

A Study of Variances in Development Appraisal in Uyo

T. C. Archibong¹ and O. A. Ogunba²

¹168, AtikuAbubakar Way, Uyo, Akwa Ibom State

²Department of Estate Management, Obafemi Awolowo University, Ile Ife,
Nigeria

Emails: trutharchibong@yahoo.co.uk; segogunba@yahoo.co.uk

Abstract

Variables considered in development appraisal sometimes assume character and behavioural distortions and magnitude. Thus, this study was aimed at examining whether there is significant difference between predicted variable values as used by appraisers and actual values on the execution of the project. In attempt to achieve this, the study surveyed a cross section of 36 estate surveying and valuation firms' reports and their clients in Uyo. Analysis of Variance (ANOVA) at 5% level of significant was used to confirm the difference. The study found that there is significant difference between the estimated variable values as adopted by development appraisers in their reports and the actual or realised values of such variables on execution/completion of the projects. It further revealed that development period had the highest difference between the estimated and actual period followed by interest rate adopted and cost of construction. It was suggested that henceforth, appraisers should provide their clients with an understanding of fluctuation in these variables and point out that development appraisals were prepared on assumptions of economic stability.

Keywords: Variation, Appraisal, Development Variables, Estate Surveyors.

1.0 Introduction

Real estate development involves estimation of demand for new buildings of different types; identification and acquisition of site on which buildings might be constructed to meet that demand, design of accommodation to meet the demand on sites identified, arrangement of short and long term finance to fund site acquisition and construction, management of design and construction, and finally letting, sale and management of the completed buildings (Ojo, 2006). The appraisal is a quantification of future expectations and a study into the non-economic, economic and financial issues likely to affect the investor's objectives (Archibong, 2015).

The appraisal model depends upon the appraiser having an understanding of the future in terms of future marketability of the completed development and the future cost of development. The data used by the appraiser are based on forecast and carry with them some speculative and subjective values. In some cases the developer has some degree of control over the possible variation to the variables, as with the cost of construction through the choice of specification. However, other variables, such as the sales price of the final product, are totally dependent upon the vagaries of the market at the completion date. Most times, the outcome of the analysis may be at variance with future realities. Factors such as government fiscal policies, technological changes, political and economic developments and other factors external and internal to the development can cause a radical change in the outcome of a particular appraisal (Bannerman, 1993 and Ogbuefi, 2002).

The variables considered in development appraisal sometimes assume character and behavioural distortions and magnitude variations that if the development project were to be executed based on the original state of these parameters, there might be a failure to meet the project result. Most of these variables are dependent on market forces which are very dynamic, as virtually no day is exactly the same with the previous day in the market (Ogbuefi, 2002 and Ogunba, 2002). The major variables considered in the appraisal include land price, land holding period, planning/building size, building cost and period, professional fees, finance or interest rate, let-able space, and rental value (Ojo, 2006). These variables are subject to changes and variations, thus the effectiveness of the appraisal depends largely on the ability to isolate and correctly interpret the dynamics of these variables.

The effect of these variation (changes in cost of construction, rental value etc) include reducing or even wiping out developer's profit, possible bankruptcy, abandoned projects, adverse consequences on the appraiser's reputation as an expert adviser and putting the prospective developer's investments in jeopardy. Even in valuation which is not futuristic as development appraisal, cases of variances abound (Ayedun, Durodola, Ajibola and Oloke, 2014). But practitioners of development appraisal tend to practice as if development variables are not subject to changes. Therefore, it is the concern of this paper to examine and test, if there is any significant difference between the estate surveyors' appraisal estimate and the actual value on the execution of the development by the client/developer.

The next section of this paper shall x-ray related literature in the area of variations in development appraisal in both developed and developing

economies, while section three and four contain the research methods and data presentation respectively. The last section (section five) concludes the work and proffers some suggestion towards effective development appraisal.

2.0 Literature Review

Literature on variances in valuation is well documented, while similar study in development appraisal only took place recently. The concern of this section is to review the available related literature in variances as it relates to development appraisal.

Atherton, French and Gabrielli (2008) in Italy investigated the practical impact of uncertainty in development appraisal using hypothetical case study. The authors stated that uncertainty is an integral part of the development process and needs to be reflected in the development appraisal. They believed that the traditional sensitivity analysis has generally only looked at the best and worst scenarios and focused on the anticipated or expected outcomes. They argued that this does not take into account uncertainty and the range of outcomes that can happen. The results from the hypothetical case indicated that rent and yield were the critical variables and their impact highly significant. The study concluded that without knowledge of development risk, developers are unable to determine the anticipated level of return that should be sought to compensate for the risk. However, this study was based on hypothetical rather than empirical case study which limited its conclusions.

In a Nigerian study of accuracy of prediction in commercial property development appraisal in Lagos, Bello and Ojo (2005) employed stratified randomly sampling to survey practicing estate surveyors and valuers. Questionnaires were randomly administered. Chi-square and differences between two population means were used to analyse the resultant data. The study found that there exist a statistically significant difference between the actual and the predicted values of variable inputs such as rental income, capital cost, development period, lending rates and payback period. The test of difference also reveals that there is significant difference between the predicted and the actual values of the variable inputs such as capital and development etc. The study recommended that the Nigerian Institution of Estate Surveyors and Valuers and the Estate Surveyors and Valuers Registration Board of Nigeria should evolve policy that can lead to the enhancement of both the theoretical and practical knowledge in commercial property development appraisal. The study did state neither sample frame nor size and the technique of data analysis is not adequate for the work, thus its conclusion cannot be relied upon.

In another study of variance in property investment in Nigeria, Babawale (2007) considered the shortcomings of the conventional deterministic approach to risk analysis in the property investment and investigated the possibilities of improved techniques using the Monte Carlo simulation. Using a proposed 55-room hotel development as case study, the paper demonstrated the single-point estimate (which is typical of the conventional deterministic methods) side-by-side with the Monte Carlo simulation technique highlighting their relative merits and demerits. Analysis of simulation revealed that the investment promised a return (net) on equity capital of 24.9% which was just a little less than that arrived at using the single point estimate (25.99%). The study concluded that although the Monte Carlo simulation technique offers possibilities of overcoming some inherent weakness of the conventional methods its application was fraught with unresolved controversies and much of the perceived benefits were beclouded by inherent technicalities. However, the conclusions and findings of this research are based on a single case study which is inadequate for generalisation of the study.

Nwanekezie, Iroegbu and Okoroacha (2010) in Nigeria examine sensitivity analysis as a technique for investing the impact of changes in project variable. They define sensitivity analysis as a major approach to re-examining an already concluded viability studies in order to determine what the investment appraisal outcome would be, if same or all the factor elements were to vary. The study adopted a case study to examine the changing cash flow on project outcome and concluded that the changes in the cost variable had the highest impact on the outcome. This study adopted only one technique which limits the generalisation of the conclusion.

In a Nigerian study to determine the effect of changing cash flows on feasibility and viability appraisal, Archibong (2011) adopted the empirical data on the pre-investment appraisal conducted on Tarbas High School to illustrate the use of sensitivity analysis. The results indicated that a change in the revenue by 10% would reduce the developer's profit by 96.4% and the switching value showed that any decrease beyond 14.39% would equal the NPV to zero and erode the profit of the proponent. An increase in the outgoing by 30% gave a change of 50.7% in the NPV and 59.29% was required to erode the profit of the developer. A change in cost of construction by 10% was also estimated to cause a change in the NPV by 69.5%. The study concluded that NPV was most sensitive to changes in cash inflow, followed by potential increase or changes in discount factor (interest rate) and construction cost. It submitted that the NPV was insensitive to changes in the annual outgoings. However, the paper addressed only one risk technique (sensitivity analysis) and the usage of only one case study limit the generalisation of its findings and conclusions.

3.0 Research Methods

The target population for this study comprised of all practicing estate surveyors and valuer in Uyo and their clients who had commissioned feasibility and viability studies (development appraisal) between 2001 and 2010. The available record of Akwa Ibom State branch of the Nigerian Institution of Estate Surveyors and Valuers in 2011 shows that 36 practicing estate surveying and valuation firms were based in Uyo metropolis. The sample frame of clients was based on at least two clients of the estate surveying and valuation firms. Given the 36 estate firms in Uyo, the sample frame of the clients should have been 72 clients. However, only 31 estate firms responded positively in which only 23 had one brief and 8 had two briefs. Therefore, the sample frame was 39 clients. Total enumeration survey of the thirty-six (36) estate surveying and valuation firms practicing in Uyo metropolis and thirty-nine (39) clients was conducted since sample frame was small. Closed-ended questionnaire was distributed to these firms in which thirty-one of them responded which gave effective respond rate of 86.11%. Analysis of variance (ANOVA) at 5% level of significant was employed to test the difference between the predicted values of valuers and actual values on execution of the projects.

4.0 Data Presentation and Analysis

This section examines the degree of variation between appraisal estimates and realised values. Data on the thirty-nine projects identified to have been preceded by development appraisals were examined with regard to the five basic variables in development appraisal (rental value, the yield, construction costs, cost of capital and the development period). Information to address variations in predictions and realisations of these variables was sought from two stakeholders: pre-development appraisal estimates were obtained from estate surveyors, while information on realised values was obtained from their clients. While realised values of variables was gotten for rent, cost of construction, lending rate (cost of capital), and development period that of property yield was not readily available since most of the clients were unable to provide such technical data. Therefore, the analysis was done based on the available data on the development variables of rent, cost of construction, interest rate and development period. The information/data obtained are presented in tables 1 to 4, while the SPSS analysis results are contained in Table 1.

Table 1: Rent Variable used in Development Appraisal in Uyo

Project	Rent		Difference	% Difference
	Estimate (₦)	Actual (₦)		
1.	6,850,000.00	5,500,000.00	1,350,000.00	19.71
2.	5,1000,00.00	4,200,000.00	900,000.00	17.64
3.	5,520,000.00	3,400,000.00	2,120,000.00	38.41
4.	2,400,000.00	1,510,000.00	890,000.00	37.08
5.	5,150,000.00	4,500,000.00	650,000.00	12.62
6.	78,250,000.00	31,500,000.00	46,750,000.00	59.74
7.	36,720,000.00	25,500,000.00	11,220,000.00	30.56
8.	32,813,000.00	21,220,900.00	11,592,100.00	35.33
9.	20,178,000.00	13,414,600.00	6,763,400.00	33.51
10.	12,609,500.00	5,465,000.00	7,144,500.00	56.66
11.	26,872,400.00	19,750,300.00	7,122,100.00	26.50
12.	4,500,000.00	3,600,000.00	900,000.00	20.00
13.	13,760,000.00	9,780,000.00	3,980,000.00	28.92
14.	8,707,000.00	6,415,000.00	2,292,000.00	26.32
15.	21,190,000.00	18,201,500.00	2,988,500.00	14.10
16.	19,202,700.00	17,020,800.00	2,181,900.00	11.36
17.	27,025,000.00	18,200,000.00	8,825,000.00	32.65
18.	5,150,000.00	3,070,000.00	2,080,000.00	40.39
19.	18,700,000.00	15,630,100.00	3,069,900.00	16.42
20.	2,000,000.00	1,640,000.00	360,000.00	18.00
21.	14,650,000.00	14,800,000.00	-150,000.00	1.02
22.	22,660,000.00	18,000,000.00	4,660,000.00	20.56
23.	11,790,400.00	7,450,000.00	4,340,400.00	36.81
24.	15,180,000.00	13,120,000.00	2,060,000.00	13.57
25.	4,015,700.00	2,500,000.00	1,515,700.00	37.74
26.	9,148,200.00	6,500,000.00	2,648,200.00	28.95
27.	5,200,000.00	3,250,000.00	1,950,000.00	37.50
28.	2,975,000.00	1,845,000.00	1,130,000.00	37.98
29.	4,350,000.00	3,850,000.00	500,000.00	11.49
30.	7,240,600.00	5,400,000.00	1,840,600.00	25.42
31.	19,570,000.00	15,760,400.00	3,809,600.00	19.47
32.	11,800,000.00	9,100,000.00	2,700,000.00	22.88
33.	14,610,000.00	9,900,000.00	4,710,000.00	32.24
34.	26,870,150.00	17,405,000.00	9,465,150.00	35.23
35.	30,318,000.00	23,180,000.00	7,138,000.00	23.54
36.	11,596,000.00	6,400,000.00	5,196,000.00	44.81
37.	3,710,000.00	2,100,000.00	1,610,000.00	43.40
38.	10,447,000.00	8,500,000.00	1,947,000.00	18.64
39.	28,614,000.00	24,000,000.00	4,614,000.00	16.12

Source: Authors' field survey (2014).

The first variable examined was degree of variation of estimated rental values from realised or actual rental values. Table 1 below detailed the results.

Table 1 shows the estimated and realised rental values used in development appraisal of the studied projects. The data reveals consistent variation of predicted or estimated rental values from the realised or actual rental values on completion of the projects. The percentage of variation ranges from 1.02 to 59.74. This pattern of variation shows that development appraisers in the area are yet to forecast rental values with low error margin and it suggest that likely they were using rental values as at date of appraisal without trend projection of the variable.

Estimated construction cost and realised cost was next examined to determine the degree of variation and Table 2 presents the data.

Table 2: Construction Cost Variable used in Development Appraisal in Uyo

Project	Construction Cost		Difference	% Difference
	Estimate (₦)	Actual (₦)		
1.	22,540,000.00	27,450,000.00	-4,910,000.00	21.78
2.	19,750,000.00	24,700,000.00	-4,950,000.00	25.06
3.	34,691,250.00	42,560,000.00	-7,868,750.00	22.68
4.	40,806,000.00	48,700,400.00	-7,894,400.00	19.35
5.	66,000,000.00	79,300,000.00	-	20.15
			13,300,000.00	
6.	79,456,290.00	94,670,000.00	-	19.15
			15,213,710.00	
7.	69,540,000.00	88,940,500.00	-	27.90
			19,400,500.00	
8.	71,400,350.00	85,715,000.00	-	20.05
			14,314,650.00	
9.	65,720,900.00	79,800,000.00	-	21.42
			14,079,100.00	
10.	60,238,000.00	75,000,000.00	-	24.51
			14,762,000.00	
11.	80,250,700.00	97,500,000.00	-	21.49
			17,249,300.00	
12.	18,670,500.00	22,400,900.00	-3,730,400.00	19.98
13.	35,740,250.00	42,900,000.00	-7,159,750.00	20.03
14.	49,316,000.00	59,670,200.00	-	21.00
			10,354,200.00	

15.	69,000,000.00	85,870,000.00	- 16,870,000.00	24.45
16.	60,150,900.00	73,450,150.00	- 13,299,250.00	22.11
17.	83,100,000.00	96,100,000.00	- 13,000,000.00	15.64
18.	21,887,000.00	31,750,000.00	-9,863,000.00	45.06
19.	41,025,000.00	53,200,000.00	- 12,175,000.00	29.66
20.	27,560,350.00	35,540,000.00	-7,979,650.00	28.95
21.	66,280,000.00	68,200,000.00	-1,920,000.00	2.90
22.	68,105,500.00	80,000,000.00	- 11,894,500.00	17.46
23.	30,289,755.00	39,543,000.00	-9,253,245.00	30.55
24.	88,669,000.00	95,450,000.00	-6,781,000.00	7.65
25.	17,580,000.00	21,350,000.00	-3,770,000.00	21.44
26.	42,050,700.00	45,000,000.00	-2,949,300.00	7.01
27.	18,380,450.00	26,150,000.00	-7,769,550.00	42.27
28.	15,460,000.00	21,350,000.00	-5,890,000.00	38.10
29.	60,000,000.00	70,450,000.00	- 10,450,000.00	17.42
30.	27,650,000.00	35,350,000.00	-7,700,000.00	27.85
31.	45,600,600.00	54,750,000.00	-9,149,400.00	20.06
32.	62,500,000.00	75,370,000.00	- 12,870,000.00	20.59
33.	54,280,000.00	77,000,000.00	- 22,720,000.00	41.86
34.	69,750,900.00	88,150,000.00	- 18,399,100.00	26.38
35.	71,250,000.00	84,900,000.00	- 13,650,000.00	19.16
36.	74,108,200.00	79,100,000.00	-4,991,800.00	6.74
37.	18,601,570.00	25,100,000.00	-6,498,430.00	34.93
38.	69,117,270.00	70,500,000.00	-1,382,730.00	2.00
39.	85,245,000.00	93,750,000.00	8,505,000.00	9.98

Source: Authors' field survey (2014).

The data in table 2 above indicates the estimated and realised construction cost used in the examined projects. The table reveals that estimated construction costs vary considerable from the realised construction cost on completion of the projects. The percentage of variation ranges from 2.00 to 45.06. Unlike rental

values, where variation was higher and inconsistent, variation in construction cost hover around 20.00%. This also suggests that likely development appraisers used intuitive projection of construction cost without necessary finding trend projection.

The degree of variation between estimated and realised development periods was examined next and table 3 detailed the result.

Table 3: Development Periods Variable used in Development Appraisal in Uyo

Project	Development Periods		Difference	% Difference
	Estimate (years)	Actual (years)		
1.	2.00	2.50	-0.50	25.00
2.	2.00	3.00	-1.00	50.00
3.	2.00	3.00	-1.00	50.00
4.	2.00	3.50	-1.50	75.00
5.	5.00	5.50	-0.50	10.00
6.	3.00	5.00	-2.00	66.67
7.	3.00	5.00	-2.00	66.67
8.	5.00	7.00	-2.00	40.00
9.	2.00	2.50	-0.05	25.00
10.	2.00	3.00	-1.00	50.00
11.	3.00	3.00	0.00	0.00
12.	3.00	4.00	-1.00	33.33
13.	3.00	4.00	-1.00	33.33
14.	2.00	3.00	-1.00	50.00
15.	3.00	3.50	-0.50	16.67
16.	2.00	2.50	-0.05	25.00
17.	3.00	4.00	-1.00	33.33
18.	1.00	2.50	-1.50	150.00
19.	2.00	4.00	-2.00	100.00
20.	3.00	4.00	-1.00	33.33
21.	2.00	2.50	-0.50	25.00
22.	2.00	3.00	-1.00	50.00
23.	3.00	4.00	-1.00	33.33
24.	2.00	2.50	-0.05	25.00
25.	2.00	3.00	-1.00	50.00
26.	2.00	3.00	-1.00	50.00
27.	3.00	5.00	-2.00	66.67
28.	3.00	5.00	-2.00	66.67
29.	1.00	2.00	-1.00	100.00

30.	3.00	3.50	-0.50	16.67
31.	2.00	3.00	-1.00	50.00
32.	2.00	2.50	-0.50	25.00
33.	2.00	3.00	-1.00	50.00
34.	2.00	2.50	-0.50	25.00
35.	3.00	4.00	-1.00	33.33
36.	2.00	2.50	-0.50	25.00
37.	1.00	2.00	-1.00	100.00
38.	2.00	3.00	-1.00	50.00
39.	2.00	3.00	-1.00	50.00

Source: Authors' field survey (2014).

Table 3 above indicates that estimated development periods for the studied projects vary from the actual period taken to complete the projects from 1% to as high as 150%. The difference between the estimated and actual shows that the variation is at most one and half year. It is only one project that was completed within the estimated period, this shows that development appraiser are yet to determine with precision the development period or that the project managers are yet to professional managed project within the given frame.

Estimated cost of capital (lending rate) and actual cost of capital at execution of the projects was next examined. Table 4 below contained the result.

Table 4: Cost of Capital Variable used in Development Appraisal in Uyo

Project	Cost of Capital		Difference	% Difference
	Estimate (%)	Actual (%)		
1.	20.00	21.00	-1.00	5.00
2.	20.00	20.00	0.00	0.00
3.	22.00	24.00	-2.00	9.09
4.	20.00	23.00	-3.00	15.00
5.	21.00	23.00	-2.00	9.52
6.	24.00	24.00	0.00	0.00
7.	21.00	22.00	-1.00	4.76
8.	22.00	23.00	-1.00	4.55
9.	20.00	21.00	-1.00	5.00
10.	21.00	21.00	0.00	0.00
11.	21.00	21.00	0.00	0.00
12.	22.00	23.00	-1.00	4.55
13.	20.00	21.00	-1.00	5.00
14.	20.00	20.00	0.00	0.00
15.	22.00	23.00	-1.00	4.55

16.	21.00	23.00	-2.00	9.52
17.	22.00	22.00	0.00	0.00
18.	18.00	20.00	-2.00	11.11
19.	20.00	21.00	-1.00	5.00
20.	22.00	23.00	-1.00	4.55
21.	18.00	19.00	-1.00	5.55
22.	22.00	22.00	0.00	0.00
23.	21.00	21.00	0.00	0.00
24.	19.00	19.00	0.00	0.00
25.	20.00	21.00	-1.00	5.00
26.	22.00	23.00	-1.00	4.55
27.	23.00	23.00	0.00	0.00
28.	21.00	22.00	-1.00	4.76
29.	17.00	20.00	-3.00	17.64
30.	22.00	22.00	0.00	0.00
31.	19.00	20.00	-1.00	5.26
32.	20.00	20.00	0.00	0.00
33.	20.00	20.00	0.00	0.00
34.	22.00	22.00	0.00	0.00
35.	20.00	20.00	0.00	0.00
36.	21.00	21.00	0.00	0.00
37.	23.00	23.00	0.00	0.00
38.	23.00	23.00	0.00	0.00
39.	22.00	22.00	0.00	0.00

Source: Authors' field survey (2014).

The percentage of variation between estimated cost of capital and realised cost of capital in table 4 above shows that it ranges from 0.00% to 17.64%. Majority of variation are in single digit and some still did not vary.

Next the SPSS analysis of ANOVA is presented in table 5 to determine, if the above variations in tables 1 to 4 are statistically significantly difference at 5% level of significance.

Table 5: ANOVA Test between Estimated and Realised Development Variable in Uyo

Test	Null proposition	F-ratio	p-value	Conclusion	Accept/Reject decision
To test for variance between estimated and realised rental values	No difference between estimated and realised rental values	38.038	0.000 This is below 0.05	Variance between the two group of data is not equal	Reject hypothesis at 0.05 level of significance
To test for variance between estimated and realised construction cost	No difference between estimated and realised construction cost	23.862	0.000 This is below 0.05	Variance between the two group of data is not equal	Reject hypothesis at 0.05 level of significance
To test for variance between estimated and realised lending rate	No difference between estimated and realised lending rate	16.070	0.000 This is below 0.05	Variance between the two group of data is not equal	Reject hypothesis at 0.05 level of significance
To test for variance between estimated and realised development period	No difference between estimated and realised development period	32.065	0.000 This is below 0.05	Variance between the two group of data is not equal	Reject hypothesis at 0.05 level of significance

Source: SPSS Analysis based on Data in Tables 1 to 4

The ANOVA result shown in table 5 indicates F-ratio values of 38.038, 23.862, 16.070 and 32.065 for rent, construction cost, interest rate and development period. All the samples are significant at 2-tailed test at 5% confidence level. These results revealed that there is a significant difference between estimated variables as adopted by appraisers in their reports and the actual or realised values of such variables on execution/completion of the projects. These results collaborates earlier analysis based on percentages of differences.

5.0 Conclusion/Recommendation

The study concludes that there was a significant difference between the estimated variable values as adopted by development appraisers in the reports and the actual or realised values of such variables on execution/completion of the projects. It further concluded that development period had the highest difference between the estimated and actual period followed by interest rate adopted and cost of construction.

It is suggested that henceforth, appraisers should provide their clients with an understanding of fluctuation in these variables and point out that development appraisals were prepared on assumptions of economic stability. The client should be offered sensitivity and risk analysis to address such fluctuations, especially if the client is sophisticated enough to appreciate such analysis.

References

- Altherton, E., French, N. and Gabrielli, L. (2008). Decision Theory and Real Estate Development: A Note on Uncertainty. Available at <http://www.reading.ac.uk/REP/fulltxt/0905.pdf> retrieved on 17/03/2011
- Archibong, T. C. (2011). Analysis of Changing Cash Flows on Feasibility and Viability Appraisal of Tarbas Memorial Comprehensive High School. Unpublished Critical Analysis. The Nigerian Institution of Estate Surveyors and Valuers, Nigeria.
- Archibong, T. C. (2015). A Study of Development Risks and Risk Adjustment Techniques in Development Appraisal in Uyo, Nigeria. Unpublished M. Sc. Dissertation. University of Uyo, Uyo, Nigeria.
- Ayedun, C. A., Durodola, O. D., Ajibola, M. O. And Oloke, O. C. (2014). Defective Selection and Application of Valuation Data as the Cause of Valuation Inconsistency in Metropolitan Lagos, Nigeria, *Developing Country Studies*, 4(15), 62-65.
- Babawale, G. K. (2007). Risk Analysis in Property Investment using Monte Carlo Simulation Technique, *Journal of Land Use and Development Studies*, 3(1), 35-49.
- Bannerman, S. (1993). A Framework for Improved Development Appraisal in Developing Countries, *Journal of Property Research*, 10(2):135-145.

- Bello, M. O. And Ojo, B. (2005).The Accuracy of Prediction in Commercial Property Development Appraisal in Lagos, Nigeria, *Pakistan Journal of Social Sciences*, 3 (9), 1103-1107.
- Nwanekezie, O. F., Iroegbu, A. N. And Okoracha, K. A. (2010). Sensitivity Analysis: A Technique for Investigating the Impact of Changes in Project Variable, *International Journal of Research Development*, 4(3):28-41.
- Ogbuefi, J. U. (2002). *Aspect of Feasibility and Viability Studies*. Enugu: Institute for Development Studies.pp 32-34,219-228.
- Ogunba, O. A. (2002). Pre-development Appraisal and Risk Adjustment Techniques for Property Investment in South-western Nigeria. Unpublished Ph. DThesis, ObafemiAwolowo University, Ile Ife, Nigeria.
- Ojo, B. (2006). Development Appraisal Practice and Risk Adjustment in Commercial Property Development in Lagos Metropolis.*Journal of Land Use and Development Studies*, 2(1), 1-12.