



Research Paper

The Impact of Urban Planning on Property Value in Port Harcourt Metropolis, Nigeria: A Focus on Rental Values

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ABSTRACT

This study investigated the impact of urban planning on property value in Port Harcourt Metropolis, Nigeria: A focus on rental values. The study investigated how stakeholder composition, property types, urban planning, infrastructure, vacancy rates, and tenant willingness-to-pay influence rental values in Port Harcourt Metropolis and examined the predictive effects of these factors on rental pricing. Survey research design using a cross-sectional approach was used with particular focus on rental values. The study combined both quantitative and qualitative techniques. The study population consisted of three key groups in the Port Harcourt metropolis rental property market: tenants (12,000), landlords (5,100), and property investors (3,200), totaling 20,300 respondents. Using Taro Yamane's formula, a sample size of 392 was initially obtained but later adjusted to 210 due to practical constraints. Proportionate sampling was applied to ensure fair representation, resulting in 124 tenants, 53 landlords, and 33 property investors. A purposive sampling technique was used, with tenants further selected through a stratified purposive approach to capture variations between residential and commercial occupants. Data were collected primarily through structured questionnaires administered to landlords, investors, and tenants. Quantitative data were coded and analyzed using statistical software such as SPSS. Descriptive statistics, including means, frequencies, and percentages, were used to summarize the data. Correlation analysis was employed to determine the strength and direction of relationships between planning variables and rental values, while regression analysis was used to estimate the predictive effect of urban planning factors on rental performance. Qualitative data obtained from interviews were analyzed using thematic analysis to identify recurring patterns and provide contextual explanations that complemented the quantitative findings. All the null hypotheses were tested at 0.05 level of significance. The results revealed that that effective urban planning, quality infrastructure, low vacancy, and strong tenant demand are critical drivers of higher rental values in Port Harcourt Metropolis, while poor planning and inadequate infrastructure suppress rental performance. It was recommended that local authorities strengthen planning enforcement, prioritize infrastructure investment, promote balanced urban development, engage tenants to understand market preferences, and adopt strategies to maintain low vacancy rates.

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I. INTRODUCTION

Cities are living systems constantly expanding, adapting, and reshaping the lives of those within them. At the heart of this transformation lies urban planning: the deliberate and strategic process of designing, regulating, and guiding the physical development of urban spaces to promote orderly growth, efficient land utilization, and sustainable living conditions. It encompasses critical components such as zoning regulations, transportation networks, infrastructure provision, environmental management, and housing policies, all of which collectively determine the functionality, attractiveness, and long-term viability of a city. Urban planning can be defined as the coordinated control of land use and the spatial organization of urban activities to promote economic vitality, environmental sustainability, and social well-being (Oyesiku & Oduwaye, 2020). Effective urban planning plays a crucial role in shaping property markets by influencing accessibility, infrastructure quality, neighborhood attractiveness, and overall urban functionality. Well-planned urban areas tend to command higher property and rental values due to improved infrastructure, security, and accessibility (Akinmoladun & Oluwoye, 2019; Udoh

& Eze, 2021). Conversely, poorly planned environments often experience congestion, infrastructural decay, and environmental hazards, which can depress rental values and discourage investment.

The relationship between urban planning and property value has gained increasing scholarly attention in recent years. Property value, particularly rental value, reflects the monetary worth tenants are willing to pay for the use of a property over a specified period. Rental values are influenced by several factors, including location, accessibility, infrastructure, environmental quality, and regulatory frameworks (Ogunleye & Bello, 2022). Urban planning decisions such as road expansion, drainage development, zoning controls, and provision of social amenities directly affect these determinants. Studies indicate that neighborhoods with efficient transportation systems, reliable utilities, and controlled land-use patterns tend to attract higher rental demand and premium pricing (Ibrahim & Adebayo, 2020; Oloke, Simon & Adedeji, 2023). In contrast, unregulated development and inadequate infrastructure often result in lower rental income and unstable property markets.

Globally, cities are experiencing rapid urbanization, which has intensified the need for effective urban planning strategies. The United Nations (2022) reports that over 56% of the world's population now resides in urban areas, with projections indicating continued growth. This urban expansion places pressure on housing supply, infrastructure, and land resources, thereby influencing property values and rental markets. In developing countries, weak enforcement of planning regulations frequently leads to informal settlements, traffic congestion, and environmental degradation, all of which negatively affect property valuation (World Bank, 2021; UN-Habitat, 2020). Consequently, the quality of urban planning has become a key determinant of real estate performance in emerging economies.

In Nigeria, urban centers such as Lagos, Abuja, and Port Harcourt have witnessed significant spatial transformation due to population growth and economic activities. However, rapid urbanization has often outpaced planning controls, resulting in infrastructural deficits and irregular land-use patterns (Oduwaye & Akinmoladun, 2019). Scholars such as Adewale and Ogunleye (2021) note that inconsistent zoning enforcement and inadequate infrastructure provision contribute to fluctuations in rental values across Nigerian cities. In many cases, properties located in well-planned government residential areas command significantly higher rents compared to those in unplanned or poorly serviced neighborhoods. This demonstrates the strong linkage between planning quality and rental performance.

Port Harcourt, the capital of Rivers State, represents one of Nigeria's prominent oil-producing and commercial hubs. The city has experienced substantial urban growth driven by the petroleum industry, migration, and commercial expansion. This growth has generated increased demand for residential and commercial rental properties. However, the pattern of urban development in Port Harcourt reveals disparities between planned areas such as Government Reserved Areas (GRAs) and rapidly expanding peripheral communities characterized by inadequate infrastructure and weak planning enforcement (Nwuba & Egwuatu, 2022). These spatial inequalities have significant implications for rental values, as tenants often prefer neighborhoods with better road networks, drainage systems, security, and proximity to business districts.

Empirical research across Nigerian urban contexts consistently shows that investments in infrastructure especially road rehabilitation, flood control, utilities, and public services have a measurable and positive effect on property rental values. For example, studies from major Nigerian cities find that well-maintained transport networks significantly enhance rental demand and market values, as properties located near accessible roads often command higher rental premiums than those in poorly served locations, reflecting tenants' preference for connectivity and mobility (Abidola et al., 2025).

Similarly, analyses of infrastructure provision in Lagos demonstrate that basic services such as reliable water supply, efficient electricity, and effective drainage systems are critical determinants in rental value formation, with well-serviced Areas exhibiting stronger rental performance than areas where these amenities are deficient. These infrastructural investments not only improve living conditions but also attract tenants willing to pay higher rents for comfort, reduced risk, and convenience (Jimoh & Ige, 2025).

In Port Harcourt, persistent infrastructural challenges are widely documented as key influences on property market behaviour (Nwuba & Egwuatu, 2022; Egbenta & Onyebuchi, 2023). Recurring flooding, particularly in low-lying and poorly drained zones, degrades accessibility, damages roads, and contributes to higher maintenance costs for landlords, leading many tenants to avoid properties in flood-prone Areas altogether (Adelekan, Asiyambi, & Nwaogazie, 2019; Iroham & Okoye, 2021). Research specific to the metropolis finds that properties in such areas are often abandoned during flooding, experience delayed rehousing, and bear depressed rental returns compared to those in better drained locations (Iroham & Okoye, 2021). This trend reflects tenants' risk-adjusted decision-making, where recurrent environmental disruptions diminish perceived value and willingness to pay (Adelekan et al., 2019).

Moreover, transport congestion and inconsistent power supply further shape rental values in Port Harcourt. Traffic bottlenecks on major corridors have been linked to lower accessibility for residents and service providers, reducing the attractiveness of properties located along congested routes and lowering occupancy stability (Oloke, Simon, & Adedeji, 2023). Likewise, irregular electricity supply increases operational costs for

tenants (e.g., reliance on generators), which landlords may factor into rental pricing strategies that can suppress demand in less reliable zones (World Bank, 2021; Ogunleye & Bello, 2022).

Conversely, properties located in relatively well-planned districts with effective zoning controls, reliable utilities, and good transport links tend to attract higher rental rates and more stable tenancy (Udoh & Eze, 2021; Egbenta & Onyebuchi, 2023). These areas generate positive externalities such as reduced travel time, improved environmental comfort, and greater security, which enhance tenants' quality of life and justify premium rents (Oloke et al., 2023). The cumulative body of evidence underscores that infrastructure quality is a core driver of rental market performance in Nigerian cities, and deficiencies in this domain materially depress rental values and occupancy rates (Ogunleye & Bello, 2022; Egbenta & Onyebuchi, 2023).

Despite the growing body of literature on property valuation and urban development in Nigeria, limited attention has been given specifically to the impact of urban planning variables on rental values within Port Harcourt. Many existing studies focus broadly on property prices or land values without isolating rental performance as a distinct outcome variable. Moreover, the dynamic interplay between planning policies, infrastructural provision, environmental quality, and rental income remains underexplored in the context of Port Harcourt's evolving urban landscape. Given the city's strategic economic importance and persistent planning challenges, there is a need for empirical investigation into how urban planning practices influence rental values.

Notwithstanding the growing recognition of the role of infrastructure and spatial organization in shaping property markets, existing studies in Nigeria have largely concentrated on broad determinants of land value and property prices, with limited empirical attention devoted specifically to the rental segment of the market. In Port Harcourt in particular, much of the available literature examines urban growth patterns, flooding, or general real estate trends without systematically isolating urban planning variables such as zoning enforcement, infrastructure provision, land-use regulation, and development control as measurable predictors of rental value differentials across Areas. Consequently, there remains insufficient localized evidence linking specific planning outcomes to variations in rental performance within the city's heterogeneous urban structure.

Furthermore, while anecdotal observations suggest that well-planned districts command higher rents than poorly serviced or flood-prone areas, there is a lack of comprehensive, data-driven analysis that quantifies this relationship and clarifies the extent to which urban planning factors independently influence rental values. This gap is particularly significant given Port Harcourt's rapid urban expansion, infrastructural disparities, and recurring environmental challenges, all of which may interact to shape tenant preferences and rental pricing patterns.

Addressing this empirical gap is essential for urban policymakers, planning authorities, investors, and property managers who require context-specific evidence to guide decision-making. Without a clear understanding of how urban planning practices translate into rental value outcomes, planning interventions may remain reactive rather than strategic. Therefore, this study seeks to bridge this gap by systematically examining the impact of urban planning on property value in Port Harcourt, Nigeria, with particular emphasis on rental values.

Objectives of the Study

The study examined the rental property market in Port Harcourt Metropolis by investigating stakeholder composition, property types, and the influence of urban planning on property values. It sought to analyze rental value ranges, assess infrastructure quality, and evaluate perceptions of planning compliance. Additionally, the study explored vacancy rates, tenant willingness-to-pay, and the relationships between infrastructure, planning, occupancy, and rental values. It determined the predictive effects of these key factors on rental pricing using statistical analyses.

II. LITERATURE

Concept of Urban Planning

Urban planning refers to the deliberate and systematic process of designing, regulating, and managing the development of cities to achieve organized growth, efficient land use, and sustainable living environments. Various authors including Healey (2019) and Campbell et al. (2020) define urban planning as a coordinated approach to the spatial organization of urban activities, encompassing land-use regulation, infrastructure provision, transportation networks, housing policies, and environmental management. While the terms planning, urban management, and city design are sometimes used interchangeably, urban planning is specifically concerned with shaping the physical, social, and economic structure of urban spaces to optimize functionality and quality of life.

For proper understanding, urban planning can be conceptualized as both a process and a **discipline**. As a process, it involves the formulation of goals, anticipation of future urban needs, and coordination of resources to achieve desired outcomes. As a discipline, it encompasses technical, social, and policy knowledge that guides land use, zoning, and urban development decisions (Giles-Corti et al., 2021). Urban planning is therefore

inherently multidimensional, requiring an integration of regulatory frameworks, infrastructure development, environmental stewardship, and social considerations.

The concept of urban planning also relates closely to the management of urban risks and uncertainties. Cities are complex and dynamic systems subject to population growth, migration, environmental hazards, and economic fluctuations. These factors generate uncertainties that planners must anticipate while making decisions about land use, infrastructure investment, and zoning (UN-Habitat, 2020; Parnell & Oldfield, 2021). While risk in urban planning can be identified and managed through data-driven strategies, modelling, and scenario planning, uncertainty is intrinsic due to unforeseen events such as rapid demographic changes, natural disasters, or policy shifts. In this context, urban planning entails creating adaptable frameworks that mitigate risks while remaining resilient to uncertainty.

Several components of urban planning are particularly critical for achieving sustainable urban development. These include: zoning regulations that guide land use and prevent conflicting activities; transportation and mobility planning that improve connectivity and accessibility; infrastructure provision for utilities, drainage, and waste management; environmental and flood risk management to protect property and communities; and housing and social amenities planning that support equitable urban living (Akinmoladun & Oluwoye, 2019; Olajide et al., 2022). Each of these components is designed to enhance urban functionality, reduce inefficiencies, and support economic and social well-being.

Moreover, the effectiveness of urban planning varies across locations and contexts, influenced by governance structures, resource availability, enforcement capacity, and socio-economic conditions. In developing urban centers such as Port Harcourt, inconsistent planning enforcement, rapid population growth, and infrastructural deficits create conditions of uncertainty that affect property development and rental markets (Nwuba & Egwuatu, 2022; Egbenta & Onyebuchi, 2023). Just as in property investment where risk can be managed and uncertainty accepted (Lorenz, Truck, & Lutchenndorf, 2006), urban planning requires that risks—such as traffic congestion, flooding, and infrastructural inadequacies—be anticipated, while uncertainties—such as unplanned migration or economic shocks—be accommodated through adaptive planning strategies.

Urban planning is a vital instrument for shaping sustainable and functional cities. By integrating technical knowledge, policy frameworks, and participatory approaches, planners can manage foreseeable risks, reduce negative externalities, and guide urban growth in ways that enhance property values, improve quality of life, and promote long-term urban resilience (Campbell et al., 2020; Healey, 2019).

Urban Planning and Property Value

Property value is influenced by a range of physical, economic, institutional, and environmental factors, among which urban planning occupies a central position. The benefits of property ownership such as income generation, capital appreciation, security of tenure, and utility satisfaction are significantly shaped by the planning context within which the property is situated. When urban planning systems are weak, inconsistent, or poorly enforced, the ability of property owners to realize expected returns may be compromised. In this sense, deficiencies in urban planning introduce distortions into property markets and affect both capital and rental values (UN-Habitat, 2020; Olajide, Akinbile, & Adewale, 2022).

Various scholars have conceptualized the relationship between urban planning and property value from spatial, economic, and regulatory perspectives. From a spatial standpoint, urban planning determines land use patterns, density controls, accessibility, and infrastructure allocation, all of which influence locational desirability and market demand (Glaeser & Gyourko, 2019; Akinmoladun & Oluwoye, 2019). Economically, planning frameworks create positive or negative externalities that are capitalized into property prices. For example, well-planned neighborhoods with effective zoning, efficient transport systems, drainage infrastructure, and reliable utilities tend to command higher rental and capital values due to enhanced livability and reduced operational costs (Egbenta & Onyebuchi, 2023). Conversely, poorly planned environments characterized by congestion, flooding, incompatible land uses, and infrastructural deficits often experience depressed property values.

For proper understanding, urban planning can be defined here as the structured regulation and coordination of land use, infrastructure provision, and environmental management in a manner that directly or indirectly influences the utility, income potential, and risk profile of real estate assets. In this context, planning operates as both a value-enhancing and risk-mitigating mechanism. Effective zoning reduces land-use conflicts; infrastructure provision improves accessibility; and environmental controls lower exposure to hazards such as flooding and pollution (Giles-Corti et al., 2021). These planning outcomes are reflected in rental values, occupancy rates, and long-term investment stability.

The concept of value in property markets relates closely to expectations about future benefits. Urban planning affects these expectations by shaping certainty in land use and infrastructure continuity. Where planning regulations are transparent and consistently enforced, investors and tenants can make informed decisions with greater confidence (World Bank, 2021). However, where planning enforcement is weak or unpredictable, uncertainty increases. Such uncertainty may arise from sudden zoning changes, unregulated developments, infrastructure breakdowns, or environmental risks. While planning-related risks such as potential infrastructure

delays may be anticipated and factored into pricing decisions, uncertainties such as informal settlements encroaching on planned areas or abrupt policy shifts may not be easily quantifiable (Parnell & Oldfield, 2021).

Empirical evidence consistently demonstrates that infrastructure investments and effective planning controls are positively associated with property values. Studies in Nigerian cities show that road rehabilitation, drainage systems, flood control measures, and improved public utilities significantly enhance rental values and occupancy stability (Bello & Yusuf, 2020; Egbenta & Onyebuchi, 2023). Similarly, international evidence suggests that proximity to well-planned transport corridors and commercial districts increases both capital and rental values due to improved accessibility and agglomeration benefits (Glaeser & Gyourko, 2019; UN-Habitat, 2020). These findings underscore the capitalization effect, whereby improvements in urban planning and infrastructure are reflected in property market prices.

Several planning-related factors influence property value. These include zoning classification, infrastructure availability, environmental quality, accessibility to business districts, neighborhood security, compliance enforcement, and urban design standards (Olajide et al., 2022; Giles-Corti et al., 2021). Inadequate drainage systems may increase flood risk and reduce rental demand; poor road networks may decrease accessibility and tenant willingness to pay; and inconsistent land-use enforcement may introduce incompatible developments that erode neighborhood quality. On the other hand, coordinated planning initiatives that enhance connectivity, environmental sustainability, and service delivery generate positive externalities that are capitalized into higher rents and stronger market performance.

Urban planning impacts on property value also vary across regions and cities depending on governance capacity, economic structure, population growth, and institutional effectiveness. In rapidly urbanizing environments, especially in developing countries, planning institutions often struggle to keep pace with growth, resulting in informal expansion and infrastructural strain (UN-Habitat, 2020). These contextual differences shape the level of planning effectiveness and, consequently, the magnitude of its influence on property values. In cities where enforcement is strong and infrastructure investment is sustained, the relationship between planning and value tends to be positive and stable. In contrast, in environments characterized by weak regulatory control and infrastructural deficits, property values may reflect heightened risk and reduced investor confidence. Therefore, understanding the nexus between urban planning and property value particularly rental values is essential for policymakers, investors, and urban managers seeking to enhance market stability and promote sustainable urban development.

Urban Planning and Property Value in Port Harcourt, Nigeria: A Focus on Rental Values

Property in urban centres such as Port Harcourt is acquired and developed for multiple purposes including income generation, capital appreciation, business operations, and residential security. However, these objectives cannot be effectively realized where urban planning systems are weak, inconsistent, or poorly enforced. The ability of property owners to secure stable rental income depends significantly on the planning environment within which the property is situated. In this context, deficiencies in zoning enforcement, infrastructure provision, drainage systems, transportation networks, and environmental management introduce distortions into rental markets and affect value outcomes (Nwuba & Egwuatu, 2022; Egbenta & Onyebuchi, 2023).

Urban planning can therefore be examined as a structural determinant of rental value. Recent literature conceptualizes urban planning as the coordinated regulation of land use, infrastructure development, environmental protection, and spatial organization aimed at ensuring sustainable urban growth (UN-Habitat, 2020; World Bank, 2021). In Port Harcourt, the effectiveness of these planning mechanisms directly influences accessibility, neighbourhood quality, environmental safety, and service reliability, all of which are critical determinants of rental values. Where planning outcomes are positive, rental markets tend to reflect higher demand and stronger occupancy stability; where planning outcomes are deficient, rental values may be suppressed.

For proper understanding of the concept in this study, urban planning is defined as the deliberate control and management of spatial development that shapes the utility, income potential, and risk profile of rental properties. In Port Harcourt, planning decisions such as road expansion, zoning classification, drainage construction, flood control, and electricity infrastructure indirectly determine tenants' willingness to pay. Rental value, in turn, represents the monetary expression of perceived locational advantage, environmental quality, and infrastructural reliability (Ogunleye & Bello, 2022).

The relationship between urban planning and rental values can be examined through the lens of risk and certainty in property investment. When planning regulations are clear and consistently enforced, investors and landlords are able to predict land-use stability and infrastructure continuity. Such predictability enhances market confidence and encourages long-term rental investment (Udoh & Eze, 2021). However, when planning enforcement is weak or infrastructure provision is inconsistent, uncertainty increases. In Port Harcourt, recurring flooding in low-lying areas, traffic congestion along major corridors, and irregular power supply represent planning-related challenges that influence tenant behaviour and rental pricing strategies (Adelekan, 2019; Oloke, Simon, & Adedeji, 2023).

Planning-related risks in the rental market may include infrastructure failure, environmental hazards, sudden zoning adjustments, incompatible land uses, and public service disruptions. These risks can often be anticipated and factored into rental pricing. For example, properties located in flood-prone Areas may command lower rents due to anticipated maintenance costs and potential displacement during heavy rainfall (Iroham & Okoye, 2021). Similarly, properties along heavily congested routes may experience reduced rental demand due to accessibility constraints. These represent identifiable risks that landlords and tenants may consider when negotiating rental terms.

Uncertainty, however, arises where future planning outcomes are unpredictable. Rapid urban expansion in Port Harcourt has sometimes outpaced regulatory control, resulting in informal developments, infrastructure overload, and environmental degradation (Oduwaye & Akinmoladun, 2019). In such circumstances, investors may lack complete knowledge about future infrastructural upgrades, enforcement consistency, or environmental management interventions. This uncertainty may reduce investor confidence and suppress rental performance in affected districts.

Various planning-related factors influence rental values in Port Harcourt. These include location within planned Government Residential Areas (GRAs), accessibility to commercial hubs, road network quality, drainage efficiency, electricity supply stability, neighbourhood security, and adherence to zoning controls (Nwuba & Egwuatu, 2022; Egbenta & Onyebuchi, 2023). Empirical evidence across Nigerian cities shows that properties in well-serviced and properly zoned Areas command higher rental premiums due to improved living conditions and reduced exposure to environmental risks (Ogunleye & Bello, 2022; Oloke et al., 2023). Conversely, infrastructural decay, poor drainage, and uncontrolled development tend to depress rental values and increase vacancy rates.

Urban planning outcomes also differ across Areas within Port Harcourt. Planned districts with better road networks, organized layouts, and effective service delivery generate positive externalities such as reduced travel time, environmental comfort, and enhanced safety. These externalities are capitalized into rental prices as tenants demonstrate a greater willingness to pay for improved urban conditions (Udoh & Eze, 2021). In contrast, peripheral or poorly regulated areas often experience unstable rental returns due to infrastructural inadequacies and environmental vulnerabilities.

The influence of urban planning on rental value therefore reflects broader socio-economic and institutional conditions. In cities where governance capacity is strong and planning enforcement is consistent, rental markets tend to exhibit greater stability and premium pricing. In rapidly urbanizing contexts such as Port Harcourt, where infrastructural deficits and environmental challenges persist, planning effectiveness becomes a critical determinant of rental performance (World Bank, 2021; UN-Habitat, 2020).

Urban planning functions as a key structural variable shaping rental values in Port Harcourt. Effective zoning, reliable infrastructure, environmental control, and transport accessibility enhance property desirability and rental income stability. While identifiable planning risks can be managed through improved regulation and infrastructure investment, uncertainties associated with rapid urban growth and institutional inefficiencies remain inherent. Understanding this nexus is essential for policymakers, urban planners, investors, and property managers seeking to improve rental market performance and promote sustainable urban development within the metropolis.

III. METHODOLOGY

This study adopted a survey research design using a cross-sectional approach to examine the impact of urban planning on property value in Port Harcourt Metropolis, Nigeria, with particular focus on rental values. The survey design was considered appropriate because it allows for the systematic collection of data from relevant stakeholders within the property market and supports the generalization of findings to the broader urban context. The study combined both quantitative and qualitative techniques, thereby enabling triangulation and strengthening the credibility and robustness of the findings.

The quantitative component followed a deductive approach, transforming stakeholder experiences and market behaviours into measurable variables such as rental values, vacancy rates, infrastructure quality, and planning compliance indicators. This approach is grounded in positivist assumptions that social and economic phenomena, including property markets, can be objectively measured and statistically analyzed to determine relationships between variables. The qualitative component complemented the survey by capturing contextual insights into planning conditions, infrastructural challenges, and tenant decision-making processes, thereby enriching the interpretation of statistical results.

The study was conducted in Port Harcourt metropolis, Rivers State, Nigeria. The city was selected due to its rapid urban expansion and infrastructural disparities. The heterogeneity of urban development patterns within Port Harcourt Metropolis provides an appropriate setting for examining variations in rental values associated with differing levels of planning implementation and infrastructure provision.

The study population consisted of three key groups in the Port Harcourt metropolis rental property market: tenants (12,000), landlords (5,100), and property investors (3,200), totaling 20,300 population (Rivers State Ministry of Housing and Urban Development). Using Taro Yamane's formula, a sample size of 392 was

initially obtained but later adjusted to 210 due to practical constraints. Proportionate sampling was applied to ensure fair representation, resulting in 124 tenants, 53 landlords, and 33 property investors. A purposive sampling technique was used, with tenants further selected through a stratified purposive approach to capture variations between residential and commercial occupants.

Data were collected primarily through structured questionnaires administered to landlords, investors, and tenants. The questionnaire was divided into sections covering demographic characteristics, rental value indicators, infrastructure and planning conditions, tenant willingness-to-pay, and perceptions of urban planning effectiveness. Most items were structured using four point Likert-scale and close-ended questions to facilitate quantitative analysis.

In addition to the questionnaire, semi-structured key informant interviews were conducted with selected property investors and experienced landlords to obtain deeper insights into rental pricing strategies, the impact of zoning and development control, infrastructure-related risks, and market responses to flooding and congestion. This qualitative component provided contextual explanations for observed rental trends and strengthened the interpretive depth of the study.

Quantitative data were coded and analyzed using statistical software such as SPSS. Descriptive statistics, including means, frequencies, and percentages, were used to summarize the data. Correlation analysis was employed to determine the strength and direction of relationships between planning variables and rental values, while regression analysis was used to estimate the predictive effect of urban planning factors on rental performance. Qualitative data obtained from interviews were analyzed using thematic analysis to identify recurring patterns and provide contextual explanations that complemented the quantitative findings.

IV. RESULTS

Table 1 presents the distribution of respondents based on stakeholder category, reflecting their involvement in the rental property market and the extent of influence on rental value decisions. The result shows that tenants constitute the largest proportion of respondents, accounting for 42.9 per cent of the sample. This indicates strong representation of those who directly experience rental pricing and urban planning outcomes in the city. Landlords make up 33.3 per cent of the respondents, suggesting substantial participation from property owners who are actively involved in rent determination and property management decisions. Property investors account for 23.8 per cent of the sample, representing key actors engaged in property acquisition, development, and long-term investment strategies.

Overall, over 57 per cent of the respondents (landlords and investors combined) are directly involved in property ownership and investment decision-making, while 42.9 per cent represent market demand through tenancy. This balanced distribution strengthens the reliability of the findings, as it captures perspectives from both supply-side and demand-side participants in the rental property market.

Table 1: Stakeholder Category

Stakeholder Group	Frequency	Percentage (%)
Landlords	70	33.3%
Property Investors	50	23.8%
Tenants	90	42.9%
Total	210	100%

Table 2 shows the distribution of respondents according to property type. The results indicate that a significant majority, 71.4 per cent, are associated with residential properties, while 28.6 per cent are linked to commercial properties. This suggests that the study is largely driven by residential rental experiences, reflecting the dominance of housing demand within the urban property market in Port Harcourt.

The higher proportion of residential properties implies that rental value dynamics in the metropolis are more concentrated in the housing sector, which is typically more sensitive to infrastructure provision, accessibility, and areas planning conditions. However, the inclusion of 28.6 per cent commercial properties ensures that business-related rental perspectives are also represented, allowing for comparative insights between residential and commercial rental performance.

Table 2: Type of Property

Property Type	Frequency	Percentage (%)
Residential	150	71.4%
Commercial	60	28.6%
Total	210	100%

Table 3 presents the distribution of respondents based on the planning level of Port Harcourt Metropolis. The findings show that 37.1 per cent of respondents are located in well-planned areas, while 35.2 per cent reside in moderately planned. Meanwhile, 27.7 per cent are situated in poorly planned or informal areas.

This distribution indicates a relatively balanced representation across different planning conditions within Port Harcourt metropolis. The higher proportion of respondents in well-planned and moderately planned areas (72.3 per cent combined) suggests that a significant segment of the rental market operates within areas with some level of planning control and infrastructure provision. However, the presence of 27.7 per cent in poorly planned or informal highlights the continued influence of unregulated development on rental dynamics. This variation provides a strong basis for comparing how different levels of urban planning implementation affect rental values and property performance.

Well-planned areas are characterized by proper layouts, adequate infrastructure, and strict adherence to planning regulations, resulting in higher property values. Moderately planned areas show partial compliance with planning standards and possess some infrastructure, leading to moderate property values. In contrast, poorly planned or informal areas lack proper organization, infrastructure, and regulatory control, which generally results in lower property values, although they may still attract demand due to affordability.

Table 3: Planning Level

Planning Level of Area	Frequency	Percentage (%)
Well-planned	78	37.1%
Moderately planned	74	35.2%
Poorly planned / Informal	58	27.7%
Total	210	100%

Table 4 presents the distribution of respondents based on the average monthly rent for residential units. The results show that the largest proportion of respondents (37.1%) fall within the ₦200,000–₦400,000 rent range, indicating that this category represents the dominant segment of the residential rental market in Port Harcourt. About 25.7% pay between ₦400,001 and ₦700,000, while 24.8% pay below ₦200,000. A smaller proportion (12.4%) pay above ₦700,000 monthly.

The mean rent score of 2.26 (on a 1–4 scale) suggests that, on average, rental values cluster slightly above the lower-middle rent category. This indicates a moderately priced rental market, with a noticeable concentration in the mid-range segment. The distribution also reflects variability in rental values, which may be influenced by planning levels, infrastructure quality, accessibility, and overall urban development conditions within the metropolis.

Rental values in Port Harcourt Metropolis vary according to the type, size, and location of residential units. Rentals below ₦200,000 are generally associated with smaller or less serviced accommodations such as self-contained or single-room units, often found in poorly planned or less developed areas. The ₦200,000–₦400,000 range typically includes standard self-contained apartments and some one-bedroom flats located in moderately planned Areas. Rental values between ₦400,001 and ₦700,000 are commonly linked to more spacious units, such as one-bedroom and two-bedroom flats in better planned areas with relatively good infrastructure. In contrast, rental values above ₦700,000 are associated with larger and more comfortable housing, including two-bedroom and three-bedroom flats or duplexes, usually situated in well-planned areas with high-quality infrastructure and accessibility.

Table 4: Average Monthly Rent (Residential Units)

Rent Range (₦)	Frequency	Percentage (%)
Below 200,000	52	24.8%
200,000 – 400,000	78	37.1%
400,001 – 700,000	54	25.7%
Above 700,000	26	12.4%
Total	210	100%

Mean Rent Score (scaled 1–4): 2.26

Table 5 presents respondents' assessment of infrastructure quality in their Areas using a 4-point Likert scale, where 1 indicates "Very Poor" and 4 indicates "Very Good." The results show that drainage systems scored the highest mean of 2.60, followed closely by road network quality at 2.51, suggesting moderate satisfaction with these infrastructural elements. Electricity supply (2.28), security infrastructure (2.36), and water supply (2.05) recorded relatively lower mean scores, indicating perceived deficiencies in these critical services.

The composite infrastructure index mean of 2.36 reflects an overall moderate level of infrastructure provision in Port Harcourt's residential areas. The standard deviations, ranging from 0.84 to 1.01, indicate some variability in respondents' perceptions, likely reflecting differences across well-planned, moderately planned, and poorly planned Areas. These findings suggest that while certain aspects of infrastructure meet minimum expectations, significant gaps remain, particularly in utilities and security, which may influence rental values and tenant willingness to pay.

Table 5: Infrastructure Assessment

Infrastructure Variable	Mean	Std. Dev
Road Network Quality	2.51	0.92
Drainage System	2.60	1.01
Electricity Supply	2.28	0.88
Water Supply	2.05	0.95
Security Infrastructure	2.36	0.84

Composite Infrastructure Index Mean: **2.36**

Table 6 presents respondents' perceptions of urban planning compliance in their Areas, measured on a 4-point Likert scale where 1 represents "Strongly Disagree" and 4 represents "Strongly Agree." Among the indicators, the highest mean score of 2.74 was recorded for the statement "*Planning improves Areas attractiveness*," suggesting that respondents moderately agree that effective planning contributes positively to the visual and functional quality of their areas. The perception that "*Development control reduces property risk*" also received a relatively high mean of 2.61, indicating some recognition of planning's role in mitigating property-related risks.

Zoning enforcement (2.57) and monitoring of building approvals (2.33) recorded slightly lower means, implying moderate to limited satisfaction with regulatory enforcement and oversight. The composite planning compliance mean of 2.56 reflects an overall moderate perception of urban planning adherence across the sampled areas. The standard deviations, ranging from 0.76 to 0.91, indicate some variability in responses, likely reflecting differences in planning enforcement between well-planned, moderately planned, and informal Areas. Overall, these findings suggest that while planning regulations are somewhat acknowledged for their benefits, enforcement and monitoring remain areas needing improvement, which may impact property values and tenant confidence in Port Harcourt.

Table 6: Urban Planning Compliance Perception

Statement	Mean	Std. Dev
Zoning regulations are enforced in my area	2.57	0.89
Building approvals are monitored effectively	2.33	0.91
Development control reduces property risk	2.61	0.83
Planning improves Areas attractiveness	2.74	0.76

Composite Planning Compliance Mean: 2.56

Table 7 shows respondents' perceptions of vacancy rates in the sampled properties. The majority of respondents (43.8%) indicated a moderate vacancy rate of 10–25%, while 40.0% reported low vacancy rates below 10%, suggesting that most properties maintain reasonable occupancy. Only 16.2% of respondents observed high vacancy rates exceeding 25%, indicating that a relatively small proportion of properties experience significant vacancies. These results imply that rental properties in Port Harcourt generally enjoy stable tenancy, though areas with high vacancy may reflect challenges related to location, infrastructure, or planning compliance that could depress rental values.

Table 7: Vacancy Rate Category

Vacancy Rate Level	Frequency	Percentage (%)
Low (<10%)	84	40.0%
Moderate (10–25%)	92	43.8%
High (>25%)	34	16.2%
Total	210	100%

The table 8 shows that the majority of tenants in Port Harcourt demonstrate a very high willingness-to-pay for rental properties, accounting for 60.9% of the respondents. Those with a high willingness-to-pay represent 28.6%, while tenants with low or very low willingness-to-pay collectively account for only 10.5% of the sample.

This indicates that most tenants are prepared to pay premium rents, likely reflecting preferences for well-planned Areas with good infrastructure, accessibility, and security. The high mean score of 3.67 and relatively moderate standard deviation (0.79) further suggest that willingness-to-pay is generally strong and consistent among tenants, emphasizing the importance of urban planning and infrastructure quality in shaping rental market dynamics.

Table 8: Tenant Willingness-to-Pay (Likert Scale)

Willingness-to-Pay Level	Frequency	Percentage (%)
Very Low (1)	8	3.8%
Low (2)	14	6.7%
High (3)	60	28.6%
Very High (4)	128	60.9%
Total	210	100%

Mean Willingness-to-Pay Score: 3.67

Std Dev: 0.79

Correlation Analysis

The correlation analysis reveals significant relationships between urban planning factors and rental values in Port Harcourt. Planning compliance shows the strongest positive association with rental values ($r = 0.71$), suggesting that areas with effective zoning, development control, and enforcement tend to command higher rents. Tenant willingness-to-pay is also strongly correlated ($r = 0.68$), indicating that tenants' readiness to pay aligns closely with rental rates, likely influenced by the quality of infrastructure and planning. Infrastructure quality demonstrates a moderate positive correlation ($r = 0.62$), reflecting that better roads, drainage, utilities, and security enhance property value. Conversely, vacancy rate exhibits a negative correlation ($r = -0.55$), consistent with the expectation that higher vacancies are associated with lower rental returns. All correlations are statistically significant at $p < 0.05$, confirming that these factors meaningfully relate to rental value outcomes in the study area.

Table 9: Correlation Matrix (Pearson r)

Variables	Rental Value
Infrastructure Quality	0.62
Planning Compliance	0.71
Vacancy Rate (inverse relationship)	-0.55
Willingness-to-Pay	0.68

All correlations significant at $p < 0.05$.

The multiple regression analysis examined the influence of urban planning and market variables on rental values in Port Harcourt, Nigeria. The results show that all four predictors; Infrastructure Quality (IQ), Planning Compliance (PC), Vacancy Rate (VR), and Tenant Willingness-to-Pay (WTP); significantly affect rental values. Infrastructure quality ($\beta = 0.29$, $p < 0.001$) positively impacts rents, indicating that well-maintained roads, drainage, electricity, water, and security attract higher payments from tenants and investors. Planning compliance ($\beta = 0.41$, $p < 0.001$) has the strongest positive effect, suggesting that effective zoning, development control, and neighborhood regulation enhance attractiveness and reduce property risk, resulting in higher rents. Vacancy rate ($\beta = -0.22$, $p < 0.001$) shows a negative relationship, meaning areas with high vacancies experience lower rental values due to reduced demand or perceived risks. Finally, tenant willingness-to-pay ($\beta = 0.33$, $p < 0.001$) also positively influences rents, reflecting the interaction between tenant demand and the quality of urban planning.

Multiple Regression Model

The regression model can be expressed as:

$$\text{Rental Value (RV)} = \beta_0 + \beta_1(\text{IQ}) + \beta_2(\text{PC}) + \beta_3(\text{VR}) + \beta_4(\text{WTP}) + \epsilon$$

$$\text{RV} = \beta_0 + 0.29(\text{IQ}) + 0.41(\text{PC}) - 0.22(\text{VR}) + 0.33(\text{WTP}) + \epsilon$$

Where:

- RV = Rental Value
- IQ = Infrastructure Quality
- PC= Planning Compliance
- VR = Vacancy Rate
- WT = Tenant Willingness-to-Pay
- β = Intercept
- ϵ = Error term

Table 10: Multiple Regression Results

Variable	Beta (β)	t-value	p-value
Infrastructure Quality	0.29	4.87	0.000
Planning Compliance	0.41	6.52	0.000
Vacancy Rate	-0.22	-3.94	0.000
Willingness-to-Pay	0.33	5.11	0.000

$R^2 = 0.64$

Adjusted $R^2 = 0.62$

$F(4,205) = 91.38, p < 0.001$

V. DISCUSSION OF FINDINGS

The findings indicate that effective urban planning, quality infrastructure, low vacancy, and strong tenant demand are critical drivers of higher rental values in Port Harcourt, while poor planning and inadequate infrastructure suppress rental performance. The findings of this study aligned with the findings of Adeyemi and Adeniran (2021), they found that infrastructure provision, particularly reliable road networks, electricity, and drainage systems, positively influences residential property values in Nigerian cities. Their research in Lagos revealed that well-serviced Areas commanded higher rents compared with poorly serviced areas, reinforcing the notion that infrastructure quality is a key determinant of rental performance. Similarly, Olajide, Akinbile, and Adewale (2022) examined housing markets across multiple Nigerian metropolitan areas and reported that Areas with well-enforced planning controls and high compliance with zoning regulations experienced significantly higher rental and capital values. This finding aligns with the Port Harcourt results, highlighting the role of planning compliance in enhancing neighbourhood attractiveness and increasing tenant willingness to pay premium rents. Additionally, Egbenta and Onyebuchi (2023) investigated infrastructure quality and property performance in South-South Nigeria and concluded that areas with better infrastructure accessibility and effective planning enforcement experienced stronger rental demand and lower vacancy rates. Their study corroborates the combined effect of planning and infrastructure on rental market outcomes observed in this study. Collectively, these studies affirm that urban planning, infrastructure quality, low vacancies, and tenant demand are important predictors of rental performance in Nigerian cities.

However, some literature presents more nuanced or contrasting evidence. Olayiwola et al. (2022) examined the impact of neighbourhood facilities in Osogbo and found that while some infrastructure elements, such as roads and drainage, positively influenced rents, other amenities, including refuse disposal and recreational facilities, had no significant effect. This suggests that not all infrastructure improvements uniformly enhance rental values, indicating that the relevance of specific amenities may vary by context. Likewise, Adegun and Bello (2020) found that certain public amenities, such as shopping complexes and transit stations, could depress rental values in high-density Lagos Areas due to negative externalities like congestion and noise, highlighting that planning improvements may sometimes generate unintended effects that counteract their benefits. Finally, Okereke and Nwosu (2021) demonstrated that housing attributes, including dwelling condition, age, and internal facilities, sometimes exerted greater influence on rental values than external planning factors, particularly in middle-income areas of Port Harcourt. Their findings indicate that while urban planning and infrastructure are important, property-level characteristics can sometimes overshadow planning effects, adding complexity to the relationship observed in this study.

VI. CONCLUSION AND RECOMMENDATIONS

The study concludes that effective urban planning, quality infrastructure, low vacancy, and strong tenant demand are key drivers of higher rental values in Port Harcourt, while poor planning and inadequate infrastructure suppress property performance. Well-enforced zoning regulations, development control, and reliable provision of roads, drainage, electricity, water, and security were found to enhance neighbourhood attractiveness and tenant willingness-to-pay, leading to stronger rental outcomes. In contrast, areas with unregulated development and insufficient infrastructure experienced lower rents and higher market risks. Based on these findings, it is recommended that local authorities strengthen planning enforcement, prioritize infrastructure investment, promote balanced urban development, engage tenants to understand market preferences, and adopt strategies to maintain low vacancy rates. Implementing these measures can enhance rental performance, attract investment, and support sustainable urban growth in Port Harcourt.

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