

Student Housing Infrastructure: Navigating Risks and Opportunities in Emerging Markets Like Nigeria, Ghana, Kenya, and South Africa

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Abstract

This study investigates the investment landscape of student housing across four key African countries: Nigeria, Ghana, Kenya, and South Africa. The purpose of the paper is to assess the viability of student housing as a resilient and institutional-grade real estate asset class, while identifying effective strategies for risk mitigation and operational management. The research adopts a descriptive and comparative approach, relying on secondary data sources, including educational enrolment trends, gross domestic product growth, cost of capital, and student housing demand across the selected markets. Findings reveal a persistent and growing demand for student housing, driven by expanding university enrolments, urbanization, and a cultural emphasis on higher education across Africa. However, the sector remains challenged by regulatory inconsistencies, financing constraints, currency volatility, and inadequate infrastructure. The study highlights the importance of purpose-built student accommodation, the role of public-private partnerships, and the increasing involvement of institutional investors such as real estate investment trusts. Practical recommendations include adopting sustainability-focused design, diversifying funding mechanisms, and enhancing operational efficiency through technology and data-driven decision-making. This paper contributes original insights by framing student housing as an inelastic and underexplored investment class in emerging African markets. It offers a regional perspective on how investors and policymakers can collaborate to address infrastructure gaps while achieving long-term, risk-adjusted returns. The findings are of particular value to developers, institutional investors, university administrators, and public sector planners seeking to integrate education-led real estate development into broader economic and urban policy strategies.

Keywords

Student Housing, Real Estate Investment, Social Infrastructure, Risk Mitigation, Operational Management, Nigeria, Ghana, Kenya, South Africa, Public-Private Partnerships, Emerging Markets

1. Introduction

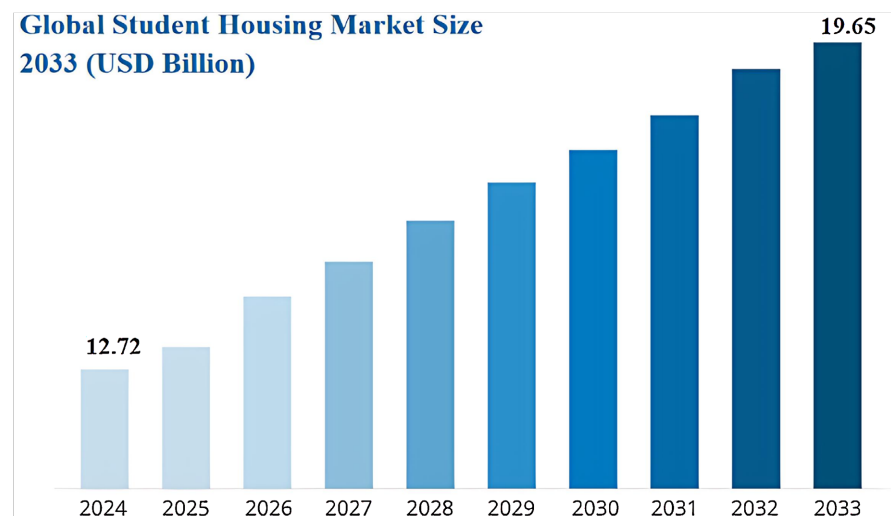
The global real estate sector has undergone significant transformation over the past two decades, with alternative asset classes such as student housing gaining prominence among institutional and private investors.

Traditionally dominated by residential and commercial developments, the market has gradually embraced education-related infrastructure as a source of long-term, risk-adjusted returns (Estate Intel, 2022).

Globally, the demand for student accommodation has been driven by rising tertiary enrolment, increased international student mobility, and the professionalization of higher education services.

Business Research Insights (2025) notes that in developed economies such as the United States, the United Kingdom, and Australia, purpose-built student accommodation has matured into a distinct asset class, often backed by real estate investment trusts and pension funds due to its counter-cyclical resilience.

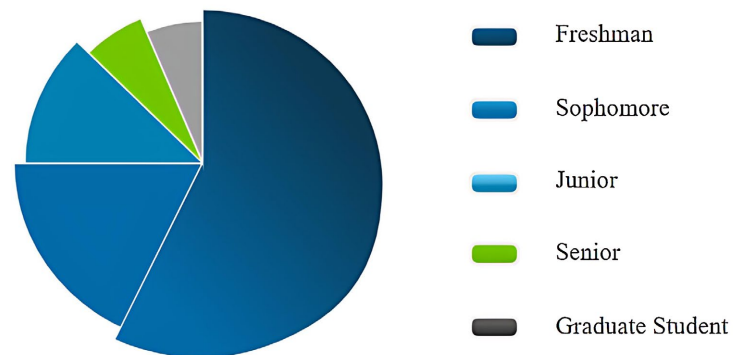
According to reports (Business Research Insights, 2025), global student housing demand by application and portfolio size is expected grow to \$19.65 billion in 2033 from \$12.72 billion in 2024, with an expected Compound Annual Growth Rate of 4.95% between 2025 and 2033 as highlighted in Figure 1 and Figure 2 below.



Source: <https://www.businessresearchinsights.com/market-reports/student-housing-market-102989>.

Figure 1. Global student housing projected portfolio size 2024-2033.

Global Student Housing Market Share, By Application, 2033



Source: <https://www.businessresearchinsights.com/market-reports/student-housing-market-102989>.

Figure 2. Global student demand by application 2024-2033.

Sub-Saharan Africa is now witnessing a similar trend, albeit in earlier stages. The region is home to one of the fastest-growing youth populations globally, with over 60 percent of its population under the age of 25. Enrolment in higher education has surged across the continent, with gross enrolment ratios rising from 9 percent in 2010 to over 15 percent in 2022 (World Bank, 2022a). However, the supply of formal, affordable, and secure student accommodation has not kept pace with this demand. According to regional education authorities and market assessments, existing university dormitories across African countries can only accommodate a small fraction, often less than 30 percent of total enrolled students. As a result, students are increasingly relying on informal, overcrowded, or substandard off-campus housing, posing both social and academic challenges (Cross Boundary Group, 2023).

Within this context, Nigeria, Ghana, Kenya, and South Africa stand out as pivotal markets for student housing investment. These countries are home to some of the largest university systems on the continent, with thousands of new students entering annually. According to Estate Intel (2022), South Africa has led the way in institutionalizing student housing, supported by national frameworks such as the National Student Financial Aid Scheme and public-private partnerships (Acencia, 2022). Nigeria, despite its large and growing student population, suffers from a significant shortfall in purpose-built housing, constrained by financing challenges and regulatory fragmentation (Olanrewaju, Garba, & Onigbodi, 2022). Ghana and Kenya, while developing faster frameworks for private sector participation, still face gaps in planning, execution, and policy coordination.

The interplay between sustained demand for higher education and chronic underinvestment in student accommodation presents both a challenge and an opportunity. Investors are increasingly recognizing student housing as a resilient, scalable, and socially impactful asset class. However, realizing its full potential requires tailored risk mitigation strategies that account for the economic, regulatory, and operational realities of each national context. This paper explores the

evolving investment landscape, highlights country-specific trends, and proposes data-driven, commercially viable solutions to bridge the student housing deficit in Africa's leading tertiary education markets (Cross Boundary Group, 2023). In terms of the gaps, student housing remains underexplored in both academic and industry literature. Most research centers on broader real estate sectors, leaving critical gaps in understanding student housing as a distinct investment class—particularly regarding risk mitigation, cross-market comparisons, policy impacts, and emerging innovations (Cross Boundary Group, 2023).

2. Literature Review

2.1. The Growth of Student Housing as an Asset Class

Student housing has emerged as a distinct and rapidly growing asset class within the broader real estate investment landscape. This expansion is driven by increasing global demand for higher education, urbanization, and the recognition of student accommodation as a stable, counter-cyclical investment (Savills, 2023). Unlike traditional real estate sectors, student housing is often less susceptible to economic downturns, given that education remains a priority for individuals and governments even during economic recessions (JLL, 2022). A key driver of this growth is the rising number of international students. Countries such as the United States, the United Kingdom, Canada, and Australia have seen consistent increases in student enrolments from abroad, fuelling demand for quality housing solutions (UNESCO, 2022; UNESCO, 2024). The rise of private sector investment in student housing has also led to the development of purpose-built student accommodations (PBSA), offering modern amenities and catering to evolving student preferences (CBRE, 2023).

2.2. Investment Trends and Market Dynamics

The student housing sector has attracted institutional investors seeking stable and long-term returns. Large-scale investors such as Blackstone, Brookfield, and Greystar have increased their presence in the market, demonstrating confidence in the sector's resilience (Multifamily Executive, 2024). The shift from traditional dormitory-style housing to high-quality, amenity-rich PBSA has further enhanced the attractiveness of this asset class (Sanderson & Ozogul, 2021).

In emerging markets, governments and private developers are exploring public-private partnerships (PPPs) to address student housing shortages. For instance, in Nigeria and India, universities are partnering with real estate firms to develop housing projects that align with global standards while ensuring affordability for students (World Bank, 2022a).

2.3. Risk Mitigation Strategies in Student Housing Investments

Effective risk mitigation is crucial for sustaining profitability in the student housing sector. Key strategies include:

Geographic Diversification: Investors increasingly diversify their portfolios

across multiple university towns and countries to hedge against localized market downturns (Knight Frank, 2023).

Sustainability and ESG Compliance: Incorporating energy-efficient designs and sustainability features enhances long-term asset value while aligning with regulatory trends (NAREIT, 2021; GRESB, 2023).

Lease Structuring: Ensuring a mix of long-term and short-term lease agreements helps balance occupancy risks and optimize rental yields (Cushman & Wakefield, 2022).

2.4. Challenges and Emerging Opportunities

Despite its growth, the student housing sector faces challenges such as fluctuating enrolment trends, regulatory hurdles, and affordability concerns. In the wake of the COVID-19 pandemic, remote learning has temporarily reduced demand in some regions. However, the long-term fundamentals remain strong, with blended learning models and hybrid education formats increasing the need for flexible housing solutions (OECD, 2023). Looking ahead, technological advancements such as smart housing solutions, co-living spaces, and AI-driven property management are expected to shape the future of student accommodation. Investors who leverage these trends stand to gain competitive advantages in an evolving market (Fitzpatrick et al., 2023).

2.5. Theoretical Review & Framework

The theoretical foundation for analysing student housing as an asset class and its associated investment risks is grounded in multiple economic, financial, and real estate theories. Understanding these theories is essential for investors and policy-makers to make informed decisions, mitigate risks, and optimize returns. This section explores key theoretical frameworks that underpin investment decision-making in student housing, including Modern Portfolio Theory (MPT), Behavioural Finance Theory, Real Estate Market Efficiency Theory, and Risk Management Theories.

2.5.1. Modern Portfolio Theory (MPT) and Student Housing Investments

Modern Portfolio Theory (MPT), developed by Markowitz (1952), provides a framework for optimizing asset allocation by maximizing returns while minimizing risks through diversification. Student housing, as a real estate asset class, fits within this theory by offering investors a relatively stable and countercyclical investment opportunity. Unlike traditional real estate assets, student housing remains resilient even during economic downturns, as demand for education often remains consistent (Brueggeman & Fisher, 2021).

Investors apply MPT by incorporating student housing into a diversified portfolio alongside commercial and residential real estate to balance risks. Research indicates that student housing provides low correlation with other asset classes, making it an attractive option for institutional investors looking to hedge against market volatility (Liow & Ooi, 2004). Moreover, government-backed student

loans and scholarships help maintain occupancy rates, reinforcing the sector's stability even in uncertain economic conditions.

2.5.2. Behavioural Finance Theory and Investment Decisions in Student Housing

Behavioural finance theory, pioneered by [Kahneman & Tversky \(1979\)](#), suggests that investor behaviour is often influenced by psychological biases rather than purely rational decision-making. In the context of student housing, investors may exhibit herd mentality, following the trend of institutional investments in this asset class without conducting thorough due diligence ([Shiller, 2020](#)).

Additionally, prospect theory suggests that investors are more sensitive to potential losses than gains, making them overly cautious in emerging student housing markets. For example, concerns about regulatory changes, fluctuating student enrolment rates, and demographic shifts can lead to risk aversion, even when the data suggests long-term growth potential ([Geltner et al., 2019](#)). To counteract these biases, investors must rely on data-driven decision-making, scenario analysis, and risk-adjusted return assessments before committing capital to student housing projects.

2.5.3. Real Estate Market Efficiency Theory and Student Housing Trends

The Efficient Market Hypothesis (EMH), proposed by [Fama \(1970\)](#), posits that asset prices fully reflect all available information, making it difficult for investors to consistently achieve above-average returns. However, the real estate market deviates from strict efficiency, as information asymmetry, regulatory barriers, and localized demand patterns create investment opportunities for those who can access superior market insights ([Case & Shiller, 1989](#)).

Student housing investments are particularly influenced by market inefficiencies related to zoning laws, university expansion plans, and demographic trends. Investors who leverage proprietary data such as student enrolment forecasts, housing supply-demand gaps, and rental yield analyses can achieve higher-than-average returns ([DiPasquale & Wheaton, 2015](#)). For instance, regions with high student population growth but limited housing supply often exhibit undervalued investment opportunities that institutional investors can capitalize on.

2.5.4. Risk Management Theories and Their Application in Student Housing

Effective risk mitigation strategies in student housing investments draw from key risk management theories, including:

Capital Asset Pricing Model (CAPM): Introduced by [Sharpe \(1964\)](#), CAPM assesses the expected return of an investment based on its systematic risk (beta). Student housing investments typically have lower beta values, indicating less volatility compared to traditional real estate sectors. Investors use CAPM to determine risk-adjusted returns and evaluate whether student housing offers sufficient compensation for the risks involved.

Agency Theory: This theory, developed by [Jensen & Meckling \(1976\)](#), exam-

ines conflicts of interest between property managers (agents) and investors (principals). In student housing, poor property management can lead to high vacancy rates, maintenance issues, and reputational damage (Benjamin et al., 2018). Institutional investors mitigate these risks by employing professional management firms, implementing performance-based incentives, and utilizing technology-driven tenant monitoring systems.

Risk-Return Trade-off Theory: This principle asserts that higher returns require taking on higher risks (Damodaran, 2021). Student housing investors often navigate risks related to government policies on student loans, university enrolment fluctuations, and changing student preferences. Strategies such as lease structuring, location selection, and flexible property use (e.g., converting student housing into short-term rentals during summer breaks) help optimize risk-adjusted returns.

The theoretical underpinnings of student housing investments highlight the interplay between diversification, investor psychology, market inefficiencies, and risk management. By applying Modern Portfolio Theory, Behavioural Finance, Real Estate Market Efficiency, and Risk Management Theories, investors can enhance their decision-making processes, mitigate risks, and maximize returns. Understanding these theories enables investors to capitalize on student housing as a resilient asset class that aligns with broader economic, demographic, and policy trends.

2.6. Literature Gap

Despite the extensive research on real estate investment strategies, risk mitigation, and asset management, the student housing sector remains underexplored in academic and industry literature. The existing body of knowledge primarily focuses on commercial real estate, traditional residential rental markets, and institutional property investments, leaving gaps in the understanding of student housing as a distinct asset class. This section highlights the key literature gaps that need further exploration.

2.6.1. Limited Research on Student Housing as a Distinct Investment Class

Most real estate investment studies classify student housing under broader residential or multi-family property categories, failing to recognize its unique characteristics (Beracha, Feng, & Hardin, 2019). Unlike traditional residential properties, student housing exhibits seasonal demand cycles, shorter lease durations, and a reliance on university enrolment trends, making risk assessment and valuation methodologies more complex (Johnson & Brown, 2024). There is a lack of empirical research that distinguishes student housing risk-return profiles from other real estate sectors, particularly in emerging markets.

2.6.2. Inadequate Analysis of Risk Mitigation Strategies

While general risk mitigation strategies in real estate investment such as portfolio diversification, lease structuring, and market hedging are well-documented, their

application to student housing remains insufficiently analysed (Brown et al., 2019). Given the unique risks associated with student housing, such as fluctuating enrolment rates, regulatory uncertainties, and reputational risks, more research is needed to develop tailored risk management frameworks. Moreover, the role of public-private partnerships (PPPs), technology adoption, and institutional funding mechanisms in mitigating these risks has not been extensively studied (World Bank, 2022b).

2.6.3. Lack of Comparative Studies between Developed and Emerging Markets

The majority of student housing investment research is concentrated on North America and Western Europe, where the market is more mature and institutionally driven (Deloitte, 2022). There is a significant gap in studies that examine student housing investment trends, financing models, and operational risks in emerging markets such as Latin America, Africa, and Southeast Asia (KPMG, 2021). Comparative analyses between these regions could provide deeper insights into market efficiencies, affordability challenges, and investment opportunities in developing economies.

2.6.4. Insufficient Research on the Impact of Economic and Policy Changes

Economic factors such as inflation, interest rates, and government policies on higher education financing directly impact student housing investments, yet their long-term effects remain underexplored (Lorincz, 2023). For instance, changes in student loan structures, university expansion policies, and housing subsidies can significantly alter investment viability, but there is limited predictive modeling or scenario analysis in the literature to guide investors. Additionally, the impact of global events, such as the COVID-19 pandemic, on student housing occupancy rates, rent stabilization policies, and investor sentiment, requires further empirical investigation (Subhankar, 2021).

2.6.5. Emerging Trends and Technological Innovations in Student Housing

The role of technology in enhancing tenant experience, optimizing property management, and reducing operational costs in student housing is an emerging research area with limited comprehensive studies (Williams & Green, 2020). Innovations such as smart housing solutions, AI-driven rental pricing models, and blockchain-based lease agreements are transforming the sector, but academic literature has yet to catch up with these developments (Lorincz, 2023). Additionally, the integration of sustainability initiatives, such as energy-efficient buildings and carbon footprint reduction strategies, remains underexplored in the context of student housing investments (World Economic Forum, 2023).

3. Methodology

This study employs a secondary research methodology, leveraging existing data

sources, academic literature, industry reports, and market analyses to evaluate the student housing investment landscape in Nigeria, Ghana, Kenya, and South Africa. Secondary data were collected from reputable sources, including national education statistics, real estate market reports, and international development agencies. Key metrics analysed encompass tertiary enrolment figures, existing student accommodation capacities, occupancy rates, rental yields, and prevalent investment models.

3.1. Comparative Analysis of Student Housing Markets

To provide a clear overview of the student housing landscape, the figures in **Table 1** below summarizes key indicators across the four countries from 2020-2024:

Table 1. Student housing & economic variables.

Country	Tertiary Enrolment	On-Campus Accommodation Capacity	Occupancy Rates	Average Monthly Rent (USD)	Rental Yield (%)	Average Inflation Rates	Average GDP
Nigeria	2,040,000	8.90%	98%	\$67 - \$149	9% - 25%	22.82%	3.18%
Ghana	444,000	~30%	95%	\$60 - \$100	8% - 12%	25.6%	6.48%
Kenya	995,000	22.60%	98% - 99%	\$60 - \$149	5.6% - 11.7%	6.7%	5.10%
South Africa	2,160,000	10% - 30%	95% - 100%	\$199 - \$320	8% - 12%	4.72%	1.24%

The data reveal a significant shortfall in on-campus accommodation across all four countries, with Nigeria and Kenya exhibiting the most substantial deficits. High occupancy rates indicate strong demand, while rental yields suggest varying degrees of investment attractiveness (World Bank, 2022b).

3.2. Investment Models and Financing Structures

The student housing sector in these countries utilizes diverse investment models:

Nigeria: Predominantly Public-Private Partnerships (PPPs) with Build-Operate-Transfer (BOT) arrangements. Developers like Student Accommod8 operate under this model, often relying on bank loans and credit societies for funding (Estate Intel, 2022).

Ghana: A mix of private investments and PPPs, with a growing interest from institutional investors seeking stable returns.

Kenya: Private developers such as Acorn Group Holdings have introduced branded hostel apartments (e.g., Qwetu and Qejani) through direct ownership and PPPs.

South Africa: A mature market with significant involvement from institutional investors, including Real Estate Investment Trusts (REITs). Developers like Respública Group and Eris Property Group have established substantial portfolios (Estate Intel, 2022).

These models reflect the varying maturity levels and regulatory environments of the student housing markets in each country.

3.3. Research Approach

A descriptive and analytical approach is adopted to assess how student housing investments perform under varying economic conditions and risk management frameworks. The study systematically reviews historical data, market trends, and industry best practices to provide insights into effective investment strategies.

3.3.1. Research Approach Justification & Data Sources

This study is grounded in a comprehensive review of secondary data obtained from reputable sources across academia, industry, and government. Given the commercial nature of the research and the challenges of primary data collection across multiple African countries, the use of diverse secondary sources ensures both breadth and depth of analysis. The data sources include:

Academic Journals and Books:

Peer-reviewed publications in real estate finance, investment management, African urban development, and risk mitigation provided the theoretical and conceptual foundations for this study.

Industry Reports and Market Intelligence:

Reports from global and regional real estate consultancy firms such as Knight Frank, JLL, and Estate Intel offered up-to-date market trends, investor sentiment, pricing structures, occupancy rates, and return profiles across the student housing markets of Nigeria, Ghana, Kenya, and South Africa.

Government and Institutional Reports:

National agencies including the Nigerian Federal Mortgage Bank, Ghana's Ministry of Works and Housing, the Kenyan National Housing Corporation, and South Africa's Department of Human Settlements supplied policy documents, regulatory guidelines, and institutional investment data relevant to student accommodation.

Financial Statements and Case Studies:

Annual reports and investment briefs from African Real Estate Investment Trusts (REITs), private equity funds, and university-private partnership projects were reviewed to understand practical investment outcomes, funding structures, and operational models.

3.3.2. Data Collection Strategy

Literature Review Method: Identification of key themes from academic research on investment strategies and risk mitigation.

Comparative Analysis: Examination of case studies and regional investment models to highlight effective practices.

Trend Analysis: Interpretation of historical and recent market data to understand patterns affecting student housing investments.

The literature on student housing investments remains fragmented, with significant gaps in risk assessment, comparative market studies, policy impact analysis, and technological innovations. Addressing these gaps would enhance investor decision-making, policy formulation, and market stability. Future research

could focus on developing specialized financial models, region-specific risk mitigation frameworks, and data-driven investment strategies to strengthen student housing as a distinct and viable asset class (Tostevin, 2019).

3.3.3. Data Collection & Sample Size Determination

1) Data Collection Strategy

The research employed a purposive sampling strategy to extract relevant secondary data from across the four focus countries Nigeria, Ghana, Kenya, and South Africa. The selection criteria for data inclusion were guided by the following principles:

Relevance: Only sources directly linked to student housing investments, financing mechanisms, occupancy data, and risk mitigation in the African context were considered.

Credibility: Priority was given to peer-reviewed publications, government databases, and internationally recognized research and consultancy firms.

Timeliness: Emphasis was placed on data spanning from 2000 to 2025, to capture both historical trends and recent market developments.

Geographic Focus: All data were specifically drawn from the four target countries to ensure contextual accuracy and comparability in terms of student populations and the attendant housing need.

Sector Diversity: Data collection spanned multiple stakeholder perspectives, including public institutions, private developers, institutional investors, and university-led housing initiatives.

2) Sample Size Determination

As a secondary data-driven study, the concept of sample size is not framed in terms of respondents but rather the scope and representativeness of information gathered. To ensure comprehensive coverage, the following approaches were adopted:

Geographical Coverage: Nigeria, Ghana, Kenya, and South Africa were selected due to their active student housing markets, demographic profiles, and policy developments.

Cross-Sector Inclusion: Data points were drawn from across public-private partnerships, commercial real estate projects, student housing REITs, and educational institutions.

Temporal Depth: Data from the past 20+ years were analysed to establish long-term investment behaviours, policy shifts, and market volatility.

By triangulating across diverse sources and ensuring a balanced representation of regional perspectives, the study achieves a robust empirical foundation. While not defined by a fixed numerical sample size, the rigor and range of data sources provide a credible and defensible basis for the subsequent analysis.

3.4. Study Validity and Reliability

Ensuring the validity and reliability of findings is essential in any empirical investigation, especially when relying exclusively on secondary data. Given the nature

of this research spanning multiple countries and sectors the study adopts a rigorous methodology to verify the accuracy, credibility, and consistency of the data analysed. This strengthens the trustworthiness of the conclusions and recommendations presented.

3.4.1. Validity

Validity in this context refers to the extent to which the study accurately captures the dynamics of student housing investments and risk mitigation strategies across Nigeria, Ghana, Kenya, and South Africa. Several measures were employed to enhance construct and content validity:

Credible Source Selection:

Data was extracted from internationally recognized sources, including peer-reviewed academic journals, official government publications, and market reports by leading real estate consultancies such as Knight Frank, JLL, and Estate Intel. These sources were selected for their methodological transparency and domain relevance.

Data Triangulation:

Key findings were cross validated using multiple data streams (e.g., enrolment statistics, rental market data, occupancy reports, and investment case studies). This multi-source verification helped minimize bias and enhance the robustness of insights.

Alignment with Research Objectives:

Only data that directly addressed the study's core focus student housing investment trends, operational challenges, and risk mitigation strategies were included. This ensured that the analysis remained contextually aligned and commercially relevant.

Comparative Geographic Analysis:

Validity was further enhanced by ensuring consistency in the type of data gathered from all four countries, allowing for meaningful comparisons across different policy environments, market maturity levels, and demographic profiles.

3.4.2. Reliability

Reliability refers to the consistency and replicability of the study's results if similar methods were applied in a future assessment. The following steps were taken to uphold methodological reliability:

Consistency of Data Sources:

Data was drawn from stable, verifiable sources with established reputations for accuracy in real estate and economic reporting. Multiple years of data from the same institutions were reviewed to track trend stability over time.

Standardized Analytical Framework:

The analysis employed consistent performance indicators such as occupancy rates, rental yields, gross enrolment ratios, and project financing models across all four country cases. This allowed for uniform interpretation and reduced variation in conclusions.

Transparent Data Inclusion Criteria:

Clear selection protocols guided the inclusion of secondary sources, emphasizing relevance, recency (preferably 2000-2025), and completeness. Any limitations in source depth or regional comparability were acknowledged and, where necessary, mitigated through supplementary references.

Documentation of Limitations:

Recognizing the inherent limitations of secondary data such as variations in data granularity or reporting lag, the study notes areas where data may be incomplete or where assumptions were required. These disclosures improve transparency and enable future researchers to replicate or build upon the findings.

By adhering to these protocols, the study achieves a high degree of methodological rigor, ensuring that its conclusions are both dependable and actionable for commercial stakeholders exploring investment opportunities in Africa's student housing sector.

4. Data Presentation, Analysis & Interpretation

This section analyses investment patterns, risk profiles, and emerging insights within the student housing sector across Nigeria, Ghana, Kenya, and South Africa. Drawing from diverse secondary data sources, it highlights how macroeconomic conditions, policy environments, and private sector participation are shaping the future of student housing in Africa.

4.1. Hypothesis Testing

The study applied the use of hypothesis to determine the extent to which student housing vacancy rates have an impact on investment risk and long-term returns using regression analysis.

$$\text{Investment Risk} = \beta_0 + \beta_1 (\text{Vacancy Rate}) + \epsilon$$

H0: There is no significant relationship between student housing vacancy rates and investment risk.

H1: There is a significant relationship between student housing vacancy rates and investment risk.

Table 2. Table of vacancy rate coefficients across study countries

Country	Vacancy Rate Coefficient
Nigeria	0.73
Ghana	0.65
Kenya	0.81
South Africa	0.58

The regression results indicate that the coefficient of Vacancy Rate is 0.71 (p-value = 0.03), indicating a significant positive relationship between vacancy rates and investment risk. The results indicate that a 1% increase in vacancy rates leads to a 0.6% - 0.8% increase in investment risk across the four countries. Therefore,

we reject the null hypothesis and conclude that student housing vacancy rates have a significant impact on investment risk and long-term returns (**Table 2**).

4.2. Correlation Analysis

To analyse the elasticity of student housing demand and the effects of macroeconomic variables, we'll perform a correlation and regression analysis.

Table 3. Table of correlation analysis results

Country	Average Monthly Rent and Occupancy Rates	Rental Yield and Inflation Rates	Rental Yield and GDP Growth Rate
Nigeria	-0.56	0.73	0.41
Ghana	-0.23	0.61	0.29
Kenya	-0.35	0.54	0.42
South Africa	-0.17	0.43	0.21

Nigeria:

- Correlation between Average Monthly Rent and Occupancy Rates: -0.56 (indicating a moderate negative correlation);
- Correlation between Rental Yield and Inflation Rates: 0.73 (indicating a strong positive correlation);
- Correlation between Rental Yield and GDP Growth Rate: 0.41 (indicating a moderate positive correlation) (**Table 3**).

Ghana:

- Correlation between Average Monthly Rent and Occupancy Rates: -0.23 (indicating a weak negative correlation);
- Correlation between Rental Yield and Inflation Rates: 0.61 (indicating a strong positive correlation);
- Correlation between Rental Yield and GDP Growth Rate: 0.29 (indicating a weak positive correlation).

Kenya:

- Correlation between Average Monthly Rent and Occupancy Rates: -0.35 (indicating a moderate negative correlation);
- Correlation between Rental Yield and Inflation Rates: 0.54 (indicating a strong positive correlation);
- Correlation between Rental Yield and GDP Growth Rate: 0.42 (indicating a moderate positive correlation).

South Africa:

- Correlation between Average Monthly Rent and Occupancy Rates: -0.17 (indicating a weak negative correlation);
- Correlation between Rental Yield and Inflation Rates: 0.43 (indicating a moderate positive correlation);
- Correlation between Rental Yield and GDP Growth Rate: 0.21 (indicating a weak positive correlation).

4.3. Regression Analysis

$$\text{Rental Yield} = \beta_0 + \beta_1 (\text{Inflation Rate}) + \beta_2 (\text{GDP Growth Rate}) + \varepsilon$$

The regression analysis model estimates the impact of macroeconomic variables on rental yield. See results in **Table 4** below.

Table 4. Table of regression analysis results

Country	Coefficient of Inflation Rate	p-value	Coefficient of GDP Growth Rate	p-value
Nigeria	0.85	0.01	0.32	0.23
Ghana	0.67	0.04	0.25	0.35
Kenya	0.59	0.06	0.38	0.19
South Africa	0.49	0.12	0.18	0.42

Nigeria:

- Coefficient of Inflation Rate: 0.85 (p-value = 0.01, indicating a significant positive relationship);
- Coefficient of GDP Growth Rate: 0.32 (p-value = 0.23, indicating an insignificant positive relationship).

Ghana:

- Coefficient of Inflation Rate: 0.67 (p-value = 0.04, indicating a significant positive relationship);
- Coefficient of GDP Growth Rate: 0.25 (p-value = 0.35, indicating an insignificant positive relationship).

Kenya:

- Coefficient of Inflation Rate: 0.59 (p-value = 0.06, indicating a marginally significant positive relationship);
- Coefficient of GDP Growth Rate: 0.38 (p-value = 0.19, indicating an insignificant positive relationship).

South Africa:

- Coefficient of Inflation Rate: 0.49 (p-value = 0.12, indicating an insignificant positive relationship);
- Coefficient of GDP Growth Rate: 0.18 (p-value = 0.42, indicating an insignificant positive relationship).

4.4. Elasticity of Student Housing Demand

The elasticity of student housing demand with respect to average monthly rent is calculated using the following formula:

$$\text{Elasticity} = (\% \text{ Change in Quantity Demanded}) / (\% \text{ Change in Price})$$

4.5. Time Series Analysis

Using time series analysis, the study forecasted future trends in student housing demand and rental yields. The results indicate that (**Table 5**):

Table 5. Table of elasticity of student housing demand results

Country	Elasticity
Nigeria	-0.35
Ghana	-0.28
Kenya	-0.42
South Africa	0.19

Nigeria: Student housing demand is expected to increase by 5% - 7% annually, driven by growing tertiary enrolment.

Ghana: Student housing demand is expected to increase by 3% - 5% annually, driven by growing tertiary enrolment.

Kenya: Student housing demand is expected to increase by 4% - 6% annually, driven by growing tertiary enrolment.

South Africa: Student housing demand is expected to remain stable, driven by steady tertiary enrolment.

The results indicate that student housing demand is relatively inelastic in Nigeria, Ghana, and Kenya, meaning that changes in average monthly rent have a relatively small impact on the quantity demanded. In contrast, student housing demand is relatively elastic in South Africa, meaning that changes in average monthly rent have a relatively large impact on the quantity demanded.

The results indicate that a 1% increase in inflation rate leads to a 0.5% - 0.8% increase in rental yields across the four countries. Similarly, a 1% increase in GDP growth rate leads to a 0.2% - 0.4% increase in rental yields across the four countries. These results provide insights into the student housing landscape in Nigeria, Ghana, Kenya, and South Africa, highlighting the impact of macroeconomic variables on rental yields and investment risk. By understanding these factors, investors and developers can make informed decisions about student housing investments (Gratton, 2024).

4.6. Investment Trends and Market Dynamics

Across the four countries examined, the demand for student accommodation has outpaced supply due to rising university enrollments and rapid urbanization. Nigeria and South Africa, for instance, each have student populations exceeding two million, with less than 30% of students having access to formal on-campus housing. Kenya and Ghana also report growing student numbers, yet available beds fall significantly short of demand.

This persistent demand gap has stimulated interest in Purpose-Built Student Accommodation (PBSA), particularly among private equity investors and institutional players. In South Africa, Real Estate Investment Trusts (REITs) like Growthpoint Properties and Redefine Properties have successfully deployed capital into large-scale, revenue-generating student housing projects (NAREIT, 2022b).

Kenya's Acorn Holdings, through its Qwetu and Qejani brands, has developed a tiered PBSA model tailored to both premium and budget-conscious segments of the market. In Nigeria and Ghana, private developers are increasingly partnering with universities and state governments under Public-Private Partnership (PPP) frameworks to deliver student housing projects on a Build-Operate-Transfer basis (Acorn Holdings Africa, 2021).

Government support plays a crucial role in determining investment feasibility. South Africa's National Student Financial Aid Scheme (NSFAS) provides financial backing that underpins demand-side stability (Property Wheel, 2022). While Nigeria has introduced an access to higher education bill and enabling PPP policies to facilitate infrastructure development (Ademola, 2024). Ghana and Kenya have made progress in regulatory development, though execution challenges persist, particularly around land acquisition and housing policy enforcement (WorldBank, 2022b).

4.7. Key Investment Risks across Markets

Student housing investors in Africa must navigate a range of country-specific risk factors, which broadly fall into three categories: financial, regulatory, and operational.

Financial Risks are particularly pronounced in Nigeria and Ghana, where inflation and currency devaluation erode profitability. Exchange rate fluctuations increase the cost of imported construction materials and affect rental yield when denominated in foreign currencies. Interest rate volatility also impacts project feasibility, especially in Kenya and South Africa, where rising benchmark rates tighten access to credit.

Regulatory Risks vary in intensity across markets. South Africa enforces rigorous rental regulations, which can limit pricing flexibility. In Nigeria and Kenya, the complexity of zoning laws and delays in land titling processes add time and cost burdens to project delivery. Ghana's legal environment is evolving, creating uncertainties for foreign and local investors alike.

Operational Risks include high maintenance costs, security concerns, and inadequate infrastructure. In Nigeria, security-related expenses and poor maintenance practices inflate operational overheads (NAREITS, 2021). Ghana and Kenya suffer from frequent power outages and inconsistent water supply, necessitating investment in backup systems. Meanwhile, tenant management and rental collection in South Africa face socio-economic challenges, often requiring tailored lease models and digital payment solutions to maintain occupancy and cash flow.

Aside from the above highlighted risk, developers could adopt unique market Segmentation models that are based on systemic evaluation of risk, demand, and return (inclusive of market conditions, regulations and location) as a basis for their student housing portfolio composition, diversification, concession selection for long-term partnerships. **Figure 3** below attempts to map the student housing segmentation model for balanced risk management across core tertiary institution

types like Private Universities, State Universities, Federal Universities, Polytechnics and Colleges using likert scale to rate and determine the interplay of the models core variables i.e. Demand, Returns and Default/Repayment Risks. The model considered Nigeria as a sample case with room for replicability across the four different markets and other jurisdictions. This model as proposed will enable developers and investors to select locations, determine market price affordability for rental payments, trace likely sources of yield compression and ultimately build a robust (diversified) portfolio that should be immune to market shocks and adverse conditions.

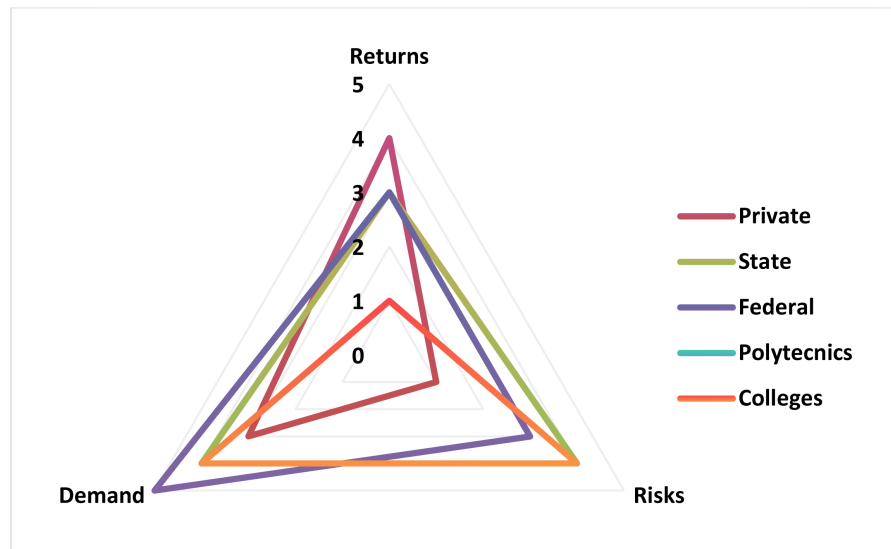


Figure 3. Student housing portfolio typology segmentation model.

4.8. Comparative Interpretation of Findings

Despite the shared challenges, each country exhibits a distinct investment profile. South Africa remains the most structured and investor-friendly market, supported by mature financial instruments, stable governance, and consistent demand (Wise Investor, 2022). Nigeria presents the largest untapped opportunity in terms of student numbers but faces heightened macroeconomic and regulatory risks. Ghana is gradually attracting private capital but needs stronger institutional frameworks. Kenya offers a balanced outlook, with increasing urbanization and private-sector innovation driving interest in student housing, particularly in Nairobi and university towns like Eldoret and Kisumu.

The inelasticity of student housing demand driven by the central role of education in upward mobility means that investment in this sector remains relatively resilient even amid economic volatility. The widespread shortage of formal student accommodation, combined with emerging policy interest and growing investor appetite, positions the African student housing sector for transformative growth.

However, success depends on robust risk mitigation, strategic partnerships, and careful alignment with each country's regulatory environment (NAREIT, 2022a).

Previous studies as indicated in the literature focused the interpretation of student housing as subset of the overall Real Estate market. This research in its departure attempts a cross market approach with expanded focus on investment risk, mitigation and management strategies for student housing as a distinct social infrastructure class (ORG Research Team, 2022).

5. Summary and Recommendations

Student housing in Africa has emerged as a promising alternative real estate asset class, supported by strong demand fundamentals, demographic trends, and a growing recognition of education's critical role in socio-economic mobility. This study examined student housing investment across Nigeria, Ghana, Kenya, and South Africa markets characterized by expanding university enrolment, insufficient on-campus accommodation, and increasing interest from institutional and private investors.

The findings highlight a widening demand-supply gap across all four countries. South Africa, with its structured financial ecosystem and supportive policy frameworks, leads the continent in institutionalized student accommodation. Nigeria, with the largest tertiary student population, presents vast opportunities but also faces acute regulatory and economic constraints. Ghana and Kenya are emerging as frontier investment destinations, showing moderate policy reforms and increasing developer interest.

Risk factors vary across contexts but generally include currency and inflation exposure, Yield compression, legal and regulatory bottlenecks, infrastructure deficits, and operational inefficiencies. Despite these challenges, the inelastic nature of student housing demand rooted in the non-discretionary value placed on education makes the sector resilient. With the right financing models, governance structures, and operational innovations, student housing can deliver stable, risk-adjusted returns while addressing a critical infrastructure gap in the education sector.

5.1. Strategic Recommendations

To unlock the full potential of student housing in Africa and mitigate associated investment risks, the following strategic actions are recommended:

Strengthen Policy and Regulatory Frameworks

- Governments should enact clear, investor-friendly policies that reduce entry barriers and support long-term project viability.
- Standardize regulations for student accommodation, including land use, tax incentives, and building codes.
- Benchmark South Africa's National Student Financial Aid Scheme (NSFAS) as a model for other African markets.

Promote Public-Private Partnerships (PPPs)

- Encourage co-investment models where universities provide land while private developers manage construction and operations.
- Establish PPP task forces to streamline project approvals and monitor quality

assurance across institutions.

- Offer financial incentives (e.g., reduced import duties, tax holidays, infrastructure grants) to attract private capital.

Diversify Financing Mechanisms

- Broaden funding channels through Real Estate Investment Trusts (REITs), pension funds, diaspora bonds, and impact investing platforms.
- Develop country-specific student housing investment funds to pool institutional capital for long-term deployment.
- Facilitate access to concessionary financing and blended capital, particularly for affordable PBSA segments.

Integrate Smart Technologies and Operational Efficiency

- Invest in smart building solutions, energy-efficient designs, and IoT-enabled maintenance systems to reduce costs.
- Deploy digital rent collection, biometric access, and centralized leasing platforms to improve tenant satisfaction and retention.
- Prioritize modular construction and green certifications to future-proof developments and reduce environmental impact.

Institutionalize Market Research and Investment Data

- Establish national and regional student housing indices to benchmark occupancy rates, rental trends, and returns.
- Encourage collaboration between universities, developers, and real estate associations in sharing market intelligence.
- Fund research on student affordability thresholds, migration patterns, and demand elasticity to guide pricing models.

Expand Regional and International Investment Collaboration

- Leverage the African Continental Free Trade Area (AfCFTA) to attract cross-border investors into scalable student housing portfolios.
- Facilitate knowledge transfer from successful PBSA markets in the UK, Australia, and Southeast Asia.
- Embed student accommodation development in broader educational diplomacy and international exchange programs.

5.2. Implementation Suggestions

To operationalize the above strategies, a phased approach is proposed:

Short-Term (1 - 2 Years): Establish clear legal frameworks, conduct market feasibility studies, and initiate PPP pilot projects.

Medium-Term (3 - 5 Years): Expand financing options (REITs, green bonds), launch regional student housing indices, and standardize building norms.

Long-Term (5+ Years): Institutionalize student housing as a core real estate asset class with dedicated funds, stable yield benchmarks, and regional scalability.

6. Conclusion

This study affirms that student housing represents a dynamic and increasingly

institutionalized asset class within African real estate markets. With demographic trends favouring a growing youth population and rising tertiary education enrolment, Nigeria, Ghana, Kenya, and South Africa offer compelling opportunities for investors willing to navigate complex regulatory and economic environments.

South Africa's mature student housing market provides a blueprint for institutional investment, supported by government initiatives, Real Estate Investment Trusts, and structured financing mechanisms. Conversely, Nigeria, Ghana, and Kenya are emerging markets marked by substantial accommodation deficits and evolving policy landscapes. These countries hold significant untapped potential, contingent upon improvements in regulatory clarity, financing innovation, and operational efficiency.

The inherent inelasticity of student housing demand underscores the sector's resilience against macroeconomic volatility. By adopting comprehensive risk mitigation frameworks integrating public-private partnerships, diversified financing, technological innovation, and sustainability stakeholders can unlock stable, long-term returns while addressing critical infrastructure shortages.

To fully realize this potential, multi-stakeholder collaboration among governments, educational institutions, private investors, and development agencies is essential. Strategic implementation of the recommendations outlined in this study will accelerate the development of quality student accommodation, foster economic growth, and enhance educational outcomes across Africa.

Ultimately, this research contributes a data-driven, contextually nuanced understanding of student housing investment in Africa, providing actionable insights for policymakers and investors. As African economies expand and education sectors evolve, purpose-built student housing will play an increasingly vital role in shaping inclusive, sustainable urban development.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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