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Editorial for JARER Vol. 7 Issue 2, 2022

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Editorial

Welcome to Volume 7 (2022), Issue 2 of the Journal of African Real Estate Research (JARER). JARER has been providing valuable resources and continues to be an exciting outlet for authors across Africa to propagate the results of their research activities. The journal has been strengthened and continues to grow in leaps and bounds. We are happy to inform our stakeholders that JARER has been approved to be listed in the Directory of Open Access Journal (DOAJ) as of January 2023. This is in addition to being recognised as meeting acceptable quality and being listed in the 2021 American Real Estate Society's (ARES) Real Estate Journal List.

The list can be found at: https://www.aresnet.org/page/journal-list. We are aware that these achievements are made possible with the efforts and support of the journal editorial board members, our anonymous reviewers and other stakeholders. Our gratitude goes to them and all other stakeholders, including the African Real Estate Society's board members, the team and colleagues at the Library services at the University of Cape Town, and the Journal Manager, Ms Lesedi Kgaka, who has been working diligently in managing the journal's operations and at ensuring that the journal is moved forward to an enviable height. We will continue to appreciate the support from Prof. Karl-Werner Schulte and his team from the IREBS at Regensburg University, the IRES, and ERES.

The quality of reviews and thoroughness has improved tremendously, and this has raised the rate of paper rejection in the recent past. Nevertheless, we strive to work with all our contributors to enhance the quality of our publication. This explains why the current issue contains four papers focusing on private housing development, property rating valuation, price volatility in the stock market and void management strategies in multi-tenanted office property.

This first paper examines the factors influencing access to urban land for private housing development in Minna, Nigeria. A total of 18 variables were distilled from previous empirical studies, which were analysed using the factor analysis technique. The results indicate that land titling, the population's socio-economic characteristics, and land acquisition issues were the main factors affecting urban land accessibility for private housing development. The study concludes that stakeholders in land administration and management in the city should work on these factors to improve access to land for private housing development.

The second paper examines the volatility of the daily market price of listed property stocks on the Johannesburg Stock Exchange (JSE) for a 10-year period (2008-2017). The study used daily prices from January 2, 2008, to December 29, 2017, of twelve quoted property companies out of the twenty-seven listed on the Johannesburg Stock Exchange (SA REIT Association, 2020). The study modelled SA-REIT market price volatility using generalised autoregressive conditional heteroskedasticity (GARCH 1, 1). The result implies that investment in the property stock market is more strongly driven by positive news on daily prices than a negative shock. The study thus concludes that South African property investors are more sensitive and respond sharply to good news on the daily market price than bad news when considering investing in listed property company shares.

The focus of the third paper is an investigation of the causes of variance in assessed rateable values among property rating valuers. Qualitative data were obtained from valuers, and content analysis was carried out to analyse the data. Findings showed that specialisation, valuers' opinion on the rating valuation input variables, lack of due diligence, corruption, the ambiguity of the rating law, information in the tone–of–the–list, lack of proper sanction and gratification by ratepayers are some of the causes of variance in rateable value. The conclusion draws on the need to correct the identified problems causing variance in rating valuation to ensure effective rating administration.

The fourth paper assesses void management strategies adopted by Estate Surveying firms in multi-tenanted office properties in Lagos, Nigeria. Data obtained were analysed using frequency table, mean, mean deviation and mean ranking. The study found that void eradication strategies of adherence to vacation clauses and regular advertisement were the most frequently used strategies. The paper concludes that the choice of void management strategies in multi-tenanted office properties depends on the cost involved and the effectiveness of the strategies.

Thank you for your continued interest in JARER. I look forward to receiving your feedback on this and previous issues of the journal.

Prof. Abel Olaleye
Editor-in-Chief

Factors Influencing Access to Urban Land for Private Housing Development in Minna, Nigeria

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Abstract

Land is a major factor of production and a vital asset in the socio-economic development of any country or society. Due to the continuous increase in urban population, resulting in rapid urbanisation, access to urban land has become a challenge. This paper examines the factors that influence access to urban land for private housing development in Minna. The study adopted descriptive and causal research designs. Data for the study were obtained from field survey through structured questionnaire administered to 400 private housing developers in the study area using simple random sampling technique. Descriptive and inferential statistical techniques were used to analyse the data. A total of 18 variables were distilled from previous empirical studies through literature analysis. These variables were further analysed using factor analysis technique to obtain the factors that influence access to land for private housing development in Minna. The results indicate that the most important of these factors are land titling factor (EV = 4.717), socio-economic factor (EV = 3.595) and land acquisition factor (EV = 1.996) with very strong factor loadings from double allocation (0.894), gender (0.838) and cost of land (0.928) respectively. The study concludes that these factors hinder effective access to land for private housing development

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in the city. It recommends that stakeholders in land administration and management in the city should consider these factors in the land administration system to facilitate private developers' access to land for private housing development in the city.

Keywords: *urban land, private residential use, accessibility, Minna*

1. Introduction

The pace of urbanization and the number of people living in cities has increased exponentially over the course of the past century, with more than half of the world's population now living in urban areas (UN, 2017). As the world is urbanizing, many cities are grappling with a population that is growing rapidly, thereby increasing demand for land (Lipman & Rajack, 2011). At present, one billion people are living in informal settlements that lack basic services and 60 percent of urban dwellers are physically exposed to natural hazards and pollution (USAID, 2014). The urban slum population is also projected to increase to 2 billion people by 2030 (UN, 2003). A vital component of any strategy to improve living conditions for the urban poor involves improving the legal and regulatory environments related to housing and increasing the supply of affordable, legal shelter with tenure security and access to basic services and amenities. Furthermore, there has been continuous population growth in Nigeria with a significant increase of 23.95 million people from 2006 to 2012, out of which 12.87% is from the North Central Region where Niger State is located, and rural-urban migration rate recorded is 52.2%, resulting in a rise in urban population (National Bureau of Statistics, 2011). Also, statistics show that land ownership rate in the North Central Region is 25.1% (National Bureau of Statistics, 2011). This indicates inadequate access to land by residents of this region, and the condition is not different from the case of Minna, Niger State. The United Nations Development Programme (UNDP) survey in 1996 and that of Centre for Human Settlements and Urban Development (CHSUD) in 2006 in North Central Nigeria revealed that about 70 - 75% of urban residents live in slums characterised by unplanned development with inadequate infrastructure like roads, water supply and electricity. Thus, a study is required to investigate the drivers of access to urban land for private housing development in Minna.

Globally, land is required for various uses. It is a major factor of production and an important asset in the socio-economic development of any country or society. Therefore, as nations grow and rural areas become urban centres and urban centres become large metropolitan areas, there is always increased competition as well as demand for land for different purposes (Enisan & Aluko, 2015). Every person occupies a space during each second of their lifetime. While most of the space occupied at any given moment is public space (such as a street or an open space), there are units of land over which individuals, groups of persons, communities or juridical persons claim a spectrum of exclusive rights of use and control. Access to land does not mean dominion over commoditized land as its 'master', per se, but access to be at a certain space, or use and control a

certain plot of land — in common with others, as a member of a certain group or exclusively as an individual (Stebek, 2015).

Access to land is gained either formally, within statutory framework or through informal arrangements outside statutory framework. It comes in form of private-private (gained through the transfer of ownership in private transactions), public-private (from state allocation), private-public-private (from land pooling), private/public-private (through invasion) and customary allocation (gained in the framework of customary law) (Aluko *et al*., 2004). It also comes with various challenges, as the journey towards the lawful acquisition of land is a long and confusing one; access to land, registration of land, permission to develop the land involve time consuming, unduly cumbersome and costly procedures (Farvacque & McAuslan, 1992, Mabogunje, 2002). Also, informal access to land may be subject of fraudulent sale, insecurity of title, land speculation, and incessant rancour and litigations (Aluko *et al*., 2004). These challenges are instigated by factors that influence access to land.

Housing development in most Nigerian cities, including Minna is largely driven by the private sector (Ogu & Ogbuozobe, 2001; NTWG, 2009; Morakinyo *et al*, 2015). This is because the government alone cannot provide sustainable housing to the nation's teeming population (Akeju, 2007). Besides, there is a consensus among housing and real estate scholars in Nigeria that access to land is a crucial issue affecting private housing delivery in the country (Udoekanem, 2009; Ogu & Ogbuozobe, 2001; Morakinyo *et al*, 2015; Lawal & Adekunle, 2018; Oyediran, 2019 & Ekpo, 2019). With a housing deficit of about 22 million housing units (Moore, 2019), effective access to residential land is very essential in addressing this deficit through sustainable private housing delivery in the country. Hence, the aim of this study is to examine the factors influencing access to urban land for private housing development in Minna, Nigeria.

2. Literature Review

2.1 The Concept of Land

Land is a factor of production. It is very essential for the provision of urban housing and infrastructure services and the production of agricultural goods (Aluko *et al*., 2004; Udoekanem *et al*., 2014). Land is an economic resource and an important factor in the formation of individual and collective identity, and in the day-to-day organization of social, cultural and religious life (Okoth-Ogendo, 1993). Land access is synonymous with right to land which refers to the right that individuals and communities have with respect to the ownership of land; the right to occupy, to use, to develop, to inherit, and to transfer land (Durand-Lasserve & Selod, 2009). Access to land has to do with the availability of usable land, affordability, and the convenience with which the cost of the land can be paid without undue financial strain, security of tenure and assurance against eviction (Omirin, 2003).

Access to land can be gained either formally; within statutory framework or informal arrangements outside statutory framework (Aluko *et al*., 2004). In developing countries, particularly those of the sub-Saharan Africa, access to land has been principally provided through formal and informal institutions. While the formal institutions are by statutes expected to provide cheaper, easier and more secure access to land, the bureaucratic processes and cumbersomeness in the procedures have instead created a myriad of problems (Kuma & Ighalo, 2015). Access to land involves the security, tenure and transferability of the right which has been obtained (Stebek, 2015). To the land users, access to land consists of four elements which include: land availability, land affordability, security of tenure to the land in question, and the ease with which transaction can take place in the land (Omirin, 2002).

2.2 Access to Urban Land

Urban areas are a vital component of social and economic growth, as they are drivers of innovation and therefore magnets for enterprising migrants. In all countries, urban areas contribute substantially to national Gross Domestic Product (GDP) and to government tax revenues (Payne, *et al*., 2015). Gaining access to urban land comes in form of private-private (gained through the transfer of ownership in private transactions), public-private (from state allocation), private-public-private (from land pooling), private/public-private (through invasion) and customary allocation (gained in the framework of customary law) (Aluko *et al*., 2004). Secured access to urban land creates incentives for the user to invest in labour and other resources to maintain its value, sustain its productivity, and allow the user access to social and economic development opportunities (Quan, 2006).

In the urban areas of Nigeria, Olayiwola and Adeleye (2006) established that accessibility to land for residential purposes and development projects is almost becoming impossible for individual particularly the low and the middle-income groups because the price has become very prohibitive. The implication of this unequal access to land is that it has forced most urban dwellers into abject poverty owing to lack of legal titles for securing loans to invest in the construction of desirable shelter (Mabogunje, 2003). Access to urban land for commercial use usually involves acquiring land to construct business premises, or buying business premises (or working space), as owner occupier, premises rented for business, or business lease (Stebek, 2015).

Prior to the British rule in Nigeria, access to land was governed by the customary land tenure which was inadequate to create land for all citizens (Adedayo, 2018). At the beginning of the 20th century when Britain made a colony and protectorate of Nigeria, there was a multiplicity of land tenure and management systems in the country (Mabogunje, 2002). Apart from the system in the Lagos colony where an English freehold system had been established following its annexation in 1861, these diverse systems can be grouped broadly into two categories. The first existed in Northern Nigeria where the colonial administration had placed all lands under the control and subject to the disposition of the Governor. Without the consent of the Governor, no title to occupation and use

of land was valid. An ordinance directed that the Governor shall hold and administer the land for the use and common benefit of the native people. The ordinance laid down a maximum of 1,200 acres for agricultural grants and 12,500 acres for grazing purposes. In Southern Nigeria, the second system recognised that land was owned by lineages or extended families. Individuals have only right of use on such family land. The only land held at the Governor's disposal was that which had been expressly acquired for public purposes as Crown land. Therefore, whether in Northern or Southern Nigeria, land was considered by the people themselves largely within the nexus of a pre-capitalist social formation (Aluko *et al.*, 2004; Oyedokun *et al.*, 2012).

As the colonial era progressed, land alienation and sale not only grew in volume and geographical spread but also became the cause of considerable litigation and communal strife, often resulting in violent confrontation. Challenges such as multiple sales of the same land to different buyers by land-owning families, land speculation and a sharp rise in the prices of land for urban and infrastructural development, incessant disputes and land litigations, exorbitant compensation for land and, non-availability of land for government developmental projects arose, especially in Southern Nigeria (Aluko *et al.*, 2004). Thus, faced with the above problems and the contrasting land tenure systems, the then federal military government promulgated the Land Use Decree (now Land Use Act) on the 29th of March, 1978 with a view to unify the various land tenure systems in the country. Under the law, all land situated in the territory of each state in the country is vested in the Governor for the use and common benefit of every Nigerian (Mabogunje, 2002). The law is also an integral part of the 1999 constitution currently being operated in the country. Therefore, statutory access to land in Nigeria follows the provisions of the Land Use Act 1978.

Aluko *et al.*(2004) argued that apart from the state government, there are other actors in the land delivery process in Lagos State. The study further suggested that it is better to have as many landlords or landowners rather than having the state as the only universal landowner if land speculation and land accessibility to the urban poor are to be controlled. It suggested that the Land Use Act must be amended in this light to make land more accessible, less cumbersome and speedier to acquire for housing development. However, in another study, it was found that the predominant source of access to residential land in North-Central Region of Nigeria is through informal land markets and developments on such lands have eluded government's effective planning and control (Kuma & Ighalo, 2015).

Access to land can be affected by various factors as presented by previous studies. The study of Adedayo (2018) identified road accessibility, title document, access to infrastructure, topography, neighbourhood development, nearness to work, level of education, marital status, occupation and distance to centre of attraction as factors influencing access to residential land ownership. Mabogunje (2003) stated that the experience of inaccessibility which characterized urban land markets have forced most urban dwellers into abject poverty owing to lack of legal titles for securing loans to invest in the construction of desirable shelter for themselves. Another effect of

lack of access to land according to Fadairo (2006) is squatting, which has led to inadequate municipal services and infrastructure like roads, water supply, sanitation and waste collection.

Samaniego *et al.* (2017) identified factors that affect adequacy of access to land to include size, offsite facilities, distance to nearest town and educational level. Ajayi and Adebayo (2017) also found that gender, marital status, educational background, income level and occupation are factors that affect land access, and specifically occupation, income and education are the significant predictors. In this context, land access adequacy is affected by tenure security (legal security of tenure and tenure guaranteed for a specified time); affordability (price of land and related services, expenditure on transportation, disposable income to cover other living costs, access to limited homeownership with lower price); cultural adequacy (design of residence in relation to local residents' natural lifestyle, materials and appearances of buildings expressing local cultural value, spaces and facilities for cultural activities); accessibility and physical environment (Gan *et al.*, 2019).

2.3 Empirical Studies on Access to Residential Land for Private Housing Development

Land is very essential for the development of sustainable human settlements (Nubi & Ajoku, 2011), including private housing development. Access to land at an affordable cost is a major challenge to sustainable housing development by private developers in Nigeria (CAHF, 2019). A plethora of empirical studies including Udoekanem (2009), Bichi (2010), Kuma and Ighalo (2015) and Owoeye and Adedeji (2015) have found that access to land for private housing development in various parts of Nigeria is from informal land delivery channels. According to the World Bank (2016), informal land development occurs because available land options are either unaffordable or too isolated and the public housing options accessible through government programmes are inconveniently located or not in line with family asset-building strategies. Kwame and Antwi (2004) studied the impact of land delivery and finance on the supply of residential accommodation in three cities of Ghana namely, Accra, Tema and Kumasi. The study found that there is progressive increase in informal land transactions in the study areas. The results of the study also indicated that housing delivery in the study areas is hindered by the inefficiency of the land delivery system. Adedayo (2018) examined the factors that influence access to residential land in Lokoja Metropolis of Kogi State, Nigeria. The study obtained data through questionnaire administered to 396 respondents, spread across seven residential neighbourhoods in the study area namely Adankolo, Lokongoma, Ganaja, Barracks, Zango Daji, Lpkoja Town and Falele. Multiple regression analysis was utilized to analyse the data collected for the study. The study found that location (-1.989), access to infrastructure (-0.933), neighbourhood development (-1.041), nearness to work (-1.642), marital status (- 0.633), gender (-0.603) and distance to centre of attraction (-1.458) have statistically significant negative influence on access to residential land in the study area at p-value less than 0.05. Olujimi and Iyanda (2013), Mohammed (2016) and Oyedeji (2018) also carried out similar studies in various parts of Nigeria and the factors identified are summarized in Table 1 below.

Table 1: Suggested Factors that Influence Access to Residential Land

Author (s)	Year of Study	Factors Identified
Olujimi and Iyanda	2013	Time taken to acquire land, cost of land, access and time taken to receive legal titles from government.
Mohammed	2016	High cost of land, cumbersome government allocation, complicated small plots, assembly operations, legal issues, double allocation, high cost of titling, multiplicity of charges and encroachment/trespassing.
Oyedeji	2018	Land affordability, land availability, ease of land transactions and security of land tenure
Adedayo	2018	Road accessibility, title document, access to infrastructure, topography, neighbourhood development, nearness to work, level of education, marital status, gender, occupation and distance to centre of attraction

Source: *Extracted from Olujimi and Iyanda (2013), Mohammed (2016), Oyedeji (2018)   and Adedayo (2018)*

This study seeks to examine these factors as they affect access to urban land for private housing development in Minna, Nigeria.

3. Research Methodology

3.1 The Study Area and its Characteristics

Minna is the area delineated for this study. It is one of the developing cities in North – Central geopolitical zone of Nigeria. The city is linked to neighbouring cities by road and is 156 km away from Abuja, the Federal Capital Territory (FCT) of Nigeria. Minna is also connected by railroad to Kano in the north and Ibadan and Lagos in the south. The city is served by Minna Airport. It lies at latitude 9037' North and longitude 6033' East on a geological base of undifferentiated basement complex of mainly gneiss and magmatite. Urban development in the north – east part of the town is limited by a continuous steep outcrop of granite.

Minna is the capital of Niger State of Nigeria. This is shown in Figure 1 below. The city was chosen as such on 3rd February, 1976 when the State was created by the Federal Government, then led by General Murtala Mohammed. It is the political headquarters of Niger North-East Senatorial District. The town is an administrative one with a huge population of civil servants. The administrative structure of the city has great influence on the pattern of land use. In terms of traditional governance system, Minna is also an emirate.

The Emir of Minna is the head of city's emirate council. The council comprises all the district

heads and traditional title holders in the area.
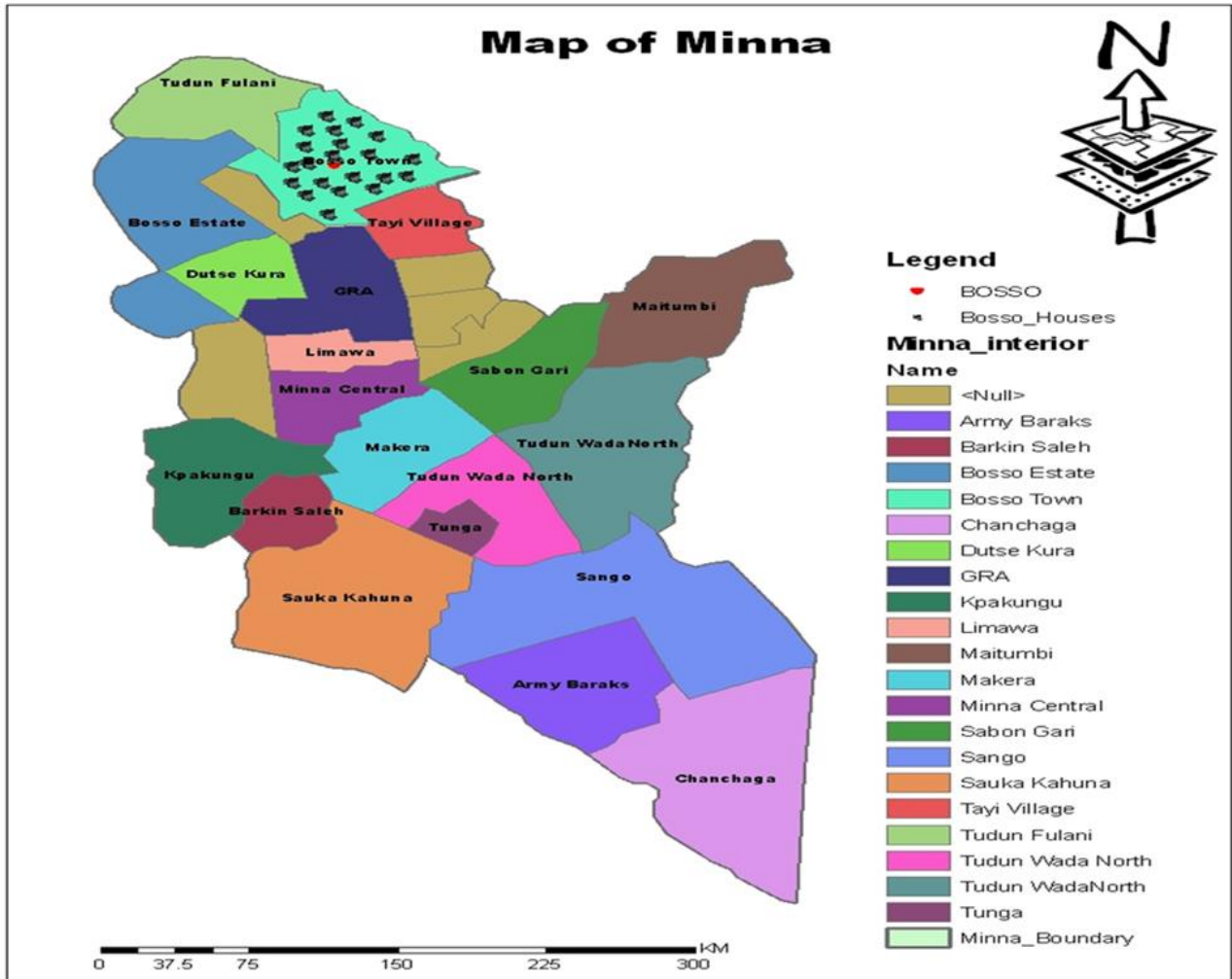
Figure 1: *Map of Minna showing the study locations*

Minna covers a total land area of about 885 hectares (i.e. 8.85 million square metres). The key land uses in the city are residential, institutional and commercial land uses. However, there are some light industrial, small and medium scale enterprises within the city. Residential land uses in Minna could be classified as high, medium and low-density areas. In these areas, the high-density neighbourhoods are characterized by tenements. The medium and low-density areas are dominated largely by bungalows, blocks of flats and maisonettes. Agricultural land uses exist mainly at the peripheral parts of the city while small farmsteads are found within the city. The major commercial land uses in the city are shops and offices.

Although private businesses in the city have grown in the past few years due to the privatization policy of the government, the economic base of the city is civil service. Minna hosts the headquarters of the National Examination Council (NECO), one of the major secondary education examination bodies of the federal government of Nigeria. The city also hosts a Federal University of Technology, Newgate University (the only private university in the city as of July, 2022), Niger State College of Education, School of Nursing, Fati Abubakar College of Legal and Islamic Studies and Federal Mortgage Bank of Nigeria Training School. These institutions have brought people from all parts of the country to the city, thereby boosting its economic vitality.

3.2 Population for the study and Sample Size

The population for the study is 124, 785. This was obtained from the State Ministry of Lands and Housing as the estimated population of individual residential land developers in the study area. The sample size was derived from the study population using Yamane's model as follows:

$$n = \frac{N}{1 + Ne^2}$$

Where:
n = the sample size
N = study population
e = the level of significance (0.05)

Thus, $n = \frac{N}{1+Ne^2}$

$$= \frac{124,785}{1 + 124,785(0.05)^2}$$

$$= \frac{124,785}{1 + 124,785\,(0.0025)}$$

$$= \frac{124,785}{312.96}$$

$$= 398.7$$

$$= 400\ (\text{approx.})$$

3.3 Method of Data Collection

Descriptive and causal research designs were adopted for this study. These were reflected in the research instrument used for the study. Data for the study were obtained from field survey through structured questionnaire administered to 400 private housing developers in the study area using simple random sampling technique. Data collected for the study are primarily categorical data and comprise socio-economic characteristics of the respondents, their responses on the factors perceived to influence access to land for private housing development in the study area, their mode of land acquisition and the duration it takes to acquire land for private housing development. Questionnaires were administered to the 400 respondents in the city, selected through simple random sampling technique. Scaled questions on the factors perceived to influence access to land

for private housing development were structured based on a 5-point Likert Scale(i.e. strongly agree = 5; strongly disagree = 1). A total of 306 questionnaire were properly completed and returned, representing a response rate of 76.5%. The respondents are spread across the 11 wards in the city. The spatial distribution of the population for the study and questionnaire administered are presented in Table 2.

Table 2: Spatial Distribution of the Population for the study and Questionnaire Administered

S/N	Ward	Population	Proportion (%)	Number of Questionnaire Administered
1	Nasarawa 'A'	13,726	11.0	44
2	Nasarawa 'B'	12,479	10.0	40
3	Nasarawa 'C'	11,231	9.0	36
4	Tudunwada South	19,966	16.0	64
5	Makera	6,239	5.0	20
6	Sabongari	4,991	4.0	16
7	Minna Central	13,102	10.5	44
8	Minna South	6,863	5.5	20
9	Tudunwada North	17,470	14.0	56
10	Limawa 'A'	8,735	7.0	28
11	Limawa 'B'	9,983	8.0	32
	Total	124,785	100.0	400

Source: *Field Survey (2021)*

3.4 Data Analysis Techniques

Data collected for study were analysed with the aid of IBM SPSS software version 25 and Excel 2019. The techniques of data analysis utilised for the study include factor analysis and descriptive statistical methods such as frequency, mean and standard deviation. Factor analysis is a collection of methods used to examine how underlying constructs influence the responses on several measured variables (Fruchter, 1954).

4. Results and Discussion

4.1 Socio-Economic Characteristics of Respondents

Data on the socio-economic characteristics of the respondents are presented in Table 3. The respondents are individual private housing developers. A larger proportion of the respondents (58.8%) are males. This indicates that in the sample selected for this study, the male respondents have greater access to land for private housing development in the city than the female respondents. The dominant age group of the respondents is 41 – 50 years (55.9%) and majority of them are civil

servants (76.5%). This implies that the main source of livelihood of the respondents is earnings from civil service. In the aspect of respondents' level of education, about 0.7% are educated only to primary school level and 5.2% to secondary school level . However, majority (97.1%) of the respondents are educated up to the tertiary level. This implies that most of the respondents are well educated, and this will positively affect the validity of the results of this study. The respondents' range of monthly income is also indicated in Table 3. It is however obvious that 55.9% of the respondents who are the majority, earn above ₦60,000 monthly, and 29.45% earn ₦41,000 - ₦50,000, while the rest of the respondents earn below ₦41,000. About 69.7% of the respondents stated that they own residential land as shown in Figure 2, while 30.3% do not own land. Since most of the respondents own residential land, their judgement of factors that affect access to land for private housing development can be evaluated.

Table 3: Respondents' Socio - Economic Characteristics

Characteristics	Frequency	Percent
Gender		
Male	180	58.8
Female	99	32.4
Total	279	91.2
Missing	27	8.8
Total	306	100.0
Age Group		
18-30years	18	5.9
31-40years	63	20.6
41-50years	171	55.9
51-60years	36	11.8
Above 60 Years	18	5.9
Total	306	100.0
Educational Level		
Primary	2	0.7
Secondary	16	5.2
Tertiary	279	91.2
Total	297	97.1
Missing	9	2.9
Total	306	100.0
Occupation		
Civil Servant	234	76.5
Artisan/Technician	27	8.8
Farmer	18	5.9
Student	9	2.9
Trader	18	5.9
Total	306	100.0

Monthly Income		
₦ 1,000 - ₦20,000	36	11.8
₦31,000 - ₦40,000	9	2.9
₦41,000 - ₦50,000	90	29.4
Above ₦60,000	171	55.9
Total	306	100.0

Source*: Field Survey (2021)*

Figure 2: Respondents' who own residential land in the study area
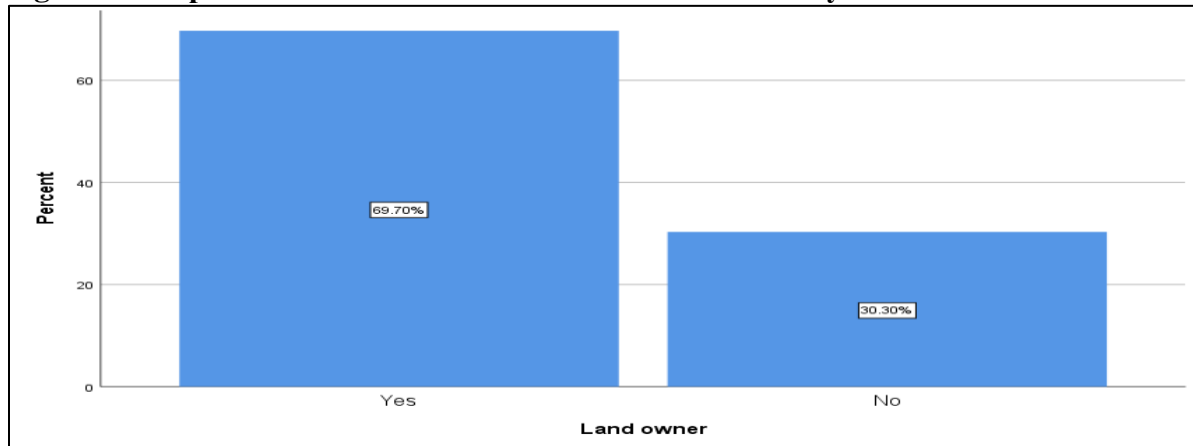
Source: *Field Survey (2021)*

4.2 Methods of access to urban land in the study area

The respondents acquired their residential lands through purchase from individuals or groups, government allocation, inheritance, and gift. Figure 3 shows that 50.43% of the respondents purchased their residential lands from individuals. About 20.09% acquired their lands by purchasing from a group like families, 5.1% were gifted, 5.9% inherited their lands and about 18.38% got their lands from government allocation. This result indicates that the informal land market in the city is very active despite the government's formal control of alienation and transfer of land rights in the State. This finding is consistent with those of Kwame and Antwi (2004), Udoekanem (2009), Bichi (2010) and Owoeye and Adedeji (2015) . The implication of this is that private housing delivery in the city is increased informally, leading to the development of informal human settlements (Kuma & Ighalo, 2015).

Figure 3: Respondents' methods of land acquisition in the study area
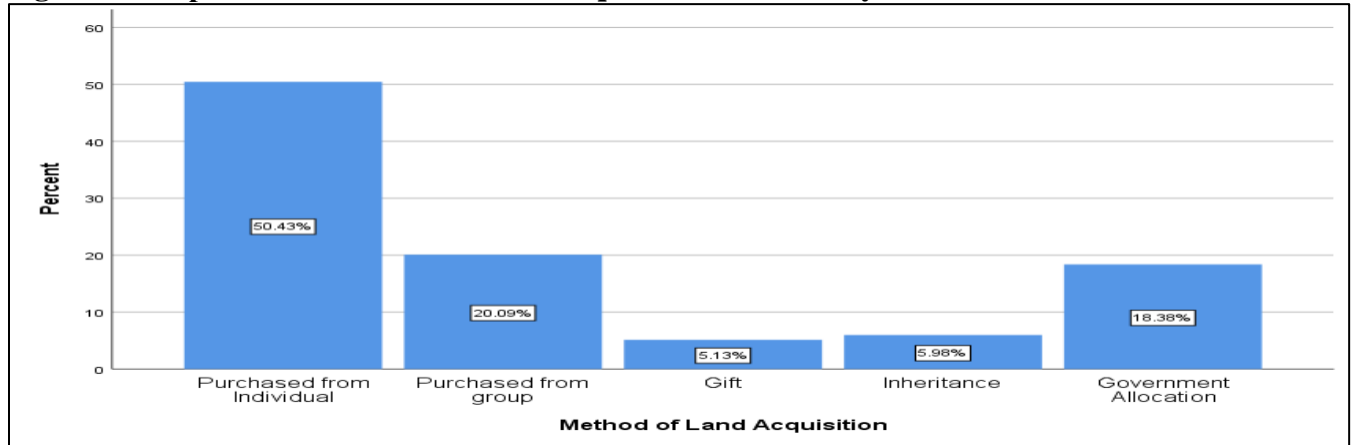
Source: *Field Survey (2021)*

4.3 Years of residential land ownership

Figure 4 shows the number of years for which the respondents have owned their lands. Most of the respondents (64%) have owned land for 10 years or less. About 24% have owned land for 11 to 20 years, 12% have owned land for more than 20 years. This suggests that most individual housing developers in the city do not access land on time to develop their houses. This delay may be attributed to the factors explored by this study.

Figure 4: Respondents' years of residential land ownership
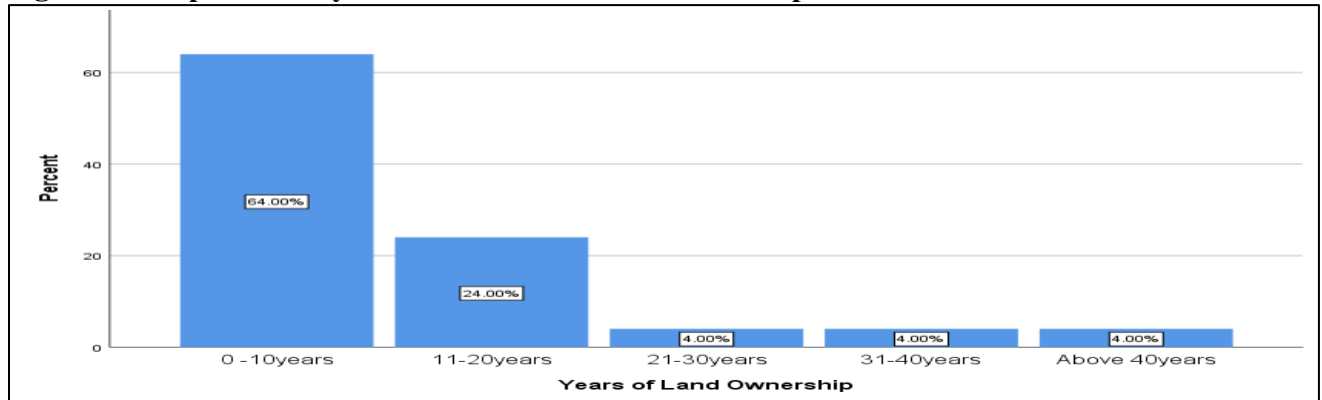
Source: *Field Survey (2021)*

4.4 Factors that influence access to land for private housing development in the study area

The factors examined in this study were obtained from the literature of previous empirical studies on the subject namely Olujimi and Iyanda (2013), Mohammed (2016), Oyedeji (2018) and Adedayo (2018) . These include road accessibility, gender, income level, cost of land, time taken

to acquire land, time taken to receive title document, high cost of titling, multiplicity of charges, access to infrastructure, site topography, neighbourhood development, nearness to work, level of education, marital status, occupation, distance to centre of attraction, double allocation, and encroachment. The descriptive statistics for all the variables under investigation are presented in Table 4.

Table 4: Descriptive Statistics of Factors that influence access to land for private housing development in the study area

Variable	Mean	Std. Deviation	N
Road Accessibility	3.97	1.169	297
Gender Factor	2.71	1.468	306
Income Factor	4.00	1.075	297
Cost of land	3.91	1.069	306
Time taken to acquire land	3.26	1.173	306
Time taken to receive Title Document	3.32	0.963	306
High cost of titling	2.59	1.440	306
Multiplicity of charges	2.94	1.629	306
Access to Infrastructure	3.68	1.132	306
Site Topography	3.44	1.146	288
Neighbourhood Development	3.61	1.207	297
Nearness to Work	3.35	1.236	306
Level of Education	2.71	1.468	306
Marital Status	2.61	1.327	297
Occupation Factor	3.29	1.127	306
Distance to Centre of Attraction	2.82	1.363	306
Double Allocation	3.03	1.406	306
Encroachment/Trespassing	3.41	1.614	306

Source: *Field Survey (2021)*

To isolate the dominant factors from the variables in Table 4, the factor analysis technique was employed. The result of the test of sampling adequacy for the factor analysis is presented in Table 5.

Table 5: Result of KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.693
Bartlett's Test of Sphericity	Approx. Chi-Square	3884.380
	Df	153
	Sig.	0.000

Source*: Field Survey (2021)*

The KMO measures the sampling adequacy and determines if the responses given with the sample are adequate or not and should be close to 0.6 for satisfactory factor analysis to proceed. Looking at Table 5, the KMO measure is 0.693, which is above 0.6 and is therefore accepted. Bartlett's test

is another indication of the strength of the relationship among variables. This tests the null hypothesis that the correlation matrix is an identity matrix. An identity matrix is a matrix in which all the diagonal elements are 1. Bartlett's test of sphericity is significant (0.000), which is less than 0.05. The significance level is small enough to reject the null hypothesis, which means that the correlation matrix is not an identity matrix. The KMO result indicates that the sample size is large enough for factor analysis and Bartlett's test of sphericity result shows that the original correlation matrix is not an identity matrix, therefore, the data are suitable for factor analysis, that is, the variables are correlated highly enough to provide a reasonable basis for factor analysis.

Table 6: Total variance of factors that influence access to land for private housing development in the study area

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.717	26.208	26.208	4.717	26.208	26.208	3.606	20.031	20.031
2	3.595	19.970	46.177	3.595	19.970	46.177	2.845	15.804	35.835
3	1.996	11.090	57.268	1.996	11.090	57.268	2.553	14.184	50.019
4	1.832	10.180	67.448	1.832	10.180	67.448	2.263	12.575	62.594
5	1.099	6.108	73.556	1.099	6.108	73.556	1.592	8.843	71.437
6	1.022	5.678	79.234	1.022	5.678	79.234	1.404	7.798	79.234
7	0.839	4.660	83.895						
8	0.754	4.188	88.083						
9	0.562	3.121	91.204						
10	0.448	2.488	93.691						
11	0.283	1.571	95.263						
12	0.195	1.083	96.346						
13	0.190	1.054	97.400						
14	0.147	0.815	98.215						
15	0.112	0.623	98.838						
16	0.090	0.501	99.339						
17	0.066	0.368	99.707						
18	0.053	0.293	100.000						

Extraction Method: Principal Component Analysis.

Source: *Field Survey (2021)*

From the result in Table 6, the first six components have eigenvalues greater than 1 and they were able to explain about 79.23% of total variability in the model. This implies that the first six common factors are required.

Figure 5: Scree plot of factors that influence access to land in the study area
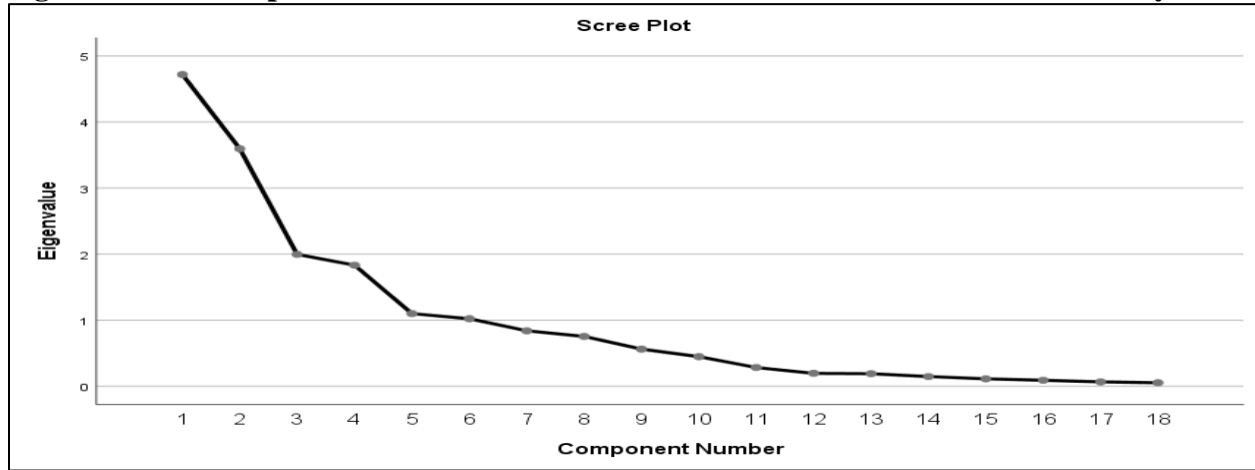
Source: *Field Survey (2021)*

The scree plot is a graph of the eigenvalues against all the factors. The graph is useful for determining how many factors to retain. The point of interest is where the curve starts to flatten, which can be seen between factors 6 and 7. Note also that factor 7 onwards have an eigenvalue of less than 1, so only six factors have been retained.

Table 7: Component matrix of factors that influence access to land for private housing development in the study area

	Component					
	1	2	3	4	5	6
Multiplicity of charges	0.799		0.305			
Double Allocation	0.790		0.320			
Encroachment/Trespassing	0.764					
High cost of titling	0.716		0.525			
Income Factor	0.654		-0.316	-0.369		
Cost of land	0.489	0.356	-0.355	-0.436	0.403	
Time taken to acquire land	0.314	0.752				-0.426
Marital Status	-0.484	0.654	0.344			
Time taken to receive Title Document	0.321	0.633				
Level of Education	-0.495	0.609				
Site Topography		0.603			-0.415	
Gender Factor	-0.352	0.540	0.506			

	1	2	3	4	5	6
Distance to Centre of Attraction	0.338		0.577	0.489		-0.321
Road Accessibility	0.552		-0.556		0.337	
Nearness to Work		0.414		0.642	0.319	0.317
Neighbourhood Development		0.547		0.562		
Access to Infrastructure	0.479	0.352			-0.514	
Occupation Factor	-0.326	0.461	0.300			0.528

Extraction Method: Principal Component Analysis.

a. 6 components extracted.

Source: *Field Survey (2021)*

The result in Table 7 shows the factors that have significant influence on each variable, out of the six factors determined based on the 6 extracted factors using the principal component analysis. The loadings close to -1 or +1 indicates that the factor strongly influences the variable. Whereas loadings close to 0 shows that the factor has a weak influence on the variable. The result shows that: multiplicity of charges (0.799), double allocation (0.790), encroachment/trespassing (0.764), high cost of titling (0.716), income factor (0.654), and road accessibility (0.552) all have high loadings on factor 1 and indicates a strong influence.

Table 8: Rotated component matrix of factors that influence access to land for private housing development in the study area

	Component					
	1	**2**	**3**	**4**	**5**	**6**
Double Allocation	0.894					
High cost of titling	0.843					
Encroachment/Trespassing	0.838					
Multiplicity of charges	0.745		0.465			
Gender Factor		0.838				
Marital Status		0.806				
Occupation Factor		0.762				
Cost of land			0.928			
Time taken to acquire land			0.721	0.480		

17

	1	2	3	4	5	6
Income Factor			**0.581**			-0.561
Time taken to receive Title Document		0.434	0.494			
Access to Infrastructure				**0.806**		
Site Topography				**0.749**		
Neighbourhood Development				**0.724**	0.406	
Nearness to Work				**0.859**		
Road Accessibility		-0.441	0.494	**0.538**		
Distance to Centre of Attraction	**0.594**					**0.685**
Level of Education	-0.453	0.463			0.349	0.474

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]
a. Rotation converged in 7 iterations.

Source: *Field Survey (2021)*

The result presented in Table 8 shows varimax rotation result performed on the data which can be interpreted as follows: double allocation (0.894), high cost of titling (0.843), encroachment/trespassing (0.838), multiplicity of charges (0.745) and distance to centre of attraction (0.594) have a large positive loading on factor 1, and this factor can be described as a titling and locational factor. Gender (0.838), marital status (0.806) and occupation factor (0.762) have large positive loadings on factor 2 and can be described as socio-economic factor. Cost of land (0.928), time taken to acquire land (0.721) and income (0.581) have large positive loadings on factor 3 and can be described as acquisition factor. Access to infrastructure (0.806), site topography (0.749) and neighbourhood development (0.724) have a high and positive loading on factor 4, which can be categorised as land condition. Furthermore, nearness to work (0.859) and road accessibility (0.538) which can be described as accessibility have large and positive loadings on factor 5. Lastly, distance to centre of attraction has a large positive loading on both factor 1 (0.594) and factor 6 (0.685) and can be described as locational suitability factor. Together, all six factors were able to explain about 79.23% of the total variance. Two of these factors (land titling and acquisition factors) validate those of Adedayo (2018), Oyedeji (2018), Lawal and Adekunle (2018). Thus, concerted efforts should be made by relevant authorities to mitigate these factors to facilitate effective access to residential land by private developers in the city.

5. Conclusion and Recommendations

Most private developers in Minna acquired land for housing development through purchase from individuals, based on private treaty. This indicates that the informal land market in the city is very active despite the government's formal control of alienation and transfer of land rights in the State. This outcome affirms the findings of Udoekanem (2009), Bichi (2010), Owoeye and Adedeji (2015), Kuma and Ighalo (2015) that informal land delivery channel is the major source of access to land for private housing development in various parts of Nigeria. Also, titling and locational factor, socio-economic factor, procedural bottlenecks, land condition and accessibility are the significant factors in land purchasing from individuals for private housing development in the city. The results indicate that the most important of these factors are land titling factor (EV = 4.717), socio-economic factor (EV = 3.595) and land acquisition factor (EV = 1.996) with very strong factor loadings from double allocation (0.894), gender (0.838) and cost of land (0.928) respectively. The study concludes that these factors hinder effective access to land for private housing development in the city. These findings corroborates those of Adedayo (2018) and Oyedeji (2018). Thus, stakeholders in land administration and management in the city should consider these factors in the land administration system to facilitate private developers' access to land for private housing development in the city. These include the government, developers and land administrators.

Based on the findings of this study, it is imperative for the government to amend sections of the Land Use Act to accommodate the formal registration of customary land titles. This will curtail the incidence of double allocation of land as all lands in the city would be duly registered and titled, thereby boosting land tenure security in the city. On the other hand, it will enhance the supply of customary lands into the formal land market and consequently, the reduction in the cost of land in the city. These two latent variables — double allocation and cost of land — strongly correlate with titling and locational factor (0.894) and land acquisition factor (0.928) respectively as revealed by the study. Also, since most land transactions in the city are informal (0.52%) as found by this study, these informal titles are customary land rights. If they are formally registered, land transactions in the city would be more transparent as any prospective buyer could easily verify the ownership details of such land at the Lands Registry in the State Ministry of Lands and Housing to avoid the incidence of double allocation.

Furthermore, the outcome of this study is very valuable to private housing developers in Niger state. Since developers need cost-effective land to develop affordable houses in the city, such land should be free from legal encumbrances posed by titling issues. These issues lead to a multiplicity of charges and has significant loading on titling and locational factor (0.745) as found by this study. To this end, private housing developers in the city through the Real Estate Developers Association of Nigeria (REDAN) should partner with the State government to acquire suitable sites for private housing development at appropriate locations within the city. Such sites should be duly serviced with basic amenities such as good road network, police station, health care centre,

bank, electricity and water supply and then re-allocated to private individuals to develop their houses. This initiative will minimize the cost of land for housing development and also eliminate the issue of double allocation of plots as the title would be issued directly by the State government through its Ministry of Lands and Housing.

Finally, the land titling factors which influence access to land for private housing development in Minna can be mitigated through efficient land administration and management. To achieve this, land officers in the State Ministry of Lands and Housing should be retrained in contemporary land administration systems. Such training should focus on the application of geospatial technologies in land administration in a developing city. This will improve the efficiency of the government's land titling process as well as minimize the challenges encountered by private developers in obtaining titles to land acquired for housing development in the city.

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Modelling of Daily Price Volatility of South Africa Property Stock Market Using GARCH Analysis

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Abstract

The study examined the volatility of the daily market price of listed property stocks on the Johannesburg Stock Exchange (JSE) for a 10-year period (2008-2017). The study used daily prices from January 2, 2008, to December 29, 2017, of twelve quoted property companies out of the twenty-seven listed on the Johannesburg Stock Exchange (SA REIT Association, 2020). The study computed the average daily price of the twelve selected property stocks. The analysis used it as a proxy for the daily market price for the property stock market. The study modelled SA-REIT market price volatility using generalised autoregressive conditional heteroskedasticity (GARCH 1, 1). The GARCH model reported that the previous day's information of both the daily market price (ARCH term) and the volatility (GARCH term) have a positive and significant ($p<.05$) effect on the current day's daily market price volatility in the property stock market. The result of the model implies that investment in the property stock market is strongly driven by positive news on daily prices than a negative shock; meaning that South African property investors are more sensitive and exhibit a sharp response to good news on the daily market price than bad news when thinking of investing in listed property company shares on Johannesburg Stock Exchange.

Keywords: GARCH, property stock, stock market, volatility, model

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1. Introduction

While the stock market is geared towards wealth creation, investors are more confused and lose confidence in the investment potentials of the stock market and, by extension, listed property stock and property company shares amidst market volatility. Prior studies have linked volatility to the occurrence of the unexpected swing of events in the stock market (Hanousek, Kocenda & Kutan, 2008; Mitra, Iyer & Joseph, 2015; Mashamba & Magweva, 2019, Trivedi et al., 2021). Early studies, including Shiller (1990), explained that increasing striking events in the stock market have been happening for time immemorial. Still, the concern about unexpected events started gaining the attention of market experts and academicians following the stock market crash on October 19, 1987.

In recent times, Quoreshi, Uddin & Jienwatcharamongkhol (2019) expressed that the reoccurrence of unpredictable events associated with high-level volatility has continued to pose a threat to investment goals and property stock market potential. Generally, volatility measures the variability of price or expected returns to its mean value. A high volatile stock implies that the price moves significantly up and down around the average price per time. Mamtha and Srinivasan (2016) explained that volatility clustering in stock price means a period of prolonged low volatility for a period that is followed by prolonged high volatility for another in the same series. The author attributed the main feature of volatility clustering as meaning collections of small and large fluctuations in stock prices sequentially following one another.

During the volatile marker period, the stock prices behave irrationally, fluctuate and make market predictions less significant. In some cases, the fundamental and technical analyses are difficult to prove, and a large number of participants are left with uncertain market conditions. The changes in the volatility clustering contribute to heightened stock market risk and uncertainty. Lahaye, Laurent & Neely (2009) and Haritha & Rishad (2020) stressed that rapid fluctuations in stock price have resultant effects on investors' trust, confidence and volume of trading activities in the general stock market. Meanwhile, the fluctuation of the stock price amidst a volatile market period is attributable to factors that include economic factors, market news and investment sentiments (Ramanthan & Gopalakrishan, 2013; Mamtha & Srinivasan, 2016; Haritha & Rishad, 2020). Engle & Rangel (2008) concluded that emerging stock markets are characterised by higher volatility of unpredicted events compared to developed markets. However, the volatility of stock price has been modelled by authors in different global markets (Cavalcante & Assaf, 2002; Mondher, Chaker & Ezzeddine, 2005; Quoreshi, Uddin & Jienwatcharamongkhol, 2019 and Quoreshi & Mollah, 2019). Trivedi et al. (2021) posited that volatility modelling in the stock market helps market participants such as investors, investment/financial analysts and fund managers to predict the possibility of great risk loss and the opportunity of higher return during unpredictable market conditions.

2. Literature Review

2.1 Stock Exchange Market and Volatility Pattern

In real estate economics, risk management, finance and investment literature, several studies have examined the relationship between volatility and the stock market and its attendance implications. Some of the studies in recent decades include Samanta (2010), Wang, Tianyi & Huang (2012), Abbas, Khan & Shah (2013), Bhowmik (2013), Issam, Achraf & Boujelbene (2013), Gospodinov & Jamali (2014), Li & Giles (2015), Mitra, Iyer & Joseph (2015),

Ghufran, Awan, Khakwani & Qureshi (2016), Sehgal & Garg (2016), Chung, Fung & Shilling (2016), Melo-Velandia (2017), Olbrys & Majewska (2017), Hussain, Murthy & Singh (2019), Quoreshi, Uddin & Jienwatcharamongkhol (2019), Saranya (2019) and Trivedi et al. (2021).

The findings from these studies have shown a different behavioural pattern of volatility in stock markets owing to the peculiarities of local stock markets and varying degrees of physical, social, economic and political development. Chung, Fung & Shilling (2016) concluded that despite the extensive studies, the relationship between the stock market and volatility is still subject to debate. Mitra, Iyer & Joseph (2015) examined the characteristics of volatility transmission in 10 international stock markets — Australia, Brazil, China, Egypt, China, Egypt, France, India, Israel, Japan, the United Kingdom and the United States. The study's primary aim is to capture volatility's spill-over effect during crisis and non-crisis economic periods. To achieve this, the study reviewed a period spanning over 20 years, i.e., from January 1995 – December 2014 (a total observation period of 3,465 days), with data obtained from the Bloomberg Database. Statistical evidence of spill-over volatility was observed during crisis and post-crisis economies and described the volatility pattern among the observed international stock markets as non-random.

Ghufran, Awan, Khakwani & Qureshi (2016) study addressed the causes of volatility in the Karachi stock exchange market in Pakistan. The study examined the volatility pattern of the KSE index and the prominent causes. The authors observed the clustered nature of the KSE index market volatility over the reviewed period. The authors identified the political situation and investors' herd behaviour as the most prominent causes of volatility in the Pakistan stock market. Sehgal & Garg (2016) analysed the cross-sectional volatility of stock markets in the BRIICKS (Brazil, Russia, India, Indonesia, China, South Korea, and South Africa) economies. The study investigated the systematic and unsystematic variation in expected stock returns due to stock exposure to market volatility in the regions. The authors found that systematic volatility showed low stock returns in Brazil, South Korea and Russia with a significant negative risk premium. While unsystematic volatility exhibited high returns with negative risk premium in all the BRIICKS countries except China. Olbrys & Majewska (2017) studied the largest European stock markets (the United Kingdom, France and Germany) to examine the asymmetry effects of market volatility. The authors employed EGARCH to analyse the log form of daily percentage changes in London FTSE100, Paris CAC40 and Frankfurt DAX stock indices for the period from 2007 to February 2009. The study found statistical evidence of asymmetrical volatility in the European stock markets but the degree varied with time. The authors concluded that European stock markets were more responsive to bad news than good news.

In a more recent similar study, Hussain, Murthy & Singh (2019) reviewed over forty empirical studies to examine the issues surrounding the volatility of different stock markets across the globe. Some of the volatility issues assessed by the authors include heteroscedasticity, asymmetric effect, risk-return framework, spill-overs and forecasting accuracy. Parts of the major findings were the evidence of a statistically weak interaction between conditional volatility and expected returns. The study noted the significant level of economic development as a determinant of systematic shock among stock market volatility. Quoreshi, Uddin & Jienwatcharamongkhol (2019) expanded the scope of volatility assessment to cover the BRIICKS, the major stock markets including the United States, United Kingdom, Euro Zone and others totalling 35 stock markets across the globe. The study assessed return volatility equity stocks with a major focus on unexpected events during the Eurozone crisis and global financial crises (GFC). The authors used fractionally integrated generalised autoregressive

conditional heteroskedasticity (FIGARCH) and found that all the 35 sampled stock markets exhibited long memory in equity stock returns and statistical evidence of intensive contagious (volatility) but at varying degrees across stock markets.

2.2 Volatility of Property Stock Market

The real estate sub-sector of the stock market in developing economies, including South Africa, has received little attention and debate on volatility. Li (2012) posited that incorporating REIT components into the broader stock market has contributed to the exposure of property stock to varying degrees of volatility, attributable to structural changes in market fundamentals, portfolio adjustments and macroeconomic shock. In Australia, Lee (2010) evaluated the effect of volatility dynamics on REIT features with the primary aim of informing investors on the extent to which REITs react to market news. The study analysed the Australian stock index from 2004-2008 and discovered that REITs show a stronger reaction to negative news than positive news in the market. The author concluded that news emanated from the general stock market exhibited a strong influence on REIT features than that news originated from REIT stock.

The work of Li (2012) attempted to identify the effects of market and economic trading activities on equity REIT components such as dividend yield (D.Y.) and return on average equity (ROAE) in the U.S. capital markets. The author analysed U.S. REITs data from 1995 to 2009 and found a higher impact of systematic risk of REIT return volatility in the bull (up) than the bear (down) market periods, but dividend yield and return on average equity were negatively affected. The findings were corroborated by the work of Kawaguchi, Aadu & Shilling (2016). The authors investigated the implication of volatility on equity REIT stock amidst the financial crisis in the US Stock market. The REIT data review period was from October 1985 to October 2012; the study found a significant increase in average equity REIT returns volatility in the pre-and-post Greenspan era due to the leverage effect that was triggered by wealth transfer, from equity to debt, and a declining interest rate.

Fei, Ding & Deng (2010) analysed the dynamic nature of volatility among returns on REITs, stock and direct real estate asset classes. The authors documented the time-vary implication of volatility among the asset class. A strong relationship was noted between stock (S&P) and REITs and the future return of equity REIT and the direct real estate. The authors stated that macroeconomic indicators explain the dynamism in volatility. The work of Chung, Fung, Shilling & Simmons-Mosley (2016) probed the relationship between REIT stock market volatility and expected returns. The author revealed that REIT volatility has a negative relationship with stock returns but exhibited a significant positive relationship with future expected returns. The authors demonstrated a trading potential in REIT implied volatility in the stock market. However, from the reviewed literature, there is empirical evidence of volatility in the global REIT market. Still, there is no conclusive debate on the pattern of the volatility in the REIT market, as its dimensional effects on REIT stock vary from one local market to another, reasons attributed to the difference in the level of market maturity and socioeconomic development.

In Africa, apart from the influence of unique attributes of local market factors on the volatility pattern in the REIT market, there is a dearth of empirical evidence on volatility dynamics and property stocks in the stock market, including the South African property stock market and constitutes a major gap in the literature. The few available studies focus on volatility in the general stock markets. For instance, Emenike & Aleke (2012), Emenike & Okwuchukwu

(2014) worked on volatility in the Nigerian stock market, Ndwiga & Muriu (2016), and Owidi & Mugo-Waweru (2016) investigated the Nairobi securities exchange of Kenya. In the Johannesburg stock exchange of South Africa, Niyitegeka & Tewar (2013) and Mashamba & Magweva (2019) documented stock market volatility. For instance, Uyaebo, Atoi & Usman (2015) explained that the South African stock market has high volatility while the volatility in Nigeria and Kenya is low. Therefore, study on property stock market volatility from an African context becomes imperative owing to the fragility of the market and the need for local and international investors to be informed when thinking of investing in the property stock market, especially in South Africa.

2.3 South Africa Stock Market

The South African stock market is one of the fastest developing markets, and its property sector is the only globally reported sector on the African continent. Akinsomi, Kola, Ndlovu & Motloung (2015) noted that South Africa is the only African country that was represented in the FTSE EPRA/NAREIT and the S&P Global REIT indices. Generally, African stock markets are characterised as fragmented and inefficient (Ntim, 2012). Ncube & Mingiri (2015) posited that African stock markets have been witnessing improvement with a significant level in Egypt and South Africa. However, the strong performance of South African stock indicates its considerable contribution and prominence in the African continent and global property stock market. Generally, the S.A. market is the only African market ranked among transparent markets in 2018 (Global Real Estate Transparent Index 2018).

By extension, S.A. property stock and listed property company shares have recorded significant performance, especially since the introduction of real estate investment trust, where PUL and PUT stocks were listed as REITs in 2013. Between 2014 and 2015, SA REIT capitalisation rose by 43%; by the end of 2015, SA REIT capitalisation was worth R340 billion. As of 2016, nine S.A. REITs were listed among the 100 most empowered companies worldwide. As reported by FTSE Russell (2017), SA-REITs were worth 16.86 million USD, ranked 9th and account for 1.74% of REIT's global market share (SA REIT Association, 2016).

3. Data and Method

The study is econometric and relies solely on published secondary data. The study focussed on the South African stock market with a significant concentration on property stock prices. Daily stock price data from January 2, 2008, to December 29, 2017, of twelve quoted property companies out of the twenty-seven listed on the Johannesburg Stock Exchange (SA REIT Association, 2020). The property stocks were selected based on the mentioned property companies with sufficient published data on daily prices for the period under review. The data were obtained from the JSE published statistical bulletin. The study computed the average daily price of the selected property stocks. The analysis used it as a proxy for the daily market price for the property stock market. The study deployed mean, standard deviation, maximum and minimum analytical tools for descriptive statistics, Augmented Dickey-Fuller (ADF) and Kwiatkowski-Phillips-Schmidt-Shin (KPSS); Jarque-Bera, Breusch-Godfrey LM and Heteroskedasticity tests for unit root, normal distribution, autocorrelation and ARCH effect tests respectively. The diversification benefits and modelling structure of SA-REIT market price volatility were analysed using a correlation matrix and generalised autoregressive conditional heteroskedasticity (GARCH 1, 1), respectively.

Table 1: Data Description and Acronym

Listed REITs	Acronym
EMIRA Property Fund Ltd	EMIP
EQUITIES Property Fund	EQUP
FAIRVEST Property Holdings Ltd	FAVT
FORTRESS REIT Ltd	FORT
GROWTHPOINT Properties Ltd.	GRTP
HOSPITALITY Property Fund Ltd	HOSP
HYROP Investment Ltd	HYPR
INTU Property Plc	INTU
INVESTEC Australia Property	INTA
INVESTEC Property Fund Ltd	INTP
OCTODEC Investment Ltd	OCTD
RESILIENT REIT Ltd	RESR
JSE Property Sector	JSE_Prop

3.1 Generalised Autoregressive Conditional Heteroskedasticity (GARCH 1, 1)

GARCH (1, 1) model is specifically developed to perform two primary functions: to model volatility and to forecast future occurrences in the stock market. The model analysis returns two results: the conditional mean equation and conditional variance (volatility) equation in a VAR environment. The conditional mean equation is synonymous with the autoregression analysis modelled after the ARIMA process, while the conditional variance equation (heteroscedastic error term) measures the volatility index (VIX). Thus, the (1, 1) GARCH specification indicates the presence of the ARCH term and GARCH term at the first order of lag length (ARCH 1 and GARCH 1). In a simple term, GARCH (1, 1) is mathematically expressed in equations (i) and (ii) below:

Condition Mean Equation (eqn. i)

$$Y_t = X_t \theta' + \epsilon_t \qquad \text{------------------------ (i)}$$

Condition Variance Equation (eqn. ii)

$$\sigma_t^2 = \omega + \alpha \epsilon_{t-1}^2 + \beta \sigma_{t-1}^2 \qquad \text{------------------- (ii)}$$

From the GARCH (1, 1), the conditional variance equation (volatility) specification could be explained as thus

i) σ_t^2 is current day volatility
ii) ω is the constant term
iii) $\alpha \epsilon_{t-1}^2$ - ARCH term: previous day's information about volatility with coefficient α
iv) $\beta \sigma_{t-1}^2$ – GACH term: Previous day's residual volatility or forecast variance with coefficient β
iv) Significant p-value at a 5% confidence level ($p \leq .05$) indicates the statistically significant effect of the GARCH (1, 1) effects on the series at period t (Y_t).

Therefore, in this study, σ_t^2 is the information on the current day's volatility of the market price of the property stock, $\alpha \neq 0$ is the co-efficient of previous days' information about the stock

market price volatilityϵ_{t-1}^2 while $\beta \neq 0$ is the co-efficient of previous days' information about the market price variance or volatility σ_{t-1}^2.

4. Result and Discussion

4.1 Summary of Descriptive Statistics

Table 4.1 presents the summary of descriptive statistics such as mean, standard deviation, and maximum and minimum analyses of the price of the listed property stocks on the JSE stock market for the years under review (2008-2017). Property stocks with an average stock price above R5,000 were HYPR (R7,583.51), RESR (R6,204.58) and INTU (R5,930.38). This category of stocks was also characterised by a high level of risk, as reported by its corresponding standard deviation. For instance, the risk level recorded in the price of RESR is R3,949.27, and the price varies from R1,730 to R15,116, having a range value of R13,386. HYPR has a standard deviation of R3,076, and the price swings between R3,080.46 and R14,143, having a range of R11,062.54. This result implies that the price of the two property stocks experienced turbulence over the reviewed period but at varying levels; the prices of RESR stock experienced rapid fluctuation over a longer period compared to HYPR and made the stock price of RESR to be more risk-prone than HYPR in the property stock market. Other categories of the property stocks with average price and standard deviation such as HOSP (R2,686.99; R1,968.66), GRTP (R2,108; R517.67), OCTD (R1,899.56; R401.14), INTP (R1,469.06; R194.37), FORT (R1,428.30; R234.73), EQUP (R1,417.07; R295.69), INTA (R1,242.90; R122.06) were traded at price above R1,000, with relatively lower risk over the study period. FAVT stock recorded the lowest average price of R134.04, the standard deviation of R34.58, and the prices vary from R70 to R225. This result, for FAVT, could be attributed to many reasons, including low volume of the stock being traded, low patronage and relatively low returns compared to its contemporaries in the market

However, the estimation of the general market (JES_Pr), the mean, stand deviation and price range shows that the average price of traded property stock stood at R2,957.31, risk level (standard deviation) of R544.51 and the market prices range from the least price of R2,035 to the highest price of R4,868.57. The study observed that HYPR (R7,583.51; R3,076); RESR (R6,204.58; R3,949.27), and INTU (R5930.38; R2,649.69) enjoyed higher prices above market price (R2,957.31), but their prices were highly risk-prone. HOSP stock price (R2,686.99) is lesser than the market stock price but has a higher level of risk than the market risk. The associated higher risk level may be due to the influence of the stock-specific characteristics on the stock pricing. In summary, the price of the listed property stock exhibited fluctuations over the reviewed period, as indicated by the standard deviation and range analyses. This result signals the likelihood of price volatility (either short or prolonged or a combination of both) in the property stock.

Table 4.1: Summary of Descriptive Statistics of Property Stock Price on Johannesburg Stock Exchange (JSE) Market

Property Stocks	Descriptive Statistics				
	Mean	**Std. Dev.**	**Max.**	**Min.**	
EMIP	1342.64	223.54	1949.00	806.00	
EQUP	1417.07	295.69	2205.00	1030.00	
FAVT	134.04	34.58	225.00	70.00	
FORT	1428.30	234.73	1858.00	940.00	
GRTP	2108.34	517.67	3049.00	1090.00	
HOSP	2686.99	1968.66	7858.00	595.00	
HYPR	7583.51	3076.46	14143.00	3080.46	
INTU	5930.38	2649.69	16039.00	3460.00	
INTA	1242.90	122.06	1543.00	1021.00	
INTP	1469.06	194.37	1879.00	1010.00	
OCTD	1899.56	401.14	2852.00	1000.00	
RESR	6204.58	3949.27	15116.00	1730.00	
JSE_Prop	*2957.31*	*544.51*	*4868.57*	*2035.91*	

Note: Standard Deviation (S.D.), Maximum (Max.), Minimum (Min.)

4.2 Correlation Analysis to Measure Diversification Benefits

The study conducted a correlation analysis of the property stocks to examine their level of diversification benefits in the property stock market, and the results were presented in Table 4.2. According to Modern Portfolio Theory, Markowitz (1952) expressed that a negative correlation coefficient above 70% (>-0.70) indicates a strong diversification relationship and 30% (<-0.3) and below means a weak diversification relationship. As indicated in Table 4.2, a strong negative correlation coefficient was observed between paired property stock: EQUP-INTU (-0.809). Paired property stock of EMIP-HOSP (-0.685), FORT-INTU (-0.676), EMIP-EQUP (-0.648) and EMIP-INTA (-0.632) showed a moderate correlation relationship, while a very weak correlation coefficient was observed between paired property stock price of AVGP-EMIP (-0.071), EMIP-FAVT (-0.068), and FORT-OCTD (-0.011). This result signals good diversification benefits, especially between EQUP and INTU stocks. This means that the price of the two stocks moves in the opposite direction; the rise/fall in the price of EQUP stock is strongly associated with the fall/rise in INTU stock which signals diversification benefit in the paired property stocks the investor can leverage to achieving optimal diversification benefits in the asset. The correlation coefficient with a positive sign showed poor diversification; therefore, the study reveals paired property stock types for optimal performance amidst instability in the property stock market.

Table 4.2: Correlation Analysis to Measure the Diversification benefits among the property Stocks in the market

	EMIP	EQUP	FAVT	FORT	GRTP	HOSP	HYPR	INTA	INTP	INTU	OCTD	RESR
EMIP	1											
EQUP	-0.648	1										
FAVT	-0.068	0.659	1									
FORT	-0.268	0.653	0.470	1								
GRTP	0.509	-0.135	0.298	0.336	1							
HOSP	-0.685	0.354	-0.041	0.322	-0.339	1						
HYPR	0.030	0.337	0.467	0.195	0.290	-0.209	1					
INTA	-0.632	0.543	0.136	0.134	-0.342	0.261	0.465	1				
INTP	0.443	0.080	0.524	0.427	0.748	-0.310	0.227	-0.353	1			
INTU	0.747	-0.809	-0.463	-0.676	0.025	-0.551	-0.099	-0.437	-0.140	1		
OCTD	0.702	-0.323	0.300	-0.011	0.591	-0.396	0.355	-0.329	0.555	0.390	1	
RESR	-0.373	0.721	0.482	0.291	-0.170	0.002	0.654	0.662	-0.163	-0.326	-0.172	1

4.3 Unit Root Test for the Stationary of the Data Series

In Table 4.3, the study investigated the data series' stationary status (unit root) as a pre-conditional test for time series data. Two different unit root tests, i.e., Augmented Dickey-Fuller (ADF) and Kwiatkowski-Phillips-Schmidt-Shin (KPSS), were conducted at a 5% level of significance. The tests' results complement one another to substantiate the stationary status of the data series. As shown in the Table, the ADF test rejected the null hypothesis of the presence of unit root in favour of stationarity of the data as the p-value in all cases were greater than the 5% significant level (p > 0.05) at the first order of lag I(1) for the listed property stocks. The complementary KPSS test exhibited a similar result. The calculated t-stat values of all the listed property stocks were lower than the critical value (CV) at 5%, indicating no unit root in the series. The rejection of the presence of the unit root test by KPSS further ascertained the stationarity of the data series over the study period, suggesting that the data series are fit and suitable for model estimation in a VAR environment.

Table 4.3: Unit Root Tests of the Listed Property Stock Price

| Property Stock | Augmented Dickey-Fuller | | | | | Kwiatkowski-Phillips-Schmidt-Shin | | | |
| | I(0) | | I(1) | | | I(1) | | | |
	t-stat	Sig	t-stat	Sig		1%	5%	10%	t-stat
EMIP	-2.1617	0.2207	-50.0832	0.0001		0.7390	0.4630	0.3470	0.0756
EQUP	-0.0584	0.9518	-35.3734	0.0000		0.7390	0.4630	0.3470	0.1667
FAVT	-1.5437	0.5113	-23.269	0.0000		0.7390	0.4630	0.3470	0.0274
FORT	-1.4816	0.5430	-38.5552	0.0000		0.7390	0.4630	0.3470	0.0266
GRTP	-1.2159	0.6698	-52.8970	0.0001		0.7390	0.4630	0.3470	0.0474
HOSP	-2.3516	0.1559	-39.6324	0.0000		0.7390	0.4630	0.3470	0.2744
HYPR	-0.5915	0.8701	-32.4577	0.0000		0.7390	0.4630	0.3470	0.0601
INTU	-3.3776	0.0119	-48.3953	0.0001		0.7390	0.4630	0.3470	0.4372
INTA	-2.3052	0.1705	-26.2878	0.0000		0.7390	0.4630	0.3470	0.3394
INTP	-1.6616	0.4507	-35.3525	0.0000		0.7390	0.4630	0.3470	0.0944
OCTD	-2.0857	0.2506	-33.4328	0.0000		0.7390	0.4630	0.3470	0.0702
RESR	1.0635	0.9973	-52.8210	0.0001		0.7390	0.4630	0.3470	0.3905

4.4 Residual Diagnostics Tests of Series for GARCH (1, 1) Model

The suitability of the data series for computing the GARCH model is of utmost concern in this type of study. To ascertain this, the study conducted residual diagnostics tests such as autocorrelation, heteroskedasticity, and normality tests to verify the presence of ARCH effects which are the preconditioned requirement for computing the GARCH model. The results of the residual diagnostic tests are presented in Table 4.4. The results of the tests showed that the price of the selected property stocks was strongly characterised by ARCH effects as reported by the p-value of the observed R-square (Obs*R-squared) of the Lagrangian multiplier (L.M.) autocorrelation and heteroskedasticity tests (p>0.05). The result of the ARCH effect characterised by the price of the property stocks indicates that the residual of the series exhibited an irregular pattern of variance, clustering the price volatility nature of the property stocks and the variance of the series error term moved in a non-linear pattern. However, the result of randomness in the variance of series error term further suggests the appropriateness of the GARCH model for estimating and modelling the price volatility in the property stock market. However, the Jarque-Bera test on a normal distribution of the property stock price for the reviewed period reports the non-linear distribution of the property stock price as indicated by the significant p-value (p<0.05). The non-conformity of time series data with normal distribution is expected since the distribution of the time-varying series is characterised by clustering of price and random movement.

Table 4.4: Residual Diagnostics Tests

Property Stock	Breusch-Godfrey LM Test: Autocorrelation Test		Heteroskedasticity Test ARCH Effect		Jarque-Bera Normality Test	
	Obs*R-squared	Probability	Obs*R-squared	Probability	Coefficient	Probability
EMIP	2480.77	0.0000	2453.68	0.0000	10200.11	0.0000
EQUP	878.95	0.0000	873.00	0.0000	11169.01	0.0000
FAVT	2465.87	0.0000	2385.85	0.0000	22657.43	0.0000
FORT	2030.44	0.0000	2017.41	0.0000	11135.38	0.0000
GRTP	2489.89	0.0000	2450.23	0.0000	3961.42	0.0000
HOSP	2489.51	0.0000	2478.93	0.0000	84248.8	0.0000
HYPR	2494.17	0.0000	2469.08	0.0000	6521.463	0.0000
INTU	2480.98	0.0000	2480.32	0.0000	40296.01	0.0000
INTA	886.51	0.0000	107.18	0.0000	9047.894	0.0000
INTP	1639.71	0.0000	1616.59	0.0000	142724.4	0.0000
OCTD	2472.36	0.0000	2374.88	0.0000	35639.40	0.0000
RESR	2496.42	0.0000	2484.69	0.0000	2317.154	0.0000

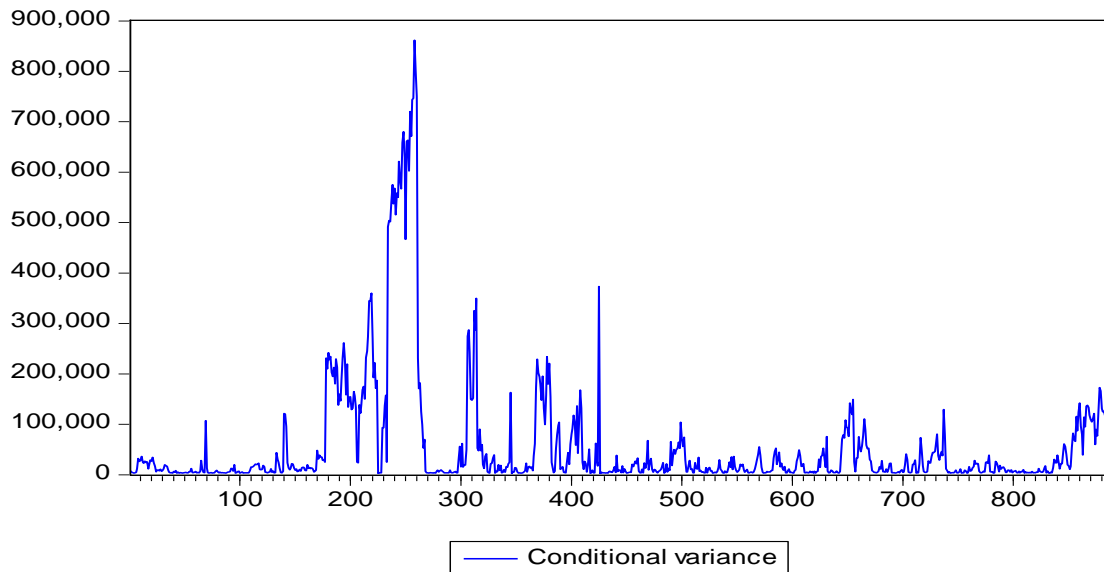### 4.5 Volatility of Market Price of Property Stock on JSE

Having verified and ascertained the selected property stocks' fitness and suitability to model the market price volatility on JES, the study computed the average price of the selected property stocks as a proxy for the market price of the property stocks. It analysed the volatility of the residual error term of the market price by GARCH (1, 1). The analysis results are presented in graphical illustrations (Figure 1 and Figure 2 below). The value on the x-axis measures days of trading activities of property stock on JSE (January 2, 2008, to December 29, 2017, i.e. 2,499 observations). The daily trading price (excluding Saturdays and Sundays) have an interval of 100 unit, starting from trading day 1 in 2008 to the last trading day in 2017; meaning that year 2008 represent 0, the year 2009 represents 100, the year 2010 represents 200 and up to 2016 and 2017 representing 800 and 900 unit respectively. The y-axis calibrated the fluctuations in the market price of property stocks through positive and negative swings, especially for the volatility index (VIX) in the residual error term of the series (Fig.2). For the lines on the graph, the actual line (red) represents the trend in the market prices (movement of price in property stocks market), the fitted line (green) measures trend in the conditional mean-variance while the residue line (blue) measures trend in the conditional variance (volatility) in the residual (error terms) of the series.

However, to better understand the trend in the volatility pattern of the price of property stock market, the study computed the residual estimates (volatility) of the series, and the analysis was presented in Fig. 2.
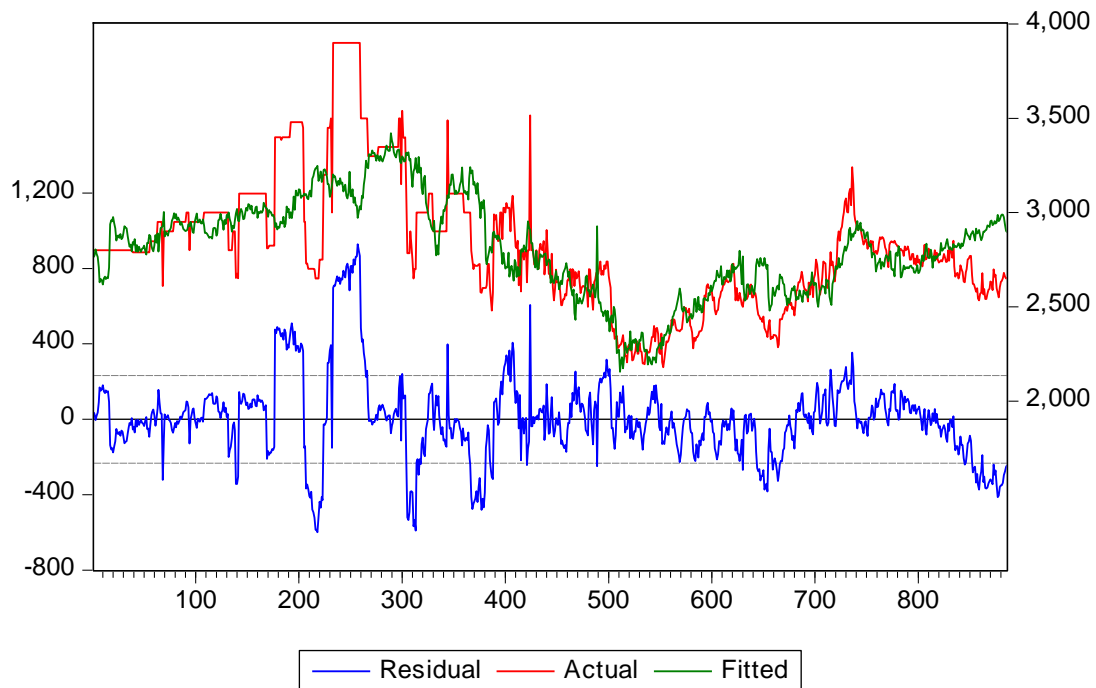
Figure 1: Actual, Fitted and Residual Estimates of the Data Series (2008-

As empirically evidenced from the graphical illustration in Fig. 2, the market price of property stocks on JES experienced turbulence as the price swung up and down frequently over the study period in a mixed pattern (high and low levels of volatility). The market price volatility started low from 2008 till the end of 2010. Prolonged high volatility set in; as the market price began to experience high fluctuations between 2010 and 2012, with the noticeable high volatility occurrence between 2010 and 2011. Sharp market price fluctuations were also recorded from 2011 to early 2012 but at a relatively lower rate compared to high occurrences in previous years. Thereafter, the market price began to experience prolonged low volatility, especially from mid-2013 to late 2017. By implication, it means that the market price of property stock on JSE experienced both low and high prolonged volatility. The up and down market price swings signal the reactions of property stock investors/breakers to the stock market's technical, fundamental news/pronouncement and sentiment. The evidence of volatility in the S.A. property stock market is a reflection of what was obtained in the listed property stock markets across the globe (Olbrys & Majewska, 2017; Hussain, Murthy & Singh, 2019; Quoreshi, Uddin & Jienwatcharamongkhol, 2019; Saranya, 2019; Trivedi et al., 2021). The authors demonstrated the evidence of volatility in the property stock market with varying dimensional effects across the globe. However, the high volatility level in the property stock market price sends caution of risk-prone investment in property stocks in the volatile trading period.

Figure 2: Market Price Volatility of Property Stock

However, evidence of volatility in property stock price on the JSE market aligns with extant studies that have identified volatility patterns characterised by general property stock market and, by extension, property stock in different countries: For example, in Australia (Lee, 2010), India (Ramanathan & Gopalakrishnan, 2013; Ghufran, Awan, Khakwani & Qureshi, 2016; Saranya, 2019). European stock markets and BRIICKS regions (Sehgal & Garg, 2016; Majewska, 2017; Kawaguchi, Aadu & Shilling, 2016; Quoreshi, Uddin & Jienwatcharamongkhol, 2019). Local studies, including Uyaebo, Atoi & Usman (2015), Ndwiga & Muriu (2016) and Mashamba & Magweva (2019), have documented the evidence of volatility in Nigeria, Kenya and South Africa's general stock exchange market. On the attributable causes, Ramanthan & Gopalakrishan (2013), Mamtha & Srinivasan (2016), Ghufran, Awan, Khakwani and Qureshi (2016) noted that the prominent effect of stock-specific information, public information, economic indicators such as inflation, interest and exchange rates being the prominent, market strength, i.e. size, volume traded and peers, herd behaviour and market sentiment, demand-supply interplay, speculations and uncertainty of the future prices on stock price volatility but at varying degree across countries.

Meanwhile, the reviewed period (2007-2017) saw a series of events in the S.A. industry, the JSE and the global financial market, which can be linked to the dynamics in the volatility pattern in the prices of S.A. REITs. For instance, the spill-over effects of the global financial crisis of 2008-2009, which put financial stress on the global financial market with the worst hit on nations' capital markets, could be a significant contributor to the dynamic in the price volatility experienced by the SA REIT market due to the level of exposure and integration to the global financial market. Also, the micro-economic policy of JSE, the announcement, disclosure and news on economic policy and market regulations could be a driving force that shapes the trading pattern in the market rather than underlying market parameters. Another factor to be considered is the SA REIT transition regime in the year 2013, where the S.A. property unit trust (PUT) and property loan stock (PLS) were upgraded to REIT firms. The consequential effects of the transition period appear to cause changes in the S.A. property stock market, which could be significantly linked to volatility in the REIT share prices in the short run. Also, concern about the market noise, sentiment, information bias and irrational behaviour of the market participants cannot be underrated in the REITs market over the reviewed period,

where people based their trading activities on emotion rather than facts and becomes a threat to stability in the REIT market.

4.6 Price Volatility Model of Property Stock Market on JES

In Table 4.5, the study modelled the volatility pattern of the market price using GARCH (1, 1) analysis at first-order lag and a 5% level of significant specifications. The result of the analysis showed that the resid(-1) and the GARCH(-1) have a p-value of 0.000 and 0.0085, respectively which are less than a 5% level of confidence (p<0.05). The result of the positive and significant (p<0.05) of the ARCH term (resid) and GARCH evidenced the considerable effects of information on historical market price and variance on the property stock market volatility. The resid(-1) representing the ARCH effect is the previous day's market price information about volatility. At the same time, the GARCH (-1) reports the previous day's residual volatility in the property stock (see eqn. viii). This means that both the previous day's information on the market price and the associated risk (variance) significantly influence the property stock market. For example, good news/information on historical performance in the price of property stock strongly influences market volatility. For instance, an announcement on the increase in the dividend pay-out, favourable economic parameters, market incentives etc., drives trading activities in the bull market, boosts investors' confidence in the stock market and influences volatility in the stock market.

By implication, it means that investment in property stock on JSE is driven by good news rather than negative shock. The result is, on the one hand, in agreement with some extent, literature; on the other hand, it opposed the findings of other studies reported in different property stock markets. This study corroborates the findings of Gopal, Mahalakshmi & Thiyagaraja (2019), that document the direct positive influence of volatility on future price stock in the New York Stock Exchange (NYSE) market. But this contradicts the findings of Chung, Fung, Shilling & Simmons-Mosley (2016), Sehgal & Garg (2016), Olbrys & Majewska (2017) and Mamtha & Srinivasan (2016), that reported the faster response of investors to bad news than the good news in the general stock market. However, Simmons-Mosley (2016) reported a negative relationship between REIT volatility and stock returns.

Table 4.5 Price Volatility Model of Property Stock Market on JES

Variable	Coefficient	Std. Error	z-Statistic	Probability
C	285.5508	59.46454	4.802036	0.0000
RESID(-1)^2	0.873473	0.120069	7.274757	0.0000
GARCH(-1)	0.144308	0.054805	2.633130	0.0085

Dependent variable market price residue (H_t), Significant level at 5%

$$JSE\_Prop_{Vol} = 285.55 + 0.87\epsilon_{t-1}^2 + 0.144\sigma_{t-1}^2 \quad \text{----------------- eqn. (viii)}$$

5. Conclusion and Recommendations

The study examined the volatility pattern characterised by the daily market price of property stock on the Johannesburg Stock Exchange (JSE). This was done to document and model the volatility pattern of the daily price of the property stock market. The study analysed the ten years (January 2, 2008, to December 29, 2017) daily price of property stock, which was obtained from JSE published statistical bulletin using the GARCH (1, 1) model. The study computed the average daily price of the selected (12) property stocks and was used as a proxy for daily market price in the analysis. The analysis showed that the daily market price of property stock is characterised by autocorrelation and ARCH effects. Still, the series was not normally distributed over the study period. The study documents the evidence of volatility in the daily market price of the property stock characterised by prolonged high and low clustering patterns. The GARCH model reported a positive (direct) and significant effect of previous days' information on the current day market price volatility, meaning that trading activities in S.A. property stock are driven by good news such as bonuses, incentives, and tax holidays etc. The evidence of volatility in the S.A. property stock market aligns with previous studies across different property stock markets (Fei, Ding & Deng, 2010; Li, 2012; Aadu & Shilling, 2016; Trivedi et al., 202). While the result of the direct relationship between the property stock and volatility pattern in S.A. property stock agrees with the findings of Gopal, Mahalakshmi & Thiyagaraja (2019) in the New York stock market, but Chung, Fung, Shilling & Simmons-Mosley (2016) reported a negative relationship between REIT volatility and stock returns. The practical implication of this result is that investors need to take caution in a volatile market driven by unfavourable market news but could bring opportunities to earn higher returns in a market anomaly triggered by good news, especially in the short run. We advise the market participants, investment/financial analysts and fund managers to give attention to the pattern of volatility in the property stock market. At the same time, the regulatory bodies and policymakers are required to embark on regulations/policies that encourage stability and boost the trading activities in the property stock market.

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An Investigation of Causes of Variance in Property Rating Valuation: Valuers' Point of View

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Abstract

Valuation is the foundation of property rating administration which is, in most cases, subject to voidable variance. Property rating variance occurs when two valuers come up with wide margin values on the same hereditament. Therefore, the correctness of the assessed rateable values significantly impacts other rating administration components. The rateable value will seem to be fair if the margin of variation is not too wide between the rate demanded by the rating authority and the one expected as reasonable by the taxpayers. Therefore, this study's focus was to investigate the causes of variance in assessed rateable values from the point of view of property rating valuers. The purposive sampling method was adopted among registered estate surveyors and valuers in Kwara State, Nigeria. This study adopted a qualitative research approach. The qualitative data were obtained from an interview survey with eight valuers, and content analysis was employed to analyse the data. Findings showed that specialisation, valuers' opinion on the rating valuation input variables, lack of due diligence, corruption, all-inclusive law, the ambiguity of the rating law, information in the tone–of–the–list, lack of proper sanction, gratification by ratepayer are some of the causes of variance in rateable value. This study discovers new variables of specific application to variation in rating valuation, a departure from the general application of valuation variance to rating as obtained in the existing literature. Prompt correction of the identified causes of variance could pave the way for the effective role of the stakeholders in rating administration.

Keywords: *rateable value, rating authority, tone-of-the-list, variance, valuation*

1. Introduction

Valuation significance in rating administration cannot be overemphasised as it is the foundation of rating administration. Valuation variance is the difference in opinion of values between two or more valuers on the same subject property and the same purpose. Valuation for rating purposes is a statutorily specified task because the processes and procedures must be followed according to how they are spelt out in the statute document. One of the types of machinery that are in place to minimise variance in the valuation for rating purposes is the adoption of tone-of-the-list for the valuation of hereditament in each rating area. Variance in rateable values of the rating authority and that of the ratepayer is one of the bases for appeals (Bond and Brown, 2012). Among factors that can minimise variance in rating value, according to Atilola *et al.* (2017), is the inappropriate adoption or compliance with the tone of the list. This document contains input variables that serve as a guide to valuers in undertaking the valuation of hereditament towards bridging the gap in values.

However, it is surprising that valuation variance still exists in rating valuation due to neglect or disregard for the intended role of tone-of-the-list in the valuation of the hereditament, as revealed in the studies of Munshifwa *et al.* (2016) in Zambia and Atilola (2018) in Nigeria. This, therefore, suggests that the syndrome of valuation variance is prone to both statutory valuation and non-statutory valuation. The causes of valuation variance revealed from empirical studies of Levy and Schuck (1999), Harvard (2001), Bretten and Wyatt (2001), Boyd and Irons (2002), Ayedun *et al.* (2012), Akinjare *et al.* (2013), Ayedun *et al.* (2014), Effiong (2015), Adegoke (2016), Munshifwa *et al.* (2016) and Atilola *et al.* (2019) experience, client's influence, lack of market indices, lack of sanctions for professional negligence and misconduct, absence of quality control amongst other factors. Only the study of Atilola *et al.* (2019) seemed to have empirically studied variance in rating valuation by adopting a quantitative approach. Thus, this study investigated the causes of variance in rating valuation from a qualitative approach to identify new terminologies that could be used to discuss the causes of variance in rating valuation. The scope of this study is limited to property rating valuation in Kwara State, Nigeria, as one of the noted states in the country that does engage valuers in property rating valuation. Therefore, the essence of this study is to identify the new terminologies that could be used to explain the factors causing variance in rateable values. The following section is a review of the literature, which is followed by the methodology adopted for the study. The fourth section presents the study's findings, while the last section discusses the findings and concludes the study.

2. Variance in Property Valuation

The literature on variance in valuation is explored to identify factors causing variance in rateable value since there is little research on this phenomenon in rating valuation. The discussion in this section of the paper is in two parts. The first part is on property valuation, while the second part focuses on the causes of variance in property valuation. The discussion here is grouped into three broad categories: the valuers' characteristics, legal factors, and the valuation environment and process.

2.1 Property Valuation

Property valuation is the art and science of estimating the value of an interest in landed property for a specific purpose at a particular time (Achu *et al.,* 2015; Adegoke, 2016). A valuation can be grouped into two categories: statutory and non-statutory valuation. Examples of statutory valuation are rating and compensation valuation, while non-statutory valuation includes merger and acquisition, sales and accounting purposes. Statutory valuation is any type of value determination exercise in which its process and procedure are provided explicitly by a reference book of the statute. For instance, in rating valuation the statute offers, there must be the tone of the list (Atilola *et al*., 2019).

2.2 Causes of Valuation Variance

As presented by Atilola *et al.* (2019), there are three causes of valuation variance. These identified causes are; the valuer's characteristics, legal factors and valuation and environmental factors.

2.2.1 Valuer's Characteristics

The factors under this heading are the factors that affect valuers' actions in the course of executing valuation engagement. The following factors constitute valuers' characteristics:

a) Experience

The length of experience of valuers' involvement in valuation exercises, among other aspects of estate surveying and valuation practice, will indicate the relevance of knowledge, skill, level of competence and expertise of said valuer in valuation. This factor was identified from the works of Harvard (2001), Bretten and Wyatt (2001), Ayedun *et al.*(2012), Akinjare *et al.*(2013), Effiong (2015), Munshifwa *et al.*(2016) and Adegoke (2016).

b) Unrealistic Valuation Assumption

Harvard (2001), Effiong (2015), Munshifwa *et al.* (2016) and Adegoke (2016) identified the assumptions made by valuers in the course of valuing property as a possible cause of variance in valuation. For instance, the study of Munshifwa *et al.* (2016) affirmed that such as overrated rental value on one side and underrated rental value on the other side, or erroneously taken of gross rent for net rent, or outgoings, depreciation, decapitalisation, tenant share, construction cost rate among others adopted would cause variance in rateable values.

c) The Integrity of the Valuer

Integrity refers to the display of the art of honesty, reliability or uprightness in the discharge of professional services towards the client or other interested persons attached to the service being rendered. Munshifwa *et al.* (2016) are of the view that valuers should avoid actions that can negatively affect professional integrity in the discharge of their professional service to the clients. The study of Adegoke (2016) also recognised that if this is missing in a valuer, it may be a cause of variance in general valuation practice.

d) Valuers' Training in Rating Valuation

Training in rating valuation is often associated with on-the-job learning. The training could be in the form of short courses, seminars, conferences and continuing professional development programmes (Babawale, 2008; Effiong, 2015).

e) Requisite Registration with the Statutory Regulatory Body

This is the engagement in the act of value determined by a non-duly registered person. Regulatory body certification is required for any person to be registered as competent to practice the profession of estate surveying and valuation. This was noted in the study of Adegoke (2016). In Nigeria, certification is issued by ESVARBON. It is upon the attainment and verification of a professional qualification that enables a valuer to practice (Federal Government of Nigeria, 1975; Adegoke, 2016). The lack of this prerequisite in the practice of valuation in Nigeria may contribute significantly to valuation variance regarding registered versus non-registered persons.

f) Academic Qualification

It is often believed that the skills displayed by a valuer have a direct relationship to his educational achievement. This is based on the knowledge that has been attained during school. In other words, it could be said that the higher the academic achievement, the more thorough the valuation exercise. Ayedun *et al.* (2012) identified this as part of the factors affecting valuation variance.

2.2.2 Legal Factors

Rating assessment is a statutory valuation; therefore, the place of rating law is crucial in the estimation of rateable value. The factors identified in the literature on variance in determining the assessed value are channelled toward two points. The first is the comprehensiveness of the law, while the second deals with the explicitness of the law. The details on these 2 points are explained as follows:

a) The comprehensiveness of Tax Law

This is when the rating law is all-inclusive on matters such as assessment equation, depreciation rate, and decapitalisation rate, among others related to the assessment of rateable value. From the study of Oni and Ajayi (2011) and Babawale and Nubi (2011), it was established that one of the reasons for variance in the assessed value under the Land Use Charge Law (2001) of Lagos State, Nigeria was that the assessment equation in the law is not comprehensive enough. A similar view was shared by Atilola (2013) on the Kwara State Land Charge Law (2009), as the Kwara State law is a replica of that of Lagos State.

b) The explicitness of the Tax Law

Munshifwa *et al.* (2016) revealed that the primary cause of variance in rateable value among assessors in Zambia is associated with the vagueness of valuation instructions and the time lag between valuation dates. Another dimension of this factor was the discretionary power of the Statutory Officers. This refers to the unambiguity of rating law on the meanings and interpretations of the relevant law sections related to assessment. Authors such as Atilola (2013) observation on the Kwara State Land Charge Law, Babawale (2013a), Babawale and Nubi's (2011) and Oni and Ajayi (2011) observations on the Lagos State Land Use Law attested to this fact. The authors criticised the discretionary power given to Statutory Officers under the law and the effect it could have on the final determination of the assessed value.

2.2.3   Valuation Environment and Process Factors

The valuation environment and process significantly influence valuation execution (Levy and Schuck, 2005; Harvard, 2001; Babawale and Omirin, 2012). The factors that could cause variance in rateable values under this heading are:

a) Absence of Quality Control

Quality control is the internal mechanism of an organisation to ensure that the correct thing is done (International Association of Assessing Officers, 2016). For instance, the lapses in the 1993 rating valuation in Dar Es Salaam, Tanzania, were adduced to a lack of quality control. Kelly and Musunu (2000) posit that the variation in rateable values results from a lack of quality control by the Dar Es Salaam rating authorities.

b) Absence of Professional Sanctions for Negligence and Misconduct

Professional bodies often sanction erring members for misconduct or negligence as a way of correcting them. However, if this medium of discipline erring member is weak or absent, valuers may not take their professional engagement seriously (Kelly and Musunu, 2000; Boyd and Irons, 2002; Babawale, 2007; Babawale, 2013b; Effiong, 2015).

c) Market Indices for the Input Variables

The unavailability of market indices could cause variation in valuation. Authors have used different phrases or clauses to express market indices for the input variables. For instance, Effiong (2015) used "*lack of market data*", "*available market information to each valuer and source of market data* " (Ayedun *et al.*, 2012) ", *different parameters and adequate market information*" (Akinjare *et al.*, 2013); "*problem of relevant data*" (Adegoke, 2016); "*differences in comparable, absence of a central market, lack of market transparency and insufficient comparable*" (Munshifwa *et al.*, 2016). This factor was also identified as a cause of variance in mortgage valuation by Bretten and Wyatt (2001). Bond and Brown (2012) posit that there is a central data bank in the UK from where a Valuation Officer derives their input variables. In countries such as Tanzania, Botswana and Taiwan, an institution of the state is authorised to provide information on the input variables (Kayuza, 2006; Lin, 2010; Svensson and Leima, 2014).

d) Client's Influence

This deals with clients' inducement to influence the outcome of valuation in their favour (Levy and Schuck, 1999; Levy and Schuck, 2005; Nasir, 2006; Adegoke and Aluko, 2007; Ayedun *et al.*, 2012; Iroham, 2012). This practice may be for monetary gain or the guarantee of further valuation assignment (Bretten and Wyatt, 2001; Amidu and Aluko, 2007a; Amidu and Aluko, 2007b; Amidu *et al.*, 2008; Achu, 2013; Achu *et al.*, 2015). This factor could cause variance in valuation when valuers yield to the 'tune' of the clients (Ayedun *et al.*, 2014; Akinjare *et al.*, 2013; Adegoke, 2016; Effiong, 2015).

From the literature review on the causes of variance in valuation, twelve factors were identified under three categorisations. The factors are experience, unrealistic valuation assumptions, the integrity of the valuer, valuers' training in rating valuation, requisite registration with the statutory regulatory body and academic qualification. Others include the comprehensiveness of tax law, the explicitness of the tax law (legal factors), the absence of quality control, the lack of sanctions for negligence, market indices for input variables and the client's influence

(valuation environmental and process factors). These factors were probed to arrive at new terms that could be used in replacement.

3. Methodology

A survey approach was adopted in investigating the causes of variance in rateable value. The study area is Kwara State, a Nigerian state where rating valuation is carried out (Adi, 2012). The state has a long history of rating valuation exercises. The qualitative data was collected through an in-depth interview survey by a research assistant. The research assistant was part of the pilot survey and was also trained on how to conduct the interview. In addition to this fact, the research assistant is a graduate of estate management, a lecturer at one institution in Kwara State and an elected member of the Nigerian Institution of Estate Surveyors and Valuers. These qualities processed by the research assistant make them appropriate and suitable for the interviewer. Eight valuers in the state have the required experience in rating valuation as they have been involved in some previous exercises in the state. These eight valuers were identified from a pilot survey, where those who undertook rating valuations were asked to indicate.

Three different approaches can conduct interviews: an unstructured, open-ended interview, semi-structured open-ended interview and structured closed-ended interview (Creswell, 2007). In the semi-structured open-ended interview, the interviewers have a list of questions that have been prepared. Although the interviewees express themselves based on their understanding of the phenomenon being studied, the interviewer uses the prepared questions to control the interviewees when going out of the theme of the discussion. The semi-structured open-ended interview is germane since it allows the researcher to gather detailed, direct and concise facts from the interviewees about the studied phenomenon. For this reason, it was adopted in this study to elicit information from the valuers on the causes of variance in rateable value.

The face-to-face interview approach is most appropriate when the interviewees are available. The level of concentration given to the interview by the interviewees could be determined by the interviewer as a result of physical contact. In addition, the interview has to detail potential rather than online charting or telephone calls because the interviewer can observe some documents that the interviewees used to support their points (Miles and Huberman, 1994; Creswell, 2007). A face-to-face interview was adopted in this study because of its merit over online chat and telephone calls.

Contact was made with the interviewees through telephoning and WhatsApp messaging by the researcher, informing them that the research assistant would be coming for the interview. Their contact details were given to the interviewer. The research assistant used the contact details to book appointments with interviewees before going to their offices. Before the interview began, the research assistant introduced himself to the interviewees and the purpose of the interview. He also informed them that the interview would be recorded with an audio tape. The interviewees were assured that the information would be used solely for the research. All the interviewees consented to the use of audio tape for the recording. The interviewees were conscious of the audio recording, as they asked the interviewer to put the recording on halt when telephone calls interrupted the discussion. The adoption of audio recording during an interview was preferred to note-taking because of its time-saving and ability to capture all the required information (Creswell, 2007; Wynter, 2014). On average, each interview took about 45 minutes.

In the process of conducting the in-depth interviews, some hindrances were encountered. The most significant critical limitation was time wasted as most interviewees are in private practice

and often have appointments to catch up with. As a result, most appointments with the research assistant were cancelled and rescheduled.

The subsequent effect of cancelling and rescheduling of appointment for the interview by most interviewees resulted in the prolongation of time concluding the interviews to 3 months.

The information obtained from the recorded audio tape interviews was transcribed and processed in NVIVO 1. To not reveal the interviewees' real identity during the analysis, each was allotted an identity number. The identity number given to the interviewees are VI1, VI2…VI8. This means that valuer interviewee 1st, valuer interviewee 2nd, up to the 8th valuer interviewed.

The position of the law in Nigeria, in particular, section 7(d) of the Kwara State Tenement Law (2006) as regards the appointment of registered Estate Surveyors and Valuers rating valuation informed the choice of the valuer as the target population for this study. This quoted law stated that persons appointed by the rating authority board for determining the value for rating purposes "shall be qualified estate surveyors and valuers, registered by the Estate Surveyors and Valuers Registration Board of Nigeria".

4.   Result

From the in-depth interviews conducted, the goal was to identify the causes of variance in rateable values from those valuers' that have been involved in rating valuation. The data gathered from the interviewees are presented below:

4.1 Valuers' Characteristics

These factors were peculiar to the valuer and his engagement in the rating valuation exercise. The following factors were identified:

a) Experience in Rating Valuation

This is when the valuer, having participated in many rating valuation exercises, equips himself/herself with adequate basic knowledge in rating valuation practice. This is often determined by how often a valuer is involved in rating valuation or the length of time a valuer has been participating in rating valuation. This was mentioned as the factor causing variance in rateable value by interviewees VI1, VI3, VI4, VI5, VI7, and VI8. Interviewee VI3 gave an illustration of this by citing a case he was involved in:

> *"...I want to give you some example(s). I was to value a property in Kabba. It was a storey building. I went there, it was an old building, and I told the owner that the value is NGN 46,000. The owner did not say anything and went to pick the valuation report prepared by one of the Valuers in the state (real name redacted for ethical reason, though one of the registered estate surveyors and valuers in the study area). I was shocked when I opened it, and I saw NGN 46,000 in the report. The Alhaji was looking at me and asking what type of man is this? So, experience counts in this type of job* (Interviewee, VI3)."

What can be deduced from the above comment is that when two valuers that are experienced in valuation engaged in valuing a property for the same purpose, the difference in the opinion of values would not be significant. The view of interview VI5 is similar to this. He stated:

> *"…most valuers' who engage in rating valuation do not consider it as a matter of interest. Rather as a matter of keeping body and soul together. Because there are some valuers that are very good in management and agency, so, when there is demand for valuation jobs, they put in even though when they know that their nature does not suit rating valuation* (Interviewee, VI5)."

Interviewee VI5 sees the experience from the point of view of long-time experience that eventually leads to specialisation. In other words, the interviewee is saying that valuers with long years of experience in valuation will ultimately have better competence in rating aspects than those without. The long-time experience in rating valuation would have given the valuers the required experience in this field of professional engagement.

b) Unrealistic Valuation Assumption

Judgmental opinions of the valuers may arise in the situation of an open decision for the valuers. This may occur primarily in bringing the gross rent to net rent, where assumptions are to be made regarding the percentage of gross rent to be adopted as the outgoing. Since the statute did not provide the minimum and maximum range, if the variation of percentage between or among valuers is wide, say 5%-40%, the value arrived at by the valuer adopting 5% will be at a wide variation with the other one with 40%. This becomes necessary because of the heterogeneous characteristics of the property and no specification of acceptable range in the provisions of the applicable statute. The parameters needed to be adjusted to suit the property at hand to be valued. So, during the rating valuation, assessors could make some assumptions which may not be realistic. This causes the variance in the opinion of values between valuers. The interviewees describe such assumptions as 'the valuers' opinion, subjective or judgement' on the valuation input variables. This factor was identified by interviewees VI2, VI3, VI4, VI7 and VI8 as part of what contributes to variance in rateable values:

> *"…Other factors that might be responsible for variation are the assumptions that individual valuers made on the input variables adopted for their assessment. Some may say my outgoing is 5%, while some may say their own is 10% or 20%. So, the final output from these will be wide variance rateable values* (Interviewee VI7)."

To these interviewees, variance in rateable values would exist when the assumptions made in the process of deriving their valuation input variables are exhaustive. From the instance given on outgoing by interviewee VI7, when such an instance manifests in other valuation input variables, there is every tendency that there would be a wide variance in the final valuation figures.

c) Valuers' Negligence

This is the act of carelessness by a professional in discharging his duty. This factor was described by interviewee VI5 "*I want to believe that most valuers in Nigeria are not inclined towards responsibility for negligence in valuation….*'. Interviewees VI1, VI6, and VI7 also acknowledged this.

> *"If, for instance, in the course of carrying out field measurement, if there is a mistake in our field measurement, this could also lead to a discrepancy between valuers' estimate values. If you are measuring the length and breadth to get the area of a particular property and is not properly done due to faulty tape or inexperienced tapers. (Interviewee VI1)."*

Another interviewee stated:

> *"Attitude of the valuer also matters in valuation assignment because valuer is obliged to give a duty of care to his client. So, if a valuer is careless or exhibits negligence in his duty and the other one is not careless or exhibits negligence in his duty, there would be differences in their result. Or if both of them display one form of negligence or the other in carrying out the professional assignment, that will lead to some forms of variation in their assessment of rateable values (Interviewee VI7). "*

Therefore, this suggests that when there is no due diligence in carrying out valuation exercises among valuers, it will result in variance in values.

d) The Integrity of the Valuer

Integrity is synonymous with honesty, reliability or uprightness exhibited by a valuer in discharging his professional services towards a client or other interested persons that require their services. This factor was identified by interviewees VI6 and VI7 and was extensively discussed by interviewee VI6 using his personal experience during a rating valuation exercise as an example. He informed me that:

> *"…Because during our rating valuation exercise, we are tempted like that, some of the ratepayers said, 'Oga', we know that your assessment is for the imposition of property tax on us, help us, do it like this and take this. Instead of rent being NGN 400,000.00, help us tell the government that NGN 100,000 is the value. Instead of paying NGN 40,000, that is 10% of the value as tax, and we will be paying NGN 10,000. You too take this". We told them that no, no, no, we don't do that kind of a thing. That is another area in which there can be a kind of variation for those valuers that are not disciplined (Interviewee VI6)."*

'Oga' is often used in Nigeria context to mean a boss or master, but in the context of this interviewee, it means the valuer. 'Do it like this' and 'take this' as used in the interview context to reduce the assessed value and take this money for the anticipated assistance you are rendering to us. The interviewee capped it up by describing those valuers that collected money from ratepayers to reduce their rateable values as those that are not disciplined or corrupt. This factor is similar to the client's influence, but it is explained in detail in one of the subsequent sections of this analysis.

Furthermore, interviewee VI7's submission was drawn from his experience with his boss in the preparation of the valuation list. His account was:

> *"… integrity matters too because, like I said, when we are doing the Ilorin-West rating valuation, the principal partner makes sure that he*

> *goes through all the assessment field sheets and vet the valuation list before appending his signature. This suggests that he values his integrity as the valuer that has been doing the job for up to 30 years. He would not want a little mistake on the valuation list to tarnish his integrity (Interview VI7).*"

From interviewee VI7 submission, he sees integrity as a 'good reputation'. This implies that a valuer who cares about his reputation would comply with the profession's ethics. In other words, an honest man is a man with a good reputation. This factor can be likened to the motto of NIESV, which is honesty and devotion.

4.2 Legal Factors

This includes the comprehensiveness and explicitness of the statutes and regulations that guide rating valuation assessment.

a) The Comprehensiveness of the Rating Law

This factor was identified by interviewee VI7, "*The law will seem to be comprehensive and all-inclusive if it is detailed enough to contain all the required operational guides to avoid unnecessary assumptions due to ambiguities and insufficient fundamental provisions*" What can be induced from the comments of this interviewee is that rating is a statutory valuation which its law ought to be comprehensive about all that is needed for the determination of rateable value.

b) The Explicitness of the Rating Law

The presence of unambiguity in the rating law simplifies and encourages the use of particular meanings or interpretation of the law. Interviewee VI7's comment on this was that when the rating law is ambiguous, it gives room for diverse interpretations of the law. The interviewee stated that "*…when the fact needed for the rating valuation is not stated in a proper way, it gives room for individual interpretation, or what I may refer to as induced assumptions (such as adoption of various percentages to deflate the gross rent to net rent), that may result to differences in rateable values*".

4.3 Valuation Environment and Process Factors

The valuation environment and process factors include valuation inputs variables, market indices, the absence of professional sanctions for negligence and misconduct, client's influence and the absence of quality control.

a) Market Indices for the Input Variables

Market indices for the valuation parameters are essential to carry out a meaningful valuation. Although market value may not be required in the determination of rating value, however, the assessed value must have some elements of the market value. The lack of these parameters or not being available in a formal way was identified by four interviewees. "*It depends on the information*" (VI1); "*So, if two valuers come to value a property, the information at the disposal of one valuer may not be the same for the other valuer*" (VI3); "*the hereditament is the same, but the parameters they are using vary...So, the main problem of variation in valuation is that of data*" (VI6); "*availability of data input*" (VI7). The market indices are referred to as information, parameters and data input by the interviewees. What can be induced here is that when there is no central databank from where the critical valuation input variables can be

derived, it will lead to variance in rateable values. The central databank recognised in rating valuation is often referred to as the tone of the list.

b) Absence of Professional Sanctions for Negligence and Misconduct

Professional bodies often chastise their members for misconduct or/and negligence as a way of correcting them. This act makes members up to the task in their professional engagement. However, when this medium of correction is ineffective or non-existent, members may not be up to the task of discharging their professional duties. The absence of professional sanctions was identified by interviewee VI5 who affirmed that:

> *"....where they know that they will be penalised for negligence, they would be more careful in the implementation of valuation or any professional engagement, and people make mistakes and get away with it."* (Interviewee VI5)

The point interviewee VI5 is making is that some variance in rateable values would not have happened in the first place if the appropriate bodies were on alert to avoid, prevent and watch out for negligence and misconduct in the valuation practice of its registered professionals, otherwise called policing. Due to a lack of policing in this regard, some valuers that ought to have been sanctioned for professional negligence are not brought to book. This act has therefore given those valuers the freedom to do whatever they want. This assertion was also supported by interviewees VI6 and VI7.

> *"…another issue that matters is punishment. Let me just use punishment. The article of Babawale (2007) in the NIESV Journal suggests that most cases of professional negligence are not pursued to the court. The cases are handled by the professional body, like our NIESV or ESVARBON. In most cases, members are protected. However, if valuers realised that they can be charged with negligence cases when they prepare a wrong valuation report, all valuers in Nigeria will sit tight."* (Interview VI7)

The term 'punishment' was used by interviewee VI7 to describe sanction, and 'member protection' was used to explain the absence of professional sanction. Interviewee VI6 used the clause 'not dragging the professional to court for the negligence of duty' to describe the lack of professional sanction. Interviewee VI6 believes that valuers were not often charged to court for the negligence of duty, which is why some of them do not exercise due diligence in their professional engagement. So, what can be made of their comments is that when valuers know that the chances of being sanctioned are low, they may not be meticulous in how they execute their work. When their cases of being sanctioned are high, they would be meticulous and exercise more due diligence in their professional duty.

c) Client's Influence

This is the client's offering of inducements to a valuer for the purpose of influencing valuation to his advantage. Although, this looks familiar with the valuer's integrity because both can influence the rateable value in favour of the client. But it differs from valuers' integrity because while a valuer's integrity involves financial reward in exchange for a reduction in rateable value, the client's influence may take any other form of inducements of no financial measures but influencing a procedure to advantage themselves. An example of this is the offer of admission of the valuer's child to a university or the client's offer of employment to the valuer's relative at the client's place of employment, influencing the posting of National Youth Service

Placement to the valuer's child or relatives place of preference. In fact, it is a form of exchange of favour but not always in monetary form. Interviewees VI6, VI7, and VI8 identified this factor. VI8 identified the manipulation of information by the client as a cause of variance in valuation. He submitted that when the same client gives valuers further details on the same property, it will result in valuation variance. Interviewee VI6 said:

> "…. *another problem is what they called "heuristic value". It is a situation whereby the value arrived at is influenced by the client. Where a valuer allows his client to dictate the value for him…Because during our rating valuation exercise, we are tempted like that.*" (Interviewee, VI6)

In like manner, interviewee VI7 said:

> "*Literature has it that client influence may lead to variation in valuation on general note. A situation where your client wanted you to reduce the value or increase the value. Mostly is the reduction in value that is common from the perspective of the ratepayer because they do not want to pay high rates*." (Interviewee, VI7)

The concluding sentence by interviewee VI7 is worth noting. The sentence corroborates the earlier view of interviewee VI6 under the integrity of the valuer, where it was said that the ratepayer is offering money for a reduction in the rateable value. This, therefore, suggests that it is not only the client that instructs the valuation of the property that could influence the final figures, but those with direct or indirect interest can also influence the valuer by ways of inducements which may not be in direct financial form.

d) The Absence of Quality Control

Quality control is the internal mechanism of ensuring correct and appropriate things are done. This is often part of a valuation firm or rating authorities' quality assurance process in assessing properties, as recommended by the International Association of Assessing Officers (2016). This ensures that the computation of the valuation and the reports are free from all kinds of errors before presenting the final figures to the end users. The absence of quality control mechanisms was identified by interviewees VI5 and VI7 as the likely cause of variance in rateable values. Several of them did not put primary commitment to quality control on the job (Interviewee VI5). A firm's quality control strongly influences the assessed value (Interviewee VI7).

What can be induced here is that when a consultant valuation firm or the rating authority does not have a well-founded quality control mechanism as it relates to the process of determining the rateable values, variance in the assessed rateable values is unavoidable.

The interview summary on the causes of variance in rateable values is presented in Table 1. The causes were classified into three groups as it was raised in the literature review, and the new terminology was also shown in the table.

Table 1: Summary of Findings on Causes of Variance in Rateable Value

S/N	Factors classification	Variables from previous studies	Variables discovered from the study
1	Valuer's characteristics	Experience in rating valuation	Specialisation
		Unrealistic valuation assumption	Valuers' opinion on the rating valuation input variables
		The integrity of the valuer	Disciplined valuer/ incorruptible valuer/ good reputation/ Careless mistake/ lack of due diligence
2	Legal factors	The comprehensiveness of the law	All-inclusive rating law
		The explicitness of the law	Unambiguity of the rating law
3	Valuation environment and process	Availability of market indices for the input variables	Information in the tone-of-the-list
		Absence of professional sanction for negligence and misconduct	Lack of penalty for misconduct/ lack of punishment for misconduct/ protection of valuer by the regulatory board
		Client influence	Financial gratification by the ratepayer and manipulation of information by the ratepayer.
		Absence of quality control	Lack of control by rating authority/ valuation firm

5.   Discussion and Conclusion

The focus of this study is to identify factors that cause variance in rateable values among valuers in rating exercises in Kwara State, and the results have been presented in section four of this paper. This section, therefore, discusses the findings of the study on the causes of variation in rateable values as follows:

a) Experience of valuers in rating valuation: This is based on the frequency of a valuer participating in rating valuation. The frequency of such participation could be used to judge the valuer's adequacy and relevance of knowledge and skill in the determination of rateable values. This study confirms earlier studies by Harvard (2001), Ayedun *et al.* (2012), Akinjare *et al.* (2013), Effiong (2015), Adegoke (2016) and Munshifwa *et al.* (2016). This factor was identified in Munshifwa *et al.* (2016) study as one of the causes of variance in the Zambia rating assessment. The word specialisation may be used to substitute for long-term experience.

b) Unrealistic valuation assumption: The studies of Harvard (2001), Effiong (2015), Adegoke (2016) and Munshifwa *et al.* (2016) are in agreement with this study's findings that assumptions made by valuers in the course of valuing property are a possible cause of variance in rateable value. The study of Munshifwa *et al.* (2016) again affirmed that the absurd assumption of the valuation input variables among valuers causes variance in rateable values. Effiong (2015) is more specific on this by illustrating those exhaustive assumptions in just one of the valuation input variables, such as construction cost per square meter between two or more valuers, which would cause valuation variance. This, therefore, suggests that when the assumptions on any of the valuation input variables are not within a close range among valuers, the resultant effect is variance in valuation. This was also affirmed by Bond and Brown (2012) concerning the UK de-capitalisation rate. Bond and Brown (2012) stated that a 1% difference in the de-capitalisation rate between two valuers could lead to about 20% variance in the final rateable values. Valuers' opinions on the rating valuation input variables could be used to replace unrealistic valuation assumptions concerning the determination of rateable value.

c) The integrity of the valuer: Valuers' integrity refers to the display of the art of honesty, due diligence, reliability or uprightness in the discharge of professional services towards the client or other interested persons attached to the service being rendered. The study of Munshifwa *et al.* (2016) used the term 'corrupt valuation surveyor' to describe integrity. This factor was also identified in Adegoke's (2016) study. What this suggests as it relates to rateable values is that when a valuer compromises his integrity in valuing property for rating purposes, and another valuer holds to the profession's ethics in carrying out the valuation, there could be a variance in the rateable values. Thus, it suggests that words such as disciplined and incorruptible can be used to explain the integrity of the valuer.

d) Furthermore, careless mistakes or lack of due diligence could reflect the integrity of the valuer. Instances that could come under this are calculation errors, lack of adequate market analysis, lack of sufficient time for the execution of valuation assignment and overwhelming workload. When a valuer is found wanting in any of these instances, it should be treated as negligence of duty on his part. Thus, a lack of due diligence or careless mistake could be used as a replacement for the integrity of the valuer.

e) The comprehensiveness of the rating law: This fact was established as one of the reasons for variance in the assessment values under the Lagos State Land Use Charge Law (2001) and the Kwara State Land Charge Law in Babawale and Nubi (2011), Oni and Ajayi (2011), Babawale (2013a) and Atilola (2013) studies, respectively. This study identified the comprehensiveness of the rating law as a factor, and all-inclusive of the rating law was to describe it.

f) The explicitness of the rating law: This is what Babawale and Nubi (2011), Oni and Ajayi (2011), Atilola (2013) and Babawale (2013a) refer to as a discretionary power of Statutory Officer. These authors linked this factor to the causes of variance in land charges in Lagos State and Kwara State. Munshifwa *et al.* (2016) study revealed that the primary cause of variance in rateable values among valuers in Zambia is associated with ambiguity in the Zambia Rating Act. Unambiguity of the rating law was used to express the explicitness of the rating law.

g) Market indices for input variables: This is the availability of information on the valuation input variables. This information can either be derived from a central data bank, as the case in the UK (Bond, 2006) or issued by an institution, as the case in Tanzania, Botswana and Taiwan (Kayuza, 2006; Lin, 2010; Svensson and Leima, 2014). Bond (2006) says there is a 'basket of rent' from which the Valuation Officer in the valuation agency office derives comparable data for rating valuation in the UK. Authors have used different phrases or clauses to express market indices for the input variables. For instance, Effiong (2015) used "*lack of market data*", "*available market information to each valuer and source of market data*" (Ayedun *et al.*, 2012), "*different parameters and adequate market information*" (Akinjare *et al.*, 2013); "*problem of relevant data*" (Adegoke, 2016), "*differences in comparable, absence of a central market, lack of market transparency and insufficient comparable*" (Munshifwa *et al.*, 2016). This factor has also been identified as a cause of variance in mortgage valuation by Bretten and Wyatt (2001). Therefore, this suggests that information in the tone of the list could be used to describe market indices for input variables.

h) Absence of professional sanctions for negligence and misconduct: Sanction is one of the measures imposed by professionals on erring members concerning negligence and

misconduct to correct them and do that which is ethically right. Effiong's (2015) finding suggests that failing to discipline erring valuers' for negligence contributes to valuation variance. Kelly and Musunu (2000) have recommended that valuers be charged some amount of money as a penalty for a wrong valuation exceeding a specific number to ensure that the assessment of rateable values is appropriately done. It then suggests that words such as lack of penalty for misconduct, lack of punishment for misconduct and protection of valuer by regulatory board or professional association could be used to describe the absence of sanction.

i) Clients' influence: The practice of clients' influence may be of expert power (client pressure), coercive power (reducing the number of valuation assignments and refusal to pay valuation fee), reward power (promise of more valuation work and commitment to increasing the valuation fee) and information power (client withhold of certain information and client deliberately giving wrong information). This factor was identified in the analysis. This confirms the findings of previous studies such as Levy and Schuck (1999), Harvard (2001), Bretten and Wyatt (2001), Levy and Schuck (2005), Ayedun *et al.* (2012), Akinjare *et al.* (2013), Ayedun *et al.* (2014), Effiong (2015) and Adegoke (2016) that clients' influence causes variance in valuation. However, this study has established that it is not only the client that could influence the valuer concerning rating valuation. The ratepayer could influence the valuer by manipulating the required information to determine the rateable value. The ratepayer could also influence the valuers through financial inducement for a favour in reducing the rateable value.

j) Absence of quality control: This is an internal mechanism of an organisation to ensure that the appropriate things are done. Kelly and Musunu (2000), Harvard (2001) and Bretten and Wyatt (2001) studies identified this factor as a cause of variance in valuation. Kelly and Musunu's (2000) study is specifically about the Tanzania rating valuation. This variable was established as a cause of variance in rateable values in the 1993 rating valuation in Dar Es Salaam. Kelly and Musunu (2000) further submitted that the Rating authority ought to have monitored the valuers by checking their field cards and ensuring that correct information is recorded on the card.

The findings of this study on factors such as professional qualification, academic qualification and valuers' training contradict previous studies' findings that these factors are causes of valuation variance. For instance, Adegoke (2016) study identified professional qualification, Ayedun *et al.* (2012) indicated academic qualification, while Effiong (2015) pointed to valuers training. The interviewees did not mention these three factors, nor did they state words that can be used to replace those factors. The respondents' views on these factors could be interpreted that there is no direct relationship between them and valuation variation. This might be because those studies were not on rating valuation.

Finally, the findings of this study agree with the quantitative study of Atilola *et al.* (2019) except for the training in valuation, academic qualification and professional qualification (requisite registration with the statutory regulatory body) that the interviewers did not mention. In addition, different terminologies were used to describe the variance in valuation.

This study has contributed to the existing body of knowledge by discovering new variables of specific application to variation in rating valuation, though generally based on the existing

literature on valuation practice, but slightly different from the previous ones obtainable in the literature. Furthermore, the study provided information that could be used to develop a questionnaire for a quantitative study. The information provided in this study could help the rating authority, the valuer and the professional regulatory body forge ahead on managing those identified factors. The prompt management of the identified factors causing variance in rateable value could help reduce tax eviction, tax avoidance, and the unrest associated with variance in assessed rateable value. This could, therefore, bring about efficiency in the rating administration as less objection and appeal would be witnessed and ratepayer willingness to pay. This could translate to a high collection ratio.

The major limitation of this study is the non-constituting of rating administration institutions in the study area. This limitation has led to seeking the opinion of the valuers alone on what they considered as the likely causes of variance in rateable value. The view of other stakeholders, such as the Rating Board, Assessment Appeal Tribunal, and Valuation Court, was not considered. The findings would have been different if the data gathered were supported by Assessment Appeals Tribunal or Valuation Court pronouncement on what causes the variance in rateable value in cases they examined. Hence, future research may be considered on causes of variance in rateable value by triangulating the views of these stakeholders.

Acknowledgement

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Assessment of Void Management Strategies in Multi-Tenanted Office Properties in Lagos State, Nigeria

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Abstract

The study assessed Void Management Strategies (VMS) adopted by estate surveying firms in multi-tenanted office properties in Lagos, Nigeria. Primary data were collected with the aid of questionnaires from estate surveying firms in the study area in line with the Directory of the Lagos State branch of the Nigerian Institution of Estate Surveyors and Valuers (NIESV). Seventy percent of this population, representing 223 firms, were selected randomly for the study and found helpful in the study. Data obtained was analysed using frequency tables, mean, mean deviation and mean ranking.

The study found that the void eradication strategy of adherence to vacation clauses and regular advertisement was the most frequently used strategy, probably due to their cheapness and effectiveness.

Keywords: empty property, vacancy, void, void management strategies, multi-tenanted properties

1. Introduction

In property investment parlance, a void property is a vacant investment property that does not have a legitimate tenant living in it for the period it is vacant (McCormack, 2008; Wilkinson, 2011). While such a property is an essential potential accommodation supply meant to mitigate

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the problem of rising property demand, it remains vacant for a long period of time (Housing Agency, 2016).

In Lagos, as well as in other major cities of the world, vacancies generally may be a result of tenants' actions or inaction, landlords' attitudes, economic hardship, property managers' unprofessional attitudes and physical property characteristics (Fabrizi, 2001). According to the author, a tenant may abandon the lease, a landlord may be discriminative, inflation may be biting, and property managers may be biased. In the same vein, a property may require some refurbishment, awaiting occupation, awaiting sales, or awaiting demolition due to irreparable defects. However, estate surveying and valuation (ESV) firms are constantly under pressure to reduce void turnaround time and increase occupancy rate by applying strategies to prevent its occurrence and increase re-let time since the presence of void is considered a bad omen in investment property and business (Gabriel and Nothaft, 2001). This will make it possible to maintain property values, provide adequate returns and provide accommodation for millions of homeless people.

Void management is an efficient administration of strategies to provide timely tenancy changes in an empty investment property to enable a continuous stream of income (McCormack, 2008). Good void management practice will thus require efforts and policies as well as steps that will reduce the time lag between when a tenant moves out of the premises and when another person moves in. (Scott *et al.,* 2001). In doing this, an experienced property manager will begin to manage void from the date a tenant packed into an apartment through his general professional conduct and good personal attributes. The general process involves excellent customer service provision, customer satisfaction, void logging or reporting, void securing, advertisement, repairs, inspection with a prospective tenant, allocation, documentation, payment of rent and collection of keys (Norris, 2001; McPeake, 2014).

Void Management activities may be divided into two broad categories: management of the occupiers and management of vacant space (void) (Sanderson, 2014). The services and strategies required for different categories could also be various. In the case of managing occupiers, part of the key responsibilities of the property manager is to consciously manage the renters' occupation (tenancy) if the goal is to keep the tenant in the building continuously. Void elements will begin to creep in whenever there is mismanagement or constant core service failures, and sitting tenants will start comparing service qualities and other benefits with other agents in the neighbourhood (Sanderson, 2015). Strategies available for this type of category (void prevention) include excellent customer service, value-added services, giving incentives to tenants that provide adequate notice of exit, incentivise tenants that observe vacation clauses, offering rent holidays to sitting tenants, Service-Profit Chain, encouraging constant stakeholders meeting and giving priority to routine inspection (ACCS, 2004; Blackaby, 2009; Sanderson, 2011 & 2014)

Management of vacant space involves getting the apartment ready for occupation and re-letting within the shortest possible time. To increase void turnaround time, the property manager must be actively engaged in monitoring repair works to avoid unnecessary delay and prevent material wastage. Specifically, the critical three areas to monitor include the time between the end of the tenancy and the initial inspection, the period between when the work order is given and when the repair work is completed, and eventual re-letting (Scott *et al.,* 2001; Blackaby, 2009). Strategies to manage vacant space or eradicate void include the provision of a waiting list, demolition of old, dilapidated buildings and redevelopment, systems thinking, lean management process, regular advertisement, repartitioning of a bigger space to smaller units, reduction in the previous rent charging to a new, incoming tenant, conversion of the office to

other use, good and regular communications of responsibilities to void repair group, timely procurement, efficient and prompt allocation of procedures etc. (Keiningham, Perkins-Munn and Evans, 2003; Miller, 2009; McCormack, 2008; CIH, 2014; McPeake, 2014; O'Halloran and Davies, 2014; Sanderson, 2015).

In the U.K., USA and France, where the bulk of state income emanates from property tax, property managers' assessment and performance are done through a set of indicators such as void rates, occupancy rates, re-let time, tenancy termination rate and vacancy turnover. Part of the strategies to return the properties to productive use and generate returns includes developing and redeveloping properties that are unproductive, environmentally contaminated, abandoned and generating little or no revenue by the government. Through Empty Dwelling Management Orders (EDMO), local authorities in the U.K. are allowed, by law, to take over an empty and obsolete property, renovate and redevelop it to acceptable living standards, and occupy it without necessarily changing ownership (Fabrizi, 2006; Housing Agency, 2016). Other strategies include proposing tax exemption to the owner of unproductive/vacant properties, providing funds to vacant property owners for home refurbishment and placing sanctions on properties in areas with high housing demand but whose homes have been vacant for a long time. Other factors are to return more vacant social homes to use by linking Exchequer funding for local authorities with better performance in estate management and developing an empty homes tool kit for adoption by local authorities (Housing Agency, 2016).

In Albany, New York, the conventional way of dealing with vacant and abandoned buildings is through the Vacant Building Registry and Vacant Building Committee, where owners of these properties are compelled to register vacant buildings annually and pay a yearly fee of $200 for each building. This fee is to discourage owners from continuously keeping the unproductive property and thereby generating income for the state. It is to see that properties are continually occupied with maximising the benefits, preventing possible costs to the community and a geometric deterioration to the building itself. There seem to be no documented studies in African countries like Nigeria on the strategies that could be adopted to manage void in multi-tenanted office properties. However, these various efforts were commendable to reduce and/or prevent void in these countries.

This study is set to look at the void management strategies presently in use, those that are available for use and those that can be imported into the property management profession to improve the general property management practice in Lagos, Nigeria. The result of the study will show strategies that could minimise void so that property investors could be adequately compensated with a steady flow of income from their investments, and real estate practitioners would be adequately rewarded for best practices. With guaranteed income from real estate investment, it becomes easy for the government to create an organised, serene and crime-free environment for all. The followings summarise the previous studies on void management strategies.

2. Review of Previous Studies

Void has been generally regarded as a drainpipe that gradually erodes investors' profit. An increasing void rate in the property market could result in several other problems for the stakeholders: loss of revenue, high property deterioration, security and health hazards, and environmental degradation. However, to curb this universal problem and to proffer solutions, several scholars and researchers have conducted studies into strategies to minimise void so that property investors could be adequately compensated, practitioners could be adequately

rewarded, and the government will have an organised, serene and crime-free environment for all. The following summarises the previous studies on void management strategies.

UNISON (2000) focused on a variety of house management issues in the U.K., ranging from rent determinations, collections and their methods, rent arrears, good repair service, letting procedures, difficult to let/manage properties/estates, issues of void or empty properties, anti-social behaviour, discrimination in tenant selection and housing. In particular, the research showed how housing organisations could deal with vacant properties, suggested a performance indicator for housing organisations and thereafter suggested reasons for managing void viz: homelessness, loss of rent and performance management. In terms of void management, there are suggestions for strategies like constant reviewing of the prospective tenants' waiting list, obtaining adequate notice of termination of tenancy, pre-allocation of properties, securing voids from vandals, repairing void properties in a timely manner and redecoration of property to make it constantly attractive to occupiers. The study represents a foreign experience, and some of the strategies seem to be too sophisticated for the Nigerian property market.

In a study of the guidelines for local authorities on void management, Norris (2001) documented void management strategies such as delivering quality services to customers and clients; reducing red tape or bureaucracy; delegation, accountability, improving financial management, ensuring value for money, enhancing the use of new technology, establishment of performance monitoring system, automation system and guaranty adequate notice to quit as prominent strategies. Apart from being foreign, the study was conducted on publicly owned properties.

In their baseline study, Scott et al. (2001) assessed the policies and practices of public sector landlords in Scotland between 1990 and 1999. The study covered void management sequential activities, performance indicators and property management services. Void management sequential activities or void management process includes logging or reporting, inspection by staff, securing, repairs, inspection with prospective tenants, allocation, documentation, payment, and occupation. Void management performance indicators identified included void rates, re-let interval, tenancy termination rates, lease renewal rate, time of initial inspection, the period between ordering and completion of the repair, and the period between completion of works and re-letting. Property management services identified covered tenant allocations, homelessness, rent collection, rent arrears minimisation, repair and maintenance, housing management, community care, management of mixed tenure, lease renewal, notice to quit, tenants' eviction, housing advice, energy efficiency advice and regeneration. The study found a growing trend of low demand for housing. It recommended the effective management of repair contractors (people management) as a spontaneous way of closing the gap between the time of housing vacancy and housing re-occupation. The study was conducted on public and social landlords, thus, suggesting a need for similar research in African countries like Nigeria.

Kennedy and Dugan (2004) examined how low demand for properties had effectively contributed to void and increased re-let times. From the interview with 18 local councils and 77 registered social landlords, the research found that effective void management that will reduce empty housing must be based on relevant data about population needs and property demand. Other strategies adopted by local councils and registered social landlords were to give incentives (such as a rent-free period if the tenancy is accepted; offering decoration and furniture; or offering a tidy garden), aggressive marketing of properties (such as advertising and choice-based lettings), environmental improvement (such as tidying gardens, fixing gates, plastering and painting of walls, fencing and railings of an estate), re-designation, reconfiguration, demolition and redevelopment of properties. The study by Kennedy and

Dugan (2004) also found a low level of demand for properties to be about a quarter higher within registered social landlords (RSLs) than those of the councils and that the demand for properties is a function of location. The study identified reasons such as state of repair, size and internal arrangement, rent passing, old design, poor finishes, absence of modern facilities, population needs and very stringent letting conditions responsible for low demand. Since the study was conducted on local councils and registered social landlords, a study to examine strategies adopted for managing void in multi-tenanted office properties is desirable.

Blackaby (2009) examined the lifecycle of an empty property and its relationship with a potential tenant. The study affirmed that 'void properties' were potential homes and should be kept continuously available to be occupied. The study, which conducted an interview with housing associations, local authorities and Arms' Length Management Organisations (ALMOs), established the purposes for minimising long-standing empty building and re-let time to include rental loss, landlord's financial commitment, landlord's reputation, environmental degradation and dereliction, prevention of security threats and squatter settlement. The study also considered the relationship between the customer (tenants) and provider (landlord) and suggested systems thinking, lean management process, setting and upholding vacation standards, incentivise tenants that gave adequate notice of vacation, reducing dead time and adequate and prompt voids inspections as most important factors to be considered when looking at void management strategies. The result of the study, with a focus on local councils and registered social landlords, might be misleading if applied to office properties with a profit motive. Hence this study.

The study by Sanderson (2014), focusing on occupier satisfaction, found that the measures to manage void must include attitudinal change, good service quality and customer satisfaction. According to the author, the twin goals of void management include (i) having the lowest possible number of empty spaces and (ii) quicker re-letting of the available ones. The researcher opined that once the occupiers are satisfied with the services and conduct of property management firms, the switch rate will be drastically reduced. Thus, good service will increase lease renewal rates and result in fewer void periods without compromising rents. The study recommended the need for a combination of excellent customer service and 'value-added' services as effective void minimisation techniques. However, the study was conducted outside Nigeria, and the results may not be applicable in the Nigerian property market, thus requiring a study of how void is managed in multi-tenanted office properties.

Housing Agency (2016) suggested close monitoring and giving incentives for the use of vacant properties. This can be achieved if local councils establish and adopt a vacant property registration ordinance (VPRO) which requires property owners to register their vacant property. For the registration, the owner is mandated to pay a fee which increases the longer a property stays empty. This measure is meant to force owners to adopt all available methods to return properties to use. With the register, tracking all vacant properties and securing the necessary funding for vacant property monitoring is possible. It also ensures the enforcement of building codes and health and safety regulations near the vacant property. Closely allied to this is a system of grants overseen by local authorities and made available, which assists owners of long-term empty properties to refurbish and bring the property back to productive use. The study was foreign, and its results may not be applicable to the Nigerian property market, hence a need for this study in the context of the Nigerian office market.

Akalemeaku and Egbenta (2013) examined the effective approaches for managing void in the commercial property market of Enugu, Nigeria. The study, which built on the identified and

prevalent loss of income due to a void, advised that property managers should ensure proper selection of tenants and maintain reasonable rents to prevent voids in commercial properties.

Other void management strategies highlighted by Housing Agency 2016 included financial incentives that would encourage the owner to lease out or sell long-term vacant houses to the local authority or a housing association that is believed to have the financial muscle to refurbish and put it into immediate use. For example, some local authorities in England have the option for the property owner to let their property to council-nominated tenants on a long-term lease (say 5 to 10 years) and provide an Empty Property Grant (EPG). The grant may cover 50% of the cost of renovation work needed to bring the property to acceptable letting and occupation standards. Also, a New Homes Bonus (NHB) paid by the central government to local authorities is linked to the number of vacant homes brought back into use by such local authorities. In another dimension, incentives are designed to encourage people to move to areas with high concentrations of empty homes. This incentive may cover the improvement of infrastructural, educational, recreational and healthcare facilities. There were also strategies in the form of disincentives by which a council tax is set to increase by 100% on specific properties which have been empty for one year or more.

Barnett, Henriques and Husted (2018) explored the potential of sustainability for effective corporate governance. The authors found a big void between Stakeholder Management and Sustainability which poses problems to effective development unless such voids are correctly managed. While noting the importance of stakeholders' pressure on the government to enhance sustainability, the authors affirmed that effective corporate governance becomes difficult without government efforts to drive actions to overcome the void.

In 2019, Fotheringham examined the government's efforts at enhancing effective void management in Scotland. While analysing the contents of the empty premises law, the author noted that a landlord that conforms with the provisions of Section 27 of the Housing (Scotland) Act 2001, which stipulates the terms and conditions for tenants' entry and exit into the premises, will have less void period to cope with. Recently, the Chartered Institute of Housing (2019) chronicled the issues pertinent to effective void management in Ireland. Among others, the document categorised voids and documents the required inputs, processes and procedures for effective empty homes strategies. At the end of the efforts, the findings documented forty (40) issues of consideration for effective void management.

The aforementioned suggests that apart from the available studies on void were primarily on housing studies in the advanced countries of the U.K. and USA, little or none had been done in respect of office properties; hence, this study.

3. Methodology: Questionnaire Distribution, Response Rate and Analysis

The Directory of the Lagos State branch of the Nigerian Institution of Estate Surveyors and Valuers (NIESV) indicated a total of 360 ESV Firms (NIESV Lagos State Branch, 2019). The target population were all ESV firms registered with the Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON) practising in Lagos State. The study utilised primary data sourced with the help of questionnaire administration.

A sample size of 260 respondents out of the 360 Estate Surveying firms contained in the 2019 NIESV, Lagos State Branch Directory was selected using a probabilistic systematic technique. Adopting the Frankfort-Nachmias (1996) Sample Size Formula, having known the study

population and the sample size, the authors calculated the sampling interval as 1.93 ~ 2, which was that, after selecting the first firm, the next second was selected.

Frankfort-Nachmias's (1996) formula for sample size determination (as cited in Rotimi and Kiptala, 2012) is stated thus:

$$n = \frac{Z^2 pqN}{e^2(N-1) + Z^2 pq}$$

Where N = Population size
n = Sample size
p = Sample population (50% of the target population assumed)
q = 1 - p
e = Acceptable error (e = 0.05, since the estimated, should be 95% of the true value)
Z = The standard normal deviate at the required confidence level = 1.96

The Senior Partner of each ESV firm or assignee was the target resource person. The information obtained through the questionnaires included the profile and strategies for managing void. The random selection technique was considered adequate because all estate firms in the study area were homogenous in terms of property portfolio (they all have multi-tenanted properties) and in terms of operations. Of this sample size, a total of 223 ESV firms was the response rate and found useful for the study.

Data collected were analysed using descriptive statistics tools of frequency table, mean and mean ranking. Variables (strategies) were weighed and ranked using these analytical methods according to their mean value. Variables were evaluated using the Five-point Likert scale exhibiting a five-point rating, which includes: Never =1, Rarely =2, Occasionally=3, Sometimes =4 and Frequently =5. The ranking shows the level of importance of each variable.

Practitioners' Perception Index $(\overline{PPI})$ is obtained by dividing the sum weighted value (SWV) by the total number of respondents expressed as $\overline{PPI} = \dfrac{SWV}{\sum_{i=1}^{18} P_i}$. Sum Weighted Value (SWV) for each strategy was obtained by summing up the product of the number of responses and the respective weight of the value expressed as $SWV = \sum_{i=1}^{18} X_i Y_i$, where SWV was the summation of weighted value, X_i was the number of respondents rating criterion i, of particular indicator, Y_i was the weight value assigned to each indicator i. Grand Mean (denoted as G/M) was obtained by dividing the addition of all $\overline{PPI}$ by the number of the strategies. M.D. (Mean deviation) was obtained by deducting G/M from each of the $\overline{PPI}$s.

4. Results

4.1 *Response Rate*
Table 1 contains details of the questionnaire distribution to ESV firms and the response rate. The results indicate that of the 260 questionnaires distributed, 223, representing 85.77%, questionnaires were returned and found useful for analysis. The excellent response rate recorded from Lagos has resulted from the practitioners' high awareness of the importance of research as a solution vehicle to all identified problems in practice.

Table 1: Analysis of Response Rate

Location	Questionnaire Administered	Total no retrieved	Rate of response (%)
Total	**260**	**223**	**85.77**

Source: Field Survey, 2018

4.2 *Profile of the Estate Surveying and Valuation Firms*

The result in respect of the profile of the organisations is contained in Table 2. The finding is that 74 (33.2%) of the respondents were more than 15 years ago, 69 (30.9%) were established between 11 and 15 years ago, and 56 (25.1%) of the ESV firms have been in practice between 6 and 10 years ago. 24 (10.8%) of the respondents' ESV firms were established within the last five years. The good number of years of the establishment is suggestive of their relevance to the study

Table 2: Profile of the Estate Surveying and Valuation Firms

	Mainland		Island		Ikeja		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Years of Establishment of the firm								
1-5 years	3	1.3%	10	4.5%	11	4.9%	24	10.8%
6-10 years	19	8.5%	23	10.3%	14	6.3%	56	25.1%
11-15 years	44	19.7%	18	8.1%	7	3.1%	69	30.9%
Above 15 yrs	13	5.8%	42	18.8%	19	8.5%	74	33.2%
Total	79	35.4%	93	41.7%	51	22.9%	223	100%
Years of Experience of the Respondents								
1-5 years	3	1.3%	24	10.8%	18	8.1%	45	20.2%
6-10 years	33	14.8%	36	16.1%	20	9.0%	89	39.9%
11-15	38	17.0%	11	4.9%	3	1.3%	52	23.3%
Above 15 years	5	2.2%	22	9.9%	10	4.5%	37	16.6%
Total	79	35.4%	93	41.7%	51	22.9%	223	100%
Number of Multi-tenanted properties in ESV firm portfolios								
1-5	50	22.4%	49	22.0%	31	13.9%	130	58.3%
6-10	27	12.1%	23	10.3%	15	6.7%	65	29.1%
11-15	2	0.9%	15	6.7%	3	1.3%	20	9.0%
16-20	0	0.0%	4	1.8%	2	0.9%	6	2.7%
Above 20	0	0.0%	2	0.9%	0	0.0%	2	0.9%
Total	79	35.4%	93	41.7%	51	22.9%	223	100%
Average Occupancy rate								
Below 50%	2	0.9%	3	1.3%	2	0.9%	7	3.1%
50-59%	7	3.1%	9	4.0%	4	1.8%	20	9.0%
60-69%	21	9.4%	30	13.5%	17	7.6%	68	30.5%
70-79%	39	17.5%	41	18.4%	18	8.1%	98	43.9%
80-89%	8	3.6%	7	3.1%	8	3.6%	23	10.3%
90-100%	2	0.9%	3	1.3%	2	0.9%	7	3.1%
Total	79	35.4%	93	41.7%	51	22.9%	223	100%

Source: Field Survey, 2018

Concerning the years of experience of the respondents' organisations, the result as contained in Table 2 shows that the majority, 89 (39.9%) of the respondents had between 6-10 years post-service experience while 52 (23.3%) and 37 (16.6%) had between 11 and 15 years and above 15-year professional expertise respectively. The result that all together, 178 (79.8%) of the respondents had a minimum of 6 years post National Youth Service Corps (NYSC) experience indicated high reliability of the information given by the respondents for the study.

The result regarding the number of multi-tenanted office properties under ESV firms' management portfolio revealed that the majority, 130 (58.3%) of ESV firms, had between 1 and 5 properties. While 65 (29.1%) of the ESV firms had between 6 and 10 multi-tenanted office properties, 20 (9.0%) ESV firms had between 11 and 15 office properties. Other results were: 6 (2.7%) who had between 16 and 20 office properties and 2 (0.9%) ESV firms who had above 20 office properties in their management portfolio.

The result of the average occupancy rate of the properties in their portfolio, as contained in Table 2, shows that the majority, 166 (74.4%) of ESV firms, had between 60 and 79% occupancy rates. Further analysis showed that very few, 30 (13.4%) of ESV firms, had between 80 and 100% occupancy rates and very few, 27 (12.1%) of them had between 0 and 59% occupancy rates. A closer look at the result, as contained in Table 2, reveals the existence of different void rates (between 10 and 90%) in all surveyed ESV firms. With several void experiences, there is a high indication that the respondents would have, overtimes, developing effective strategies for managing voids.

Further findings revealed that the years of the establishment had an inverse relationship with the number of properties in ESV firms' portfolios and the occupancy rate. As ESV firms were getting older, there was a drastic reduction in properties' occupancy rates and a reduction in the number of managed properties. This might suggest the possibility of the firms' previous 'good management styles' diminishing over time, thereby resulting in increased tenants' switching rates' and landlords withdrawing properties from older ESV firms in Lagos.

4.3 *Void Management Strategies (VMS) in Lagos State*
The study evaluated the strategies adopted by real estate practitioners for managing voids in the study area. The result is contained in Table 3.

The result is that 'strict adherence to tenants' vacation clauses' was the most used strategy, ranked 1st with $\overline{PPI}$ 4.75 and a mean deviation of 1.45. The majority of the ESV firms frequently use the strategy, 60 (75.95%). The adoption could be because of its cheapness and effectiveness. In a typical tenancy agreement, it was the exiting tenant's covenant to leave the apartment in habitable condition, thereby reducing the quantum of repairs and the time needed to carry out the repair and reducing expenses that are required to carry out repairs after a tenant's exit. This has been helping in reducing void turnaround time and making tenancy changes easy and faster. This is a void eradicative strategy.

Table 3: Void Management Strategies in Lagos State

Void Management Strategies	Rating and weight value					SWV	PPI	(PPI-$\overline{PPI}$)	(PPI-$\overline{PPI}$)2	RANK
	N(1)	R(2)	O(3)	S(4)	F(5)					
Adherence to vacation clauses								**1.45**		
	0	0	1	18	60	375	4.75		**2.1025**	1st

	N	R	O	S	F	SWV	PPI			
Periodic stakeholders meetings	0	0	6	29	44	354	4.48	**1.18**	1.3924	2nd
Feedback from occupiers	0	0	12	19	48	352	4.46	**1.16**	1.3456	3rd
Excellence customer service	0	0	9	31	39	346	4.38	**1.08**	1.1664	4th
Regular advertisement	4	0	21	25	29	312	3.95	**0.65**	0.4225	5th
Prioritise routine inspection	0	0	38	16	25	303	3.84	**0.54**	0.2916	6th
Arbitration in lieu of litigation	0	0	16	63	0	300	3.80	**0.50**	0.2500	7th
In-house maintenance team	1	0	33	29	16	296	3.75	**0.45**	0.2025	8th
Systems thinking (no delays)	6	3	18	31	21	295	3.73	**0.43**	0.1849	9th
Pegging of rent reserve	3	36	9	11	20	246	3.11	**-0.19**	0.0361	10th
Provision of a waiting list	1	11	57	10	0	234	2.96	**-0.34**	0.1156	11th
Reduction in generator hour	2	33	17	26	1	228	2.89	**-0.41**	0.1681	12th
Converting office to other use	1	29	33	12	4	226	2.86	**-0.44**	0.1936	13th
Repartitioning of vacant office	5	51	18	1	4	185	2.34	**-0.96**	0.9216	14th
Service charge every three months	8	42	24	5	0	184	2.33	**-0.97**	0.9409	15th
Rent holiday to sitting tenant	19	39	20	1	0	161	2.04	**-1.26**	1.5876	16th
Reduction of rent to in-tenant	18	51	8	2	0	152	1.92	**-1.38**	1.9044	17th
Collection of rent every six months	33	38	0	8	0	141	1.78	**-1.52**	2.3104	18th
TOTAL	**101**	**333**	**340**	**337**	**311**	**4690**	**59.37**		**15.537**	

Source: Field Survey, 2018

N=Never; R=Rarely; O=Occasionally; S=Sometimes; F=Frequently; SWV=Sum Weighted Value; PPI=Practitioners' Perspective Index

The stakeholder meeting involved the landlord, ESV firms and the tenants. From practice, the period and timing of such meetings depend on the individual firm and the structural condition of the subject property. Meetings are expected to present a performance scorecard for the landlord, ESV firm and tenants (feedback), and it also enables ESV firms to pass new instructions to tenants. In the same vein, periodic stakeholders meetings, feedback from the occupiers, excellent customer service, regular advertisement and prioritising routine inspection were ranked 2nd, 3rd, 4th, 5th and 6th position with PPIs of 4.48, 4.46, 4.38, 3.95 and 3.84 and mean deviation of 1.18, 1.16, 1.08, 0.65 and 0.54 respectively.

Practitioners operating in Lagos State considered periodic stakeholder meetings with a mean figure of 4.48 as the second most commonly adopted strategy to manage void in the study area. Involving stakeholders in property management made it possible for the opinion of all to be considered as input for management. Where frequently done, feedback from tenants assisted the firms in providing satisfactory service, which enhanced compliance on the part of the tenants. The smooth relationship arising from the periodic stakeholders' meeting resulted in

good usage of the building and its facilities and made subsequent letting easy when the tenant eventually vacates the premises.

Findings, as contained in Table 3, reveal that 44 (55.70%) of ESV firms frequently used the strategy, 29 (36.71%) sometimes adopted this strategy, while only 6 (7.59%) occasionally adopted strategy. The 3rd position is 'feedback', which enabled ESV firms to understand feelers from the occupiers and act instantaneously to prevent the degeneration of issues.

Excellence in customer service and routine inspection were mainly used strategies by the practitioners in Lagos State. Analysis from Table 3 showed that 93 (100%) ESV firms frequently adopt these two strategies, probably due to their cheapness. They were both ranked 4th with PPIs of 5.00 and a mean deviation of 1.44. This could be in affirmation of the service-profit chain theory of Sanderson 2014 that excellent customer service will lead to super profit.

The fifth factor rated as commonly adopted was the regular advertisement of vacant properties. As a strategy, regular advertisement costs could have been more economical than allowing for a void. This is because prospective tenants were easily matched to buildings that were to be vacated from enquiries generated from such adverts. As such, the void is reduced.

The routine inspection was ranked 6th position probably since it kept ESV firms abreast of management issues affecting the property, to which action must be taken urgently or postponed. Another critical strategy from Table 3, ranked 7th position, is arbitration in place of litigation. The result showed that many ESV firms in Lagos mainland frequently adopted arbitration to resolve tenancy issues. 63 (79.75%) ESV firms sometimes used arbitration, while 16 (20.25%) ESV firms occasionally used arbitration. This allows stakeholders to participate in their tenancy issues, thus making compliance easy.

Keeping the management team in-house was the commonly adopted strategy to prevent voids in Ikeja. Being the capital of Lagos State, most commercial properties, being high-rise buildings, were serviced. Hence, in-house management staff would enhance not only effective and efficient delivery of services but also strengthen prompt response in fault/repair, thus encouraging tenants to stay long in the building

Towards the lower end of Table 3 are nine strategies ranked very low because they had negative mean deviations and were rarely used. They included pegging of rent reserve, provision of a waiting list, and reduction in the period of running the generator. In the same vein, a reduction in the period of running the generator with a mean deviation of -0.19 was another strategy on the negative mean ladder. For office premises, a generator may not be used during the off-peak period, such as from 9 pm to 8 am daily and on Sundays. This tended to reduce generator and gas consumption expenses, which was often a significant cost centre in service charge administration in Nigeria.

The result, as contained in Table 3, showed that 2 (0.90%) ESV firms had never reduced the period of running generators, 59 (26.46%) ESV firms rarely adopted the strategy, and 61 (27.35%) occasionally used the strategy. A further 99 (44.39%) firms sometimes reduced the period of running generators, while only 2 (0.90%) ESV firms frequently reduced the period of running generators. As such, the service charge account could always have a supplementary budget to cover excess diesel consumption and generator maintenance, which sometimes influence tenants' relocation to other places.

Conversion to other uses and repartitioning of vacant office with mean deviations of -0.19, -0.34, -0.41, -0.44 and -0.96 and ranked 10th, 11th, 12th, 13th and 14th positions, respectively. Further analysis from Table 3 shows that 3 (3.80%) ESV firms did not peg rent reserve. While the remaining 28 (12.56%) firms frequently pegged their rent. The remaining 7 (3.14%) frequently repartitioned overstayed vacant offices to smaller units to accommodate all categories of prospective occupiers' budgets. The adoption of repartitioning of offices into smaller units was to allow tenants with a low financial budget to be able to afford the payment and hence make the property easy to let.

From the result, the ratio of the firm that frequently pegged rent reserve during the economic recession to those that rarely/occasionally/sometimes pegged rent was 1:7. This suggested that landlords who frequently reviewed the rent of their properties upward during economic recession occasionally forced occupiers out of the property. 36 (45.57%) of the firms rarely used the strategy, 9 (11.39%) ESV firms made use of the strategy occasionally, 11 (13.92%) of the firms sometimes used the strategy and only 20 (25.32%) respondents actively and frequently adopted the strategy. Also, 2 (2.53%) had never been reducing the period of running generators, 33 (41.77%) of the firms had rarely used the strategy, 17 (21.52%) ESV firms used the strategy occasionally, 26 (32.91%) sometimes adopted the strategy and only 1 (1.27%) frequently adopted the strategy.

Other strategies included collecting service charges every quarter, giving rent holidays to sitting tenants, reduction of rent to incoming tenants and collecting rent from sitting tenants every six months, ranked 15th, 16th, 17th and 18th positions with respective PPIs of 2.33, 2.04, 1.92 and 1.78 and mean deviation of -0.97, -1.26, -1.38 and -1.52. The finding showed that 18 (22.78%) of the respondents had never reduced rent for incoming tenants, 51 (64.56%) of the firms rarely reduced rent, 8 (10.13%) occasionally reduced rent, 2 (2.53%) ESV firms adopted the strategy sometimes. At the same time, none of the surveyors frequently used the strategy. Collection of rent every six months was another strategy that could be used to manage void. The result, as contained in Table 3, showed that 33 (41.77%) of the respondents had never collected rent below one year at minimum, 38 (48.10%) rarely collected rent on six monthly bases, 8 (10.13%) sometimes collected rent on six monthly bases. In contrast, none of the respondents frequently used the strategy. These responses explained why tenants moved out of buildings where they could not afford the advanced annual payment.

5. Conclusions and Recommendations

The study delved into the void management strategies adopted by estate surveying firms in Lagos State and found that strategies to prevent voids were mostly adopted in the study area. Among others, adherence to vacation clauses was an effective strategy adopted to prevent voids in the Lagos property market. In addition, regular advertisement afforded managing agents the opportunity to maintain a good database of would-be tenants that could be easily used to fill vacated premises and, as such, prevent a long period of void during re-letting activities.

A further finding was that excellent customer service provision enhances tenants' satisfaction. When tenants are retained for a long period of time, a void is prevented, and the investment values of properties are enhanced. Sometimes, using an in-house maintenance team and feedback from property occupiers give stakeholders a sense of belonging in property management. They are thus made to feel the sense of responsibility to use the property well and not be willing to move out of the premises. Therefore, a void is reduced.

The study concludes that with the effective use of preventive void management strategies, property managers will be able to prevent the occurrence of a void, increase the lease renewal rate and eradicate existing vacancies within investment properties in an economic time. The implication is a need for flexible tenancy administration policies developed with inputs from stakeholders that will enhance easy compliance.

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