehmann, 2002). A positive deviation generally consists in the over-fulfilment of the initial expectations(Wiegelmann, 2012).

Risk can be classified as unsystematic or specific risk and systematic or market risk. Unsystematic risk affects a single asset or a small group of assets and is unique to the individual firm or asset class, while systematic risk affects a large number of assets with market wide effects (Ajayi, 1998; Baum, Mackmin, & Nunnington, 2011; Chandra, 2010; Kalu, 2001; Pandey, 1999). Various types of risk exists at various stages of real estate development such as financial risk, planning risk, management risk, legal risk, political risk, taxation risk, timing risk, etc.(Ajayi, 1998; Chandra, 2010; Dubben & Sayce, 1991; Geddes, 2002; Messner, 1984). Consequently, Gehner (2008, p. 7) opines that "real estate development is knowingly taking risk." These risks are collectively called investment risk.

Uncertainty exists because all future outcomes cannot be identified and their likelihood of occurrence cannot be estimated. However, even if it were possible to identify all future events or outcomes and assess their relative likelihood of occurrence, uncertainty would still exist because it is not possible to identify which of those future events or outcomes would occur. The future is always uncertain. If the future were certain there would be no risk (Wiegelmann, 2012). Decision-making takes place in an environment which has three components: *certainty*, *uncertainty* and *risk* (Kalu, 2001; Norman & Flanagan, 1993). Since these three situations arise in decision-making, before arriving at a decision, a decision-make rmust distinguish risk from certainty and uncertainty. Risk and uncertainty are often used interchangeably to mean the same. A source of ambiguity is found in the distinction between the two. With regard to real estate investment, definitions and discussions about risk and uncertainty are presented in Byrne and Cadman (1984), Hargitay and Yu (1993), Kalu (2001), Pellat (1972), and Whipple (1988). Kalu (2001, p. 3) proffers that:

> *"in certainty the event is likely to occur and there is likelihood of measuring the probability of its occurrence; uncertainty means that the probability of the occurrence of a particular event is not known and cannot be estimated, while in risk the probability of outcomes are knownor can be estimated."*

Hence, RICS (2003, p. 7) defines risk as "the combination of the probability of an event and its consequences".

The measurement of risk is by way of statistical standard deviation. Hence, Baum and Crosby(2007), Mehdi (1987), Kalu (2001), Pandey (1999), Hoesli and MacGregor (2000) all agree that the traditional approach is to calculate the standard deviation of the historical variability as a measure of risk, and that variance and standard deviation are the most frequently used measure of dispersion and interpreted as risk. Standard deviation is the square root of variance. Therefore, to evaluate risk, standard deviation and coefficient of variation are used.

$$SD = \frac{\sqrt{\sum(TRt - AMR)^2}}{n}$$

Where: SD = Standard Deviation

TRt = Total return for the period tAMR = Arithmetic Mean Return

n = total number of periods

$$COV = \frac{\text{Standard Deviation (SD)}}{\text{Arithmetic Mean Return (AMR)}}$$

Where: COV = Coefficient of Variation

Theory of Return

Return is the total gain or loss experienced by an investor with respect to an asset over a given period of time. It is a measure of total gain or loss from an

investment over a given time period with respect to changes in market value. In a positive sense, return is simply the profit or income realized from an investment. Return is one of the main objectives of real estate investment, and is measured in terms of holding period (time) and should be periodically assessed to gauge the necessity for retention or disposal of the asset. The risk of an investment cannot be measured without reference to the returns. Risk and return are the two (2) basic determinants of investments and are interrelated. Risk is the probability of variation between actual and expected returns, while return is the gain or loss realized from the investment over time. Theoretically; the higher the risk, the higher is the expected return. The higher return is a compensation expected by investors for their willingness to bear the higher risk. Risk and return are the variables for determining the performance of real estate investments. Risk is the variability that is likely to occur in the future returns on an investment. It is the possibility of difference between the actual and expected return. The measurement of risk and return is a fundamental investment portfolio management activity (Mfam & Kalu, 2012).

According to Hoesli and MacGregor (2000), the expected risk of investment decisions is important but is often a proxy of historical values on the assumption that the spread of historical returns is a good indication of the spread of future returns. The measurement of risks and returns are the variables for determining the performance of real estate investments. Risk has to do with the possibility that the actual outcome may be a deviation from what is expected (Kalu, 2001). It is difficult ordinarily to determine with accuracy what the future holds for returns and the associated risk because a decision to invest in any investment media is beclouded by uncertainty even when historical data are available.

The objective of corporate risk management cannot be the minimization of all risks, rather, given the fact that entrepreneurial action is always associated with the assumption of risks, the goal must be to attain a well-balanced situation between risks and expected returns (risk/reward), taking

into consideration the comparative advantages of the enterprise and the risk appetite of the decision-makers. Diederichs (1996, p. 29) asserts that:

> *"real estate investment is required to combine the aspects of location, project concept/idea and (use of) capital so as to achieve multiple objectives: the results need to be (micro economically) competitive on a standalone basis, should create and/or secure employment, need to be socially, macro economically and environmentally acceptable and they need to generate a positive return over their life cycle in the long term."*

Successful investment, inter alia, depends on bringing the adequate real estate product to the market at the right time at the right price, and investment return depends on achieving these while balancing costs against value (Wiegelmann, 2012).

Real estate investment return is measured in terms of total return (TRt) which comprises income return (IRt) and capital return (CRt) (Hoesli & MacGregor, 2000; Baum, Mackmin,& Nunnington, 2011).

Mathematically, total return is expressed as:

$$TRt = \frac{(CVt - CVt\text{-}1) + NIt}{CVt\text{-}1}$$

Where: TRt = Total return for the period t

NIt = Net income received during the period t

CVt-1 = Capital value (price) at the start of period tCVt = Capital value (price) at the end of period t

Literature Review

Hotel investment is one of the riskiest forms of commercial real estate investment. Hotel investment is unlike any other form of real estate investment. As a hotel owner, you face not only the usual risks associated with commercial real estate investments but also hotel-specific risks. Risk exists in hotel investment because investors cannot make perfect forecasts that their investment will yield a certain rate of return over a given period. If they could, they would never make an investment that would yield less than the required rate of return. Depending on your level of optimism, this can either represent a golden opportunity to obtain a higher rate of investment return or be a signal to consider other property types with lower risks. In either case, the decision as to whether to own a hotel will depend on your ability to not only understand the nature of hotel risks, but also to develop strategies to mitigate their effects. Among the factors that differentiate hotel investment from other real estate investments is a primary difference is the absence of long-term tenant leases, a feature common to most other forms of commercial real estate ownership. Instead of tenants that commit to multiyear lease contracts, hotel has "tenants" (hotel guests) who usually stay for just a matter of days. Whereas the lease for long-term tenants have rent indexation or escalation that provides for increased payments, hotel "tenants" pay prevailing market daily rates, which might be higher or lower than the investor's projection. These market rates are influenced by factors that are out of the investor's control, including the condition of the overall economy and the rates charged by competitors. While hotels can indeed be a highly profitable investment vehicle, it's critical to understand exactly the nature of the risks to be undertaken. When faced with risks and alternative hotel project opportunities, owners and investors must measure the rate of return of each project to have an idea of which hotel projects should be pursued and which should be disregarded (Tarras, 1991).

Hotel investors often have peculiar preconceptions about the main objectives of hotel investment analysis with many believing the financing to be the major aspect of the analysis. Some treat the forecasting of cash flows

and hotel values as the primary focus, whereas others regard tax planning as the chief element in the process (Woods, 2020). Though all these activities have major roles, none gets the most important point of the hotel investment process. The real basis of hotel investment analysis is the identification, measurement, and assessment of risk and the ways the investor can deal with risk. The concept of risk is thus fundamental to any form of investment analysis in the hotel industry.

In addition to other investment risks, hotel investors must take into consideration industry- specific risk factors such as future inflation, risk of failure, financial risk, and liquidity risk (Tarras, 1991) before undertaking hotel investment. Just like in any type of real estate investment, a hotel's lifecycle has three main phases: development, operation, and exit. Risks occur throughout the life cycle of a hotel investment. At every stage of hotel investment, owners and investors are faced with different levels of risk. Therefore, a hotel investment inherits the following three (3) categories of risk that are directly attributable to the main phases of its lifecycle (Younes & Kett (2007):

- Development risk,
- Operating risk, and
- Obsolescence/exit risk

Development Risk

Development risk is the economic threat that a developer/investor is exposed to upon converting a vacant piece of land or an existing building into a fully operational hotel. It is present during the development stage of a hotel which takes approximately one to three years (depending on the type of hotel property) to complete. The more complicated the hotel development is, the higher the development risk would be. Development risk is the probability that a setback occurs during the development process which has a negative effect on the development cost or any aspect of the development stage that influences the future investment returns of the hotel. Some of the

risk elements to be considered in the development stage include location, position, type of operator, physical characteristics, planning and structuring, construction and design, extent of facilities, cost of capital, timing of completion, etc. There can be differences between how a hotel should look and how it actually looks when completed. Hotel development is highly capital intensive and requires the ultimate harmony between all parties involved in order to secure an economically viable investment. This can be achieved through thorough communication and project management skills (Marriott, 2016). Any setback during the development stage would severely impact the investment returns. Hence, investors should take note of the development risk before investing because it can have a profound impact on the overall performance of the hotel asset.

Operating Risk

This is the hotel's ability of generating enough revenue to reach specified levels of profitability. The operating risk is simply the ability of the asset (and its management) to generate sufficient levels of cash flow in order to produce a certain level of financial returnsto justify the investment and/or catalyze an exit. Operating risk is evident during the holding period usually from year four to twenty-five of the hotel's lifecycle (Younes & Kett, 2007). The total „holding period return of any type of investment is the combination of the cash flow earned throughout the holding period as well as the capital appreciation (or depreciation) of the asset. Owners are significantly exposed to the operating risk in a hotel investment. Any fluctuation in the operating performance of a hotel has a significant impact on the net operating income available to its owner. For instance, a severe economic downturn could potentially force the business (and its owner) into liquidation and result in a lender's step in, pulling the owner out of business. Obviously, the uplift is equally positively rewarding.

The main operating risk factor in a hotel property is the volatility of its net operating income throughout the holding period. The total „holding period return of any type of investment is the combination of the cash flow earned

throughout the holding period as well as the capital appreciation (or depreciation) of the asset. Depending on the type of hotel property (and its holding period), the operating cash flow returns represent between 30 and 70 percent of the overall returns. Typically, the operating risk of a hotel asset is higher during the first years of operation of the property, when compared to the level of risk attributed to its operation once it reaches a stabilized level of trading performance. The more the net operating income is likely to fluctuate over a specific period of time, the higher the operating risk. This risk can be attributed to two main characteristics: revenues and the fixed cost structure of the operation. Various dynamics and business characteristics, whether controllable or uncontrollable, impact on these operating risk factors and can cause hardship because insufficient levels of cash flow will weigh heavily against the owner in the valuation of the asset when it is time to sell the hotel.

Obsolescence/Exit Risk

At the end of the lifecycle (or holding period) of a hotel investment, the owner would sell the property or redevelop it. Obsolescence/exit risk is present during the divestment stage of the hotel and may occur after twenty-five (25) years of ownership. This risk impacts the ability ofthe owner of the hotel property to exit the investment or extend its economic life. Obsolescence/exit involves the potential decrease in a property's value as at the envisaged exit period. It is the uncertainty of the future value of the hotel asset. It is an incurable economic depreciation that has a considerable impact on the holding period returns of a hotel asset. There are various types of obsolescence that can impact hotel real estate but generally they are classified as either internal or external obsolescence.

Internal obsolescence is the functional obsolescence that occurs when a hotel no longer functions the way it used to when it was initially built. It is a change in fitness for purpose which leads to loss in income and value resulting from internal factors. Internal factors include the physical deterioration of the building which can be curable through repairs and

capital expenditure or incurable if the basic structure of the building has been heavily damaged over time. While most physical deterioration of a hotel can be curable, sometimes it makes no economic sense to do so. For instance, although the physical deterioration of the external appearance (exterior, public areas, etc.) or the internal specifications (services, finishes, etc.) can be cured, the property can become obsolete if the configuration of the building is no longer appropriate (style, plan layout, floor to ceiling heights, structuraldamages, and so on).

External obsolescence is the loss in income or value resulting from external factors which include various economic, demographic, environmental, legal, and social factors that can impact the economic viability of a hotel which may not be curable. For instance, a new legislation regarding safety may render a hotel property obsolete if it impacts the layout. A shift in the economic, demographic or social gravity of the immediate area of the hotel can also render it obsolete, especially if the hotel is located in a secondary location or if the area in which it was originally built migrates from primary to secondary over time. Exit risk is critical to analyze because a large capital gain can be made upon the sale (Marriott, 2016).

Factors affecting Risks and Returns of Hotel Investment

There is a correlation between the risks and returns of an investment but numerous variables need to be considered (Lagji, 2010). Below are some of the factors affecting the risks and returns of hotel investments.

Capital expenditure: Capital expenditure is the amount spent to acquire, upgrade, or maintain productive assets (such as building, machinery, equipment, infrastructure, vehicles) in order to increase the capacity or efficiency of a company for more than one accounting period. Productive assets are long-term assets that are usually physical, fixed and non-consumable, and that have a useful life of more than one accounting period. Capital expenditure is an expense a business incurs to create benefit in the future. Therefore, it represents an investment and is recorded as an asset

rather than expense. Capital is an important factor in the success or failure of an enterprise, especially in the hotel industry. The effects of the cost of capital are severe because of the seasonality and the overall high capital requirement of hotel investments. Seasonality not only harms the effective use of resources but also raises the solvency risk, therefore the overall risk of the investment. Further, hotels have unique characteristics in that they cannot be easily modified (Andrew & Denizci, 2005).

Operating expenditure: Operating expenditure are those expenses required to keep the hotel running. Operating expenses are incurred during regular business activities and are required for the day-to-day functioning of the hotel. They are found within all operating departments of a hotel which include rooms, food and beverage, sales and marketing, spa, administrative and general, information and telecommunications, property operations and maintenance, utilities, etc. (STR, 2020). Wages and salaries is a common operating expense found in all hotel departments arising from the labour intensive nature of hotel operations due to the various products and services offered. This characteristic affects the riskiness of hotel investment and needs to be considered when analyzing the risks and returns (Lagji, 2010). Tracking operating expenses is vital in understanding hotel's financial performance and positions the hotelier to better manage costs, which could potentially increase profit margins. Gross operating profit (income) is calculated by subtracting total operating expenses from total operating revenues (STR, 2020). Therefore, minimizing expenses and maximizing income is key to boosting returns.

Location: Location is a factor that will heavily impact hotel investment. Location can be a big demand generator that drives revenue and customer satisfaction. It can also add value to the property when it is time to sell the hotel. As a result, owners and investors highly value analysis that identifies the characteristics of a remarkable location (Yang, Hao, & Law, 2014). Hotel location will influence guest satisfaction, revenue per available room (RevPAR), increased demand, and overall profitability. A study by

Newell and Seabrook (2006) on the factors influencing hotel investment decision-making among major hotel investors and hotel owners/operators in Australia found that among 30 factors influencing hotel investment decision making, the main factors were financial and location factors followed by economic, diversification, and relationship factors.

Scale: Hotel scale is another name for hotel category or hotel class. It relates to the actual product or service that the hotel offers. All hotels are not created equal. Scale communicates the quality of the hotel in terms of the products/services and facilities it offers. There are several hotel rating agencies with different rating systems based on quality. Smith Travel and Research (STR) reported six different hotel scales by size which includes luxury, upper upscale, upscale, upper midscale, midscale, and economy (STR, 2015). Some rate by using alphabets (A-E) e.g. Class A, Class B. The most common and widely used hotel rating system is the „star" ratings which ranks hotels from one-star (*) to five-star (*****). Selectingthe class of hotel to develop should be a conscious decision because each class will cost a different amount to build, each class will cost a different amount to manage, and each class will attract a different kind of customer. The different scales of hotels are different because they offer different services and provide different touches of luxury (Marriott, 2016). This study focuses on three-star (***) hotels.

Research Methodology

This study adopts a survey research approach in the design. The study population comprises fifty (50) three-star hotels in seven (7) locations in Enugu city, Southeast Nigeria (see: Appendix) namely: Independence Layout, New Haven, Ogui Road, GRA, Trans Ekulu, Ebeano Tunnel, and Abakpa Nike. One hotel was selected from each location to make a study sample of seven (7) hotels. The selected hotels were purposively sampled based on the available services and facilities typical of three-star hotels namely: swimming pool, tennis court (or other sports facility),

conference/reception hall, recreation/entertainment hub, laundry/dry cleaning service, car wash/hiring service, restaurant/bar, and fitness center/spa. Data were obtained through questionnaires sent to the general manager in each of the seven (7) selected hotels. The questionnaires were structured to gather data on the net annual income and capital values of the hotels between 2015 and 2024. Returns on the investment were determined by calculating the total returns for each period (TRt), while risk was measured by calculating the standard deviation of the total returns for each period from the mean. Data collected were analysed using Arithmetic Mean Return (AMR), Standard Deviation (SD), and Coefficient of Variation (COV).

Data Analysis and Results

Below are data on risks and returns from investment in the seven (7) selected three-star hotelsin Enugu city.

Data Analysis and Results

Below are data on risks and returns from investment in the seven (7) selected three-star hotelsin Enugu city.

Table 1: Return on Investment in Bon Hotel Sunshine (Independence Layout)

Period (Year)	Net Income (N1)	Capital Value (CV)	Total return (TRt)
2015	599,100,000.00	2,000,000,000.00	0.299
2016	635,500,000.00	2,000,200,000.00	0.318
2017	667,100,000.00	2,000,500,000.00	0.334
2018	687,500,000.00	2,001,000,000.00	0.344
2019	725,376,000.00	2,001,500,000.00	0.363
2020	732,500,000.00	2,105,000,000.00	0.347
2021	750,150,000.00	2,115,000,000.00	0.355
2022	780,250,000.00	2,185,000,000.00	0.357
2023	801,500,000.00	2,200,000,000.00	0.364
2024	802,500,000.00	2,210,000.000.00	0.363
AMR			0.344

Source: Authors' Field Survey, 2024

To calculate the total return for each period (TRt):

$$TRt = \frac{(CVt - CVt\text{-}1) + NIt}{CVt\text{-}1}$$

Where: TRt = Total return for the period t

NIt = Net income received during the period t CVt-1 = Capital value at the start of period t CVt = Capital value at the end of period t

Table 1 shows the total return on investment in Bon Hotel Sunshine (Independence Layout) from 2015-2024. Average return or Arithmetic Mean Return (AMR) in the period was 0.344. Hence, the rate of return on investment in Bon Sunshine Hotel over the period was 34.4%.

Table 2: Risk of Investment in Bon Hotel Sunshine (Independence Layout)

Period (Year)	TRt	TRt-AMR	(TRt – AMR)2
2015	0.299	-0.045	-0.002025
2016	0.318	-0.026	-0.000676
2017	0.334	-0.01	-0.0001
2018	0.344	0	0
2019	0.363	0.019	-0.000361
2020	0.347	-0.003	-0.000009
2021	0.355	0.011	-0.000121
2022	0.357	0.013	-0.000169
2023	0.364	0.02	0.0004
2024	0.363	0.019	0.000361
Total	3.444		
	AMR= $\frac{3.444}{10}$ =0.344		Variance= $\frac{0.0004222}{10}$ = 0.00004222

Source: Authors' Field Survey, 2024

To calculate the risk:

$$\text{Standard Deviation (SD)} = \frac{\sqrt{\sum(TRt - AMR)^2}}{n}$$

$$= \sqrt{0.00004222}$$

$$= 0.0065$$

$$\text{Coefficient of Variation (COV)} = \frac{\text{Standard Deviation (SD)}}{\text{Arithmetic Mean Return (AMR)}}$$

$$= \frac{0.0065}{0.344}$$

= 0.0189

The rate of return on investment in Bon Hotel Sunshine (Independence Layout) is 0.344 (34.4%). The risk of investment is 0.065 (0.65%) and COV is 0.0189 (1.9%). This indicates that 1.9% of risk was taken for every unit of return earned

Table 3: Return on Investment in Nue-Crest Hotel & Suites (Trans Ekulu)

Period (Year)	Net Income (NI)	Capital Value (CV)	Total Return (TRt)
2015	465,900,000.00	1,500,000,000.00	0.311
2016	500,100,000.00	1,500,500,000.00	0.340
2017	540,200,000.00	1,600,000,000.00	0.338
2018	555,700,000.00	1,600,800.000.00	0.409
2019	600,400,000.00	1,700,500,000.00	0.412
2020	635,250,000.00	1,800,200,000.00	0.353
2021	670,500,000.00	1,905,000,000.00	0.352
2022	701,400,000.00	1,910,500,000.00	0.351
2023	725,300,000.00	1,950,000,000.00	0.372
2024	730,000,000.00	1,955,000,000.00	0.373
AMR			0.361

Source: Authors' Field Survey, 2024

Table 3 shows the total return on investment in Nue-Crest Hotel & Suites (Trans-Ekulu) from 2015-2024. Average return or Arithmetic Mean Return (AMR) in the period was 0.361. Thus, the rate of return on investment in Nue-Crest Hotel & Suites over the period was 36.1%.

Table 4: Risk of Investment in Nue-Crest Hotel & Suites (Trans Ekulu)

Period (Year)	TRt	TRt-AMR	(TRt-AMR)2
2015	0.311	-0.006	0.00036
2016	0.402	0.041	0.001681

2017	0.338	-0.023	0.000529
2018	0.409	0.048	0.002304
2019	0.412	0.051	0.002601
2020	0.353	-0.008	0.000064
2021	0.352	-0.009	0.000081
2022	0.351	-0.01	0.0001
2023	0.372	0.011	0.000121
2024	0.373	0.012	0.000144
Total	3.673		0.007.985
	AMR= $\frac{3.673}{10}$ = 0.367		Variance= $\frac{0.007985}{10}$ 0.0007985

Source: Authors' Field Survey, 2024

To calculate the risk:

Standard Deviation (SD) $= \frac{\sqrt{\sum(TRt - AMR)^2}}{n}$

$= \sqrt{0.0007985}$

$= 0.028$

Coefficient of Variation (COV) $= \frac{\text{Standard Deviation (SD)}}{\text{Arithmetic Mean Return (AMR)}}$

$= \frac{0.028}{0.361}$

$= 0.077$

The rate of return on investment in Nue-Crest Hotel & Suites (Trans Ekulu) is 0.374 (37.4%). The risk of investment is 0.041 (4.1%) and COV is 0.110 (11%). This shows that 11% of risk was taken for every unit of return earned.

Table 5: Return on Investment in Hayatt Hotel (New Haven)

Period (Year)	Net Income (NI)	Capital Value (CV)	Total Return (TRt)
2015	550,000.000.00	1,600,000.000.00	0.356
2016	560,700,000.00	1,620,000,000.00	0.365
2017	570,020,000.00	1,650,000,000.00	0.364
2018	585,000,000.00	1,680,000,000.00	0.360
2019	600,500,000.00	1,700,000,000.00	0.365
2020	615,000,000.00	1,705,350,000.00	0.361
2021	625,000,000.00	1,710,000,000.00	0.365
2022	637,050,000.00	1,720,500,000.00	0.370
2023	650,250,000.00	1,730,000,000.00	0.375
2014	654,000,000.00	1,735,000,000.00	0.377
AMR			0.366

Source: Authors' Field Survey, 2024

Table 5 shows the total return on investment in Hayatt Hotel (New Haven) from 2015-2024. Average return or Arithmetic Mean Return (AMR) for the period was 0.366. This suggests that the rate of return on investment in Hayatt Hotel over the period was 36.6%.

Table 6: Risk of Investment in Hayatt Hotel (New Haven)

Period (Year)	TRt	TRr-AMR	(TRt – AMR)2
2015	0.356	-0.01	0.0001
2016	0.365	-0.001	0.000001
2017	0.364	0.002	0.000004
2018	0.360	0.006	0.000036
2019	0.365	0.001	0.000001

2020	0.361	0.005	0.000025
2021	0.365	0.001	0.000001
2022	0.370	0.004	0.000016
2023	0.375	0.009	0.000081
2024	0.377	0.011	0.000121
Total	3.658		0.000386
	AMR= $\frac{3.658}{10}$ = 0.365		Variance= $\frac{0.000386}{10}$ = 0.0000386

Source: Authors' Field Survey, 2024.

To calculate the risk:

$$\text{Standard Deviation (SD)} = \frac{\sqrt{\sum(\text{TRt} - \text{AMR})^2}}{\text{n}}$$

$$= \sqrt{0.0000386}$$

$$= 0.0062$$

$$\text{Coefficient of Variation (COV)} = \frac{\text{Standard Deviation (SD)}}{\text{Arithmetic Mean Return (AMR)}}$$

$$= \frac{0.0062}{0.366}$$

$$= 0.017$$

The rate of return on investment in Hayatt Hotel (New Haven) is 0.366 (36.6%). The risk of investment is 0.0062 (0.62%) and COV is 0.017 (1.7%). This shows that 1.7% of risk was takenfor every unit of return earned.

Table 7: Return on Investment in Best Choice Hotel (GRA)

Period (Year)	Net Income (NI)	Capital (CV)	Total Return (TRt)
2015	605,500,000.00	1,200,500,000.00	0.521

2016	608,700,000.00	1,220,400,000.00	0.523
2017	609.050,000.00	1,250,100,000.00	0.488
2018	610,000,000.00	1,250,800,000.00	0.503
2019	610,500,000.00	1,270,200,000.00	0.496
2020	615,500,000.00	1,280,000,000.00	0.481
2021	620,600,000.00	1,290,000,000.00	0.481
2022	620,600,000.00	1,295,800,000.00	0.479
2023	625,700,000.00	1,302,000,000.00	0.481
2024	630,000,000.00	1,305,000,000.00	0.483
AMR			0.494

Source: Authors' Field Survey, 2024

Table 7 shows the total return on investment in Best Choice Hotel (GRA) from 2015-2024. Average return or Arithmetic Mean Return (AMR) for the period was 0.494. This indicates that the rate of return on investment in Best Choice Hotel during the period was 49.4.6%.

Table 8: Risk of Investment in Best Choice Hotel (GRA)

	TRt	TRt-AMR	(TRt-AMR)2
2015	0.521	0.027	0.000729
2016	0.523	0.029	0.000841
2017	0.488	0.006	0.000036
2018	0.503	0.009	0.000081
2019	0.496	0.002	0.000004
2020	0.481	0.013	0.000169
2021	0.481	0.013	0.0000169
2022	0.479	0.015	0.000225
2023	0.481	0.013	0.000169
2024	0.483	0.011	0.000121
Total	4.936		0.0024279
	AMR=0.493		Variance=$\frac{0.0024279}{10}$ = 0.0002428

Source: Authors' Field Survey, 2024

To calculate the risk:

Standard Deviation (SD) $= \sqrt{0.0002428}$

$= 0.015$

Coefficient of Variation (COV) $= \frac{0.015}{}$

0.494

= 0.030

The rate of return on investment in Best Choice Hotel (GRA) is 0.494 (49.4%). The risk of investment is 0.015 (1.5%) and COV is 0.030(3.0%). This means that 3.0% of risk was takenfor every unit of return earned.

Table 9: Return on Investment in Amazon Hotel (Ogui Road)

Period (Year)	Net Income (NI)	Capital Value (CV)	Total Return (TRt)
2015	620,000,000.00	1,200,000,000.00	0.533
2016	620,800,000.00	1,220,000,000.00	0.533
2017	621,500,000.00	1,250,000,000.00	0.537
2018	622,000,000.00	1,300,000.000.00	0.517
2019	622,500,000.00	1,350,000,000.00	0.498
2020	623,050,000.00	1,360,500,000.00	0.458
2021	624,030,000.00	1,365,800,000.00	0.457
2022	625,501,000.00	1,370,000,000.00	0.457
2023	627,250,000.00	1,375,000,000.00	0.451
2024	632,000,000.00	1,380,000,000.00	0.458
AMR			0.489

Source: Authors' Field Survey, 2024

Table 9 shows the total return on investment in Amazon Hotel (Ogui Road) between 2015 and 2024. Average return or Arithmetic Mean Return (AMR) for the period was 0.489. This signifies that the rate of return on investment in Amazon Hotel during the period was 48.9%.

Table 10: Risk of Investment in Amazon Hotel (Ogui Road)

Period (Year)	TRt	TRt – AMR	(TRt – AMR)2
2015	0.533	0.044	0.001936
2016	0.533	0.044	0.001936

2017	0.537	0.048	0.002304
2018	0.517	0.028	0.000784
2019	0.498	0.009	0.000081
2020	0.458	0.031	0.000961
2021	0.457	0.032	0.001024
2022	0.457	0.032	0.001024
2023	0.452	0.037	0.001369
2024	0.458	0.031	0.000961
Total	4.899	4.41	0.01238
	AMR=$\frac{4.89}{}$ $= 0.489$		Variance= $\frac{0.01238}{10}$ $= 0.001238$

Source: Authors' Field Survey, 2024.

To calculate the risk:

Standard Deviation (SD) $= \sqrt{0.001238}$
$= 0.035$

Coefficient of Variation (COV) $= \frac{0.035}{0.489}$

$= 0.072$

The rate of return on investment in Amazon Hotel (GRA) is 0.489 (48.9%). The risk of investment is 0.035 (1.5%) and COV is 0.072 (7.2%). This means that 7.2% of risk was takenfor every unit of return earned.

Table 11: Return on Investment in Oakland Hotel (Ebeano Tunnel)

Period (Year)	Net Income (NI)	Capital Value (CV)	Total Return (TRt)
2015	464,850,000.00	1,700,000,000.00	0.303
2016	528,100,000.00	1,750,000,000.00	0.330

2017	549,100,000.00	1,800,000,000.00	0.361
2018	567,300,000.00	1,900,000.000.00	0.351
2019	567,300,000.00	2,000,000,000.00	0.353
2020	607,000,000.00	2,100,000,000.00	0.289
2021	610,800,000.00	2110,000,000.00	0.289
2022	612,500,000.00	2,150,000,000.00	0.285
2023	620,050,000.00	2,165,000,000.00	0.286
2024	622,000,000.00	2,168,000,000.00	0.287
AMR			0.313

Source: Authors' Field Survey, 2024

Table 11 shows the total return on investment in Oakland Hotel (Ebeano Tunnel) from 2015- 2024. Average return or Arithmetic Mean Return (AMR) for the period was 0.313. This implies that the rate of return on investment in Oakland Hotel in that period was 33.3.%.

Table 12: Risk of Investment in Oakland Hotel (Ebeano Tunnel)

Period (Year)	TRt	TRt – AMR	(TRt – AMR)2
2015	0.303	0	0
2016	0.330	0.027	0.000729
2017	0.361	0.058	0.003364
2018	0.351	0.048	0.002304
2019	0.353	0.05	0.0025
2020	0.289	0.014	0.000196
2021	0.289	0.014	0.000196
2022	0.285	0.018	0.000324
2023	0.286	0.017	0.000289
2024	0.287	0.016	0.000256
Total	3.134		0.010158
	AMR=$\frac{3.134}{10}$ = 0.313		Variance=$\frac{0.010158}{10}$ =0.0010158

Source: Authors' Field Survey, 2024

To calculate the risk:

Standard Deviation (SD) = $\sqrt{0.0010158}$

$$= 0.032$$

$$\text{Coefficient of Variation (COV)} = \frac{0.032}{0.313}$$

$$= 0.102$$

The rate of return on investment in Oakland Hotel (Ebeano Tunnel) is 0.313 (31.3%). The risk of invest`ment is 0.032 (3.2%) and COV is 0.102 (10.2%). This indicates that 10.2% of risk was taken for every unit of return earned.

Table 13: Return on Investment in Nike Lake Resort Hotel (Abakpa Nike)

Period (Year)	Net Income (NI)	Capital Value (CV)	Total Return (TRt)
2015	460,000,000.00	1,300,000,000.00	0.356
2016	465,500,000.00	1,302,250,000.00	0.360
2017	470,000.000.00	1,305,500,000.00	0.363
2018	472,700,000.00	1,310,000,000.00	0.363
2019	474,200,000.00	1,312,600,000.00	0.363
2020	476,000,000.00	1,315,000,000.00	0.362
2021	481,050,000.00	1,317,500,000.00	0.365
2022	484,205,000.00	1,320,100,000.00	0.367
2023	487,030,000.00	1,322,800,000.00	0.368
2024	491,000,000.00	1,325,000,000.00	0.371
AMR			0.364

Source: Authors' Field Survey, 2024

Table 13 shows the total return on investment in Nike Lake Resort Hotel (Abakpa Nike) between 2015 and 2024. Average return or Arithmetic Mean Return (AMR) for the period was 0.364 which signifies that the rate of return on investment in Nike Lake Resort Hotel over the period was 36.4%.

Table 14: Risk of Investment in Nike Lake Resort Hotel (Abakpa Nike)

Period (Year)	TRt	TRt – AMR	(TRt – AMR)2
2015	0.356	-0.008	0.000004
2016	0.360	0.004	0,000016
2017	0.363	0.001	0-000001
2018	0.363	0.001	0.000001
2019	0.363	0.001	0.000001
2020	0.362	0.002	0.000004
2021	0.365	0.001	0.000001
2022	0.367	0.003	0.000009
2023	0.368	0.004	0.000016
2024	0.371	0.007	0.000049
Total	AMR= $\frac{3.635}{10}$ =0.364		Variance =$\frac{0.000102}{10}$ =0.0000102

Source: Authors' Field Survey, 2024

To calculate the risk:

$$\text{Standard Deviation (SD)} = \sqrt{0.0000102} = 0.003$$

$$\text{Coefficient of Variation (COV)} = \frac{0.003}{0.364}$$

$$= 0.008$$

The rate of return on investment in Nike Lake Resort Hotel (Abakpa Nike) is 0.364 (36.4%). The risk of investment is 0.003 (0.3%) and COV is 0.008 (0.8%). This indicates that 0.8% of risk was taken for every unit of return earned

Discussion of Findings

Table 15: Summary of Risks & Returns of Investments in three-star Hotels (2015-2024)

Name of three-star Hotel	Location	Average Capital Value (₦)	Average Net Income(₦)	Risk (%)	Return (%)	COV (%)
Bon Hotel Sunshine	Independence Layout	2,071,820,000	718,147,600	0.65	34.4	1.89.
Nue-Crest Hotel & Suites	Trans Ekulu	1,742,250,000	612,475,000	2.8	36.1	7.7
Hayatt Hotel	New Haven	1,685,050,000	604,757,000	0.6	36.6	1.7
Best Choice Hotel	GRA	1,266,480,000	615,615,000	1.5	49.4	3.0
Amazon Hotel	Ogui Road	1,317,130,000	623,863,100	3.5	48.9	7.2
Oakland Hotel	Ebeano Tunnel	1,984,300,000	574,900,000	3.2	31.1	10.2
Nike Lake Resort Hotel	Abakpa Nike	1,306,070,000	468,480,000	0.3	36.4	0.8

The study undertook a quantitative analysis of the risk-return relationship in hotel investment in Nigeria with a focus on three-star hotels in Enugu city, South East Nigeria. From the results of the study as summarized in Table 15, it can be found that capital expenditure, operating expenditure, and location had an effect on the risks and returns from investments in the seven (7) selected three-star hotels. For instance, Bon Hotel Sunshine located in Independence Layout which had the highest capital value (i.e. market value of capital expenditure) and net income (i.e. gross profit minus operating expenditure) was the fifth riskiest among the appraised investments with second to the lowest in the returns. Whereas, Best Choice Hotel located in GRA which had the lowest capital value and third highest net income was the fourth lowest risk investment with the first highest returns. Amazon Hotel located in Ogui Road which had the fifth lowest capital value and second highest net income was the riskiest investment with the second to the highest returns.

Conclusion

Investment in hotel industry is highly capital intensive and prospective investors in the sector should stick to clear pre-investment analysis of similar investment within the expected investment location for proper guide for healthier investment performance in the industry.

Recommendations

Investment in the sector is really capital intensive and investors in the industry should be conscious of making wise investment decision to avoid untimely exit and waste of capital.

Competitiveness of similar investments in such sector requires adequate knowledge of the above variables; returns,risks, operating expenditure etc for its performance and should not be neglected by the investors.

Proper pre-investment analysis should guide prospective investor for a healthier investment in the industry.

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Appendix
Below is the list of three-star hotels in Enugu city:

s/n	HOTEL	ADDRESS
1	The Hotel Properties Ltd.	Plot 108 Azu Ogbunike Crescent Independence Layout
2	Maxbe Continental Hotel	1 Nza Street Independence Layout
3	Nue-Crest Hotels and Suites	2 Ezechime Street Trans Ekulu
4	Bex Suites and Spa	4 Ishielu Street Independence Layout
5	Hayatt Hotel	5 Edward Nnaji Street New Haven
6	Gold Value Hotels	93 Upper Chime Avenue New Haven
7	Roban Hotel	11 Ukwa Street Independence Layout
8	Allen Suites	4 Lobito crescent off Nza Street Independence Layout
9	African Princess Hotel	11 Ihuokpara Close Upper Chime Avenue New Haven
10	Top Rank Hotel	1B Hillview Avenue Independence Layout
11	Nike Lake Resort Hotel	Nike Lake Road Abakpa Nike
12	Bon Hotel Sunshine	Plot 5C Presidential Road Independence Layout
13	Residency Hotel	7/8 Nawfia Street Independence Layout
14	Abig Suite	Off Bisala Road Independence Layout
15	Utopia Hotel	2 Ezeweputa Crescent off 2nd Avenue Independence Layout
16	Ozom Hotel	4 Mbaukwu Street Independence Layout
17	De Gladys Hotel	7/8 Fidelity Estate by Ebeano Tunnel
18	Villa Italian Hotel	5 Villa Italian Street Ogui Road
19	Best Choice Hotel	225/228 Golf Estate GRA
20	Nuecourts Hotel	3/5 Byron Onyema close off Chime Avenue New Haven
21	Hotel Cordial	151 Chime Avenue New Haven
22	Hotel Monte Carlo	38 Ezilo Street Independence Layout
23	Meadway luxury hotel	Plot 24 Pocket Layout Market Garden GRA
24	Cunic Suites	2/3 3rd Avenue off Damija Trans Ekulu
25	Ascot Resort and Hotel	9 Ezinifite Street New Haven
26	Grand Riviera Suites	140 Upper Chime Avenue New Haven
27	Oakland Hotel	Ebeano Tunnel Crossing Ogui Link Road Beside Elim Plaza
28	Golden Royale Hotel	10 Bisala Road Independence Layout
29	Universal Hotel	Plot 3 Aguleri Street Independence Layout
30	Sunshine Hotels & Guest	8/9 Ebeano Housing Estate behind Airtel Office

	House	
31	Caesar‟s Palace Hotel	172 Nike Lake Road Trans Ekulu
32	Dmatel Hotel and Resort	9 First Avenue off Bisala Road Independence Layout
33	Fidelma Hotel	65 Ezilo Street Independence Layout
34	Fontana Hotel	6 Nawfia Street Independence Layout
35	The Maybatch Hotel	9 Nwafor Orizu Street Independence Layout
36	Hotel Toscana	1 Aguleri Street Independence Layout
37	Amazon Hotel	16 Njamanze Street off Ogui Road
38	Aegeyi Grand Express Hotel	1 Atlantic Avenue GRA
39	Bayview Resort and Hotel	3 Ezilo Street Independence Layout
40	Jim-Eddy Suites	7/8 Paradise Layout by Ebeano Tunnel
41	Pentagon Luxury Suites	41 Market Garden by Ebeano Tunnel
42	Nondon International Hotel	2 Ituku Street Upper Chime Avenue New Haven
43	Grace Manor	2A Nnanna Atuonwu Drive Liberty Estate Ind. Layout
44	Golf Le‟Meridian Hotel	53 Chief Okeanoife Street, Golf estate
45	Eden Crest Hotel and Resort	Antrim Lane GRA off Abakaliki Road
46	Bex Suites and Spa	9 Ishielu Street Independence Layout
47	Pennyhill Suites and Resort	7 S.G. Ugwuanyi Close, Golf Estate GRA
48	Ritz-Carinion Suites	17 Nnaji Street New Haven
49	Richmond Hills Suites	Plot 48 Market Garden off Garden Avenue GRA
50	The Gate Luxury Hotel	Peacock Drive, Zoo Estate GRA