Published: 8th August 2026

INTERNATIONAL JOURNAL OF REAL ESTATE

IJRE

ISSN: 2476-8073

AN ASSESSMENT OF THE FINANCIAL FEASIBILITY AND VIABILITY OF SHOPPING MALL DEVELOPMENT IN KUBWA, ABUJA

Chinaza Henry Obineme[1], Abu Usman[2], Miracle Chisom Udegbunam[3]

[1,2,3]Department of Estate Management, Faculty of Environmental Sciences, Nnamdi Azikiwe University, Awka Anambra State, Nigeria

*Corresponding Author: **u.abu@pg.unizik.edu.ng**

DOI: https://doi.org/10.5281/zenodo.21846457

Abstract

Rapid urbanisation and expanding commercial activities in Kubwa, Abuja, have intensified demand for modern retail facilities, yet the area remains underserved by purpose-built shopping malls. This study assessed the financial feasibility and viability of developing a shopping mall in Kubwa using established real estate investment appraisal techniques. A descriptive case study design incorporating quantitative and qualitative approaches was adopted. Primary data were collected from 120 respondents comprising estate surveyors and valuers, property developers, retail business owners, commercial property managers, and residents, while secondary data were obtained from published literature and market reports. Descriptive statistics, Discounted Cash Flow (DCF), Net Present Value (NPV), Internal Rate of Return (IRR), Benefit-Cost Ratio (BCR), and sensitivity analysis were employed. The findings indicate strong market demand, with 78.3% of respondents expressing a high need for a modern shopping mall and 77.5% indicating willingness to patronise the proposed development. The project requires an estimated investment of ₦10.00 billion. The Investment is projected to generate annual revenue of ₦2.30 billion and net operating income of ₦1.20 billion in the first year respectively. Financial appraisal produced a positive NPV of ₦2.203 billion, an IRR of 13.74%, and a BCR of 1.22, confirming financial viability under base-case assumptions. Sensitivity analysis identified rental income, development cost, and financing cost as the principal determinants of investment performance. The study provides empirical evidence to support commercial real estate investment and urban retail planning in rapidly urbanising Nigerian cities.

Keywords: Shopping mall development; financial feasibility; financial viability; retail real estate; investment appraisal; discounted cash flow; Abuja, Nigeria.

Introduction

1.1 Background to the Study

The growth and strong performance of shopping malls in Abuja, particularly in Jabi, Wuse, and the Central Business District, reflect increasing consumer preference for organized retail environments. These malls have attracted a mix of local and international retailers, financial institutions, restaurants, cinemas, and leisure facilities, improved the quality of shopping while contributing to employment generation, urban development, and investment opportunities (International Council of Shopping Centers, 2021). Their success indicates that well-planned shopping mall developments can provide sustainable rental income, enhance property values, and stimulate local economic growth (Urban Land Institute, 2020).

Despite Kubwa's rapid population growth and expanding commercial activities, the district continues to experience a shortage of modern shopping mall facilities. Existing retail activities are largely confined to open markets and neighbourhood shopping centres, which often lack adequate infrastructure, parking, security, and professional management. As a result, many residents travel to other parts of Abuja to access modern retail and recreational services (Federal Capital Development Authority, 2023). Consequently, this study evaluates the financial feasibility and economic viability of developing a shopping mall in Kubwa by assessing market demand, development costs, projected revenues, investment returns, and associated risks using established real estate appraisal techniques (Real Estate Finance and Investments, 2022).

1.2 Statement of the Problem

Kubwa’s rapid expansion has increased the demand for modern retail facilities, yet the area lacks sufficient purpose-built shopping malls. Developing such projects requires major capital investment and faces risks from inflation, high construction costs, economic uncertainty, competition, and changing consumer behaviour. This study addresses the need for a financial evaluation by assessing the viability of shopping mall development in Kubwa using recognized investment appraisal methods.

1.3 Aim of the Study

The aim of this study is to assess the financial feasibility and viability of shopping mall development in Kubwa, Abuja.

1.4 Objectives of the Study

The specific objectives are to:

1. Examine the market demand for shopping mall development in Kubwa.
2. Estimate the development and operational costs of the proposed shopping mall.
3. Assess projected rental income and occupancy levels.

4. Evaluate the financial viability of the project using Net Present Value (NPV), Internal Rate of Return (IRR), and Benefit-Cost Ratio.
5. Identify the major risks affecting shopping mall development in Kubwa.

1.5 Research Questions

The study seeks to answer the following questions:

1. Is there sufficient market demand for a shopping mall in Kubwa?
2. What are the estimated development and operating costs?
3. What level of rental income and occupancy can reasonably be achieved?
4. Is the proposed shopping mall financially feasible based on standard investment appraisal techniques?
5. What factors influence the viability of shopping mall development in Kubwa?

1.6 Significance of the Study

This study will provide valuable insights to developers, investors, financial institutions, planners, policymakers, and researchers on the feasibility of shopping mall development in Kubwa. The findings will support investment decisions, loan assessments, and sustainable urban planning initiatives. It will also enhance existing knowledge on real estate investment appraisal and retail property development within Nigeria's commercial property sector.

1.7 Scope of the Study

This study evaluates the financial feasibility of a shopping mall in Kubwa, Abuja, focusing on market demand, costs, income projections, investment returns, financing, and risks within the surrounding area.

1.8 Limitations of the Study

The study is limited by the fluctuating construction costs, inflation, changing economic conditions, and restricted access to financial information from private developers. Time and financial constraints also affect the scope of data collection.

LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Financial Feasibility

Financial feasibility refers to the assessment of whether a proposed investment project is capable of generating sufficient revenue to recover its costs and provide an acceptable return to investors. It involves estimating project costs, projected revenues, operating expenses, financing arrangements, and expected profitability (Aluand Ogedengbe, 2023). In real estate development, financial feasibility helps developers determine whether a project should proceed based on projected cash flows and investment performance.

https://doi.org/10.5281/zenodo.21846457

A financially feasible project is one that generates positive cash flows, achieves an acceptable rate of return, and remains sustainable throughout its economic life. Financial feasibility studies are essential in reducing investment risk and improving decision-making(Puspitosari, Bakhtiar, and Zahroh, 2025).

2.1.2 Financial Viability

Financial viability refers to the long-term ability of a project to remain profitable after construction has been completed. While financial feasibility focuses on whether a project can be successfully developed, financial viability examines whether it can continue generating sufficient income to meet operating costs, repay loans, and provide returns to investors over time(Chukwuka and Igweh, 2024).

The viability of a shopping mall depends on stable rental income, high occupancy rates, efficient property management, tenant retention, and effective cost control.

2.1.3 Shopping Mall Development

Shopping mall development involves the planning, financing, construction, leasing, and management of a retail complex that accommodates multiple businesses under one management structure according to the researchers. Modern shopping malls combine retail shops, supermarkets, restaurants, banks, cinemas, pharmacies, entertainment centres, and other commercial services within a secure and convenient environment.

Shopping malls contribute to urban development by creating employment opportunities, increasing commercial activities, improving land values, and generating government revenue through taxes and levies (Nwafor and Egolum, 2021).

2.1.4 Retail Real Estate Investment

Retail real estate investment refers to the acquisition or development of commercial properties intended for retail business activities. Investors generate income primarily through rental payments, service charges, advertising, and appreciation in property value.

The profitability of retail real estate depends on location, accessibility, consumer purchasing power, tenant mix, occupancy rate, economic stability, and management efficiency (Adebayo, Greenhalgh, and Muldoon-Smith, 2019).

2.2 Investment Appraisal Techniques

Financial feasibility is commonly evaluated using investment appraisal techniques, including:

Net Present Value (NPV)

Net Present Value measures the difference between the present value of future cash inflows and the present value of investment costs. A positive NPV indicates that the project is expected to create value and should be accepted.

Internal Rate of Return (IRR)

The Internal Rate of Return is the discount rate at which the project's Net Present Value equals zero. A project is considered financially attractive when its IRR exceeds the required rate of return or cost of capital.

Benefit-Cost Ratio (BCR)

The Benefit-Cost Ratio compares the present value of project benefits with the present value of project costs. A ratio greater than one indicates that the project is economically worthwhile.

2.3 Factors Influencing Shopping Mall Viability

The success of shopping mall developments depends on several factors, including population growth, location, tenant mix, and rental performance. Rapid urban expansion creates higher demand for retail services, while accessible locations improve customer flow and investment potential. A diverse tenant mix enhances attraction and occupancy levels, whereas stable rental income supports profitability. Economic factors such as inflation, interest rates, and consumer purchasing power influence performance. Adequate infrastructure, including power supply, roads, parking, drainage, and security, is also essential for efficient operation and long-term sustainability (Reikli,2012).

2.4 **Theoretical Framework**

Investment Theory

Investment Theory explains that investors allocate capital to projects expected to generate returns greater than the associated risks (Markowitz, 1952). Before investing, developers evaluate expected revenues, costs, risks, and profitability using financial appraisal techniques. The theory supports this study because shopping mall development involves significant capital investment requiring careful financial evaluation.

Cost-Benefit Analysis Theory

Cost-Benefit Analysis Theory states that a project should be undertaken only when its expected benefits exceed its expected costs. The theory provides the basis for using financial indicators

https://doi.org/10.5281/zenodo.21846457

such as Net Present Value and Benefit-Cost Ratio in assessing shopping mall investments (Dreze,and Stern, 1987).

2.5 Empirical Review

Previous studies have identified several factors that influence the financial performance of shopping mall developments. Strategic location, accessibility, population growth, and the quality of tenant mix have consistently been recognized as key determinants of occupancy levels, rental income, and long-term profitability (Miles, Netherton, and Schmitz, 2020). Evidence also suggests that shopping malls developed in rapidly urbanizing areas tend to record stronger occupancy rates and higher rental values than those located in slower-growing markets (Urban Land Institute, 2021).

Financial appraisal studies further indicate that investment indicators such as positive Net Present Value (NPV), favourable Internal Rate of Return (IRR), and sustainable occupancy rates are reliable measures of project viability (Real Estate Finance and Investments, 2022). However, escalating construction costs, inflation, high borrowing costs, and economic uncertainty remain significant challenges that can reduce project profitability and increase investment risk (Royal Institution of Chartered Surveyors, 2021).

Studies on Abuja's real estate market also show that rapid population growth, urban expansion, and rising commercial activities continue to support demand for modern retail developments. Nevertheless, increasing competition among shopping centres and infrastructure limitations highlight the importance of conducting detailed feasibility studies before committing investment capital (Federal Capital Development Authority, 2023).

2.6 Literature Gap

Although previous studies have examined shopping mall development and commercial property investment in Nigeria, relatively few have specifically assessed the financial feasibility and viability of shopping mall development in Kubwa, Abuja. Most existing studies focus on larger commercial districts within Abuja or other major Nigerian cities. Consequently, there is limited empirical evidence on whether Kubwa's demographic growth and commercial expansion are sufficient to support a modern shopping mall.

This study seeks to bridge this gap by assessing the financial feasibility and viability of shopping mall development in Kubwa using market analysis and standard investment appraisal techniques.

RESEARCH METHODOLOGY

3.1 Introduction

This describes the research design, study area, sources of data, methods of data collection, sampling procedure, analytical techniques, and ethical considerations adopted in assessing the financial feasibility and viability of shopping mall development in Kubwa, Abuja.

3.2 Research Design

The study adopted a descriptive case study design. Both qualitative and quantitative approaches were employed to evaluate the market potential and financial viability of the proposed shopping mall. The descriptive approach was chosen because it allows for systematic assessment of market conditions, investment costs, projected revenues, and associated risks.

3.3 Study Area

The study was conducted in Kubwa, Abuja, one of the largest satellite towns in the Federal Capital Territory (FCT). Kubwa was selected because of its rapid population growth, expanding residential developments, increasing commercial activities, and strategic location, which make it a suitable location for retail property investment.

3.4 Sources of Data

The study utilized both primary and secondary data.

Primary data were obtained through questionnaires and interviews with property developers, estate surveyors and valuers, retail business owners, and prospective consumers.

Secondary data were obtained from published journals, textbooks, government publications, market reports, and property investment reports.

3.5 Population of the Study

The target population comprised:

- Estate Surveyors and Valuers
- Property Developers
- Retail Shop Owners
- Commercial Property Managers
- Residents of Kubwa

3.6 Sample Size and Sampling Technique

A sample size of 120 respondents was selected using purposive and simple random sampling techniques to ensure representation of investors, professionals, retailers, and consumers.

https://doi.org/10.5281/zenodo.21846457

3.7 Method of Data Analysis

Data was analysed using descriptive statistics such as frequency tables, percentages, mean scores, and investment appraisal techniques including:

- Net Present Value (NPV)
- Internal Rate of Return (IRR)
- Benefit-Cost Ratio (BCR)

These techniques were used to determine whether the proposed shopping mall would generate sufficient financial returns.

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Analysis of Market Demand for Proposed Shopping Mall

Table 4.1: Market Demand Analysis for the Proposed Shopping Mall in Kubwa (n = 120)

Variable	Category	Frequency	Percentage (%)	Mean Score	Interpretation
Perceived need for a modern shopping mall	Very High	52	43.3		
	High	42	35.0		
	Moderate	18	15.0		
	Low	8	6.7	4.15	High Demand
Preferred shopping location	Kubwa	71	59.2		
	Jabi	26	21.7		
	Wuse	15	12.5		
	CBD/Others	8	6.6	3.34	Kubwa Preferred
Likelihood of patronising the proposed mall	Very Likely	48	40.0		
	Likely	45	37.5		
	Undecided	17	14.2		
	Unlikely	10	8.3	4.09	Strong Patronage Expected

Retailers' willingness to lease shop space	Very Willing	31	25.8		
	Willing	49	40.8		
	Undecided	25	20.9		
	Not Willing	15	12.5	3.80	Positive Leasing Prospects
Adequacy of existing shopping facilities	Adequate	18	15.0		
	Fairly Adequate	24	20.0		
	Inadequate	48	40.0		
	Highly Inadequate	30	25.0	2.25	Existing Facilities Inadequate

Interpretation

The results indicate a strong market demand for a modern shopping mall in Kubwa. Approximately 78.3% of respondents rated the need for a shopping mall as high or very high, producing a mean score of 4.15, which signifies substantial demand. Furthermore, 77.5% of respondents indicated that they would be likely or very likely to patronise the proposed shopping mall upon completion. The findings also reveal positive leasing prospects, with 66.6% of retailers expressing willingness to lease retail space within the proposed development.

The analysis further shows that existing shopping facilities in Kubwa are considered inadequate by 65.0% of respondents, suggesting that current retail infrastructure is insufficient to meet the growing needs of residents and businesses. These findings provide empirical evidence that supports the financial projections presented in subsequent sections and demonstrate that Kubwa possesses adequate market demand to sustain the proposed shopping mall development.

https://doi.org/10.5281/zenodo.21846457

4.2 Analysis of Estimated Project Cost

Table 4.2: Estimated Project Cost Analysis

Project Cost Component	Estimated Cost (₦ Billion)	Percentage of Total Cost (%)	Description
Land Acquisition	1.20	12.0	Cost of acquiring a strategically located parcel of land for the shopping mall development.
Construction	6.50	65.0	Covers civil works, structural construction, roofing, finishing, retail spaces, and other building components.
Mechanical & Electrical Services	1.00	10.0	Installation of electrical systems, elevators, air-conditioning, plumbing, fire protection systems, and standby generators.
Parking & Landscaping	0.60	6.0	Development of parking areas, access roads, drainage systems, and landscaping works.
Professional Fees	0.30	3.0	Payments to architects, engineers, quantity surveyors, estate surveyors, project managers, and legal consultants.
Contingencies	0.40	4.0	Allowance for unforeseen expenses arising from inflation, price fluctuations, and design modifications.
Total Development Cost	**10.00**	**100**	Total estimated investment required for the proposed shopping mall.

Explanation

Table 4.2 indicates that the proposed shopping mall in Kubwa will require an estimated capital investment of ₦10.00 billion. Construction represents the largest expenditure, accounting for 65.0% of the total cost, followed by mechanical and electrical installations needed to support efficient operations. Land acquisition, parking, and landscaping also form significant components of the budget, while professional fees and contingency allowances provide for project management and unforeseen expenses. The overall cost structure demonstrates a realistic

allocation of resources and reflects the financial requirements of a standard modern shopping mall development.

4.3 Analysis of Estimated Annual Revenuefor the First Year

Table 4.3: Estimated Annual Revenue Analysis for the first year

Revenue Source	Annual Income (₦ Million)	Percentage of Total Revenue (%)	Description
Shop Rentals	1,500	65.2	Income generated from leasing retail shops to tenants.
Anchor Tenant Lease	349	15.2	Rental income from major tenants such as supermarkets and department stores.
Service Charges	209	9.1	Charges collected for maintenance of common facilities and utilities.
Parking Fees	89	3.9	Revenue earned from customer vehicle parking services.
Advertising	35	1.5	Income generated from billboard advertising and promotional displays.
Other Income	118	5.1	Income from ATM rentals, exhibitions, telecommunications installations, and miscellaneous services.
Total Revenue	**2,300**	**100**	Total projected annual income generated by the shopping mall.

Explanation

Table 4.3 shows that the proposed shopping mall is expected to generate annual income from multiple revenue streams. Shop rentals provide the largest share of projected revenue, emphasizing the importance of achieving and maintaining high occupancy rates. Income from anchor tenants also contributes significantly by ensuring stable rental returns and attracting customer traffic. Additional earnings from service charges, parking fees, advertising, and other sources support operational costs and improve overall financial performance. This diversified income structure reduces investment risk and strengthens the project's long-term financial sustainability.

https://doi.org/10.5281/zenodo.21846457

4.4 Analysis of Estimated Annual Operating Expenses

Table 4.4: Estimated Annual Operating Expenses

Operating Expense	**Cost (₦ Million)**	**Percentage of Total Operating Cost (%)**	**Description**
Maintenance	250	22.7	Routine maintenance, repairs, and replacement of building components.
Security	120	10.9	Security personnel, CCTV systems, access control, and surveillance equipment.
Electricity	280	25.5	Electricity bills and alternative power generation costs.
Cleaning	80	7.3	Cleaning services and waste management.
Administration	150	13.6	Staff salaries, office administration, communication, and management expenses.
Insurance	70	6.4	Insurance against fire, theft, accidents, and other operational risks.
Others	150	13.6	Miscellaneous operational expenses including landscaping and emergency repairs.
Total Operating Cost	**1,100**	**100**	Total annual operating expenditure.

Explanation

Table 4.4 indicates that electricity is the highest operating expense, followed by maintenance, reflecting the costs of sustaining efficient mall operations. Administrative, security, and miscellaneous expenses also contribute significantly to annual costs. Overall, the projected operating expenditure is realistic and aligns with the operational requirements of a modern shopping mall.

4.5 Analysis of Net Operating Income

Table 4.5: Net Operating Income Analysis

Description	**Amount (₦ Million)**	**Percentage (%)**
Total Annual Revenue	2,300	100
Less: Operating Expenses	(1,100)	47.8
Net Operating Income	**1,200**	**52.2**

Explanation

Table 4.5 indicates that the proposed shopping mall is projected to generate ₦2.30 billion in annual revenue and ₦1.10 billion in operating expenses, resulting in a Net Operating Income of ₦1.20 billion. This positive outcome suggests the project can support operational obligations and deliver favourable returns to investors. Note that the cash flow is not fixed as years goes on.

4.6 Discounted Cash Flow Analysis

Table 4.6: Ten-Year Discounted Cash Flow (DCF) Analysis

Year	**Net Cash Flow (₦ Billion)**	**Discount Factor (10%)**	**Present Value (₦ Billion)**
0	**(12.000)**	1.0000	**(12.000)**
1	1.20	0.9091	1.091
2	1.26	0.8264	1.041
3	1.32	0.7513	0.992
4	1.39	0.6830	0.949
5	1.46	0.6209	0.907
6	1.53	0.5645	0.864
7	1.61	0.5132	0.826
8	1.69	0.4665	0.788
9	1.77	0.4241	0.751
10	1.86	0.3855	0.717
Terminal Value	8.50	0.3855	3.277
Total Present Value of Future Benefits			**12.203**
Less: Initial Investment			**10.000**
Net Present Value (NPV)			**₦2.203 Billion**

Interpretation

The positive Net Present Value of **₦2.203** billion shows that the project's discounted future cash inflows exceed its initial investment of ₦12.00 billion, indicating that the development is expected to create value over its lifespan. Since the NPV is positive, the project is considered financially acceptable. An estimated Internal Rate of Return of 12.32%, based on a 10-year discounted cash flow model with increasing annual cash flows and a residual value, further supports the project's financial viability.

https://doi.org/10.5281/zenodo.21846457

Table 4.7: Ten-Year Discounted Cash Flow (DCF) **for IRR Analysis**

Year	**Net Cash Flow (₦ Billion)**	**Discount Factor (15%)**	**Present Value (₦ Billion)**
0	**(12.000)**	1.0000	**(12.000)**
1	1.20	0.8696	1.0435
2	1.26	0.7561	0.9527
3	1.32	0.6575	0.8679
4	1.39	0.5718	0.7948
5	1.46	0.4918	0.7180
6	1.53	0.4323	0.6614
7	1.61	0.3760	0.6054
8	1.69	0.3269	0.5525
9	1.77	0.2843	0.5032
10	1.86	0.2472	0.4598
Terminal Value	8.50	0.2472	2.1012
Total Present Value of Future Benefits			**9.2604**
Less: Initial Investment			**10.000**
Net Present Value (NPV)			**-₦0.7396 Billion**

$$\mathbf{IRR = R1 + (R2 - R1)\left[\frac{NPVR1}{NPVR1+NPVR2}\right]}$$

IRR = 13.74%

Table 4.8: Summary of Results for IRR

Investment Indicator	**Result**
Initial Investment	₦10.00 Billion
Project Duration	10 Years
Internal Rate of Return (IRR)	≈ **13.74%**
Decision	**Accept**

Interpretation

The estimated Internal Rate of Return (IRR) of 13.74% suggests that the proposed shopping mall can generate a return higher than the assumed required rate of 10%, making the investment financially attractive. Based on the IRR criterion, the project is considered viable under the stated assumptions. However, actual performance should be assessed using detailed cash flow projections covering rentals, expenses, taxes, financing, occupancy levels, and residual value.

Ten-Year Discounted Cash Flow (DCF) Model for Benefit-Cost Ratio (BCR)

Assumptions

- Initial Development Cost = **₦10.00 Billion**
- Discount Rate = **10%**
- Project Life = **10 Years**
- Residual (Terminal) Value at Year 10 = **₦8.50 Billion**

Table 4.9: Ten-Year Discounted Cash Flow (DCF) Analysis

Year	**Net Cash Flow (₦ Billion)**	**Discount Factor (10%)**	**Present Value (₦ Billion)**
0	**(12.000)**	1.0000	**(12.000)**
1	1.20	0.9091	1.091
2	1.26	0.8264	1.041
3	1.32	0.7513	0.992
4	1.39	0.6830	0.949
5	1.46	0.6209	0.907
6	1.53	0.5645	0.864
7	1.61	0.5132	0.826
8	1.69	0.4665	0.788
9	1.77	0.4241	0.751
10	1.86	0.3855	0.717
Terminal Value	8.50	0.3855	3.277
Total Net Present Value of Future Benefits			**12.203**
Initial Investment			**10.000**

The Benefit-Cost Ratio (BCR) can be represented professionally as:

$$\text{BCR} = \frac{\text{Present Value of Benefits}}{\text{Present Value of Costs}}$$

https://doi.org/10.5281/zenodo.21846457

$$\text{BCR} = \frac{12.203}{10.000}$$

The above model gives:

To achieve **BCR = 1.22**

Table 4.10: Summary of Results for BCR

Indicator	**Value**
Present Value of Benefits	₦12.203 Billion
Present Value of Costs	₦10.00 Billion
Benefit-Cost Ratio (BCR)	**1.22**
Decision	**Accept**

Interpretation

The calculated Benefit-Cost Ratio (BCR) of 1.22 indicates that the present value of the project's expected benefits exceeds the present value of its costs by 22%. In practical terms, every ₦1.00 invested in the proposed shopping mall development is expected to generate approximately ₦1.22 in discounted benefits over the 10-year analysis period. Since the BCR is greater than one (1.0), the project is considered economically worthwhile and financially feasible. This result supports the conclusion that the proposed shopping mall development in Kubwa, Abuja, is expected to create value for investors while generating sufficient returns to justify the initial capital investment.

4.7 Discussion of Findings

The assessment suggests that Kubwa has favourable characteristics for shopping mall investment due to its expanding population, increasing commercial activities, and growing demand for modern retail facilities.

Projected rental income from retail spaces, anchor tenants, service charges, and other commercial activities is sufficient to generate positive cash flows. The estimated positive NPV, IRR above the assumed cost of capital, and Benefit-Cost Ratio greater than one indicate that the proposed development has the potential to be financially viable.

However, profitability depends on achieving high occupancy levels, maintaining effective cost control, and mitigating risks associated with inflation, high construction costs, and competition.

4.8 Sensitivity analysis tests

The variables areDevelopment cost, Rental income/Net Operating Income (NOI) and Discount rate (cost of capital).

Using

Initial Investment = ₦10.00 billion

NPV = ₦2.203 billion

IRR = 13.74%

BCR = 1.22

Table 4.11: Sensitivity Analysis of the Proposed Shopping Mall Development

Scenario	Change	NPV (₦ Billion)	IRR(%)	BCR	Decision
Base Case	No change	2.203	13.74	1.22	Accept
Development Cost +10%	Cost = ₦11.00 bn	1.203	12.60	1.11	Accept
Development Cost +20%	Cost = ₦12.00 bn	0.203	10.40	1.02	Marginally Accept
Development Cost -10%	Cost = ₦9.00 bn	3.203	15.00	1.36	Accept
Annual Cash Flow +10%	Higher rental income	3.423	15.40	1.34	Accept
AnnualCash Flow -10%	Lower rental income	0.983	12.00	1.10	Accept
Annual Cash Flow -20%	Significant decline	-0.237	9.70	0.98	Reject
Discount Rate = 8%	Lower cost of capital	3.480	13.74	1.35	Accept
Discount Rate = 12%	Higher cost of capital	1.140	13.74	1.11	Accept
Discount Rate = 15%	High financing cost	-0.740	13.74	0.93	Reject

Interpretation of the Sensitivity Analysis

The sensitivity analysis demonstrates that the financial performance of the proposed shopping mall is particularly sensitive to changes in development costs, rental income, and the discount rate.

https://doi.org/10.5281/zenodo.21846457

An increase in development cost of 10% reduces the Net Present Value (NPV) from ₦2.203 billion to ₦1.203 billion, while a 20% increase lowers the NPV to ₦0.203 billion, making the project only marginally attractive. Conversely, a 10% reduction in development cost improves the NPV to ₦3.203 billion and raises the Internal Rate of Return (IRR) to approximately 15.0%.

Changes in rental income have an even greater impact. A 10% increase in annual cash flow raises the NPV to approximately ₦3.423 billion, whereas a 10% decline reduces it to ₦0.983 billion. A 20% reduction in rental income results in a negative NPV (−₦0.237 billion), indicating that the project would no longer be financially viable.

The analysis also shows that financing conditions significantly affect project performance. At a discount rate of 8%, the NPV increases to ₦3.480 billion, reflecting higher project value. However, when the discount rate increases to 15%, the NPV becomes −₦0.740 billion, while the Benefit-Cost Ratio (BCR) falls below one, suggesting that the investment should be rejected under such conditions.

Overall, the findings indicate that the shopping mall development is financially viable under the base-case assumptions but is most sensitive to reductions in rental income and increases in the cost of capital. Effective cost control, high occupancy rates, and stable financing conditions are therefore essential to maintaining the project's financial feasibility and long-term viability.

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This study assessed the financial feasibility and viability of developing a shopping mall in Kubwa, Abuja, by evaluating market demand, estimated development and operating costs, projected revenues, investment returns, and key project risks using established real estate investment appraisal techniques. The findings indicate that Kubwa possesses favourable characteristics for modern retail property development, including rapid population growth, expanding commercial activities, and increasing demand for organized shopping facilities.

The estimated total development cost of ₦10.00 billion is expected to generate diversified revenue from retail shop rentals, anchor tenants, service charges, parking fees, advertising, and other commercial activities. The projected annual net operating income of ₦1.20 billion demonstrates the project's capacity to generate positive operating cash flows capable of supporting ongoing operations and investor returns.

Financial appraisal results further confirm the project's viability. The positive Net Present Value (NPV) of ₦2.203 billion, Internal Rate of Return (IRR) of approximately 13.74%, and Benefit-Cost Ratio (BCR) of 1.22 all exceed the minimum investment acceptance criteria, indicating that the proposed shopping mall is expected to create economic value and provide satisfactory returns over the ten-year investment period.

However, the sensitivity analysis reveals that the project's financial performance is highly dependent on key variables, particularly rental income, occupancy levels, development costs,

and the cost of capital. Declining rental income or increasing financing costs significantly reduce profitability and may render the investment financially unattractive. These findings underscore the importance of effective project planning, prudent cost management, strategic tenant selection, high occupancy rates, and access to reasonably priced financing throughout the project lifecycle.

Overall, the study concludes that the proposed shopping mall development in Kubwa is financially feasible and economically viable under the base-case assumptions adopted in the analysis. Nevertheless, the sustainability of the investment will depend on maintaining stable market demand, controlling construction and operating costs, implementing efficient property management practices, and adapting to changing economic conditions. Consequently, the project represents a promising commercial real estate investment capable of contributing to retail development, employment generation, and sustainable urban growth within Kubwa and the wider Federal Capital Territory.

5.2 Recommendations

Based on the findings of this study, the following recommendations are proposed to enhance the financial feasibility and long-term viability of shopping mall development in Kubwa, Abuja:

Developers should adopt phased and market-driven development strategies. Given the substantial capital requirement for shopping mall projects, a phased development approach is recommended to align construction with demonstrated market demand. This strategy can reduce upfront capital exposure, improve cash flow management, and allow adjustments to changing market conditions before subsequent phases are implemented.

Priority should be given to securing strong anchor tenants before project commencement. The study demonstrates that rental income is the most critical determinant of project viability. Developers should therefore obtain long-term lease agreements with reputable supermarkets, financial institutions, pharmacies, entertainment operators, and other anchor tenants prior to construction. Early tenant commitments will improve occupancy rates, stabilize cash flows, reduce leasing risk, and enhance investor confidence.

Effective cost management mechanisms should be integrated throughout the project lifecycle. Since construction costs account for the largest proportion of development expenditure and significantly influence investment performance, developers should employ value engineering, competitive procurement, efficient project management practices, and rigorous cost monitoring to minimise cost overruns while maintaining acceptable construction quality.

Appropriate financing structures should be adopted to reduce the impact of high borrowing costs. The sensitivity analysis indicates that increases in the cost of capital substantially reduce project viability. Developers should therefore combine equity financing with long-term development finance, institutional investment, and public-private partnership arrangements where feasible, rather than relying excessively on short-term commercial loans with high interest rates.

Professional property management should be implemented immediately after project completion. Sustainable financial performance depends not only on successful development but

https://doi.org/10.5281/zenodo.21846457

also on efficient operations. Professional management should focus on tenant retention, proactive maintenance, security, facility management, marketing, customer experience, and periodic rental reviews to maintain high occupancy levels and preserve the long-term value of the asset.

Government should strengthen the enabling environment for commercial real estate investment. Relevant public authorities should improve supporting infrastructure, including road networks, electricity supply, drainage, water supply, public transportation, and security within Kubwa. Streamlining planning approval processes and promoting investment-friendly policies would further reduce development risk and encourage private sector participation in modern retail infrastructure.

Investors should incorporate comprehensive risk assessment and sensitivity analysis into investment decision-making. Financial appraisal should not rely solely on base-case projections. Alternative scenarios involving changes in construction costs, occupancy rates, rental growth, inflation, financing costs, and discount rates should be evaluated to improve investment resilience under uncertain economic conditions.

Future research should extend the analytical framework beyond conventional financial appraisal techniques. Subsequent studies should incorporate stochastic risk analysis, Monte Carlo simulation, real options analysis, and scenario-based forecasting to capture uncertainty more comprehensively. Comparative studies involving other satellite towns within the Federal Capital Territory and emerging urban centres in Nigeria would also enhance the generalisability of findings and provide broader evidence for commercial real estate investment decision-making.

Collectively, these recommendations provide practical guidance for developers, investors, financial institutions, and policymakers seeking to promote financially sustainable shopping mall developments in rapidly urbanising areas. Their implementation would improve investment performance, strengthen the resilience of retail property developments to economic fluctuations, and contribute to sustainable urban and commercial development in Abuja and similar metropolitan environments.

References

Alu, A. J. and OgedengbeF. A., (2023). Evaluating the Effect of Cost Management Practices on Profitability
and Financial Stability in Nigerian Construction Firms: A Theoretical and Conceptual Perspective.

(Adebayo, A., Greenhalgh, P., and Muldoon-Smith, K. (2019). Investigating retail property market dynamics
through spatial accessibility
measures.https://www.researchgate.net/publication/331662889_Investigating_retail_property_market_dynamics_through_spatial_accessibility_measures

Chukwuka, E. J. and Igweh, F. K., (2024). Strategic Role of Feasibility Study in Entrepreneurial Profitability and Project Management.https://www.researchgate.net/publication/377413179_Strategic_Role_of_Feasibility_Study_in_Entrepreneurial_Profitability_and_Project_Management

Dreze, J. and Stern, N., (1987). The Theory of Cost-Benefit Analysis. https://personal.lse.ac.uk/sternn/040nhs.pdf

Federal Capital Development Authority, (2023). https://fcda.gov.ng/

International Council of Shopping Centers, (2021). https://www.expansionsolutionsmagazine.com/event/icsc-international-council-of-shopping-centers/

Markowitz, H., (1952). Modern Portfolio Theory

https://www.investopedia.com/terms/m/modernportfoliotheory.asp

Miles, M. E., Netherton, L. M., and Schmitz, A. (2020). *Real estate development: Principles and process* (6th ed.). Urban Land Institute.

Nwafor I. V. and Egolum C. C., (2021). An analysis on contribution of land based taxes to internally generated revenue of Anambra state, Nigeria.https://www.researchgate.net/publication/355859843_An_analysis_on_contribution_of_land_based_taxes_to_internally_generated_revenue_of_Anambra_state_Nigeria.

Puspitosari, E. , Bakhtiar,A. C. Y., and Zahroh, V. A., (2025). Financial Feasibility as a Decision-Making Tool for Regional Infrastructure Projects: A Regional Development Perspective. DOI:10.58411/nfv7bn32

Real Estate Finance and Investments, (2022). https://www.econbiz.de/Record/real-estate-finance-and-investments-brueggeman-william/10012534701

https://doi.org/10.5281/zenodo.21846457

Reikli, M., (2012). The Key of Success in Shopping Centers. Composing Elements of Shopping Centers
and their Strategic
Fit.https://www.academia.edu/27086828/The_Key_of_Success_in_Shopping_Centers_Composing_Elements_of_Shopping_Centers_and_their_Strategic_Fit

Royal Institution of Chartered Surveyors, (2021). https://www.rics.org/

Urban Land Institute, (2020). https://annualreport2020.uli.org/

Urban Land Institute, (2021).https://annualreport2021.uli.org/