

## Influencing Factors of Property Use Conversion and Residential Properties Rental Value Trend in Ikeja, Nigeria

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### Abstract

The paper determines the influence of property use conversions on residential property rental value performances in Ikeja, Nigeria. Previous studies have shown that a multiplicity of use conversion characterizes Nigeria urban centres, hence, threatening the cordial relationship among the property market participants, rental value performances, distorting city aesthetic and morphology. The rapidity of this trend is alarming, thus call for the urgent attention of land/city managers, spatial planner, government and other stakeholders to address its attendant problems. Quantitative data, using questionnaire survey, were collected and used for the study. The influence of property use conversion factors on residential property rental value performances in the study area was determined using a predictive model. Findings of the study show that about 67% of use conversion activities in Ikeja can be explained through the fusions of the conversion factors in the predictive model with 96% influence on residential property rental values. It was further observed that there exist increasing cases of default in rent payment due to the conversion activities and intensive competition for property uses especially properties with locational advantages. The paper advocates for strict implementation of all relevant sections of urban property use related laws in the state to ensure compliance with existing laws and appropriate monitoring of property development and uses that will help in the achievement of sustainable city development and liveability in the post pandemic era.

*Keywords:* Property use conversions, property use conversion factors, rental values, Ikeja Nigeria, post pandemic era

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### 01.0 INTRODUCTION

Investment in the real estate sector has recently taken a melodramatic trend especially with the ever-rising demand for urban housing for residential and other competing commercial uses. This is particular of bigger cities as Ikeja, Kano, Ibadan, Abuja, Port Harcourt and other similar cities; hence aggravating use conversions from purpose built residential housing to commercial property uses. The impact of the conversions of use on the Nigeria housing market is said to be enormous and alarming with consequential negative effect on city aesthetics and property rental performances (Akanbi et al., 2019; Ankeli, 2021; Gbadamosi & Ibrahim, 2013). The Ikeja city post COVID-19 rental volatility has been attributed to property owners' quest to take advantage of the swift acute shortage of residential housing due to the unabated cases of property use conversions. Ikeja, the capital of Lagos State, was originally designed as a purely residential neighbourhood; however, the intent was altered as the city has and still witnessing formal and informal restructuring in both her landscape and property use structures. The position of Ikeja as the industrial hub and commercial nerve centre of Lagos state has engendered the unprecedented population influx which have led to the ever-rising demand for urban housing and stiff competition for other land uses. Urbanisation effect characterized by the spontaneous influx of people, globalization, improved technology and industrialisation are said to have heightened the unparalleled demand for property use in the city without a complementary proportionate surge in housing stock (Ankeli et al., 2020; Adedayo, 2018). Earlier studies by Ankeli et al. (2019), Gbadamosi and Ibrahim (2013), and Ogunkan and Jelili (2010) averred that the exceptional rate of human activities resulting in the unusual demand for commercial property use have triggered property use conversions in Ikeja which is gradually becoming a permanent phenomenon in the city just like every other cities in the country with serious implications of rental values instability, demographic and economic balancing, socio-cultural and technological intellections. More so, a report by the Nigerian Institution of Estate Surveyors and Valuers (NIESV) on Lagos Property Market from January to June 2020 revealed that Ikeja GRA (Government Reservation Areas) and its surrounding neighbourhood will continue to command high rental values and hence will remain one of the most expensive locations on the Lagos mainland provided the various land and property use regulations and policies are strictly followed (see NIESV, 2020). Issues of land and property use conversions are twin issues that often goes together. However, Cao et al. (2021) cautioned that the adoption of land use policies and regulations with the intention of accommodating speedy

growth could likely have potential implications on the expectations of the developable open spaces as people's willingness to pay for such spaces may be altered due to the fear of future conversion.

Nevertheless, Bosikun et al. (2021) found that land use conversion is a term that could mean different thing to different people depending on the perspective from where it is viewed. Though, the generally accepted connotation of the term among scholars is the afterthought alterations in the designed or use of land and buildings/properties thereon to billet other uses of land that were not originally planned for in such an area, hence, land use and property use are terms used interchangeably in this context to mean the same thing. Previous literature works such as Dekolo et al. (2013) and Oni (2009) observed that the morphology and substantial terrain of the present metropolitan Lagos which lie below sea level with a relatively small land size, that have beset the state with peculiar problem of land use contestation and property use conversions/infiltrations. These phenomena have brought gains and pains to both property owners and other stakeholders in the real property investment sector. More so, the contrasting gains of property use conversions aggravated by the recent outbreak of COVID-19 pandemic (to the property owners/investors) and the inconveniences suffered by the tenants due to infrastructure overuse, hike in urban rentals call for urgent need of the assessment and reassessment of the influence of property use conversions factors on property rental value in the study area.

However, they exist relatively scanty literature on property use conversion issues in Nigeria, the purview of the few available literature which though identified several properties use conversion factors seems to have omitted the influence of the phenomena on property rental values in the post pandemic era especially in an all important rental market as Ikeja. The current study therefore investigate the identified property use conversion factors in Ikeja, in the post pandemic era, and determine the likely influence of the phenomena on the rental values of tenement buildings (a specially design multi-tenanted building which could be bungalow with rooms on wings separated by a common path or the compound style with a common space at the centre or storey form with room arranged on two wings and a common path separating the rooms – this type of properties do have common share kitchen, toilet and bathroom and often refer to face-me-I-face-you in the Nigerian real property rental market parlance), two-bedroom and three-bedroom bungalows in Ikeja.

## **02.0 JUSTIFICATION FOR THE STUDY**

Issues pertaining to land or property use conversion are usually not considered to be issues of serious importance in the developed countries of the world where adherence to laws are held inviolable. In the developing countries with high population growth rate, poor planning, uncoordinated development control strategies and complete disregard for planning and property use related laws, the reverse seems to be the case. It has been projected that by 2050, about two-third population of the world is likely to live in urban areas with much of the projections expected to occur in the developing nations (UN-DESA, 2012, 2015). The projections seem to be particular to developing nations of Africa and Asia where cities are seen as centre for economic, social and political powers. Nigeria has been described as a harbinger and a nation at the front end of the rapidly urbanizing countries in the sub-Saharan Africa; and adjudged as the seventh largest country in the world in terms of population size, and may possibly move to the third position by 2050 with her over 5% population annual growth rate (Ankeli et al., 2021). More so, Xu (2020) opined that central cities in the metropolitan areas are often centre of attraction to both residents and business ventures, thereby making the available spaces insufficient for their accommodation. This assertion mirrors the current situation in Ikeja, Nigeria where land and property use infiltration and contestation, with the resultant consequences of abnormal urban rental regime have become the order of the day. Still, there are laws on procedures and processes that must be followed when converting a property or land yields from a particular use to another in the various states in Nigeria. The same laws also specify penalties for contraventions, but the challenge is that, these laws are docile and ineffective in most of the states; hence, most property owners rarely comply with these laws and often claimed to have the prerogative to convert without obtaining consent from the concern authorities. Unfortunately, the monitoring and enforcement agents of the government that are expected to regulate and control land and property uses seems to have compromised their obligatory duty due to lack of transparency and corrupt practices; hence, become inefficient and ineffective.

In recent time however, issue of land/property use conversion, mounting cases of rent defaults due to COVID-19 pandemic and the increasing rate of use conversions especially from residential use to commercial uses have taken a much more melodramatic stance in the country, hence a typical issue of national discuss. However, it is important to note that, before the outbreak of coronavirus pandemic in Nigeria, housing poverty was a social problem in the Ikeja prefecture just like in the other regions of Nigeria. The phenomenon which is rampant in all parts of Lagos state seems to be much felt in Ikeja the capital of Lagos. The demographic and economic pull factors are said to have engendered the rapidity of urbanization rate of the city and the challenges of property use conversions or infiltrations and contestations in the city. More so, government agencies that are expected to serve as an arbiter or control and regulate urban land uses seems to have compromised or abandoned their obligatory functions by allowing the interactions of the free rental market forces of demand and supply to drive land space use and the rental property market. The consequences are usually the displacement of the less competitive bidders by the higher bidders, property use infiltration or use conversions, encouragement of inconsistent, haphazard and chaotic use of land spaces and other forms of contraventions, rental instability among others. These phenomena which are gradually becoming a tradition in Ikeja, where most of the purpose-built residential properties are fast been converted to other high income yielding or better investment options that promises better returns as shopping malls, eateries and club houses, banking halls, offices, fashion and other business properties. Though, since the outbreak of the COVID-19 virus in 2020, a slew of studies have been conducted on property market responses to coronavirus pandemic, especially in the area of the effect of the pandemic and other related urban hazards on real estate rental market with varying findings (De Toro et al., 2021; D'Lima et al., 2022; Francke & Korevaar, 2021; Yang & Zhou, 2022). However, only a modicum research work has been done on the influencing factors of property use conversion and residential property rental values in the post pandemic era. Bosikun et al. (2021) averred that the main upshot of land use conversion conflict is the different degree of suffering that are usually imposed on the neighbourhood utilities and infrastructures due to overuse which often result in their

eventual decadent or degradation. Furthermore, the unabated rental instability and the distortions of urban morphology due to the rising proclivity of property use conversions especially from residential to non-residential uses in a residential zone is a clear indication of the systematic urban land and property use policy failures in the study area.

### **03.0 LITERATURE REVIEW**

Property use conversion issues that are gradually becoming a typical issue of national and regional discuss in the sub-Saharan African countries particularly Nigeria, is an insignificant issue in the developed countries where land and property use related laws and the provisions of master plans are strictly observed and adhere to. Despite the magnitude of property use conversions in Nigeria and its significance to the national economy, they existed scanty documented literature on property use conversions issues and their influences on property rental values in Nigeria. Bosikun et al. (2021) evaluated the socioeconomic factor influencing land use conversions in the Apete area of Ibadan, Nigeria and found that, population growth, location, economic, demand, age structures among others are the causative factors for property use conversions in the study area. The study thus, recommended routine monitoring and the inspections of developments, strict adherence to master plan, enlightenment campaign and the serving of appropriate contravention notices to deserving developers. The study however did not reveal the influence of the identified conversion factors on property rental values in the study area, hence there exist a knowledge gap that need to be filled. Makinde and Makinde (2020) analysed land use succession and property value in Ile Ife, Nigeria between 2002 and 2016 using both inferential and descriptive statistical tools. The study revealed about 42.2% increase in residential properties stock while the commercial properties stock grows by 57.8% within the same period with significant relationship between land use succession and property values. Though, despite establishing a relationship between property values and land use succession in the study area with significant loss in the residential housing stock, findings of the study seem to be too general and unfounded as there was no further test to determine if significant differences exist in the rental values of the property types studied due to land use succession effect. Akanbi et al. (2019) assessed the purposes for property use conversions in Minna Metropolis. The study disclosed that conversions mostly done in the study area were from residential property use to commercial or mixed use with complete disregard to the existing land and property use laws in the state with the attendant consequences of indiscriminate waste disposal and traffic congestions. It thus recommended effective and careful development control and urban planning measures. Like Bosikun et al. (2021), the study did not assess the influence of property use conversion on property rental values; hence, the need for further examination of phenomenon on rental values in Nigeria cities. The National Association of Realtors (2021) Research Group in their April 2021 report on commercial real estate trend and outlook averred a weak recovering commercial real estate market compare to the period preceding the COVID-19 pandemic era. The report however predicted a stronger recovery trend across every sector by 2022.

Otto et al. (2020) reviewed literature on some conventional urban models that showcase the current patterns of residential property rentals and prices in cities, using the city of Lae in Papua New Guinea as the test bed for the study. The study identifies the conventional models that mirror the actual situation that reflects the decisions of landlords and tenants of residential properties to resides in their current areas in the city. Issues of spiraling residential property rentals and prices in the city of Lae have become an issue of national concern just like the case of Ikeja, Nigeria that is gradually and steadily pushing the low-income and the middle-income residents to the squatter settlements where rents are relatively affordable. The study employed stratified random sampling technique in the selection of 218 property owners and tenants which is considered to be a fair representative sample of the formal and informal Lae City residents. Six residential districts were selected for the study in addition to the selected top real estate brokers and urban planner. The interview conducted was done in conformity with COVID-19 pandemic restrictions protocol. The study found that a mixture of socio-economic, cultural and behavioural factors, rather than the obvious influence of conventional model of city structure play a predominant role in influencing the behaviour of residential tenants and landlords in the search for residence within the city to the extent that squalor settlements are preferred by many. Social factors as safety of lives and property, security and economic variables were confirmed by the tested hypotheses to be the major determinants of residential choice in the city. The study therefore recommended measures that can improve the standards of city liveability, housing affordability, sustainability and livelihood need to be considerably implemented in real time by the Lae city stakeholders. Similarly, a study by Nguyen et al. (2020) evaluates the method and process of transferring values of natural resources into the national account system in Vietnam. The study objectives are among others re-systemizing the classical and modern theories as well as identifying the factors affecting the land/property values in Vietnam with the view to support Government policy making and regulating land use rights market in the study area. The study isolated three groups of factors that could impact on land/property values. The study revealed that, the adoption of value theory and the development of land value maps supports the effective management and regulation of land/property use rights by the Vietnam government. Urban property use change is a major driver of universal environmental change and a central factor of the global sustainable development agenda. The adoption of similar study in Ikeja could help in solving the reoccurring land and property use issues.

The profound impact of the coronavirus pandemic on both the life and livelihoods of people globally with a gap in the management policies of the housing subsector have a significant short-term and potential long-lasting effects on the psych, way of live, transportation, employment and relaxation mode of the people (Allan et al., 2021; Duca et al., 2021; Oyedjeji, 2020; Gbadegesin, 2022; Yang et al., 2022). To be able to cope with the new normal, there is need for more innovative base ingenuity in the handling and management of resources in a way that the use of one may not negatively affect the other. Lawal and Rafsanjani (2022) examined the dramatic changing trend of residential and commercial buildings and the application of the Internet of Things (IoT) in the shaping of the future of these buildings which could help in creating rental market differentials, especially in the pandemic era. The study identified and discussed the probable trend, benefits and challenges of the implementation of IoT in the built environment and found that attention of IoT implementation is focused more on commercial properties when compared with its trend in the residential property subsector. Hence, could serve as bases for use conversion as the rent of commercial properties have become more attractive and offer investors a better investment option. Akinluyi et

al. (2021) assessed the effect of land use change on some selected urban public utilities in the city of Akure, Nigeria with a view to improving the approaches to protect the urban utilities for sustainable development. The study employed the use of remote sensing, Geographical Information System and questionnaire in the collection of the data required to achieve the study's objectives. The conversion process was identified through the use of 2010 and 2018 IKONOS imagery (an earth observation satellite) in a post classification comparison analysis to map the land use changes in the study area. Findings of the study revealed a rapid change in the residential land use between 2010 to 2018 with increasing commercial land uses activities. Hence, residential, commercial housing provision and educational land uses are major causes of land use change in the study areas. The study therefore, recommended the need for the regulation of city growth and expansion and other regional development programs. Orekan (2021) examined the effects of land use planning on property values in Lagos, Nigeria using descriptive statistical tools such as weighted mean score, trend analysis, ANOVA testing, sample T-tests and regression analysis. Findings from the study revealed that building permits or approvals, land use charge (payment for the productive use of land), building codes and zoning are the major land use planning policy tools used by the state. The study further discovered that inadequate evaluation, monitoring and implementation of these planning tools, noncompliance with planning and development standards were some of the challenges faced by land use planning and policy makers in Lagos. The study also established a positive significant relationship between land use planning and property values in the state. It thus, recommended the need for comprehensive monitoring of land uses and the enforcement/implementation of planning policies by the relevant stakeholders.

Furthermore, Kocur-Bera (2022) studied the effect of COVID-19 pandemic era on the features of residential properties in Poland and observed that properties as flats/houses became central place for working, living, studying and learning as well as place for entertainment in the COVID-19 pandemic era. The occurrence is consistent with the Maslow's pyramid law where the basic needs of man have to be satisfied within a single space, thereby causing alteration or reshaping in the importance of certain locational and physical features of flats/houses. The study which through questionnaire administration presented 23 and 17 locational and physical descriptive features of flats/houses in Poland. The respondents were asked on their perceived level of satisfactions in relation to the location and physical features of flats/houses. The study found that the physical features of houses/flats are more significant determinant of housing satisfaction compare to locational features. None of the previous literature reviewed explicitly shows the influence of property use conversion on property rental value in any known rental market especially in the post COVID-19 era. Hence, the conduct of the current study is considered timely, appropriate and justified.

#### 04.0 METHODOLOGY

The research, as in Somiah et al. (2015), adopted a single case study of Ikeja rental market in Lagos, Nigeria; thus, a survey of Ikeja rental market was conducted. Ikeja is a local government headquarters and the capital of Lagos state. The city is situated in a total land area of about 49.92km<sup>2</sup> and lies on Latitude 6.5965, that is Lat (DMS) 6° 35' 47N, Longitude 3.3421 that is 3° 20' 32E on the elevation of 128 feet above sea level with population of 861,300 people and an annual growth rate of about 5% (Dekolo et al., 2013). The city grows through transformation, expansion and development. Her administrative status as the capital of Lagos state, the industrial and commercial hub and tourist attraction center has made Ikeja a residential area of choice for Lagos mainland populaces. These factors have led to the incursion of people and business ventures into the city resulting in the current urbanization rate and population explosion. The consequential result is the rising increase in the demand for land and property use that is engendering property use conversion propensity in the city. The parts of Ikeja selected for the study are Toyin Street, Allen Avenue, Adeniyi Jones, Afolabi Aina and Makinde Street. These neighbourhoods in Ikeja have a substantial number of residential accommodation types with vibrant rental market transactions, high land values, competitive and ever-increasing demand for land and property use infiltration challenges. The study period covers between January to May 2022.

The targeted populations for the study are the Estate Surveyors and Valuers (ESV), Lagos State Building Control Agency (LASBCA), Landlord/Tenants of Converted Properties and Lagos State Physical Planning Permit Authority (LASPPPA). Properties as tenement buildings, two bedroom and three-bedroom bungalows along the selected arterial roads or streets were counted and those properties that exhibited conversion characteristics were thereafter picked and used as the sample frame for the study. Four hundred and forty-five (445) properties exhibited conversion characteristics out of the seven hundred and sixty (760) properties enumerated in the study area; hence, to determine the sample size of the converted properties, Frankfurt's formula for sample size determination as adopted by Kothari (2004) was used. The formula is given as:

$$n = \frac{Z^2 \cdot p \cdot q \cdot N}{e^2 (N - 1) + Z^2 \cdot p \cdot q}$$

where; **n** = sample size, **Z** = standardized normal value at a given confidence level and worked out from table showing area under normal curve (1.96 for a 95% confidence level which is 0.05), **N** = the household population, **p** = sample proportion taken at 0.09 (9%), **q** = 1 – p, **e** = acceptable error margin put at +/-5% (the precision) but most often taken at 0.03.

Out of the four hundred and forty-five (445) converted properties identified, one hundred and ninety-six (196) were picked as sample of the converted properties. The sample frame for LASBCA is six (6), LASPPPA is six (6) and ESV is fifty six (56) were taken and used as the sample size on which questionnaires were administered, since the numbers are few and within a manageable size. Questionnaire survey approach was adopted in the collection of quantitative data with consciousness of the guidelines on coronavirus pandemic in Nigeria. Information on reasons or factors for property use conversions, and rental values among others, were sought. The data collected were further analysed using appropriate quantitative analytical tool as structural equation modelling, trend analysis, frequency tables and relative importance index. The identified land/property use conversion variables obtained from previous literatures were subjected to further test in the study area to determine the perception of the respondents on these variables in the study area. This was done through the

measurement of the respondents' affective and cognitive responses to the influence of the identified use conversion variables on property use conversions on a generated weighted indices based on a 5-point Likert type scale. The variables identified were ranked based on the perceptions of the respondents using Relative Importance Index (RII). The formula used by Ankeli et al. (2020) and Somiah et al. (2015) was adopted and used for the calculation of the RII. The formula is presented as:

$$RII = \frac{\sum W}{A * N}$$

where, W= weighting given to each statement by the respondents which ranges from 1 to 5; A= highest response integer (5); where n5 = strongly agreed; n4 = agreed; n3 = uncertain; n2 = disagreed; n1 = strongly disagreed and N = total number of respondents. Furthermore, the aggregated annual rental values for each of the property types collected from the respondents were further transformed to aggregated annual rental index using the following formula:

$$RI = \frac{\sum P1}{\sum P0} \times 100; \text{ where } \sum P1 \text{ is the value in the current year, and } \sum P0 \text{ is the value in the base year.}$$

## 05.0 RESULTS AND DISCUSSION

Profile of the ESV (estate surveyor and valuer) respondents that provided information on the historical and current rental values of converted properties and property use trend in Ikeja is presented in Table 1. It revealed that 80.4% of the respondents are qualified to practice in Nigeria as estate surveyors and valuers; hence, are professionally and academically qualified, better prepared and positioned to provide answers to the research questions contained in the questionnaire. It further shows the quality of the field data obtained and the data sources reliability. Table 1 further revealed the quality of the staff selected from LASBCA and LASPPPA and used for the study. From both agencies, only 12 staff met the criteria set for the study. Aside the educational and professional qualification of the selected respondents, these officers are directly involved in the handling of issues concerning conversions of use in the study area. Information provided by these sets of respondents were therefore considered to be relevant and useful which is believed to have helped in the robustness of the study.

**Table 1** Profile of ESV, LASBCA and LASPPPA staff used for the study area

LOCATIONS			LASBCA & LASPPPA				TENANT		
Acad./Prof. Qualifications	Ikeja (ESV) Freq	%	Acad./Prof. Qualification	Freq	%	Acad. Qualification	Freq	%	
MSc + Anivs + RSV	15	26.8	MSc / MTech	08	66.7	MSc / MTech	12	7	
BSc / HND + Anivs + RSV	41	73.2	BSc / HND	04	33.3	BSc / HND	50	27	
Total	56	100	Total	12	100.0	ND and below	120	66	
<b>Current Position in Firm</b>			<b>Sample Professionals</b>			Total	182	100	
Principal Partner	15	27	Estate Surveying & Valuation	03	25.0	<b>Tenancy</b>			
Partner	20	36	Urban and Regional Planning	08	66.7	Squatter	0	0	
Senior Estate Surveyor	21	37	Architecture	01	08.3	Yearly Tenant	182	100	
Total	56	100	Total	12	100	Total	182	100	
<b>Professional Practice Experience</b>			<b>Current Position</b>			<b>Occupation</b>			
Less than 5years	03	05.4	Director	02	16.7	Civil servant	30	16	
6years to 10years	08	14.2	Assistant Director	00	00	Artisan	10	06	
Above 10years	45	80.4	Senior Officer Cadre	10	83.3	Business	142	78	
Total	56	100	Total	12	100	Total	182	100	
<b>Involvement in Conversion Issues</b>			<b>Conversions Control Unit</b>						
Yes	54.0	96.4	Yes	12	100				
No	02.0	03.6	No	00	00				
Total	56	100	Total	12	100				

Note: Acad. = Academic; Prof. = Professional, F= Frequencies; % = Percentages

Next, Table 2 presents the total number of questionnaires administered on the respondents. In all, a total of 264 questionnaires were administered on the respondents, out of which 250 copies were adequately filled and returned for analysis representing 94.7% response rate. Table 2 revealed that all the 56-questionnaire administered on ESVs were adequately filled and returned, 12 questionnaires administered on the relevant staff of LASBCA and LASPPPA were also retrieved while 182 questionnaires were retrieved from the 196-questionnaire administered on the tenants.

**Table 2** Questionnaire administration in Ikeja

Variables	Administered	Retrieved	Percentage
Estate Valuers (ESV)	56	56	100
LASBCA/LASPPA	12	12	100
Tenants	196	182	93
<b>Total</b>	<b>264</b>	<b>250</b>	<b>94</b>

Subsequently, Table 3 presents the operationalisation of the variables, code, variable group and the content of each of the groups considered for the study. Table 4 on the other hand presents the result of the perceptions of the respondents regarding the factors identified in the literature that influenced property use conversion and tested using relative importance index. The land or property use conversion factors identified in previous literature include economic factors, sociological factors, demographic factors, environmental attributes, institutional factors, infrastructural factors, biophysical factors, spatial political factors (see Adegunle et al., 2016; Ankeli et al., 2020; Ayotamuno et al., 2010; Nkolika et al., 2018). The study then aggregated the identified factors into six groups with their contents by merging some of the groupings together namely, demographic factors (DEMOFAC), economic factors (ECOFAC), environmental attributes (ENVIATTRI), sociological (SOCIOFAC), infrastructural factors (INFRAFAC) and institutional factors (INSTFAC). It was thereafter used to test the cognitive and affective reasoning of respondents especially in the post COVID-19 pandemic era.

**Table 3** Operationalisation of variables

Variable	Variable code	Content	Variable group
Demographic Factors	DEMOFAC	Population increase, age composition of the population	Group 1
Economic Factors	ECOFAC	Rental gain and other pecuniary consideration	Group 2
Sociological Factors	SOCIOFAC	Prestige and taste and Security	Group 3
Environmental Attributes	ENVIATTRI	Location and neighbourhood quality	Group 4
Institutional Factors	INSTFAC	Policies and regulations, Enforcement mechanism and Penalties	Group 5
Infrastructural Factors	INFRAFAC	Condition of roads and Electricity supply	Group 6
Biophysical Factors	BIOFAC	Natural and the physical features/neighbourhood qualities	Group 7
Political Factors	POLFAC	Awareness of the environmental politics	Group 8
Land/property use conversion	LANCONV	Afterthought alterations in the designed or use of land and buildings to billet other uses of land that were not originally planned for.	Group 9

**Table 4** Relative importance index (RII) for residential property use conversions factors in Ikeja (Source: Field survey data)

Causative factors	5	4	3	2	1	$\sum w$	RII	Ranking
Demographic Factors	145	33	0	4	0	865	0.9505	1 <sup>st</sup>
Economic Factors	132	47	2	1	0	856	0.9407	2 <sup>nd</sup>
Sociological Factors	7	85	50	35	5	600	0.6593	6 <sup>th</sup>
Environmental Attributes	79	51	32	19	1	734	0.8066	3 <sup>rd</sup>
Institutional Factors	28	95	29	24	6	661	0.7264	4 <sup>th</sup>
Infrastructural Factor	69	54	5	5	49	635	0.6978	5 <sup>th</sup>

Table 4 revealed that the most critical property use conversion factor in Ikeja are demographic and economic factors with RII of 0.9505 and 0.9407 ranking first and second factors respectively. Demographic pull conversions/conversions done due to demographic factors that often occur in anticipation of increase in economic activities due to population growth or change in population. This is however congruent with the submissions of Ankeli et al. (2020) and Nkolika et al. (2018). Sociological factor is the least critical conversion factor with RII of 0.6593 ranking the sixth factor. It was further gathered from the field that since the outbreak of the pandemic, investors are mindful of conversion activities as conversions for prestige and other social reasons were minimal but conversion for economic activities as shops, mall soared.

After subjecting the cognitive and affective thinking of the respondents to analysis to identify on the causative factors of use conversion in the study area, the study determined the influences of these factors on properties rental values by Structural Equation Model (SEM) which used Analysis of Moment Structure (AMOS) graphics. The acceptable benchmark or cut-off for confirmatory factor analysis and structural equation model according to Parry (2017) which are P-Value = < 0.05, Goodness of Fit, Normed Fit Index, Tucker Lewis Index =  $\geq 0.95$ , Comparative Fit Index =  $\geq 0.90$  and Root Mean Square Error of Approximation =  $\geq 0.08$  were observed. However, pre-testing of the model (SEM) and data collected was necessary in order to prepare the estimates for confirmatory factor analysis (CFA) to check the validity of the model and its fitness. The result of the initial model shows that there is the need for model debugging as the benchmark for the goodness of fit were not achieved as shown in Figure 1 and Table 4.

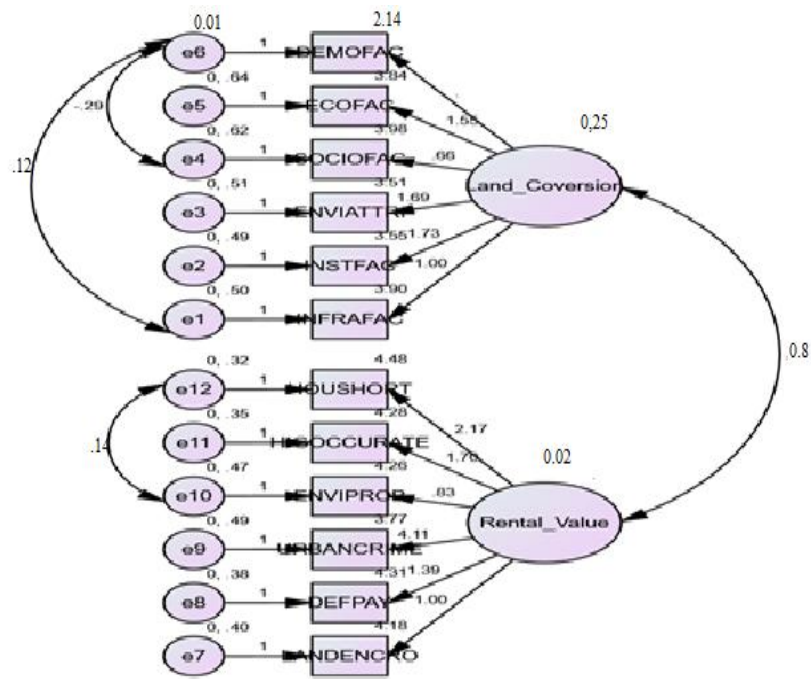


Figure 1 The initial structural model fit for Ikeja

Table 4 The model fit measure for Ikeja

Measure	Estimate	Threshold	Interpretation
CMIN	86.750	--	--
DF	50.000	--	--
Chi-square	1054.100	--	--
CFI	0.760	> 0.90	Not Achieved
GFI	0.788	> 0.95	Not Achieved
TLI	0.067	> 0.90	Not Achieved
RMSEA	0.972	< 0.08	Not Achieved
P Close	0.059	< 0.05	Not Achieved

Nevertheless, the outcome of the debugged model and model testing which brings out the Expanded Structural Equation Model with good fit that achieved the cut-off or benchmark with all the recommended criteria for a suitable model fit met. Figure 2 is the debugged structural model fit for property use conversion factors in Ikeja. It revealed that about 67% of property use conversion activities in Ikeja can be explained through the fusion of variables in the land/property use conversion model with 96% influence on rental value performances. It, therefore, implies that property use conversion variables identified and used for the study have a substantial direct influence on residential property rental values in Ikeja.

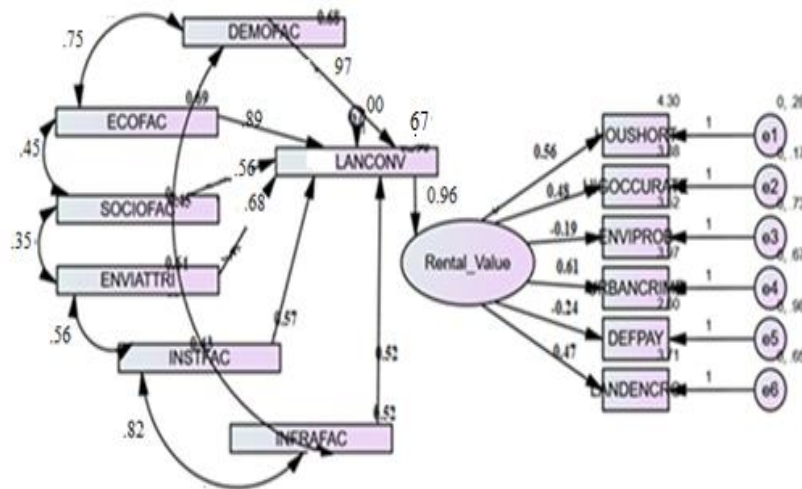


Figure 2 Structural model fit for Ikeja

Table 5 revealed the validity of the index’s fitness for the construct's structural model. The constructs achieved the fitness required for all the categories, that is for both absolute and incremental fitnesses. The influence of property use conversion factors on the property rental values were measured through the beta coefficient estimates with the result presented in the Maximum Likelihood Estimates or regression weights table.

Table 5 The standardised regression weight and its significance for the model path

Fit Statistics	Obtained	
Index Name	Index Value	Comments
Root mean Square Error of Approximation (RMSEA)	0.040	Required level achieved
Comparative Fit Index (CFI)	0.912	Required level achieved
Tucker Lewis Index (TLI)	0.954	Required level achieved
Normed Fit Index (NFI)	0.938	Required level achieved
Relative Fit Index (RFI)	0.920	Required level achieved
Degrees of freedom (DF)	60	
Chi-square	307.230	
Chi-square Significance level	0.000	Required level achieved
CMIN/DF	3.453	Required level achieved
PCLOSE	0.040	Required level achieved

Table 6 shows that all the conversion variable tested in the study area are critical property use conversion factors with significant influences on residential rental values. For instance, the value of the path coefficient of demographic factor to land/property use conversions (LANCONV) which is 0.148, indicates that the influence of a single unit increase in demographic variable contributes a 0.148 unit increase to property use conversions in the study area. Hence it has a significant positive influence on residential property rental values performances in the study area. An increase in Economic factors (ECOFAC) by a single unit brings about a 0.076 unit increase in Property use conversions. It thus translates to an increase in a unit of an economic factor that could contribute to a 0.076-unit increase to Property use conversions in the study area. Table 6 further revealed that when property use conversions increases by a single unit, Residential and Commercial Property Rental Values (Rental Value) increase by 0.097 unit with higher occupancy rates, urban crime, land encroachment among others as a consequence. A unit increase in residential property rental values brings about 0.023 unit increase in High Occupancy Rate (HIGOCCURATE), 0.036 increase in Environmental Problems (ENVIPROB), 0.071 increase in Urban Crime (URBANCRIME), 0.047 increase in default in rent payment (DEFPAY) and 0.422 increase in land encroachment or property use infiltration (LANDENCRO).



**Table 6** Maximum likelihood estimates / regression weights table

			Estimate	S.E.	C.R.	P	Label
LANCONV	<---	DEMOFAC	0.148	0.063	2.364	0.027	***
LANCONV	<---	ECOFAC	0.076	0.027	2.803	0.010	***
LANCONV	<---	SOCIOFAC	-0.147	0.067	-2.186	-0.031	***
LANCONV	<---	ENVIATTRI	0.040	0.015	2.641	0.006	***
LANCONV	<---	INSTFAC	-0.010	0.005	-2.16	-0.002	***
LANCONV	<---	INFRAFAC	0.176	0.041	4.265	0.010	***
Rental Value	<---	LANCONV	0.097	0.046	2.131	0.021	***
Rental Value	<---	HOUSHORT	1				
Rental Value	<---	HIGOCCURATE	0.023	0.008	3.063	0.003	***
Rental Value	<---	ENVIPROB	0.036	0.017	2.151	0.008	***
Rental Value	<---	URBANCRIME	0.071	0.023	3.097	0.007	***
Rental Value	<---	DEFPAY	0.047	0.020	2.302	0.009	***
Rental Value	<---	LANDENCRO	0.422	0.118	3.566	0.033	***

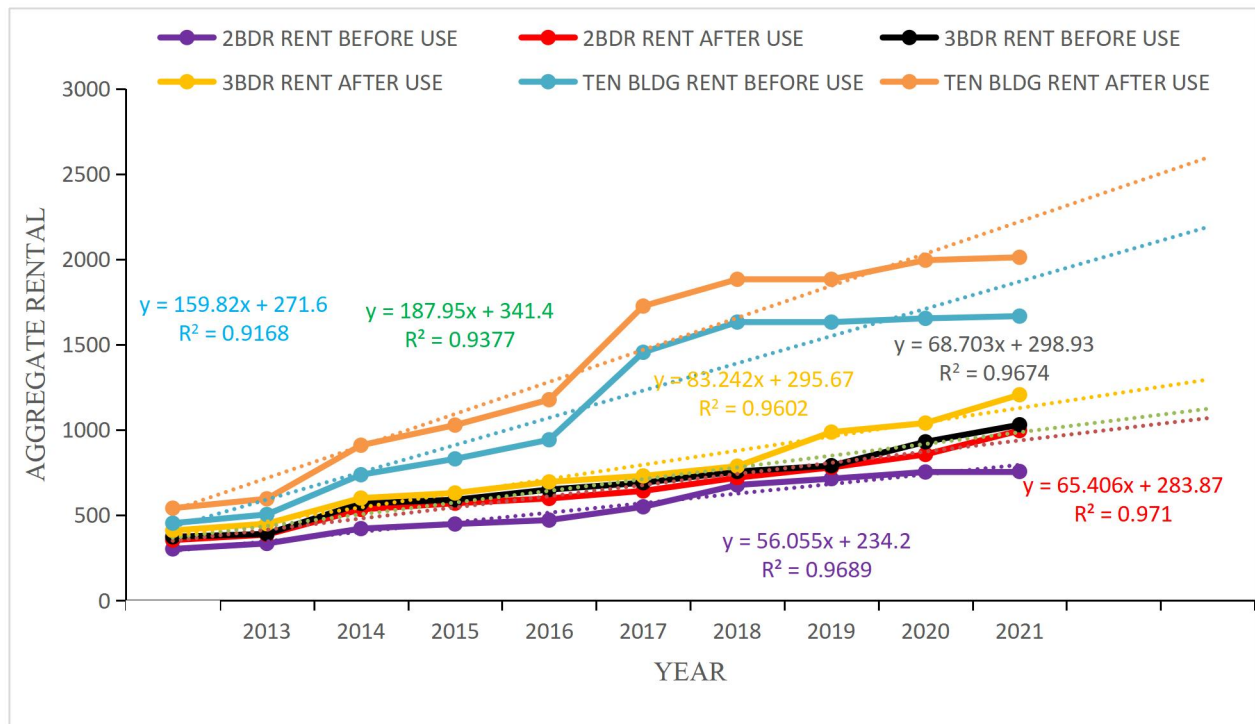
Note: \*\*\* $p < 0.05$  (indicate significant level), \*LanConv = Land/Property use conversion

The aggregated annual residential property rental values were calculate for ten years showing the period before and during the pandemic outbreak in Nigeria. Table 7 which presents the analysis of the rental trend within the period revealed that rent for after use conversions (that is the current rental values of properties after conversion) performed better than that of before use conversion (the rental values of non-converted property in the same category) across the property types studied; hence, converted properties tend to be a better investment option as indicated by the annual mean scores. The collected aggregate annual rental values were transformed to annual rental index.

**Table 7** Annual rental index of two, three and tenement buildings in Ikeja

Year	Rental Index for Converted Two Bedrooms (₦)		Rental Index for Converted Three Bedrooms (₦)		Rental Index for Converted Tenement Building (₦)	
	Before (%)	After (%)	Before (%)	After (%)	Before (%)	After (%)
2012	302	354	373	410	453	541
2013	334	386	390	450	504	596
2014	421	570	569	600	737	910
2015	448	598	590	630	830	1028
2016	471	559	650	695	942	1177
2017	549	642	690	730	1455	1726
2018	677	720	756	787	1632	1883
2019	714	780	790	987	1632	1883
2020	753	856	930	1040	1654	1995
2021	756	996	1030	1206	1667	2012
<b>Mean</b>	<b>543</b>	<b>644</b>	<b>677</b>	<b>754</b>	<b>1,151</b>	<b>1,375</b>

Note: Calculated from aggregate average annual rent in Ikeja



**Figure 3** Aggregate annual rental trend of two, three and tenement building in Ikeja

Figure 3 presents the trend analysis of rental performances in the study area with tenement building displaying volatile rental movement compare to the other property types. However, the fact that they exist few numbers of tenement building types in the areas selected for the study, the few available one is the worst hit as they are mostly used for undercover businesses and other similar ventures by residents that were forced to live in this property types due to the issues of spiraling residential property rentals and prices in the study area. The predictive trendlines for all the studied properties shows an upward rental trend with the after-use conversions demonstrating a more attractive investment option thus propelling conversion activities especially in the post pandemic era, this drift is expected to continue for the next two years as predicted by the study. The results of the study are congruent with Bosikun et al. (2021), Otto et al. (2020), Ankeli et al. (2021) and Adedayo (2018) but negate the submission of Duca et al. (2021) that the rent of condominiums in some locations in America declined compared to the rent of detached apartments.

## 06.0 CONCLUSION

The current study empirically evaluated the influence of property use conversion factors on rental values in the pandemic era using Ikeja rental market as the study area. To achieve the aim of the study, property use conversion drivers identified in literature were aggregated and used to test the cognitive and affective thinking of the respondents. The outcome shows that all the aggregated factors are critical property use conversion drivers in the study area with about 67% contributory effect on property use conversion activities and 96% influence on property rental value performances. To reduce or eradicate the current property use conversion trend in order to achieve a sustainable city development and harmonious liveable environment in the post pandemic era, there is need for strict enforcement, compliance and the implementation of all relevant sections of urban property use related laws in the state, the putting in place of adequate and appropriate monitoring and development control mechanisms.

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