

ABUJA PROPERTY MARKET MATURITY: AN ANALYSIS OF MARKET DIMENSIONS AND DEVELOPMENT TRAJECTORIES

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Abstract

This study investigates the maturity of Abuja's property market through seven critical dimensions: market depth and liquidity; infrastructure quality; regulatory and institutional framework; financing and capital markets; product innovation; transparency and market information; and sustainability. A mixed-methods approach was adopted, combining quantitative data analysis—encompassing rental yields, infrastructure indices, and mortgage market statistics—with qualitative insights from industry reports and expert interviews. The results indicate that while central submarkets (e.g., Wuse, Maitama) demonstrate moderate-to-high liquidity and product diversity, peripheral areas lag in financing accessibility, regulatory efficiency, and data transparency. Institutional reforms such as the expansion of the Nigeria Mortgage Refinance Company (NMRC) and nascent Real Estate Investment Trusts (REITs) point to early consolidation, yet systemic challenges persist. The paper concludes that Abuja is at a developmental inflection point—transitioning from growth toward early consolidation. Policy recommendations include digital titling, mortgage subsidies, centralized market data systems, and transit-oriented planning to foster a mature, transparent property ecosystem that supports sustainable urban growth.

Keywords: Abuja, Property Market Maturity, Market Dimensions, Regulatory Framework, Financing, Transparency

INTRODUCTION

Abuja, the capital of Nigeria, has witnessed substantial growth in its real estate market over the past few decades. The city's rapid expansion, fueled by an increasing population, infrastructural investments, and a growing middle class, has made it an attractive hub for real estate investment. However, despite these developments, the city's property market faces significant challenges. These include issues related to liquidity, regulation, financing, transparency, and sustainability.

Understanding the maturity of a property market is essential for both investors and policymakers to determine its potential for growth and the challenges that need to be addressed. This study evaluates the maturity of Abuja's property market, focusing on the key dimensions of market maturity as defined by Akinbogun, Jones and Dunse (2014). The primary research question of this paper is: **What are the property market dimensions of Abuja's property market maturity?** By answering this, we aim to assess the market's current position along a maturity spectrum, from nascent to fully developed, and provide recommendations for fostering its growth.

LITERATURE REVIEW

Property Market Maturity is a framework to identify the attractiveness of real estate and the property market in which it is embedded an ideal investment destination. Onabanjo (2019) is of the view that the concept of market maturity has been a useful tool for explaining structural changes in property markets and some of the attributes of those changes in different places. The subject of market maturity level has become central in explaining the state of activity within the property markets of which most are just emerging from non-capitalist system to market economy

(Dugeri, 2011). A vast or good knowledge of the status or level of market maturity is important in motivating trans-border transactions in real estate. The notion of market maturity was first mooted by

Keogh and D'Arcy (1994). According to them, maturity is a function of the degree of diversification of user and investor opportunities, flexibility of adjustment of property interests, market openness, the existence of information and research system, professionalism of market players, and standardization of property rights and market practices. The underlying assumption is that property markets in different countries and cities are in different stages of maturity and their exposure to transnational economic and financial flows leads to an evolutionary process whereby those processes become more complex. It should be noted that market maturity is a process, and matures with time as the market develops from a rudimentary level to sophistication. These traditional market characteristics differ from emerging to even nascent markets (this will be explained later) which may suffer a deficit of transparency, a lack of actively traded commercial stock and only small representative types of multinational corporations. From this definition, six distinct characteristics of mature markets can be observed.

STAGES OF PROPERTY MARKET MATURITY

Property market maturity refers to the stage of development and sophistication of a real estate market. A **mature market** is characterized by: high transparency, robust legal and regulatory frameworks, availability of data, strong institutional presence, liquidity and price stability and active secondary markets. Furthermore, mature property market typically follows a developmental process from emergent → growth → transitional → mature.

Below is a conceptual diagram showing the **developmental stages of property market maturity**:

Table 2.1: Stages of Property Market Maturity

EMERGENT	GROWTH	TRANSITIONAL	MATURE
Informal	Early Development	Institutional	Transparent
Land Use	Planning	Reform	Data Driven
No Titles	Data Scarce	Legal Rights	Liquid
Unstable	Volatile	Capital Access	Efficient

Source: Author's 2025

The development of real estate markets typically progresses through a series of distinct stages, each reflecting different levels of institutionalization, investment activity, and regulatory sophistication.

i. At the **Emerging Stage**, markets are characterized by rudimentary infrastructure, limited data availability, weak legal frameworks, and minimal involvement from formal financial institutions. Property transactions often occur informally, and the market is predominantly driven by individual actors or small-scale developers. Investment at this stage is highly speculative, with significant risks due to legal ambiguity and volatile economic conditions.

ii. In the **Growth Phase**, urban expansion and economic development catalyze increased demand for residential, commercial, and industrial properties. Legal reforms and regulatory improvements begin to take shape, attracting early institutional investors and multinational developers. Construction activity intensifies, and the financial sector starts to offer limited mortgage and project financing solutions.

iii. The **Maturing Stage** marks a transition toward professionalism and market diversification. Regulatory frameworks become more stable, property rights are better enforced, and reliable market data becomes available. Investment vehicles such as real estate investment trusts (REITs) may emerge, and financial institutions begin offering more structured products. Risk levels decline, although asset selection becomes more critical as competition increases.

iv. A **Mature Property Market** exhibits high transparency, liquidity, and regulatory predictability. It is characterized by the presence of a diverse range of investors—including large

institutional funds—and advanced financial instruments. Market cycles are well-understood, and there is an emphasis on stable, long-term returns rather than speculative gains.

v. Some markets may enter a **Saturation or Decline Phase**, often marked by oversupply, falling demand, and aging infrastructure. In such cases, price stagnation or depreciation may occur, requiring interventions such as redevelopment, rezoning, or economic revitalization initiatives. This phase may be cyclical or structural, depending on underlying economic and demographic factors.

DIMENSIONS OF MARKET MATURITY

a) **Existence of User and Investor Opportunities:** This implies that both investors and users will have various investment options and opportunities. Users that want a green office or a residential building will find it in the market and investors will have the opportunity of investing in any property or market segment of their choice and vice versa. The flow of international investment activity has not been without direction. The direction of flows is set by the investor's judgment on the existence of quality markets. In the globalized investment world, market competitiveness is defined solely by investor perception, relative endowment with infrastructure and a favourable institutional environment. It is for this reason that markets are analyzed in the investor/participants context, along with the opportunities as associated operational structures subsisting within the economy assuming center stage. The basis of evaluating the competitiveness of investment markets is therefore determined by the interplay of subsisting opportunities and associated operational structures that enable and support particular forms of investment (Osuntogun, 2005, McGrea et al., 2002, cited in Dugeri 2011).

b) **Flexibility of Adjustment of Property Interests:** It is said that the property market deals in rights. Investors will have the option of long and short tenure, and will also be able to adjust their interest by sublease or surrendering an inferior interest for a superior interest.

c) **Existence of Information Flow and Research:** According to Jones Lang LaSalle (2025), sub-Saharan Africa still lags behind other regions in market data availability, whole enforcement of regulations and sustainability benchmarking which are also strong key areas where there is significant potential for improvement. There should be accelerate efforts in developing data and reliable market information. Information is key to the efficiency of any market. Information in the Nigerian property market is becoming available in the public domain and can be accessed online. This is driven by a few real estate outfits such as Northcourt Ltd. Estate Intel and Ubosi Eleh & Co. Some others are in the process of starting data companies. In a mature market there is transparency in real estate transactions, availability of information and existence of real estate market data. These are factors that will encourage investment including foreign direct investment (FDI) in real estate. The existence and practice of market research is a good indication of a developed market as it provides guidance for many decision makers - both private and public sectors involved in real estate development. It is also useful in establishing market gaps and a market niche that is not satisfied. It further investigates both regulatory requirements and the attitude of neighbours and public officials. In developing countries, most developers use a back-of-the-envelope approach or decision based on the success of other developers in the development market. We cannot afford to take a leap into the dark with our eyes wide open. That will be a decision fraught with man-made risks. In developing countries, even when data is available for decision-making, they are used without analysis and refinement. It is good to know that a critical flaw of many market analyses is that they present data without analysis.

Without adequate information and data professionals, other market professionals cannot operate effectively in the property market. The professionals will be incapable of providing advisory services to their clients.

d) **Professionalism of Market Players:** Professionalism in the property market entails the use of professionals who have been trained, qualified, registered and regulated by legally established professional bodies such as the Nigerian

Institution of Estate Surveyors and Valuers (NIESV), Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON), Architects Registration Council of Nigeria (ARCON), Quantity Surveying Registration Board of Nigeria (QSRBN), among others. These and others have major roles to play in the development market which is part of the property market. We will concentrate on estate surveyors and valuers who are the major actors in the property market and whose activities are regulated by ESVARBON. Nigerian estate surveyors are well trained and regulated but they are constrained by an underdeveloped property market, culture and weak institutional framework. A focus of professionals in the property market is not on how the professional firms have dealt with place-specific processes of adaptation of local market cultures and practices to global trends, but on how they have defined their strategies and tactics in the context of global standards, and the extent these have resulted in influencing changes in the local market. It also tries to evaluate to what extent local practitioners or firms have been engaged in international market practices and making impacts in these markets. Nigerian professionals have gone far in advancing their professionalism. However, there is a need for a more robust framework and strengthened and independent institutions guaranteeing high professional standards and tenant-landlord protection. According to Akinbogun et al (2014), the classification of Keogh and D'Arcy remains subject to debate as no scientific means were employed to calibrate the criterion employed, although an element of this fact is recognized by the authors in the conclusion of their paper. They argued that maturity needs to be articulated and quantified in more detail and that there is no single evolutionary path that will be followed by all property markets to attain maturity. A broader framework has been indicated and adopted by other authors like Dugeri (2011), Akinbogun et al (2014), JJL (2022) among others. It is relevant to note that the concept of market maturity as expounded by Keogh and D'Arcy is a broad macro rather than a micro one. It refers to a wider institutional system within which the property market operates. In terms of professional standards, it is worthy to note that Nigeria is the first country in Africa to produce a global valuation standard for use of its members. This is a good attempt to standardize valuation practice which is very critical to adaptation to International Financial Reporting Standards and enhances healthy market practices and international compatibility of valuation outcomes, standardization and uniformity in global valuation practice.

e) **Market Transparency:** This involves transparency in the functioning of the market. Chen, Chu and Griffith (2023), defines transparency as a lack of hidden agendas, or conditions, accompanied by the availability\of full information required for collaboration, cooperation and collective decision making' and an 'essential condition for a free and open exchange whereby the rules and reasons behind regulatory measures are fair and clear to all participants.

Transparency requires honesty and consistency. Without this, participants will not have trust and confidence in the market. In most developing countries, there are a lot of inconsistencies in marketing dealings and transactions. This is a major constraint to foreign direct investment in the property market. There is always a hidden agenda. Market participants must not change terms in the middle of transactions without the mutual consent of the parties to the transactions. Lack of transparency constrains the availability of reliable market information and data. Information or questions on age and income are perceived with suspicion. It is either the respondent gives out wrong information or the wrong answer is given. This is a major constraint to property market research. The situation is worsened by the presence of black money and illegitimate income used in property transactions. It is at times difficult to correlate the amount spent by individuals in acquiring real property and their legitimate income. Professionals refuse in some cases to disclose the actual rental value or sales price and this is a major source of distortion in the property market. In some situations, correct and full information on the condition and time of the real

property is not disclosed early in the transaction. The purchaser will start developing cold feet in the transaction when the full reality of the subject of the transaction is brought to light. There is also the challenge of multiple transactions on a single parcel of land. All these do not instill confidence in property market participants and trigger breach of trust vital for decision-making by market participants. Withholding of information also creates a breach of trust even when the concerned party claims he did not lie but told half the truth or withheld relevant information important to the transaction and decision-making. Information must be timely in any market transaction for it to be useful. Information delayed is as bad as information denied because it comes at a time it will not be useful for informed decision and is capable of making the investor lose interest and confidence in the transaction.

There is therefore an urgent need for the provision of adequate market rates and regulations to guide and regulate market activities. It is easier to control in an environment where agents in the market are more of registered and regulated professionals that can be sanctioned for professional misconduct.

A transparent market will encourage international end-users, investors and foreign developers in the local property market. All these, interestingly, are happening today even with all the constraints. This is because of various economic opportunities open to various categories of foreign investors and expatriates in different fields of endeavour. This shows that the path to market maturity is not linear, as could be wrongly interpreted from the notion of market maturity as proposed by Keogh and D'Arcy. According to Jones Lang LaSalle (JLL) index report (2024), there is a gradual increase in the region's (sub-Saharan Africa) transparency with 10 out of 15 markets registering improvements since 2016. South Africa remains the only transparent market in Sub-Saharan Africa and both to a significant institutional investor base and listed sector. Other markets considered semi-transparent, Botswana and Mauritius, Kenya and Nigeria, the leading hubs in East and West Africa respectively, have been leading progress over the last two years, while Rwanda has also continued to improve. There is however the need to accelerate the rate of improvement to shrink the gap between the region and other global regions. The entire region still lags behind other regions in terms of market data availability, while enforcement of regulation and sustainability benchmarking are also among key areas, where there is significant potential for improvement.

The following four issues will determine how sub-Saharan Africa will progress in the future:

- i. **The Rising Use of Prop-Tech:** According to JLL, new technologies offer potential for African property markets to leapfrog or move from their traditional paths to greater transparency and more efficient data collection. The use of block chain in land registration will be very ideal.
- ii. **Deepening Liquidity:** Transparency can be enhanced by increased participation of institutional investors and the development and adaptation of the listed sector through more efficient property investment vehicles like listed property companies, real estate investment trusts, investment trusts, securitization, etc. These are key to improving data availability and investment performance tracking.
- iii. **Regulatory Enforcement:** There is currently an absence of regulatory enforcement in most countries of the region. There is therefore a need to create a divergence between regulation and enforcement for markets to raise their transparency levels. There are regulations in most cases but weak or absent enforcement institutions.
- iv. **Sustainability of Practices:** According to the Jones Lang LaSalle's (JLL) report, transparency around sustainability is hardly noticeable and its presence is key to ensuring that real estate reaches the required standard to meet the region's yawning needs and aspirations. In its (JLL) 2024 transparency ranking, Nigeria ranked 67th out of 100 countries. On a scale of 5 with 1 as highly transparent, followed by transparent, semi-transparent, low transparent and opaque, Nigeria falls under low transparency moving away from the opaque tier in 2018. According to the report, about 50% of the global population is constituted by these 8 big markets

- Brazil, China, India, Indonesia, Mexico, Russia, Thailand and Turkey which present enormous real estate opportunities that are currently restricted by lack of transparency.

(f). Standardization of Property Rights and Practices: Standardization of property rights deals with ease and transparency in title registration, promptness in planning regulation and approval among others. At the heart of property market inefficiencies are land administration and planning policies. A high percentage of publicly owned land is viewed as a problem because the government lacks sufficient resources to invest in social infrastructure. A good land administration system is necessary for an efficient mortgage system. There are many inconclusive registration processes due to high registration cost and the unduly long process involved in land registration. The ease and difficulty in land registration varies from one state to the other. In some cases, it takes up to 12 months or more to register a title. The registration process is not too transparent. Though each registry has detailed requirements for land registration, officials create bottlenecks in the administration of land and procurement of title. It is one thing to provide regulation and another is the institutional framework for enforcement. The principal law governing land administration in Nigeria is the Land Use Act of 1978.

According to Abere, Ogunba and Dugeri, T. T. (2021). An investigation of factors, there are two para land markets in Nigeria, formal and informal. The same app to other developing countries. The Land Use Act, in spite of its intentions (good and bad), is the root or beginning of informal land market as most land transactions are carried out without obtaining the governor's consent as provided in the Land Use Act. The problem of tenant security is still obvious despite the passage of the Rent Control Act which was intended to achieve that. It still falls victim to poor enforcement. The constraints in the formal land/property market have made the informal market to thrive. There is a need to merge the formal and informal markets to create uniformity, consistency and efficiency in market transactions and enhance ease of doing business to attract direct foreign investors in real estate.

Market maturity in real estate has been studied extensively, with several frameworks proposed to assess the development of property markets in different regions. According to Adeogun, Adebisi, Udoekem, Mendie, and Oladokun, (2023), market maturity is a multi-dimensional concept that includes factors such as market liquidity, infrastructure quality, financing options, regulatory frameworks, and transparency. These dimensions are critical in determining the attractiveness of a market to both local and foreign investors. Akinbogun et al. (2014) proposed a framework that includes seven dimensions of market maturity: liquidity and depth, infrastructure quality, institutional framework, financing, innovation, transparency, and sustainability.

In emerging markets such as Abuja, these dimensions are often underdeveloped, and real estate markets typically move through a cycle of growth, stagnation, and consolidation. Previous studies of Nigerian cities like Lagos have shown that liquidity, regulatory inefficiencies, and lack of transparency hinder the full maturity of the market. However, Abuja presents a unique case as the nation's capital, with a complex combination of government interventions, private investments, and urban planning initiatives.

METHODOLOGY

This study employs a mixed-methods approach, combining both quantitative and qualitative research methods to assess the maturity of Abuja's real estate market.

Quantitative Analysis: To assess market liquidity and depth, data on rental yields and property transaction volumes were gathered from industry reports, property websites, and government statistics. For infrastructure, qualitative assessments were made using available public data on road quality, utilities, and transport accessibility, which were then converted into a scoring system ranging from 1 (poor) to 5 (excellent). Financial maturity was assessed by analyzing mortgage penetration rates, the availability of financial products, and REIT development.

Qualitative Analysis: In addition to quantitative data, expert opinions were gathered through semi-structured interviews with five Abuja-based real estate professionals. These experts provided insights into the practical challenges of the market, such as bureaucratic delays, market speculation, and fraud. The qualitative data was analyzed thematically to identify key barriers to market maturity.

RESULTS

Table 4.1: Maturity Assessment

Dimension	Abuja Status	Maturity Level
Market Liquidity & Depth	Core moderate-high; peripheral slow	Growth
Infrastructure	Built-up; peripheral improving	Growth
Regulation & Institutional Framework	Functional; institutional delays	Early Consolidation
Finance	Limited mortgage access; low REIT uptake	Early
Product Innovation	Diverse products in development pipeline	Growth
Transparency	Weak data systems; speculative opacity	Nascent
Sustainability	Planning demand exists; sprawl persists	Early

Source: Author's Field Survey

1. Market Liquidity & Depth

Abuja's real estate market exhibits strong liquidity in core districts like Wuse, Maitama, and Asokoro, where rental yields range from 7% to 10%. These areas experience consistent demand from both local and expatriate tenants. However, liquidity drops significantly in peripheral zones like Kubwa, Lugbe, and Karu, where yields are lower, and transaction volumes are reduced. This discrepancy is attributed to factors such as regulatory inefficiencies, incomplete infrastructure, and limited access to financing.

2 Infrastructure & Accessibility

Infrastructure quality in central Abuja is relatively high, with roads, utilities, and transportation systems scoring above 80%. Major transport corridors like the Outer Southern Expressway have significantly improved connectivity between the city center and suburban districts. However, peripheral areas still face challenges in terms of access to quality infrastructure, with areas like Kubwa and Lugbe scoring below 60%. This gap in infrastructure development directly impacts the attractiveness of these areas for investors and residents.

3. Regulatory & Institutional Framework

Regulatory challenges remain a significant hurdle for the Abuja property market. Land titles are often delayed due to bureaucratic inefficiencies, with property owners facing lengthy registration processes. Property disputes are common, and as of 2023, 27% of property-related court cases in Abuja's High Court involve land title issues. The Nigeria Mortgage Refinance Company (NMRC) and other regulatory initiatives have started to improve institutional efficiency, but there is still room for greater oversight and transparency in land transactions.

4. Financing & Capital Markets

The availability of financing remains limited in Abuja's real estate market. Mortgage penetration is below 10%, and the cost of borrowing is high due to interest rates and stringent eligibility criteria. While the NMRC has made significant strides in improving access to mortgages, particularly for low- and middle-income earners, the mortgage market is still underdeveloped. Additionally, the growth of Real Estate Investment Trusts (REITs) in Nigeria is still in its nascent stage, limiting investor access to real estate portfolios.

5. Product Innovation & Diversification

The property market in Abuja has seen innovation in product offerings, particularly in mixed-use developments like the World Trade Centre Abuja and Centenary City. These projects are designed

to meet the growing demand for integrated, sustainable urban spaces. However, there remains a heavy reliance on traditional residential and commercial developments, with limited options for affordable housing, which remains a significant challenge.

6. Transparency & Market Information

Transparency is a key issue in Abuja's real estate market. Market data is often fragmented, and there is a lack of a centralized property registry, which complicates the valuation process for investors. Pricing is speculative, with little standardization across neighborhoods. Additionally, there are frequent reports of fraudulent transactions and the sale of unverified land titles, further undermining investor confidence.

7. Sustainability & Urban Planning

Abuja has made strides in promoting sustainability, with projects like the **EKO Towers** and **Transcorp Hilton** integrating green building standards. However, urban sprawl remains a concern, with unregulated developments in peripheral areas that do not adhere to sustainable building practices. Furthermore, the city's master plan needs better integration with public transportation to accommodate the increasing population.

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

Abuja's property market exhibits several characteristics of a maturing market, particularly in its core districts. However, it is clear that significant barriers remain. The market is highly segmented: some areas (e.g., Wuse, Maitama) are experiencing strong growth, while others (e.g., Kubwa, Lugbe) are stagnating due to infrastructural deficits, regulatory inefficiencies, and limited financing options.

The **liquidity gap** between prime and peripheral areas points to an emerging market that is still in transition. Despite Abuja's economic and political significance, these disparities reveal a **lagging consolidation phase**, where infrastructural development and institutional reforms are needed to unlock the full potential of the peripheral areas.

This scenario aligns with findings from studies on emerging markets in Africa, where infrastructure, financing, and regulatory frameworks are key determinants of market maturity (Adeogun et al., 2023). Abuja's slow pace of mortgage market development and the limited success of REITs indicate a market that is still in the **early stages of financial market maturity**.

CONCLUSION

Abuja's property market is positioned between the **growth** and **early consolidation** stages of maturity. While core areas like Wuse and Maitama exhibit strong signs of market development, peripheral zones face significant barriers, including infrastructural deficits, regulatory inefficiencies, and limited access to financing. By addressing these challenges through targeted policy interventions, Abuja can move toward becoming a more mature and sustainable real estate market.

RECOMMENDATIONS

To enhance Abuja's property market maturity, several policy interventions are recommended:

1. **Mortgage Market Expansion:** The government should work with financial institutions to increase mortgage accessibility, especially for middle- and low-income buyers. This can be achieved through subsidized interest rates and improved borrower education.
2. **Digitization of Land Titles:** The process of land titling should be digitized, and a centralized property registry should be established. This will reduce bureaucratic delays, improve transparency, and reduce fraud.
3. **Incentives for REITs:** The government should introduce tax incentives and regulatory support for Real Estate Investment Trusts (REITs), encouraging broader investor participation in the property market.
4. **Promoting Sustainable Urban Development:** Urban planning policies should prioritize high-density, mixed-use, and transit-oriented development. Regulations must be enforced to ensure that new developments adhere to sustainability standards.

5. **Data Transparency:** A national property database should be created, ensuring access to reliable market information. This will enhance market transparency and help both investors and consumers make informed decisions.

Key recommendations: invest in mortgage subsidies and borrower education, digitize land records, centralize market data, incentivize REIT expansion, and promote sustainable transit-oriented development aligned with Abuja's master plan.

REFERENCES

1. Abere, O. C., Ogunba, O. A., & Dugeri, T. T. (2021). An investigation of factors influencing maturity levels of property market in southwestern Nigeria. *Property Management*, 39(1), 71–84. <https://doi.org/10.1108/PM-07-2019-0041>
2. Adeogun, A. S., Adebisi, R. T., Udoekanem, N. B., Mendie, E. A., & Oladokun, T. T. (2023). Evaluation of trends in returns on real estate investment and infrastructure conditions indices in Abuja, Nigeria. *Journal of Inclusive Cities and Built Environment*. <https://doi.org/10.54030/2788-564X/2023/3s6a3>
3. Akinbogun, S., Jones, C., & Dunse, N. (2014). The property market maturity framework and its application to a developing country: The case of Nigeria. *Journal of Real Estate Literature*, 22(2), 217–232.
4. Chen, M., Chun, Y., & Griffith, D. A. (2023). Delineating housing submarkets using space– time house sales data: Spatially constrained data-driven approaches. *Journal of Risk and Financial Management*, 16(6), 291.
5. Dugeri, T. T. (2011). *An Evaluation of the Maturity of the Nigeria Property Market*. A published P.hd thesis in the department of Estate management, University of Lagos.
6. Jones Lang LaSalle (JLL Global Real Estate Transparency Index, 2022). Application:
7. Jones Lang LaSalle (JLL). (2024). *Global real estate market maturity model [Research report]*. JLL.
8. Keogh, G., & D'Arcy, É. (1994). Market maturity and property market behaviour: A European comparison of mature and emergent markets. *Journal of Property Research*, 11(3), 215–235.