

## ANALYSIS OF CONSTRAINTS TO VALUATION ACCURACY FOR DIFFERENT PURPOSES IN LAGOS AND ABUJA, NIGERIA

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### ABSTRACT

*Accuracy of valuation exercise for various purposes has been universally emphasized in this current dispensation and as a matter of fact, it has been given a world-wide recognition by the World Bank, which encouraged the preparation of valuation list. The need to close the wider gap between the market value and valuation figure necessitated this study. The study firstly investigates inaccuracy and variance and further analyzed the factors and the extent to which these factors have contributed to valuation inaccuracy and variance. The study utilized reports of valuations on properties submitted to some selected banks to establish valuation variance by comparing the actual market sales (AMS) and valuation figures of the valuation firms to establish valuation inaccuracy. The study selected 100 and 150 estate surveying and valuation firms with more than 10 years experience in property valuation, through simple random sampling from Abuja and Lagos. The study further selected 15 banks that constantly requesting the valuation opinions of the selected firms in Abuja and Lagos. The result of analysis of variance (ANOVA) confirmed that there was significant valuation variance among the estate surveyors and valuers (F-ratio at 4.73, p-value at 0.42) and result of t-test showed that the mean difference between AMS and valuations (at p-values less 0.05) was significant. The result of factor analysis (FA) employed further revealed ten (10) the most emphasized groups of factors that contributed about 92.43% variance in determining accuracy of valuation. The study therefore recommends that all the stakeholders in property assessment and valuation exercises should address the most emphasized factors by adhering strictly to lay-down provisions of the profession and principles without compromise in order to achieve accuracy.*

**Keywords:** valuation accuracy, variance, inaccuracy, valuation constraints, factor analysis

### INTRODUCTION

The emergence of the study of valuation accuracy was triggered by Hager and Lord (1985) where a valuation is substantially required by the Institute and Faculty of Actuaries (IFA) in response to Investment Property Databank's (IPD) in order to measure property investment performance in UK. Since then, the accuracy of valuation exercise for various purposes has been universally emphasized in this current dispensation, where general down turn in economy is becoming a major concern. As a matter of fact, valuation accuracy has been given a world-wide recognition by the World

Bank, which encouraged the preparation of valuation list in the case of rating exercise (Kayuza, 2014). Property valuation as a core area of Estate Surveying and Valuation profession has continued to receive a constant knock in the area of accuracy. Also, it has become a matter of criticism to the academics, professionals and client not only in developing countries like Nigeria, but also in the developed countries of the world like USA, UK, Canada & Australia (Ayedun, Oloyede, Durodola, 2012). Also, the clients of the valuation exercise across the world have become more advanced and logical in their modes of investment thereby requiring valuation of their assets for various purposes

to progressively refine their financial techniques to meet up with their objectives, and any act of discrepancy or deviation in valuation figure might cause a collateral damage to their investment (Adegoke, Olaleye & Oloyede 2013). Consequently, valuation for any purpose ought to have been professionally accurate as a dependable bases and a guide toward clients' decision making as any discrepancy inform of valuation variance and inaccuracy might prove disastrous. Accuracy of valuation is the degree at which valuation figure is tangential to market prices otherwise it is called valuation inaccuracy, or the extent or degree of variation between two or more valuations on a particular property called valuation variance (Ibiyemi, 2013). Valuation inaccuracy and variance have become inevitable and therefore discrepancies in valuations among valuers have become a subject of discussion within the real estate profession. Variance and inaccuracy in valuation have also been identified by previous studies (Babawale, 2006; Babawale, 2008; Ayedun *et al.* 2012; Effiong, 2015). Valuation variance and inaccuracy have been a subject matter of discussion not only in developing countries like Nigeria but also advanced countries such as UK, US and Australia. For instance, in the US, issues of discrepancies in valuation were raised by Congress which led to congressional bill in the US; in like manner, two major commissions of enquiry were set up in the UK and one commission in Australia (Babawale, 2008). The pulse for addressing the discrepancies in valuation after the study of Hager and Lord (1985) in UK has since then, produced several studies (Boyd and Irons, 2002; Nasir, 2006; Babawale, 2008; Ayedun, Oloyede & Durodola, 2012; Akinjare *et al.*, 2013; Effiong, 2015; Munshifwa, Jain, Kaunda, Masiba, Lungu, Chunda-Mwango & Ngoma, 2016; Adegoke, 2016).

These aforementioned studies had emerged to address the menace which has bedeviled the integrity of valuation exercise. This paper therefore aimed at determining the amount of deviation that constraint factors contributed to valuation inaccuracy and variance with a view to identifying major constraints or factors that majorly affect valuation accuracy over and above other factors. In order to achieve this aim, the study firstly establishes valuation variance and inaccuracy using recent information to support the findings of previous studies before identifying the factors leading to inaccuracy and after identifying the factors, then the paper identified the factors and determine amount of variance contributed by the constraint factor using factor analysis.

## **CONSTRAINTS TO VALUATION ACCURACY: THE REVIEW OF LITERATURE**

Hager and Lord (1985) investigated the results of ten surveyors commissioned to value two properties having a rack rental value of an office with a reversionary interest on retail property for Investment Property Databank's (IPD) to determine and measure the performance of the UK investment properties. The result revealed that 5% of the controlled figure was arrived at by four properties out of ten valuation properties. The study further found that 10% of the controlled figure was arrived at by five properties out of the remaining six properties. As regard to the retail properties, 5% of the valuations fall within the controlled figure, while 2 falls within 5% and the remaining three (valuations) produced valuation variance of 13.2% greater than the controlled property. Hager and Lord therefore concluded that the results cannot be used as measure of performance due to the large percentage variance that made the whole valuation unreliable.

In the analysis of accuracy in mortgage valuation exercise in Lagos, Aluko (2000) analyzed extent of accuracy between sub-sequential sale price of mortgaged properties used as collateral and valuation figure using the records of the banks on the

valuation of mortgage conducted by 59 registered estate firms. Thus, analysis of variance (ANOVA) was used to establish the difference in valuations, and regression analysis to determine the amount of variation in sale price explained by valuation figures. It is concluded that despite the inconsistencies discovered, valuations in Nigeria was still regarded as a good proxy for price. Therefore, the mortgage valuation to some extent predicted eventual sale price of mortgaged property.

Harvard (2001) carried out the study of valuation variance and valuers' behavior in UK. The study employed descriptive mean to identify factors with highest relative importance index (RII). The result revealed that inexperience of the valuer, error in procedure and survey, client pressure, differences in methodologies, and insufficient depth of investigation and quality of valuation control were prominent factors responsible for major variance in valuations. Boyd and Irons (2002), also confirmed the existence of difference in valuation in mortgage valuation in Australia, further used descriptive analysis to investigate the causes of valuation variance by assessing the decision made by Queensland Supreme Court through the court pronouncement. It was discovered that incorrect valuation data and error in methodology characterized the factors causing valuation variance as seen in the Meyer Centre case which was simply summarized as an act of negligence. An investigative study of possible factors causing of property valuation variance for secured mortgage loan in UK was carried out by Bretten & Wyatt (2002) using descriptive method to analyze 220 responses from financial institutions' stakeholders. The result revealed that heuristic behavior, principle associated with margin of error and client pressure contributed to variance. Bretten & Wyatt (2002) therefore concluded that variance might have been unconsciously included at some stage of valuation process due to external pressure. Crosby, Devaney, Keys & Matysiak (2003) investigated whether sale of the IPD Monthly index in 2002 clearly revealed dichotomy between

valuations and sale price in UK. Crosby *et al.* (2003) further concluded that the time of valuation was identified as a major cause of variance between prices and valuation figures. Ogunba (2004) studied the accuracy of valuation across the southwest Nigeria. The data from valuations and that of market prices from registered firms across Southwest Nigeria was utilized. The paper adopted descriptive tools (mean, mean deviation) and inferential techniques (regression and analysis of variance). The result therefore showed that valuation figures proved not to be good proxies for determining market prices; reason being that there was evidence of significant variance between valuation figures and actual prices because the coefficient of valuation figures in the model could not significantly improve the accuracy of market prices. Aluko (2004) studied the extent of reliability on mortgage valuation in Lagos as a good measure of market prices. The result of analysis of 42 lending institutions and 59 registered firms from stratified sampling, using correlation and regression analysis revealed that valuation figure is significantly correlated with market price at 78%, and 61% variation in market price was caused by inaccuracy in valuation values. The paper concluded that the degree of accuracy was relatively found in the open market valuation for secured mortgage loan.

Aluko (2007) studied valuers' judgment in property valuation in Lagos and analyzed 59 responses of registered firms selected randomly in Ikoyi. The responses were therefore analyzed using descriptive analysis and the result found that there was inconsistencies while interpreting the variables of the properties and therefore it was concluded that valuation variance is unavoidable but the opinion values must be within acceptable range. An investigation of heuristic behavioral patterns in valuation in an unfamiliar location in Nigeria was carried out by Adekoge (2008) applied simulated valuation method to assess a single commercial office. The result revealed that the evidence of variance in valuation outcomes and the result of mean variance analysis showed that the valuations were

unreliable, and also failed to examine factors that could have been responsible for this variance. The study of valuation accuracy by Ajibola (2010) in Lagos metropolis was carried out. The study analyzed 150 questionnaires administered through simple survey using descriptive analysis. The revealed that lack of market data and the use of outdated valuation techniques coupled with client pressure amounted to inaccuracy in the study area.

Ogunba and Iroham (2011) further searched for acceptable margin of error in valuation in Lagos Nigeria using descriptive analysis to determine the margin that could be acceptable in valuation. The study analyzed 195 responses obtained from registered firms in Lagos through stratified sampling technique. The result showed that the margin of  $\pm 11.1\%$  and  $13.16\%$  suggested by valuers and mortgage clients were against the  $5\%$  to  $9\%$  respectively as recommended by UK courts for housing investment. Ayedun *et al.* (2012) examined the issues in valuation accuracy in Nigeria. The study analyzed 120 responses from registered firms using descriptive analysis. The result identified insufficient market data, inadequate training and inexperience as divergent causes of valuation inaccuracy and variance. It was recommended that the development of active data bank for valuation and strict adherence to valuation standards were required for accuracy. Akinjare *et al.* (2013) investigated the factors causing variance in valuation in Lagos. The authors utilized one hundred and thirty questionnaires administered on valuation firms and was analysed using relative important index (RII), and the finding revealed that different input variables and different methodologies were regarded as endogenous factors, while inadequate data and client influence were regarded as exogenous factors causing valuation variance.

Effiong (2015) investigated the level of valuation accuracy between Nigeria and UK, using survey method to administer the questionnaires to the registered estate firms in Uyo and Calabar metropolises, and analyzed the responses through descriptive

statistics. The findings revealed that poor standard, insufficient market data, weak regulatory framework, inappropriate methods, client's pressure, inadequate training, market imperfection, wrong assumptions inexperience and professional indiscipline on negligence were major factors to valuation accuracy. The finding further revealed that there was a high level of discrepancy in Nigeria compared to UK. Adegoke (2016) studied the valuation accuracy among non-statutory valuations in Nigeria using descriptive mean and relative important index to analyzed 160 samples from estate surveying and valuation firms. The result showed that valuer skill, valuer judgement, valuer experience and problems of relevant data formed major causes of valuation variance and inaccuracy. Munshifwa *et al.* (2016) investigated the application of mental models in assessing behavioral patterns of valuers in interpreting rating Act in Zambia using descriptive analysis to identify the causes of variance in rating valuation. The study identified that lack centralized market, market information, lack of comparable and errors constituted major factors causing valuation inaccuracy while negligence, inexperience, assumptions, inappropriate method, wrong attitudes and market stability accounted for  $5\%$  of the cause of valuation variance.

Ayedun, Durodola, Oloyede, Akinjare & Oni (2018) empirically evaluated the factors causing valuation inaccuracy in Lagos. The study analyzed 120 questionnaires from registered firms using descriptive technique. The finding revealed that inadequate data, weak regulatory framework and indiscipline, inappropriate training and non-adherence to Standard were major factors causing valuation inaccuracy. Aliyu *et al* (2018) examined the factors influencing accuracy of valuation for mortgage in Kaduna. The study analyzed 51 questionnaires administered through simple random sampling to the registered firms using mean and relative important index. The result revealed that market imperfection client pressure and inadequate market data were major factors influencing mortgage valuation inaccuracy. Atilola *et al*

(2019)evaluated the factors causing variance in property assessment in Kwara state. The study adopted purposive sampling to collect the responses from registered estate surveying and valuation firms using Relative Importance Index (RII). Findings revealed that inexperience, complexity law, wrong assumptions and inadequate data were responsible for variance. All the aforementioned studies have therefore established the existence of variance and inaccuracy as well as factors causing these discrepancies in valuation. However, the need to factorize these factors into group of factors and then determine a group of factors that contribute to variation in valuation accuracy is yet to be established, and this forms a basis for this study as it requires a step-forward investigation in which this study used factorial analysis.

## METHODOLOGY

The study utilized a survey research as a scientific method of investigating factors affecting accuracy of valuation through estate surveying and valuation firms in Lagos and Abuja, Nigeria. according to NIESV Directory 2019, there are a total 150 and 300 registered estate firms in both Abuja and Lagos respectively. The study however selected 100 and 150 firms with more than 10 years' experience in property valuation through simple random sampling from Abuja and Lagos respectively, and 15 banks which constantly made use of valuation reports were also visited to collect valuation figures submitted by firms. The study employed both descriptive method and inferential method to analyze responses retrieved through simple random sampling techniques across the firms. The descriptive analysis employed for this study includes

mean and relative important index (RII) and inferential techniques (analysis of variance, T-test and factor analysis-principal component analysis). The study utilized analysis of variance (ANOVA) to establish the significance of variance in valuation figures (valuation variance), t-test was also adopted to test the significance of difference between two sample mean (market sale and valuation figures-valuation inaccuracy). The data was subjected to three set of reliability tests (Cronbach alpha, Kaiser-mayer-Olkin (KMO) and Bartlett's test of sphericity). For reliability purpose, cronbach alpha test was carried out on the factor items to establish level of internal consistency among the responses received from firms before the relative important index (RII). Also, KMO(Kaiser-mayer-Olkin)was adopted to measure of sampling adequacy of the data collected for factor analys is and Bartlett's test of sphericity was used to test significance of the correlation matrix of the items employed for the factor analysis in the study.

## RESULT AND DISCUSSION

Table 1 showed the demographic characteristics of the respondents for the study. 88.4% represented male surveyors, about 52.4% majority of the sampled respondents had first degree and 45.6% had higher national diploma (HND) in their educational qualification. 65.2% of the sampled respondent were associate member of the professional body (ANIVS) and 66.4% had between 11-20years professional working experience. It can be inferred that majority of respondents sampled for the study were appropriate to give expert opinion for the study.

**Table 1** Showing the Demographic Information of Estate Surveyors

|                         |        | Lagos     |      | Abuja     |     | Total     |
|-------------------------|--------|-----------|------|-----------|-----|-----------|
| Demographic information |        | Responses | %    | Responses | %   |           |
| Gender                  | Male   | 131       | 85.1 | 90        | 90  | 221(88.4) |
|                         | Female | 19        | 14.9 | 10        | 10  | 29(11.6)  |
|                         | Total  | 150       | 100  | 100       | 100 | 250(100)  |

|                                           |             | Lagos | Abuja |     | Total |           |
|-------------------------------------------|-------------|-------|-------|-----|-------|-----------|
| Educational                               | ND          | -     |       |     |       |           |
|                                           | HND         | 75    | 50    | 39  | 39    | 114(45.6) |
|                                           | PGD         | 5     | 3     | -   |       | 5(2)      |
|                                           | B.sc/B.tch  | 70    | 47    | 61  | 61    | 131(52.4) |
|                                           | M.sc/M.tech | -     |       |     |       |           |
|                                           | PhD         | -     | -     | -   | -     |           |
|                                           | Total       | 150   | 100   | 100 | 100   | 250(100)  |
| Professional qualification                |             |       |       |     |       |           |
|                                           | ANIVS       | 81    | 54    | 82  | 82    | 163(65.2) |
|                                           | FNIVS       | 69    | 46    | 18  | 18    | 87(34.8)  |
|                                           | MRICS       | -     | -     | -   |       |           |
|                                           | FRICS       | -     | -     | -   |       |           |
|                                           | Total       | 150   | 100   | 100 | 100   | 250(100)  |
| Years of practice as a qualified surveyor |             |       |       |     |       |           |
|                                           | 1-5yrs      | -     | -     |     |       |           |
|                                           | 6-10yrs     | -     | -     | -   | -     |           |
|                                           | 11-20yrs    | 91    | 60.7  | 75  | 75    | 166(66.4) |
|                                           | Above 20yrs | 59    | 39.3  | 25  | 25    | 84(33.6)  |
|                                           | Total       | 150   | 100   | 150 | 100   | 250(100)  |

Table 2 showed the values submitted by two different valuers on the same property to banks for mortgage valuation purposes. The essence of this is to justify or buttress the finding of the previous studies on the existence of valuation discrepancies before proceeding into the factors. The result

revealed there were variances across the valuation figures submitted to the banks as observed in Table 2. But the differences or variance between the valuation figures submitted was tested using analysis of variance (ANOVA) and result is presented in Table 3.

**Table 2** Valuation Reports Submitted to Nigerian Banks by Valuers on the Same Property

| No of Banks | Property | (1 <sup>st</sup> )Valuer Figure<br>(N:Million) | (2 <sup>nd</sup> )Valuer figure<br>(N:Million) | Variance<br>(N:Million) |
|-------------|----------|------------------------------------------------|------------------------------------------------|-------------------------|
| Bank 1      | A        | 35.23                                          | 70.55                                          | 35.32                   |
| Bank 1      | B        | 51.41                                          | 90.12                                          | 38.71                   |
| Bank 1      | C        | 91.34                                          | 150.52                                         | 59.18                   |
| Bank 1      | D        | 79.51                                          | 62.19                                          | 17.32                   |
| Bank 2      | E        | 111.56                                         | 100.44                                         | 11.45                   |
| Bank 2      | F        | 58.53                                          | 100.11                                         | 41.58                   |
| Bank 2      | G        | 98.43                                          | 71.20                                          | 27.23                   |
| Bank3       | H        | 100.03                                         | 157.33                                         | 57.3                    |
| Bank 3      | I        | 89.19                                          | 130.51                                         | 41.32                   |
| Bank 4      | J        | 98.23                                          | 143.11                                         | 44.88                   |
| Bank 5      | K        | 101.23                                         | 204.03                                         | 102.8                   |

Source: field survey, 2019 (Data from Bank)

The significance of valuation variance presented in Table 4.3 is carried using analysis of variance (ANOVA) the result revealed that the f-statistics at 4.736 is statistically significant at p-value (0.42) is less than 0.05 level precision. In other word, the variances across the valuation figures are statistically significant. Therefore, there is

statistically significant variance in valuations submitted by the valuers to banks on the same property. This finding is in agreement with Ogunba (2003), Aluko (2007) and Adekoge (2008). What factors could have been responsible for this? This is the question which this study intended to address in the subsequent Table 7.

**Table 3** Significance of Valuation variance in Mortgage valuation By Nigerian Banks

|                | Sum of Squares | Df | Mean Square | F     | Sig. |
|----------------|----------------|----|-------------|-------|------|
| Between Groups | 6069.626       | 1  | 6069.626    | 4.736 | .042 |
| Within Groups  | 25632.215      | 20 | 1281.611    |       |      |
| Total          | 31701.841      | 21 |             |       |      |

Table 4 revealed the actual market sale and valuation figures provided by selected valuers in Lagos on recent property transaction and valuations between 2015 and 2020. This information was employed to determine valuation inaccuracy among the surveyors and the result revealed that there was large margin of error between actual market sale and valuation figure. Property E

and K maintained a margin lower than 10% and property N also fall within the prescribed range of margin provided by Ogunba and Iroham (2011) between  $\pm 11.1\%$  and  $13.16\%$ . the significance of mean difference between the actual market sale and valuation figure was tested using T-test presented in table 6.

**Table 4** Valuation figures and Actual Sale of Properties by Surveyors in Lagos, Nigeria

| Properties | Actual Sale Price (₦:Million) | Valuation Figure(Lagos) (₦:Million) | Difference | % Margin of Error |
|------------|-------------------------------|-------------------------------------|------------|-------------------|
| Property A | 95                            | 135.304                             | -40.304    | -42.4             |
| Property B | 110                           | 180.23                              | -70.23     | -63.8             |
| Property C | 86                            | 70.87                               | 15.13      | 17.6              |
| Property D | 80                            | 95.506                              | -15.506    | -19.4             |
| Property E | 100                           | 92.22                               | 7.78       | 7.78              |
| Property F | 150                           | 200.12                              | -50.12     | -33.4             |
| Property G | 98                            | 120.51                              | -22.51     | -22.9             |
| Property H | 90                            | 77.12                               | 12.88      | 14.3              |
| Property I | 107                           | 91.33                               | 15.67      | 14.6              |
| Property J | 120                           | 170.55                              | -50.55     | -42.1             |
| Property K | 90                            | 81.34                               | 8.66       | 9.62              |

| Properties | Actual Sale Price<br>(₦:Million) | Valuation<br>Figure(Lagos)<br>(₦:Million) | Difference | %<br>Margin<br>of Error |
|------------|----------------------------------|-------------------------------------------|------------|-------------------------|
| K          |                                  |                                           |            |                         |
| Property L | 110                              | 176.23                                    | -66.23     | -60.2                   |
| Property M | 91                               | 149.34                                    | -58.34     | 64.1                    |
| Property N | 100                              | 89.54                                     | 10.46      | 10.5                    |
| Property O | 76                               | 98.33                                     | -22.33     | -29.4                   |
| Property P | 95                               | 73.55                                     | 21.45      | 22.6                    |

Source: Field Survey, 2020

Table 5 revealed the actual market sale and valuation figures provided by selected valuers in Abuja on recent property transaction and valuation figures between 2015 and 2020. This information was employed to determine valuation inaccuracy among the surveyors and the result revealed that there were large margin of error between actual market sale and valuation figure.

Property I and J maintained a margin lower than 10% and property K also fall within the prescribed range of margin provided by Ogunba and Iroham (2011) between  $\pm 11.1\%$  and  $13.16\%$ . The significance of mean difference between the actual market sale and valuation figure was tested using T-test presented in Table 6.

**Table 5** Valuation figures and Actual Sale of Properties by Surveyors in Abuja, Nigeria

| Properties | Actual Sale Price<br>(₦:Million) | Valuation figure (Abuja<br>Municipal) (₦:Million) | Difference | % Margin of<br>Error |
|------------|----------------------------------|---------------------------------------------------|------------|----------------------|
| Property A | 88                               | 70.21                                             | 17.79      | 20.2                 |
| Property B | 65                               | 96.22                                             | -31.22     | -48.0                |
| Property C | 93                               | 75.43                                             | 17.57      | 18.9                 |
| Property D | 80                               | 110.21                                            | -30.21     | -37.8                |
| Property E | 60                               | 100.02                                            | -40.02     | -66.7                |
| Property F | 120                              | 195.28                                            | -75.28     | -62.7                |
| Property G | 250                              | 370.23                                            | -80.15     | -32.1                |
| Property H | 150                              | 250.12                                            | -100.12    | -66.7                |
| Property I | 100                              | 90.30                                             | 9.70       | 9.7                  |
| Property J | 130                              | 120.01                                            | 9.99       | 7.7                  |
| Property K | 100                              | 87.20                                             | 12.8       | 12.8                 |
| Property L | 125                              | 100.25                                            | 24.75      | 19.8                 |
| Property M | 69                               | 95.32                                             | -26.32     | -38.1                |
| Property N | 89                               | 71.50                                             | 17.5       | 19.7                 |
| Property   | 160                              | 200.21                                            | -40.21     | -25.1                |

| Properties | Actual Sale Price (N:Million) | Valuation figure (Abuja Municipal) (N:Million) | Difference | % Margin of Error |
|------------|-------------------------------|------------------------------------------------|------------|-------------------|
| O          |                               |                                                |            |                   |
| Property P | 150                           | 190.25                                         | -40.25     | -26.8             |
| Property Q | 89                            | 69.55                                          | 19.45      | 21.9              |
| Property R | 99                            | 120.44                                         | -21.44     | -21.7             |

Source: field survey, 2020

The test of inaccuracy was carried out to justify the evidence of findings from previous studies and the result is presented in Table 6. The mean difference between the actual sale and valuation figure is significantly differed at p-value (0.035 and 0.045) less than 0.05 level of precision and the t-test statistics at -19.005 and -2.163 are statistically significant. This therefore connotes that there is high level of valuation inaccuracy as mean difference between

market sale value and valuation figure in Lagos and Abuja is significantly wide, this finding is consistent with that of Aluko (2000). It is therefore apparent that there is a problem of valuation accuracy in Abuja and Lagos. The study further investigated the factors responsible for the problem of valuation accuracy in Nigeria and amount of influence contributed by the group of factors was determined in the subsequent analysis

**Table 6** Test of Inaccuracy of Valuation between Market Sale Price and Valuation Figure

| Test of Accuracy | Mean difference | T test  | P-value                           | Conclusion                                           | Remarks      |
|------------------|-----------------|---------|-----------------------------------|------------------------------------------------------|--------------|
| Lagos            | -19.00537       | -19.005 | p-value at .035 is less than 0.05 | Mean difference between the two values are not equal | Not accurate |
| Abuja            | -21.98611       | -2.163  | p-value at .045 is less than 0.05 | Mean difference between the two values are not equal | Not accurate |

The descriptive analysis of factors constraining valuation accuracy in Nigeria is presented in Table 7. The responses from 250 registered estate surveying and valuation firms in Lagos (150 firms) and Abuja (100 firms) were subjected to reliability test called Cronbach alpha test. The result Cronbach alpha reliability test revealed that there is high level of internal consistency among the

factor items at 76.8% and 78.6% respectively in Lagos and Abuja. Therefore, all the identified factors were internally consistent and the responses were highly reliable. All the factors were highly responded to by the respondents thereby indicating high level of agreement to the identified factors constraining valuation accuracy.

**Table 7** Descriptive Analysis of Factors Constraining Valuation Accuracy in Nigeria

| Factors                                              | Lagos (cronbach alpha @0.768) |     |      |    | Abuja (Cronbach alpha@0.786) |     |      |    |
|------------------------------------------------------|-------------------------------|-----|------|----|------------------------------|-----|------|----|
|                                                      | N                             | Sum | Mean | Rk | N                            | Sum | Mean | Rk |
| Valuers integrity and Honesty                        | 150                           | 688 | 4.58 | 5  | 100                          | 458 | 4.58 | 5  |
| Valuers negligence and misconduct                    | 150                           | 671 | 4.47 | 8  | 100                          | 447 | 4.47 | 8  |
| Non-adherence to valuation standards                 | 150                           | 630 | 4.20 | 10 | 100                          | 417 | 4.17 | 10 |
| Gazumping                                            | 150                           | 691 | 4.60 | 4  | 100                          | 469 | 4.69 | 3  |
| procedural errors                                    | 150                           | 701 | 4.67 | 3  | 100                          | 476 | 4.76 | 2  |
| Measurement error                                    | 150                           | 664 | 4.42 | 9  | 100                          | 456 | 4.56 | 6  |
| Errors in collection of data                         | 150                           | 673 | 4.48 | 7  | 100                          | 460 | 4.60 | 4  |
| Inadequate Practical Experience                      | 150                           | 704 | 4.69 | 2  | 100                          | 513 | 4.13 | 11 |
| Poor academic knowledge                              | 150                           | 620 | 4.13 | 11 | 100                          | 438 | 4.38 | 9  |
| Inadequate Training                                  | 150                           | 688 | 4.58 | 5  | 100                          | 458 | 4.58 | 5  |
| Lack of professional qualification                   | 150                           | 671 | 4.47 | 8  | 100                          | 447 | 4.47 | 8  |
| Inadequacy in University curriculum                  | 150                           | 630 | 4.20 | 10 | 100                          | 417 | 4.17 | 10 |
| different methodologies                              | 150                           | 691 | 4.60 | 4  | 100                          | 469 | 4.69 | 3  |
| Unrealistic assumption                               | 150                           | 701 | 4.67 | 3  | 100                          | 476 | 4.76 | 2  |
| Different Experience, skills and judgment            | 150                           | 664 | 4.42 | 9  | 100                          | 456 | 4.56 | 6  |
| Inadequate relevant data bank                        | 150                           | 673 | 4.48 | 7  | 100                          | 460 | 4.60 | 4  |
| Insufficient property market information             | 150                           | 704 | 4.69 | 2  | 100                          | 413 | 4.13 | 11 |
| Maturity of property market                          | 150                           | 620 | 4.13 | 11 | 100                          | 438 | 4.38 | 9  |
| market instability                                   | 150                           | 688 | 4.58 | 5  | 100                          | 458 | 4.58 | 5  |
| imperfect knowledge of the property market           | 150                           | 671 | 4.47 | 8  | 100                          | 447 | 4.47 | 8  |
| inexplicitness of the law                            | 150                           | 630 | 4.20 | 10 | 100                          | 417 | 4.17 | 10 |
| Failure to discipline and prosecute an erring valuer | 150                           | 691 | 4.60 | 4  | 100                          | 469 | 4.69 | 3  |
| lack of seriousness by regulatory bodies             | 150                           | 701 | 4.67 | 3  | 100                          | 476 | 4.76 | 2  |
| comprehensiveness of the law                         | 150                           | 664 | 4.42 | 9  | 100                          | 456 | 4.56 | 6  |
| ineffectiveness of the regulatory framework          | 150                           | 673 | 4.48 | 7  | 100                          | 460 | 4.60 | 4  |
| Insufficient depth of investigation                  | 150                           | 704 | 4.69 | 2  | 100                          | 413 | 4.13 | 11 |
| Deficiency in quality control                        | 150                           | 620 | 4.13 | 11 | 100                          | 438 | 4.38 | 9  |
| clients' pressure                                    | 150                           | 714 | 4.76 | 1  | 100                          | 476 | 4.76 | 2  |
| Bribery and corruption in valuation                  | 150                           | 678 | 4.52 | 6  | 100                          | 452 | 4.52 | 7  |
| Macroeconomic influence                              | 150                           | 687 | 4.58 | 5  | 100                          | 458 | 4.58 | 5  |
| Conflict of interest                                 | 150                           | 715 | 4.76 | 1  | 100                          | 477 | 4.77 | 1  |
| Valid N (listwise)                                   | 150                           |     |      |    |                              |     |      |    |

Source: field survey, 2020

The analysis of Kaiser-mayer-Olkin (KMO) and Bartlett's Test presented in Table 8 is a necessary condition that must be met before embarking on factor analysis. The result of Bartlett's Test suggests a rejection of the hypothesis that correlation matrix of the variables is insignificant. This is because; the

p-value of 0.000 in both the two cases Lagos and Abuja is less than the assumed level of significance of 0.05. Also, the value of KMO is greater than 0.5 which further suggest that factor analysis can be used for the given set of data in Table 7.

**Table 8:** KMO and Bartlett's Test

| <b>KMO and Bartlett's Test</b> |                                                 |  |        |
|--------------------------------|-------------------------------------------------|--|--------|
| Lagos                          | Kaiser-mayer-Olkin Measure of Sampling Adequacy |  | 0.775  |
|                                | Bartlett's test of Sphericity                   |  | 84.001 |
|                                | d.f                                             |  | 30     |
|                                | Sig                                             |  | .000   |
| Abuja                          | Kaiser-mayer-Olkin Measure of Sampling Adequacy |  | 0.688  |
|                                | Bartlett's test of Sphericity                   |  | 79.061 |
|                                | d.f                                             |  | 30     |
|                                | Sig                                             |  | .000   |

The result of variance analysis of the factors presented in Table 9 showed ten (10) the most correlated factors constraining valuation accuracy in Nigeria. The result revealed initial eigen value and amount of total variance after rotation in the original variable accounted for 92.43% variance by each of the first ten components and while the remaining 7.57% were uncounted for due to loss of information. The total initial eigen values of 1 and above were extracted from the component factors because they maintained high correlation matrix.

The result factor loading analysis presented in Table 10a & 10b) revealed that ten

extracted factors constituted about 92.43% variation in the determining the factors constraining valuation accuracy. The cut-off point for this study is taken 0.5 and above as general rule of thumb applied and factors loading at 0.5 and above in the component were selected and grouped and named. The group of factors constraining valuation accuracy are presented in Table 10a and 10b. Also each of these groups of factors individually almost the variance between 9.864% and 9.637% except for the last group of factors that contributed the least variance at 4.884%.

**Table 9** Total Variance Analysis of Factors Explained

| Comp. | Initial Eigen values |               |              | Extraction Sums of Squared |               |              | Rotation Sums of Squared |               |              |
|-------|----------------------|---------------|--------------|----------------------------|---------------|--------------|--------------------------|---------------|--------------|
|       |                      |               |              | Loadings                   |               |              | Loadings                 |               |              |
|       | Total                | % of Variance | Cumulative % | Total                      | % of Variance | Cumulative % | Total                    | % of Variance | Cumulative % |
| 1     | 7.947                | 25.634        | 25.634       | 7.947                      | 25.634        | 25.634       | 3.058                    | 9.864         | 9.864        |
| 2     | 5.518                | 17.800        | 43.434       | 5.518                      | 17.800        | 43.434       | 3.054                    | 9.850         | 19.715       |
| 3     | 3.152                | 10.168        | 53.602       | 3.152                      | 10.168        | 53.602       | 3.052                    | 9.846         | 29.561       |
| 4     | 2.851                | 9.198         | 62.800       | 2.851                      | 9.198         | 62.800       | 3.049                    | 9.836         | 39.397       |
| 5     | 1.943                | 6.268         | 69.069       | 1.943                      | 6.268         | 69.069       | 3.035                    | 9.790         | 49.187       |
| 6     | 1.878                | 6.059         | 75.128       | 1.878                      | 6.059         | 75.128       | 3.018                    | 9.736         | 58.923       |
| 7     | 1.656                | 5.342         | 80.470       | 1.656                      | 5.342         | 80.470       | 3.005                    | 9.694         | 68.617       |
| 8     | 1.402                | 4.523         | 84.993       | 1.402                      | 4.523         | 84.993       | 3.003                    | 9.688         | 78.305       |
| 9     | 1.201                | 3.873         | 88.866       | 1.201                      | 3.873         | 88.866       | 2.988                    | 9.637         | 87.942       |
| 10    | 1.105                | 3.564         | 92.430       | 1.105                      | 3.564         | 92.430       | 1.391                    | 4.488         | 92.430       |
| 11    | .885                 | 2.856         | 95.286       |                            |               |              |                          |               |              |
| 12    | .769                 | 2.482         | 97.768       |                            |               |              |                          |               |              |
| 13    | .692                 | 2.232         | 100.000      |                            |               |              |                          |               |              |
| 14    | 2.261E-016           | 7.294E-016    | 100.000      |                            |               |              |                          |               |              |
| 15    | 1.418E-016           | 4.574E-016    | 100.000      |                            |               |              |                          |               |              |
| 16    | 1.238E-016           | 3.994E-016    | 100.000      |                            |               |              |                          |               |              |
| 17    | 9.584E-017           | 3.091E-016    | 100.000      |                            |               |              |                          |               |              |
| 18    | 5.169E-017           | 1.667E-016    | 100.000      |                            |               |              |                          |               |              |
| 19    | 3.712E-017           | 1.197E-016    | 100.000      |                            |               |              |                          |               |              |
| 20    | 3.077E-017           | 9.927E-017    | 100.000      |                            |               |              |                          |               |              |
| 21    | 1.935E-017           | 6.240E-017    | 100.000      |                            |               |              |                          |               |              |
| 22    | -2.304E-018          | -7.434E-018   | 100.000      |                            |               |              |                          |               |              |
| 23    | -6.445E-018          | -2.079E-017   | 100.000      |                            |               |              |                          |               |              |
| 24    | -3.175E-017          | -1.024E-016   | 100.000      |                            |               |              |                          |               |              |
| 25    | -3.770E-017          | -1.216E-016   | 100.000      |                            |               |              |                          |               |              |
| 26    | -5.326E-017          | -1.718E-016   | 100.000      |                            |               |              |                          |               |              |
| 27    | -8.053E-017          | -2.598E-016   | 100.000      |                            |               |              |                          |               |              |
| 28    | -9.520E-017          | -3.071E-016   | 100.000      |                            |               |              |                          |               |              |
| 29    | -1.145E-016          | -3.694E-016   | 100.000      |                            |               |              |                          |               |              |
| 30    | -1.418E-016          | -4.574E-016   | 100.000      |                            |               |              |                          |               |              |
| 31    | -2.398E-016          | -7.736E-016   | 100.000      |                            |               |              |                          |               |              |

Extraction Method: Principal Component Analysis.

**Table 10 (a)** Factor Loading Analysis of Constraints to Valuation Accuracy in Nigeria

| Constraint Factors                                       | Factor loadings | Eigen value | % of variance |
|----------------------------------------------------------|-----------------|-------------|---------------|
| Factor 1: Standards, Curriculum and Legal Factor         |                 | 3.058       | 9.864         |
| Non-adherence to valuation standards                     | .926            |             |               |
| Inadequacy in University curriculum                      | .926            |             |               |
| Inexplicitness of the law                                | .926            |             |               |
| Factor 2: Inexperience, market data and Knowledge factor |                 | 3.054       | 9.850         |
| Inadequate Practical Experience                          | .989            |             |               |
| Insufficient property market information                 | .989            |             |               |
| Insufficient depth of investigation                      | .989            |             |               |
| Factor 3: Speculative, methodological and indiscipline   |                 | 3.052       | 9.846         |
| Gazumping                                                | .936            |             |               |
| different methodologies                                  | .936            |             |               |
| Failure to discipline and prosecute an erring valuer     | .936            |             |               |
| Factor 4: Unprofessional and regulatory factor           |                 | 3.049       | 9.836         |
| Procedural errors                                        | .972            |             |               |
| Unrealistic assumption                                   | .972            |             |               |
| lack of seriousness by regulatory bodies                 | .972            |             |               |
| Factor 5: Academic, immaturity and quality factors       |                 | 3.035       | 9.790         |
| Poor academic knowledge                                  | .945            |             |               |
| Maturity of property market                              | .945            |             |               |
| Deficiency in quality control                            | .945            |             |               |
| Factor 6: Technical factor                               |                 | 3.018       | 9.736         |
| Measurement error                                        | .923            |             |               |
| Different Experience, skills and judgment                | .923            |             |               |
| Comprehensiveness of the law                             | .923            |             |               |
| Factor 7: data inadequacy and ineffective framework      |                 | 3.005       | 9.694         |
| Errors in collection of data                             | .920            |             |               |
| Inadequate relevant data bank                            | .920            |             |               |
| ineffectiveness of the regulatory framework              | .920            |             |               |

Also, each of these factors indispensable to valuers during the valuation exercise. This therefore indicates that each of the groups of factors are significantly important in

ensuring valuation accuracy. To this extent, valuer must painstakingly adhere and address strictly all the factors during the valuation process.

**Table 10 (b) Factor Loading Analysis of Constraints to Valuation Accuracy in Nigeria (Continue)**

| Constraint Factors                                             | Factor loadings | Eigen value | % of variance |
|----------------------------------------------------------------|-----------------|-------------|---------------|
| Factor 8 : integrity, training and market factors              |                 | 3.003       | 9.688         |
| Valuers integrity and Honesty                                  | .921            |             |               |
| Inadequate Training                                            | .921            |             |               |
| market instability                                             | .921            |             |               |
| Factor 9: Unethical and market imperfection                    |                 | 2.988       | 9.637         |
| Valuers negligence and misconduct                              | .903            |             |               |
| Lack of professional qualification                             | .903            |             |               |
| Imperfect knowledge of the property market                     | .903            |             |               |
| Factor 10: Pressure, corruption and Interest clients' pressure |                 | 1.391       | 4.488         |
| Bribery and corruption in valuation                            | -.624           |             |               |
| Conflict of interest                                           | .704            |             |               |

## IMPLICATION OF FINDING AND

### CONCLUSION

The study has therefore further investigated valuation variance and inaccuracy to buttress the findings of the previous studies. It is discovered that there is clear evidence of valuation variance and inaccuracy in valuation, and this finding is in agreement with that of previous studies such as Aluko, 2000; Harvard, 2001; Boyd & Irons, 2002; Ogunba, 2004; Aluko, 2007; Adekoge, 2008; Ayedun *et al.*, 2012; and Effiong, 2015. The factors constraining valuation accuracy were further investigated and these factors were identified from previous studies and there was high level of positive responses towards the identified factors by the valuers in the firms. Most of these factors were rated as highly important constraint to valuation accuracy but the mostly rated

factors are conflict of interest, clients' pressure, Unrealistic assumption, procedural error different methodologies, non-adherence to standards and insufficient market information, this finding is also found in agreement with previous studies informed by Akinjare *et al.*, 2013; Aliyu, Sani, Usman & Muhammad, 2018; Ayedun, Durodola, Oloyede, Akinjare & Oni, 2018; and Atilola *et al.*, 2019. The result of factorial analysis further identified groups of factors alongside with the amount they have contributed determining valuation accuracy. The study therefore identified ten groups of factors having a variance that is almost equal except the tenth factor. This suggests that each group of identified factors is indispensable determining the valuation accuracy. By implication, valuation accuracy cannot be achieved until these groups of factors are addressed and they have

therefore become indispensable which cannot be undermined if the valuation is to be achieved. The study therefore recommends that all the stakeholders in property assessment and valuation exercises should

address all the aforementioned factors by adhering strictly to lay-down provisions of the profession and principles without compromise in order to achieve accuracy.

## REFERENCES

- Adegoke, O. (2008). Behaviour of valuers when valuing properties in localities that they lack substantial prior experience. *Real Estate and Development Economics Research*, 1(1), 30–45.
- Adegoke, O. J. (2016). Effects of valuation variance and inaccuracy on Nigerian commercial property market An empirical study. <https://doi.org/10.1108/JPIF-08-2014-0056>
- Adegoke, O. J., Olaleye, A., & Oloyede, S. A. (2013). A study of valuation clients perception on mortgage valuation reliability. *African Journal of Environmental Science and Technology*, 7(7), 585–590.
- Ajibola, M. O. (2010). Valuation inaccuracy.: An examination of the causes in LagosMetropolis. *Journal of Sustainable Development*, 3,(4), 187-193.
- Akinjare, A. O., Ogunba., O. A., Ayedun, C. A., & Iroham, C. O. (2013). Disamenity hazards and rental values in surulere, lagos metropolis: a perceptual study of power lines. *Ethiopian Journal of Environmental Studies and Management*, 6(1), 96–103.
- Aliyu, B.A., Sani H., Usman H., & Muhammad H., (2018). *Ranking the Causative Factors ofMortgage Valuation Inaccuracy in Kaduna Metroplois*, Real Estate Management and Valuation, vol. 26,no. 3, pp. 71-81.
- Aluko, B. T. (2000). A study of appropriateness of mortgage valuation for institution lending in Nigeria.(Unpublished doctoral dissertation). The Department of Estate Management, Obafemi Awolowo University, Ile-Ife,Nigeria.
- Aluko, B. T. (2004). Reliability of Mortgage Valuation for Institutional Lending in Nigeriaractice in Nigeria. *International Journal of Strategic Property Management*, 8(4), 193-203
- Aluko, T. (2007). Implications of the current trend in. *International Journal of Strategic Property Management*, 11, 17–31.
- Atilola, M.I., Ismail, A., Achu, K. & Bujang, A.A (2019).An Evaluation of Factors Causing Variance in Property Assessment *Journal of the Malaysian Institute of Planners* 17 (1) :82 – 93.
- Ayedun , C.A, Durodola, O.D, Oloyede, S.A, Akinjare O.A and Oni S.A (2018).An Empirical Evaluation Of The Factors Militating Against Valuation Accuracy In Nigeria. *International Journal of Civil Engineering and Technology (IJCIET)*. Volume 9, Issue 8, August 2018, pp. 752–762.
- Ayedun, C. A., Oloyede, S. A., & Durodola, O. D. (2012). Empirical study of the causes ofvaluation variance and inaccuracy in Nigeria. *Journal of International Business Research*, 5(3), 71-79.
- Babawale, G. (2008). *An evaluation of factors influencing inaccuracy in*

- residential property valuation in Lagos metropolis. Unpublished PhD Thesis Submitted to the Department. University of Lgos. Retrieved from <https://scholar.google.com/scholar?q>
- Babawale, G. K. (2006). The growing concern over valuation accuracy in Nigeria. *Journal of Land Use and Development Studies*, 2 (1), 1-11
- Boyd T, & Irons J (2002). Valuation Variance and Negligence: the Importance of Reasonable Care. *Letters of Social and Humanistic Sciences*, 57, 94-105. <https://doi.org/10.18052/www.scipress.com/ILSHS.57.94>
- Bretten, J., & Wyatt, P. (2002). Variance in commercial property valuations for lending purposes: An empirical study. *Journal of Property Investment & Finance*, 19(3), 267-282.
- Crosby, N., Devaney, S., Key, T., & Matysiak, G. (2003). *Valuation accuracy: Reconciling timing of the valuation and sale. Paper presented at the European Real Estate Society, Helsinki-Finland.* URL: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.201.2137&rep=rep1&type=pdf>
- Effiong, J. B. (2015). A comparative study of valuation variance and accuracy between Nigeria and UK. *International Pac. Rim Prop. Res. J.* 8(2):107-126
- Hager, D. P., & Lord, D. J. (1985). The property market, property valuations and property performance measurement. *Journal of the Institute of Actuaries*, 4, 1-27.
- Havard, T. (2001). Valuation reliability and valuer behavior. *RICS Foundation Research Paper*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.201.2137&rep=rep1&type=pdf>
- Ibiyemi, A. O. (2013). Market Risks Consideration by Commercial Property Investors and Valuers in Nigeria: The Critical Issues. *A 27th Inaugural Lecture of Lagos State Polytechnic, Ikorodu, Lagos. August 14, 2013.*
- Kayuya, H. M. (2014). The dilemma of implementing property taxation in Tanzania amidst unending search for yielding strategy, Lessons from Dar es Salaam LGAs. *Journal of Land Administration in Eastern African*, 2(1), 117-127.
- Munshifwa, E. K., Jain, N., Kaunda, B. S., Masiba, L., Lungu, J., & Chunda-Mwango, N., & Ngoma, W. (2016). Variances in rate able values in rating practice in Zambia: The role of mental models in value assessment. *Pacific Rim Property Research Journal*, 22(2), 181-201.
- Nasir, A. M. (2006). Valuation variance of commercial properties in Malaysia. *Pacific Rim Property Research Journal*, 12(3), 272-282.
- Ogunba, O. A. (2004). The demand for accuracy in valuations: the case of Nigeria. In *globalization and construction* (p. 679). Bangkok: CIB-SCE. Retrieved from [https://www.researchgate.net/profile/Rodney\\_Stewart/publication/29453461\\_China's\\_Construction\\_Industry\\_After\\_WTO\\_Accession\\_Opportunities\\_Challenges\\_and\\_Strategies/links/0deec51b708558930f000000.pdf#page=697](https://www.researchgate.net/profile/Rodney_Stewart/publication/29453461_China's_Construction_Industry_After_WTO_Accession_Opportunities_Challenges_and_Strategies/links/0deec51b708558930f000000.pdf#page=697)
- Ogunba, O. A., & Iroham, C. O. (2011). A Search for an Acceptable Margin of Valuation Error: A case study of valuers and their clients in Nigeria. *Sri Lankan Journal of Real Estate*, 4, pp. 54-73.