Published: 14th October 2026

INTERNATIONAL JOURNAL OF REAL ESTATE

IJRE

ISSN: 2476-8073

IMPACT OF REAL ESTATE RISKS ON COMMERCIAL COMPLEXES INVESTMENT IN EMERGING MARKETS: A CONCEPTUAL REVIEW

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DOI: https://doi.org/10.5281/zenodo.23321257

Abstract

This paper examines the impact of real estate risks on commercial complexes investment within emerging urban markets, with particular reference to Bida, Nigeria, which was motivated by the growing importance of commercial real estate in supporting urban economic activity and the increasing uncertainty surrounding investment outcomes in developing market contexts. The study explores how economic, market, financial, operational, and environmental risks influence key investment performance indicators such as rental income, occupancy rates, and returns on investment. It adopted a systematic literature review approach through the search of major academic databases and repositories using defined keywords and Boolean operators, where from an initial pool of twenty-eight (28) records, nineteen (19) high-quality sources, published primarily between 2007 and 2025 and supplemented by seminal theoretical works, were selected based on clear inclusion and exclusion criteria and subjected to thematic synthesis. The review shows that, unlike structured real estate markets in major cities, emerging environments like Bida are characterised by pronounced informality, weak institutional frameworks, and limited availability of reliable data. These conditions heighten exposure to risk and distort market signals that guide investment decisions. Drawing on Modern Portfolio Theory and risk assessment models, the study develops a context-sensitive explanation of how risks translate into investment performance outcomes. It concludes that real estate risks operate through both direct and indirect effects and recommends the adoption of integrated, context-specific risk management frameworks. The paper contributes to the existing literature by extending real estate risk analysis into under-researched secondary cities.

Keywords: *Real Estate Risk; Commercial Property Investment; Investment Performance; Emerging Urban Markets*

1. Introduction

Real estate investment remains essential for economic growth, supporting capital formation, wealth creation, and urban infrastructure development. Commercial real estate is especially important because it accommodates business operations and provides investors with regular rental income alongside prospects for long-term capital appreciation (Brueggeman & Fisher, 2011; Geltner et al., 2007). Despite these attractions, commercial property investments carry substantial risks that influence performance outcomes. Macroeconomic factors such as inflation and interest rate changes directly affect property values and rental income (Clayton et al., 2021; Peng, 2016). In addition, environmental concerns like flooding risks and increasing market volatility have added new layers of uncertainty in recent years (Porter et al., 2022; Wu et al., 2024). These challenges are often more pronounced in developing economies due to weak institutional frameworks, inconsistent regulatory enforcement, and limited availability of reliable market data (Asianoah, 2023). In Nigeria, persistent inflation, economic instability, and uneven urban development further complicate the investment environment (Nwosu et al., 2024). While existing studies have examined real estate risks and returns in other Nigerian cities such as Lagos, Abuja, Port Harcourt, Ilorin, Kaduna, and Enugu (Abdulmalik & Udoekanem, 2022; Igwe-Kalu & Akpan, 2019; Nnamani, 2017; Nwosu et al., 2024), far less attention has been paid to emerging urban centres like Bida. In these locations, greater market informality and severe data limitations can alter the relationship between risks and investment performance. This paper addresses this gap through a conceptual review that synthesises relevant literature to explore how real estate risks affect commercial complexes investment in such settings.

2. Study Area

Bida, the headquarters of Bida Local Government Area in Niger State, is strategically located in north-central Nigeria at approximately 9°02′N to 9°06′N latitude and 5°58′E to 6°03′E longitude (see Figure 1; Mohammed et al., 2025). It is the former capital of the Nupe Kingdom and functions as a regional trade and administrative node. Its position along the A124 highway, which connects routes toward Suleja, Minna, Abuja, and southern corridors including Ilorin, enhances accessibility and supports its role as a commercial link between rural areas and larger urban centres (Federal Ministry of Works, 2013; Mohammed, 2021).

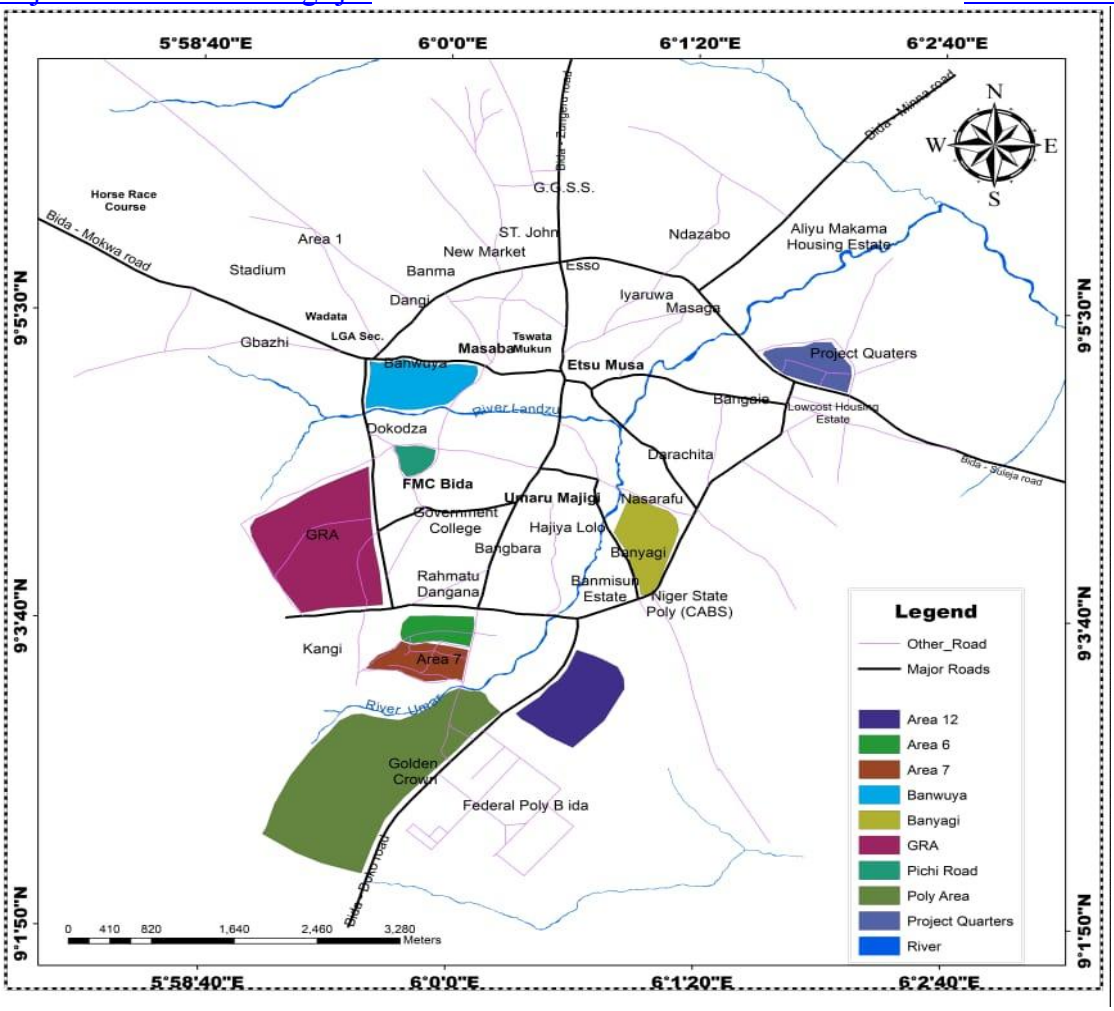

Figure 1: Map of Bida showing major transport corridors and commercial zones (adapted from Mohammed et al., 2025).

The town has witnessed steady population growth and urban expansion driven by rural-urban migration and economic opportunities. This growth has stimulated demand for commercial spaces, particularly retail outlets, offices, and mixed-use developments concentrated in the Central Business District (CBD), western and northern zones, and along major transport corridors (Bloch et al., 2015; Mohammed et al., 2025; United Nations, 2019). Bida's commercial real estate market is emerging and predominantly informal. It is driven largely by individual investors and small-scale developers, with minimal institutional involvement. Property transactions often rely on customary land tenure practices and lack comprehensive formal documentation, resulting in limited market transparency and data availability (Asianoah, 2023; Mohammed et al., 2025; Nnamani, 2017). Rental values and investment performance vary significantly by location: properties in the CBD and high-accessibility zones generally achieve higher occupancy and stronger rental growth, while peripheral southern zones perform less well. In the GIS-AHP analysis by Mohammed et al. (2025), which covered 214 commercial submarkets using rental data for 2014–2023, the occupancy-rate index (a higher score indicates higher occupancy) ranged from 96 to 133 in the CBD and the western and northern zones, compared with 15 to 42 in the southern zones. Earlier investment research in Bida has compared residential property with stocks (Nwokenkwo et al., 2019), whereas risk-focused analysis of commercial complexes remains limited.

https://doi.org/10.5281/zenodo.23321257

2.1 Distinctiveness of Bida Compared to Larger Nigerian Cities

Bida exhibits important differences from major commercial centres such as Lagos, Abuja, Enugu, and Ilorin. In primary cities, more developed institutional frameworks, greater market transparency, active participation of institutional investors, better access to formal financing and data systems support relatively more efficient operations (Nnamani, 2017). By contrast, Bida's market is shaped by a local economy anchored on agriculture, petty trading, and small-scale enterprises. This produces steady but modest demand for commercial space, unlike the high-volume, corporate-driven demand typical of Lagos and Abuja. Market informality is more entrenched in Bida, with many transactions governed by customary practices and local institutions rather than formal regulatory processes. Data availability and quality are also more constrained; comprehensive rental records, occupancy statistics, and performance benchmarks are scarce, forcing reliance on fragmented local knowledge (Asianoah, 2023; Mohammed et al., 2025). These structural conditions create a distinct risk profile in which institutional, liquidity, and information asymmetry risks are more pronounced. While larger cities benefit from stronger mitigation mechanisms, secondary cities like Bida require context-specific approaches to risk management and investment strategy. This makes Bida a particularly valuable case for understanding commercial real estate dynamics in Nigeria's under-researched secondary urban centres. Despite these challenges, Bida's strategic highway connectivity, ongoing population-driven demand, and evolving urban structure offer opportunities for commercial property development. The market thus provides a suitable context for examining how real estate risks influence investment performance in emerging secondary cities.

3. Methodology

This study adopted a systematic literature review methodology to critically examine real estate risks and their influence on investment performance in commercial properties, with particular reference to emerging secondary cities such as Bida, Nigeria. A comprehensive search strategy was implemented across prominent academic databases and repositories, including Google Scholar, ResearchGate, ScienceDirect, JSTOR, African Journals Online (AJOL), and selected institutional repositories such as those of Nelson Mandela University, University of Cape Coast, and Federal University of Technology, Minna. The search employed Boolean operators and combinations of keywords such as ("commercial real estate" OR "property investment" OR "real estate market") AND ("risk" OR "risk management" OR "risk assessment" OR "diversification") AND ("Nigeria" OR "Ghana" OR "emerging market" OR "Bida" OR "Enugu") AND ("performance" OR "return" OR "rental" OR "occupancy" OR "portfolio theory"). Additional sources were identified through manual snowballing of reference lists from key publications and recent conference proceedings. Studies were selected using clearly defined inclusion and exclusion criteria. The included studies were peer-reviewed journal articles, doctoral and master's theses, and high-quality reports published in English that focused on commercial real estate risks, risk assessment models, investment performance indicators such as rental values, occupancy rates, and returns, and market dynamics in Nigeria, Ghana, and comparable emerging African contexts; foundational theoretical works and recent empirical studies addressing Modern Portfolio Theory, diversification, geographic information system (GIS)-based suitability modelling, and informal market characteristics were prioritised. The excluded studies were those limited to residential or agricultural properties, non-empirical opinion pieces, editorials, grey literature lacking rigorous methodology, and duplicates.

Publications dated before 2007 were also excluded, except for seminal theoretical works (Fama, 1970; Markowitz, 1952), which were retained. Following the screening, nineteen (19) high-quality sources were retained for in-depth analysis out of twenty-eight (28) identified records. The literature search covered studies published primarily between 2007 and 2025, supplemented by seminal theoretical works. This timeframe was chosen to capture contemporary developments in real estate risk management in Africa following the global financial crisis, alongside recent insights into emerging markets, including GIS-based analytic hierarchy process (GIS-AHP) applications in Bida (Mohammed et al., 2025), risk management models in Ghana (Asianoah, 2023), and quantitative risk assessment in Nigerian cities (Nnamani, 2017). Seminal theoretical publications from earlier periods were incorporated selectively to provide conceptual grounding. The selected studies underwent a thematic synthesis approach, involving careful reading, coding, and organisation of findings into major themes: types and sources of real estate risks in emerging markets; application of Modern Portfolio Theory and diversification principles; risk assessment techniques and models; investment performance metrics, including rental variation, occupancy rates, and returns; and contextual factors specific to informal and secondary urban markets. Each retained source was read in full, its relevant findings were coded against these themes, and the coded material was then organised by theme. The findings from the reviewed literature were critically compared and integrated to identify patterns, contradictions and gaps relating particularly to the limited substantive research on commercial real estate dynamics in north-central Nigeria. This synthesis directly informed the development of the conceptual and theoretical frameworks that highlighted the suitability of Bida as a case context for addressing under-explored risk-investment relationships in smaller Nigerian urban centres. As a conceptual review based exclusively on published sources, the study collected no primary data; all figures and tables are the authors' syntheses of the reviewed literature. This transparent and structured methodology ensures the reliability and reproducibility of the review while providing a solid foundation for the subsequent analysis and discussion.

4. Conceptual Framework

This study is guided by a conceptual framework that defines the main variables and their relationships. The three central concepts are commercial complexes, real estate risk, and investment performance. Real estate investment involves the acquisition, ownership, and management of land and buildings to generate income and achieve capital appreciation over extended periods. Its distinctive features, such as physical immobility, heterogeneity, and long investment cycles, have made performance highly sensitive to location and market conditions, setting it apart from more liquid financial assets such as government bonds, stocks, fixed deposits, and similar assets (Brueggeman & Fisher, 2011; Ling & Archer, 2008). Commercial complexes, consisting of multi-tenant buildings designed primarily for income generation, depend for their success on tenant demand, occupancy levels, rental rates, and broader economic conditions. Stable high occupancy and consistent rental flows generally indicate strong performance, while fluctuations often signal market or operational difficulties. In Bida, these are typically small to medium-scale properties developed by individual investors and small-scale developers rather than large institutions (Abdulmalik & Udoekanem, 2022; Manganelli et al., 2024; Mohammed et al., 2025). Real estate risk refers to uncertainty regarding expected returns, encompassing both the probability and magnitude of deviations from anticipated outcomes. It is typically divided into economic risk linked to inflation and interest rates; market risk related to demand and supply shifts affecting rents and

https://doi.org/10.5281/zenodo.23321257

occupancy; financial risk associated with funding and borrowing costs; operational risk arising from property management and maintenance issues; institutional risk arising from informality, customary land tenure, and weak regulation; and environmental risk related to climate change (Asianoah, 2023; Clayton et al., 2021; Comu et al., 2021; Ekpo et al., 2025; Nnamani, 2017; Wu et al., 2024). Investment performance is commonly assessed using indicators such as rental income, occupancy rates, overall returns, and capital appreciation (Igwe-Kalu & Akpan, 2019; Manganelli et al., 2024). In emerging markets, however, informal transactions and scarce reliable data often force reliance on subjective judgment. This is particularly evident in the Bida property market, where most deals occur informally through cash transactions, verbal agreements and traditional land systems, with low formal registration and almost no centralized transaction data. Consequently, valuers rely heavily on personal expertise, local knowledge of neighbourhood factors, and ad hoc comparables, which heightens valuation uncertainty and underscores the need for better data-driven approaches to investment appraisal in such secondary cities (Nnamani, 2017). The framework therefore proposes that different categories of risk influence investment performance, with location, market informality and institutional factors acting as key moderating variables. These relationships are illustrated in Figure 2.

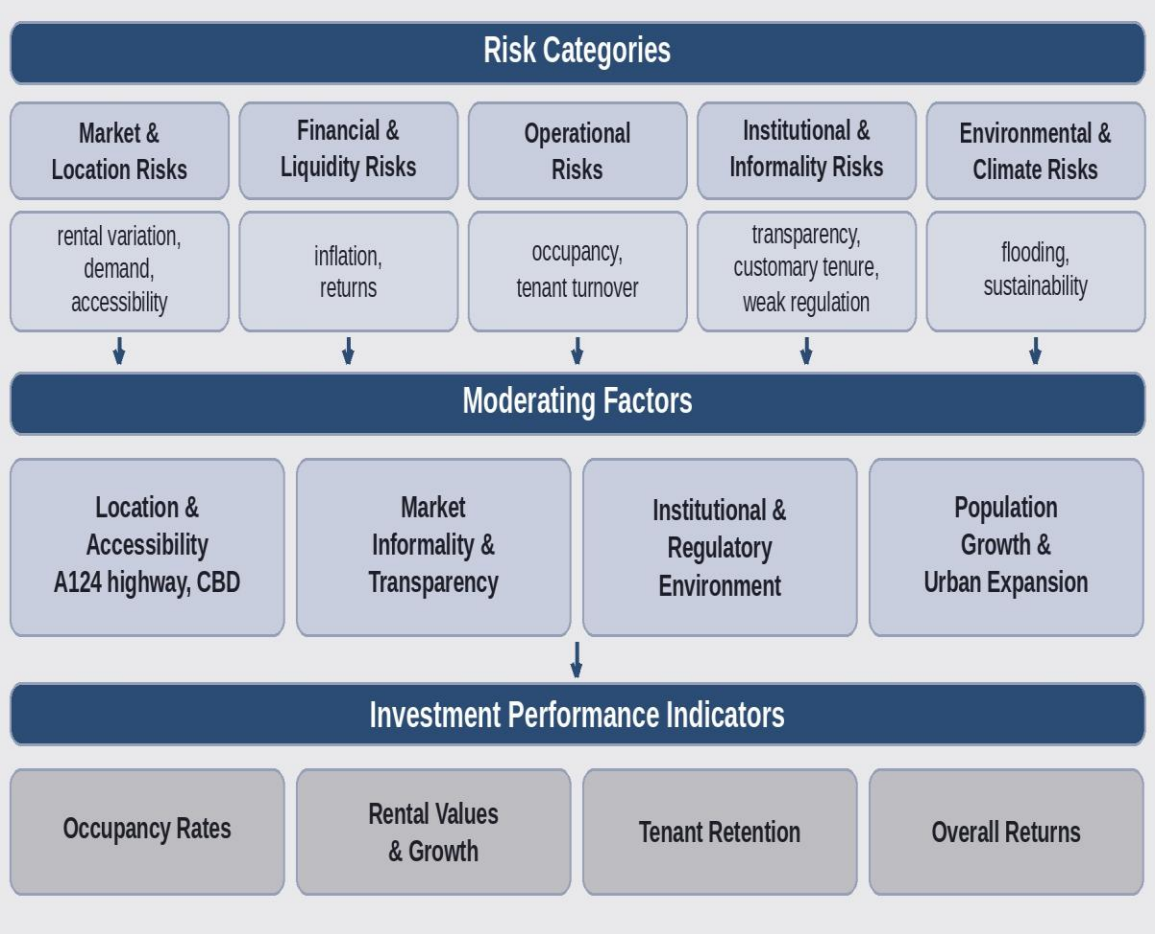

Figure 2: Conceptual model of risk types and investment performance in Bida's commercial real estate market. Synthesised by the authors from Asianoah (2023), Clayton et al. (2021), Markowitz (1952), Mohammed et al. (2025), Nnamani (2017), and Wu et al. (2024).

5. Theoretical Framework

This study was underpinned by four main theories, which help explain risk and performance dynamics in Bida and provide a foundation for understanding risk and performance in real estate investment. Market inefficiency theory highlights how limited information and informal transactions in developing economies can prevent prices from reflecting true values, thereby increasing uncertainty; in Bida, limited formal data and informal transactions create significant information asymmetry, increasing uncertainty for investors (Asianoah, 2023; Fama, 1970; Nnamani, 2017). Modern portfolio theory emphasises diversification to reduce risk, but its application is often restricted in emerging real estate markets due to limited investment options and data shortages (Clayton et al., 2021; Manganelli et al., 2024; Markowitz, 1952). Its reliance on volatility as the measure of risk is a further constraint, because real estate returns are mostly non-normally distributed, which makes volatility alone an inadequate measure of risk for direct real estate (Lausberg et al., 2020). Risk assessment and management models developed for emerging markets (Asianoah, 2023; Nnamani, 2017) provide structured approaches for identifying and mitigating multiple risks in contexts with data scarcity and institutional constraints, while GIS-based spatial suitability modelling (Mohammed et al., 2025) offers a location-specific lens by integrating accessibility, population density, infrastructure, and risk factors to identify viable sites for commercial development in secondary cities. Table 1 summarises the four theories, their core ideas, specific applications to Bida, and contributions to understanding risk and performance.

Table 1: Summary of theoretical frameworks and their application to Bida's commercial real estate market

Theory	Core idea	Key application to Bida's context	Contribution to understanding risk and performance
Modern Portfolio Theory (Markowitz, 1952)	Diversification reduces unsystematic risk while maintaining returns	Spreading investments across CBD, western, northern, and emerging commercial zones along the A124 highway	Helps mitigate location-specific and market risks
Efficient Market Hypothesis (Fama, 1970)	Asset prices reflect all available information	Persistent information asymmetry and informality in Bida's market limit efficiency	Explains heightened uncertainty and pricing inefficiencies

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Theory	Core idea	Key application to Bida's context	Contribution to understanding risk and performance
Risk Assessment and Management Models (Asianoah, 2023; Nnamani, 2017)	Systematic identification, evaluation, and mitigation of multiple risks	Application of quantitative techniques in data-scarce, informal settings	Provides practical tools for managing compounded risks
GIS-Based Spatial Suitability Modelling (Mohammed et al., 2025)	Location-based multi-criteria evaluation of investment viability	Identifying high-suitability zones based on accessibility, population density, and infrastructure	Supports spatial decision-making and reduces location risk

Note. Compiled by the authors from the sources cited.

Collectively, these theories support the argument that combining diversification strategies, better information systems, systematic risk assessment and spatial analysis can lead to more resilient commercial real estate investment in informal secondary urban settings such as Bida.

6. Results

The systematic review of 19 high-quality sources produced a clear synthesis of findings on real estate risks and their influence on investment performance in commercial properties, particularly within emerging African markets. The results are presented through risk categorization, key empirical patterns, and supporting tables. The reviewed literature consistently identifies five major categories of risk. Market and location risks, such as rental variation and accessibility differences, feature prominently in studies conducted in Nigerian cities (Abdulmalik & Udoekanem, 2022; Mohammed et al., 2025). Financial and liquidity risks, including inflation effects and return volatility, are also widely discussed, often showing modest overall returns in informal settings (Ekpo et al., 2025; Nwosu et al., 2024; Peng, 2016). Operational risks relating to occupancy levels, tenant turnover, and management challenges further affect performance (Asianoah, 2023; Igwe-Kalu & Akpan, 2019). Institutional and informality risks, encompassing poor market transparency, customary land tenure, and weak regulatory frameworks, emerge as particularly significant in secondary cities (Asianoah, 2023; Mohammed et al., 2025; Nnamani, 2017). Finally, environmental and climate-related risks, especially flooding and sustainability issues, have been shown to negatively impact property values (Clayton et al., 2021; Porter et al., 2022; Wu et al., 2024). The empirical findings indicate that real estate risks exert a substantial influence on investment performance, where commercial properties located in central business districts and along major transport routes generally achieve higher occupancy rates and more stable rental growth than those in peripheral areas. In the Bida context, for instance, suitability assessments reveal stronger performance indicators in the CBD, western, and northern zones compared with southern parts of

the town (Abdulmalik & Udoekanem, 2022; Mohammed et al., 2025). The application of diversification principles, as originally proposed in Modern Portfolio Theory, is shown to help reduce unsystematic risks and improve risk-adjusted returns in fragmented markets (Manganelli et al., 2024; Markowitz, 1952). Quantitative risk assessment techniques and GIS-based suitability modelling have also proven useful for identifying promising investment locations in data-scarce environments (Mohammed et al., 2025; Nnamani, 2017). Table 2 summarises selected key studies, highlighting their methodological approaches, main findings, limitations, and relevance to the Bida context.

Table 2: Summary of key empirical studies on real estate risks and investment performance

Authors	**Year**	**Method / approach**	**Key findings**	**Limitations / gaps**	**Context / relevance to Bida**
Mohammed et al.	2025	GIS-AHP suitability modelling	Identified high-suitability zones in CBD and major transport corridors with better occupancy and rental performance	Primarily spatial; limited integration with financial risks	Direct relevance to Bida commercial investment
Abdulmalik & Udoekanem	2022	Rental variation analysis	Significant spatial differences in commercial rental values across urban zones	Focused only on Ilorin; no risk-performance modelling	Comparable secondary city context
Nnamani	2017	Quantitative risk assessment techniques	Risk assessment tools significantly improve investment appraisal accuracy in informal markets	Limited to Enugu; less emphasis on environmental risks	Strong methodological contribution for emerging markets

https://doi.org/10.5281/zenodo.23321257

Authors	Year	Method / approach	Key findings	Limitations / gaps	Context / relevance to Bida
Asianoah	2023	Risk management model	Informality and information asymmetry substantially increase investment uncertainty	Ghana-focused; calls for adaptation to Nigerian contexts	Useful for institutional and informality risks
Clayton et al.	2021	Literature review and synthesis of climate risk evidence	Climate risks negatively affect real estate prices and long-term performance	Evidence dominated by residential studies; limited application to African secondary cities	Highlights growing environmental risk dimension
Wu et al.	2024	Climate risk assessment framework	Flooding and extreme weather events have measurable negative impact on property values	Broad scope; less focus on commercial complexes	Relevant for sustainability and regulatory risks

Note. CBD = Central Business District; GIS-AHP = geographic information system–analytic hierarchy process.

To further contextualise the risk environment, Table 3 compares risk characteristics between established major cities and emerging secondary markets in Nigeria. This comparison highlights why Bida presents a distinct setting for commercial real estate investment.

Table 3: Comparison of risk characteristics between established and emerging urban markets in Nigeria

Risk type	**Established markets (e.g., Lagos, Abuja)**	**Emerging secondary markets (e.g., Bida)**	**Key implications for Bida**
Market & Location Risks	Moderate; better data availability and infrastructure	High; strong spatial variation and dependence on major routes	Prioritise GIS suitability analysis
Financial & Liquidity Risks	Lower due to institutional finance and diversified investors	High due to reliance on individual investors and limited credit	Diversification and risk pooling essential
Operational Risks	Moderate; better property management and tenant pools	High; higher tenant turnover and occupancy variability	Focus on location and infrastructure quality
Institutional & Informality Risks	Lower; stronger regulatory enforcement and market transparency	Very high; dominance of customary tenure and informal transactions	Major barrier requiring policy intervention
Environmental & Climate Risks	Moderate; better adaptive infrastructure and insurance	High vulnerability with limited mitigation capacity	Increasing importance due to climate change
Overall Risk Profile	More predictable with established mitigation tools	Highly uncertain with compounded risks	Calls for integrated risk management frameworks

Note. Synthesised by the authors from the reviewed literature.

Figure 3 presents a structured risk assessment and decision-making process for commercial complex investment in emerging markets such as Bida. The flowchart integrates the key risk categories, moderating factors, theoretical strategies, and performance monitoring identified in the review, offering a practical synthesis of the literature for application in similar contexts.

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Figure 3: Risk assessment and decision-making process for commercial complex investment in emerging markets (adapted from Asianoah, 2023; Markowitz, 1952; Mohammed et al., 2025; Nnamani, 2017).

7. Discussion

The findings from the systematic review illuminate the complex interplay between various risk categories and commercial real estate investment performance in emerging markets. A particularly consistent pattern is the strong spatial dimension of risk and performance. Commercial properties located in central business districts and along major transport corridors, such as Bida's A124 highway linkages, generally achieve higher occupancy rates and more stable rental growth than those in peripheral areas (Abdulmalik & Udoekanem, 2022; Mohammed et al., 2025). This spatial variation reinforces the relevance of GIS-based suitability modelling for investment decision-making in secondary cities. The results also align with Modern Portfolio Theory (Markowitz, 1952), showing that diversification across commercial zones can reduce unsystematic risk. However, the persistent influence of institutional and informality risks in contexts such as Bida limits the full application of this theory, as information asymmetry and weak regulatory frameworks continue to undermine market efficiency (Asianoah, 2023; Nnamani, 2017). The non-normal distribution of real estate returns (Lausberg et al., 2020) further suggests that volatility-based diversification measures should be complemented by qualitative risk assessment in settings such as Bida. Environmental risks, though less extensively covered in the Nigerian commercial real estate literature, emerge as an increasingly important concern (Clayton et al., 2021; Wu et al., 2024). Their integration with other risk categories deserves greater attention in future studies, especially given Bida's vulnerability to climate-related events. These insights address important gaps in the literature. While several studies have examined risk and performance in major Nigerian cities or in other African countries like Ghana, there remains limited empirical attention on commercial real estate dynamics in secondary cities of north-central Nigeria. The study contributes to a more nuanced understanding of risk-performance dynamics in under-researched emerging markets by synthesising evidence from Nigeria, Ghana, and foundational theories.

8. Conclusion

This study has examined the influence of real estate risks on investment performance in commercial complexes within emerging secondary cities, focusing on Bida, Nigeria. The synthesis of 19 sources shows that market and location risks, institutional informality, financial constraints, operational challenges, and environmental threats collectively shape investment performance and risk appraisal. In Bida, commercial properties in the Central Business District and along the A124 highway corridor demonstrate stronger performance, highlighting the importance of location and diversification strategies. Bida's market differs markedly from larger cities such as Lagos, Abuja, and Enugu. Its reliance on individual investors, agriculture-based demand, pronounced informality, limited data transparency, and customary land practices creates a more compounded risk environment. Environmental and sustainability risks, though still underexplored locally, are becoming increasingly relevant as climate pressures intensify. The findings present clear practical implications for developers and investors, who should prioritise accessible locations, adopt diversified portfolios, and incorporate basic energy-efficient practices. Local authorities can also support market development through improved information systems, harmonised regulatory frameworks and climate adaptation measures for commercial properties. This paper contributes to the limited literature on commercial real estate in Nigeria's secondary urban centres. It calls for further primary empirical studies to deepen understanding and support more effective risk mitigation strategies in emerging markets.

https://doi.org/10.5281/zenodo.23321257

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