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Nigerian Valuers' Perception of the Significance of Broad Knowledge on Assets

Ashaolu T. A. & Olaniran M. O.

Department of Estate Management & Valuation,
The Federal Polytechnic, Ilaro, Nigeria
Thomas.ashaolu@federalpolyilaro.edu.ng
taashaolu@yahoo.com

Abstract: The field of property valuation is yet to have a settled domain, more importantly the aspect that concerns multiplicity of assets. This eclectic nature is already facing a challenge from Nigerian engineers in the aspect of machinery valuation and invariably, emerging economic activities tend to produce new specialists that could further shut out traditional property valuers. Thus, there is the imperative for extended education to improve competencies for valuation, especially as regards non-real estate assets as most professional valuers have their background education within the real estate discipline. Online questionnaire survey through *SurveyMonkey*^R was served on the entire 117 accredited members (with established electronic mail addresses) of the 'Faculty of Valuation International', a social - professional wing of Nigerian Institution of Estate Surveyors and Valuers (NIESV) with 44 useable responses. Respondents were required to rate the importance of nine identified knowledge-imparting courses on a 5-point Likert-type scaling. Probit analysis of the responses indicates significance being attached to machinery maintenance, environmental economics, introduction to structures and business accounting with asset analysis while introduction to machines and basics of industrial production were also found essential. Thus, it is recommended that benchmark curriculum for valuation education in Nigerian Universities and Polytechnics should be upgraded to accommodate these yearnings in practice. This study is significant in designing curriculum upgrade given the emerging demand for valuation of various assets within increasingly competitive and globalised market settings.

Keywords: Competency, curriculum upgrade, knowledge, multiplicity of assets, valuation

1.0 Introduction

The value of an asset refers to its worth and this predicated on its productivity potential (utility), ownership, limitation in supply and transferability (Olaniran and Adedokun, 2016).

When one intends to acquire used asset from another for a consideration, one needs to ponder on the extent to which comparative analysis would suffice, and whether such always exists. Asset valuation has been described as a product of quantitative expression of functional qualities and modifying the result by the conditions imposed by the market at that place and time, as well as other technical and legal considerations (Ayala, 2008). Perhaps, that of an automobile can properly illuminate this. The worth of a car just out of the factory would seldom require professional valuer's input as it could easily be exchanged at quoted, standard price. Upon being on the road for six months however, several variables must be taken into consideration in ascertaining its exchange value – nature and intensity of use, type of roadways it had plied, possible accident history, frequency and suitability of maintenance – with mileage covered and physical age being relatively minor issues. Thus, two of such cars being available for sale in the same garage and sharing comparable physical age and recorded distance traveled may carry significantly different price tags. Whether someone called in to advise on price payable for one of these cars would be expected to have knowledge about cars and their operations or not becomes the issue at stake here.

Generally, there are different levels of valuation. We have the book valuation to ascertain base price that gives overall guide for typical second new (used) asset on account of historical cost and

age. This type of pricing is obtainable on different asset categories such as used aircrafts, cars, furniture and electronics by accessing dedicated websites. Examples include *aircraft bluebooks*, *Canadian Black Book* and *Edmunds.com* for cars, *Sage bluebooks* for electronics and *NADA Guides* for boats. At best, these sources afford rough estimates of value with limited application as value calculation is hinged on average standard of use and handling. The second level is spot valuation having a limited scope and data input. Accounting Professional & Ethical Standards Board Limited (APESB, 2015) describes this as requiring minimal to limited use of valuation approaches and methods. The professional valuer in this case would inspect the asset but because the purpose of valuation is less committal, only easily available data and details may be used. This is however a step ahead of the earlier book valuation (which coincides with what APESB, 2013 referred to as 'calculation Engagement') that makes little or no reference to data and methodologies outside those in the base formula. The peak of valuation exercise has been termed 'comprehensive valuation' or 'valuation engagement' in situations where the reported figure is to be relied upon for important financial or investment decisions (The Canadian Institute of Chartered Business Valuators, 2012, APESB, 2013 and Equity Valuation Associates, 2013). In this respect, complete due diligence is expected from the valuer to consider all relevant value-influencing variables and exploit every available methods and procedures and such forms the focus in this paper.

Professionalization of the task of valuation has been associated with the

rise of the real estate as a field of study. Gustafsson and Lundstrom (2008) traced the treatment of real estate as an academic discipline to two publications by Ratcliff (1961 and 1972) which drew attention to the technical nature of real estate assets. With increased urbanization, the valuation of real estate for exchange purposes, tax and mortgage decisions eventually emerged. Perhaps, emphasis on technical aspect of real estate is attributed to its perception as a summation of land and improvements on land while contemporary thinking lean towards market and financial analysis. Both views have their merits but could be rather too extremist in nature. On a macro level, most investment assets are in competition and should therefore be compared vis-à-vis their risk structure. At the same time however, assets that call for professional valuation which are most times not in their new state often possess peculiar features that are not easily analysed in any standardized form. Used electronic item could have been mishandled beyond expected average based on family size and quality of electrical installations the same way say, a piece of living room furniture could have been under- or over-used. Vaz (2015) aptly captured this in his reference to the real estate assets as having very different characteristics from other goods and products traded in the markets in which the value is defined in advance and it's known by all market participants. Vandell (2006) also cautioned about insufficient recognition of the "real" nature (as opposed to "capital" nature) of real estate during its valuation and a lag in educational standards to bring the profession up to date.

Rottke (2007) had cautioned that the need of an economy as defined by its stage of development often determine the kind of real estate activities in place which is a pointer to the required approach to valuation. Thus, ranging from units of real estate to used automobile, item of installed machinery or furniture, the actual size, composition and condition (technical and economic) do exert significant influence on value. Sometimes therefore, it could become inadequate for a valuer to limit his competency to econometrics and market study without having relevant understanding of the nature of the asset involved in valuation. The European Group of Valuers' Associations (TEGOVA, 2011) categorized minimum educational requirements for a real estate valuer into three (understanding, general knowledge and in-depth knowledge): understanding of the principles of economics, business and finance, general knowledge of marketing, buildings and construction as well as in-depth knowledge of valuation methods, standards and the legal framework. Thus, this paper seeks to determine how significant is the valuer's knowledge on a particular non-real estate asset in the course of his valuation exercise. The focus on non-real estate assets is informed by the realization that globally, apart from business valuers, most asset valuers have real estate educational background which knowledge could easily be taken for granted in the course of their valuation practice. Common fixed assets coming under professional valuation include land and buildings (jointly referred to as 'real estate'), machinery, vehicles and furniture. Real estate assets are attached to land and immovable thereby conferring on them certain distinguishing features when compared

to some others broadly classified as 'personal properties', which are moveable. Apart from land and buildings, coming within the scope of real estate assets are civil infrastructures like highways, bridges and tunnels and perhaps, environmental assets dealing with right to quality air, water and soil. Similarly, within the purview of personal assets would be jewelry and works of art.

2.0 Justification for broadened knowledge

The foregoing portends that professional valuation requires competencies that seem beyond the immediate reach of conventional real estate valuer. Hence, in practice, he often resorts to seeking assistance of relevant third party experts for assignments outside core real estate sector. Incidentally however, the level of knowledge often required is not the in-depth type and as observed by Ashaolu (2016), even when such specialist knowledge must be sought, the valuer must be acquainted with the basic aspects of this other field to be able to effectively interpret and blend the report into his. Beyond this, professions are generally forward-looking to survive in an increasingly competitive business environment. In addition is emerging reality of globalization and free flow of resources across national borders. Property valuation as a field therefore, must be let out of the strait real estate box. The core valuation competencies acquired are for property assets – real estate and otherwise – but often constrained within real estate-specific knowledge setting. Presently, the challenge is coming from engineers on machinery but before long, emerging economic activities tend to produce new specialists that could further seek to shut out traditional

property valuers. Thus, there is the imperative for extended education with this study targeting those found relevant to the Nigerian valuation market over the foreseeable future.

2.1 Agriculture and Forestry

Real estate has both urban and rural aspects but with the latter only prominent in developing nations. Royal Melbourne Institute of Technology (RMIT University, 2016) in Australia has a course named 'Valuation of Rural Property' with contents that embrace 'knowledge of a broad range of current rural issues and trends in farming and the implications of these for the property industry'. In Nigeria, efforts are being geared towards diversifying the economy in favour of agriculture, among others. With vast investments (by local and foreign firms) in agricultural production and processing, the demand for valuation of assets in this sector is imminent and any relevant background knowledge of the activities involved would increase practitioners' confidence. Already, a few universities have been exploring courses in this area which could possibly, be made mandatory in the general valuation curriculum. Eves (2007) concluded from an Australian study that the nature of rural valuation practice required valuers should undertake studies in agriculture (farm management), especially if carrying out valuation of rural property assets for financial institutions.

2.2 Mining and Geology

Another focus in Nigeria's diversification of her economy is on exploitation of solid minerals. An introductory course on the science and methodologies involved in mineral exploitation, including the impact on incident natural and built environment

would found significance in the valuation assessment relating to environmental factors, sustainability studies and even towards appreciating assets directly invested in the sector. Nigeria is richly endowed with various mineral resources while only crude oil is presently providing her foreign exchange. Should the efforts of the current administration with billions of naira released annually for solid mineral prospecting in the budget yield expected results (through commercial exploitation of latent reserves of kaolin, bitumen, gold and precious stones, for instance), the pattern of economic activities and investment may soon witness remarkable restructuring with concomitant impacts on the direction of professional services. Valuation services should be expected for land to be acquired for exploitation, viability analysis of exploration proposals on a land, resources and assets of an exploration outfit and impact of exploitation on an incident land.

2.3 Introduction to Machines

Assessment of installed items of machinery and equipment becomes a homely exercise when the valuer can readily comprehend their basic components and operational modalities. Ability to read and interpret building design, recognize and appreciate different materials and construction techniques unconsciously eased the valuer's analytical skill in land and building valuation even when more complex structural issues could warrant a resort to specialist assistance. Basic knowledge in the design and operations of common machines, if properly drawn up and delivered in the curriculum, would also facilitate interpretation of technical information in the valuation of

industrial assets and specialist equipment.

2.4 Industrial Production

The different types of industrial layout, methods of production, modes of machinery installation and the legal setting for industrial activities are some pertinent factors that can significantly influence the value of assets tied to the industrial business. Except someone engaged in the valuation of assets within the sector has an inkling of such towards factoring them into his exercise, his supposed economic analysis may not be sufficiently realistic.

2.5 Machinery maintenance

Maintenance is a key factor in professional valuation of used assets - real estate or personal. During inspection of company assets for valuation, resources available for maintenance and the history of maintenance activities are some of the inputs expected to be collected for analysis. Having data on these is not as important as being able to appropriately interpret such into figures. Building management and maintenance is one related course that could have prepared the valuer for similar task with respect to valuation of real estate assets.

2.6 Structures and Materials

Real estate focuses land and improvements to land which ordinarily, includes civil developments. Nevertheless, most real estate students borrow courses from the Departments of building with the perception that structural courses in engineering belong to the higher specialist category. This position finds justification in the rarity of market transactions involving the products of this class (such as roads, bridges, towers and tunnels). However, contemporary public accounting standards is geared towards accrual as

against traditional cash basis and this necessitates prior professional valuation of investments in infrastructural assets like roads, bridges and drainage channels. Apart from this, when corporate assets are to be valued, it often happens that the infrastructure is exclusively owned and capable of being exchanged at 'market' value. Also, instances of public-private partnerships, divestments and insurance coverage do arise to place demand for valuation of assets in this category. An introduction to structures would have the impact of making potential valuers to appreciate and gauge the slightly more complex technological inputs into materials and construction of civil and related engineering improvements to land.

2.7 Rural Sociology

The inclusion of this area of knowledge was unsettling at first but incidentally, it eventually scored significantly among study respondents as shown later in the results in Section 4.0 hereunder. The justification is that most valuers operate at the urban level and would require a glimpse into social structure and conflict in the rural setting if he is to assess land and resources owned in the agriculture and mining sectors. This is more-so that most potent legal frameworks in such environment are customary in nature.

2.8 Business Accounting and Asset Analysis

Valuation is traditionally an accounting concept and in most cases, the value of assets is required as input into some forms of financial reports. Basic accounting dealing with transaction entries and balance sheet development has remained a part of regular valuation education curriculum but the more penetrating business accounting (including deciphering various

categories of business assets and profitability analysis) would afford better recognition and appreciation of the relative positions of tangible and intangible assets in the capital structure of a firm and in turn, the implication for valuation purpose.

2.9 Environmental Economics

Concern about the environment is not only to guarantee human health but also to preserve nature and ensure sustainability of man's enjoyment of environmental resources beyond the present generation. Environmental assets comprise land resources (including the soil and non-cultivated biological resources), water resources, the air, energy and sunlight and mineral resources among others. The valuer in a nation like Nigeria with hunger for economic growth through large scale resource exploitation must be able to appreciate the economic implications of various policies and actions relating to the use of the environment. This could possibly mean a little foray into appreciating need for chemical analysis and being able to undertake trade-off between economic activities and nature especially in instances like environmental degradation and oil spillage.

2.10 Tourism

Of equal importance to the contemporary valuer is the rising importance of tourism with associated hospitality business as veritable means of national sustenance. The sector is a major employer of labour and most viable source of foreign exchange for many countries (Lasisi, 2016). Economic assessment of scenery landscapes such as mountain ranges, natural springs and waterfalls, wildlife and ranches, coasts and beaches are quintessential to financing and

development of the promising industry in the country. Hence, basic knowledge about these natural resources is germane to shoring up a valuer's competency.

3.0 Methodology

3.1 Research Design and Data

Case study design was adopted through questionnaire survey. This delved into the relevance or otherwise of seeking knowledge about assets as basis for attaining complete competence in their professional valuation. It recognised that though existing valuation practitioners might have relied on their on-the job skills, there could be conscious need for improved education as professional development has been described as systematic maintenance, improvement and broadening of knowledge (Institute for Continuing Professional Development, 2016). Hence, through a review of literature and preliminary interaction with colleagues in both academia and practice, nine new courses in the academics were identified as plausible addition to curriculum. These were put forward for assessment by existing valuation practitioners in Nigeria (otherwise known as 'estate surveyors and valuers' – ESV) in terms of their relevance in imparting useful knowledge for potential asset valuers.

Study respondents comprise 44 ESVs who are members of the 'Faculty of Valuation International', a social-professional wing of Nigerian Institution of Estate Surveyors and Valuers (NIESV). These were the respondents with complete and analyzable responses to online electronic mail survey through *SurveyMonkey*^R, among a total of 117 reached. The response rate (about 37.6%) was attributable to the level of internet usage coupled with limitation of

supporting infrastructure in Nigeria. It is however higher than the 24.8% threshold suggested by Fluidsurveys Team (2014) and also considered reasonable given the acknowledged reliable nature of internet survey in spite its relatively low response rate (Fan & Yan, 2010; Millar & Dillman, 2011 and National Social Norms Center, 2014). Among other characteristics, 39 respondents (about 89%) were full members of NIESV and 10 (over 25%) of them had attained the 'Fellow' grade while 21 (about 48%) had spent more than 20 years in practice. Also, all the 44 respondents had a background education in estate management and went through a minimum of 4-year Polytechnic education (HND) or the 5-year Universities' Bachelor's degree with 13 of them holding higher degrees (M.Sc. or Ph.D.). These calibre of respondents were therefore considered to be sufficiently knowledgeable and experienced to carry out the requisite assessment on educational needs, more-so that they constitute the core of those with declared passion for valuation within NIESV.

3.2 Model Specification

The model is formulated on a priori postulation that valuer's capability to carry out asset valuation is dependent on his knowledge of the assets though in terms of general or adaptive (as against specialist) education related to the asset concerned. This education is to be obtained through relevant descriptive courses either existing or to be designed and delivered by proximate departments in the institution. In other words, the theory can be explained as a functional relationship between asset valuation and adaptive valuation education. Mathematically, this can be illustrated as;

Non-Real Estate Asset Valuation = f (Valuation Education)

OR

Non-Real Estate Asset Valuation = f (Adaptive valuation Courses)

Non-Real Estate Asset Valuation = f (Agriculture and forestry, Introduction to Mining and Geology, Introduction to Machines, Machinery Maintenance, Industrial Production, Environmental Economics, Introduction to Structures and Materials, Business accounting and Asset Analysis, Rural sociology)

$$ASV = f(AGF, IMG, INM, MAM, IDP, ENE, ISM, BAA, \dots, \text{equation 1}$$

The econometrics interpretation of equation 1 above can be expressed as;

$$Pr (ASV = 1) = \bar{\alpha} + \beta_1AGF + \beta_2IMG + \beta_3INM + \beta_4MAM + \beta_5IDP + \beta_6ENE + \beta_7ISM + \beta_8BAA + \beta_9RUS + \mathcal{E} \dots \text{equation 2}$$

Where;

ASV = Non-Real Asset Valuation; AGF = Agriculture and forestry; IMG = Introduction to Mining and Geology; INM = Introduction to Machines; MAM = Machinery Maintenance; IDP = Industrial Production; ENE = Environmental Economics; ISM = Introduction to Structures and Materials; BAA = Business accounting

and Asset Analysis; RUS = Rural sociology

$\bar{\alpha}$ = intercept; $\beta_1- \beta_9$ = coefficients of predictors; Pr = probability; and \mathcal{E} = stochastic term. The a priori expectation; $\beta_1- \beta_9 > 0$

3.3 Method of Analysis

The study makes use of inferential statistics carried out through the use of Probit version of binary regression. The use of binary regression is informed by the nature of dependent variable (Long, 2012). All analyses were conducted at 5% level of significance.

4.0 Results and Discussion

Table 1 presents the rating by the 44 respondent ESVs of nine courses suggested to be introduced into the existing curriculum for asset valuation in Nigerian Universities and Polytechnics. A cursory examination reveals that all the suggested courses receive significantly positive disposition among respondents with introduction to machines and machinery maintenance topping the list with weighted mean scores of 4.3636 and 4.0227 respectively from a maximum of 5.0 while Rural Sociology rated lowest also had a significant weighted mean score of 3.50.

Table 1: Respondent ESVs’ scoring of suggested courses to be added to valuation curriculum

Asset Category/	Course(s) suggested	Code	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Weighted Mean	(Max.5.0)
Rural Assets:	Agriculture and Forestry	AGF	3	1	6	26	12	3.9545	4
	Rural sociology	RUS	3	1	6	26	12	3.50	
Machinery & Equipment:	Introduction to Machines	INM	2	1	4	18	23	4.3636	
	Machinery Maintenance	MAM	1	4	4	19	16	4.0227	
	Industrial Production	IDP	2	4	10	19	9	3.6591	
Environmental Assets:	Environmental Economics	ENE	0	2	4	28	10	4.0455	
	Intro to mining & geology	IMG	3	2	9	20	10	3.7273	
Civil infrastructure:	Intro to Structures & Materials	ISM	1	5	11	19	8	3.6364	
Business:	Business accounting & Asset Analysis	BAA	0	2	12	21	9	3.8409	

Table 2 depicts the outcome of Probit Binary regression analysis. This method of analysis is best interpreted in terms of probability (Garson, 2011). The Table shows that probability of acquiring competencies for asset valuation increases with knowledge from courses on introduction to machine (INM), machinery maintenance (MAM), industrial production (IDP), environmental economics (ENE), introduction to structures and materials (ISM), business accounting and assets analysis (BAA) and rural sociology (RUS). This occurs as response categories of predictors increase from lower category to higher category. With this result, the signs of all independent variables except AGF and IMG conform to the a priori expectation of the study.

From Table 2, equation 2 becomes:

$$Pr (ASV = 1) = 3.238 - 0.254AGF - 0.080IMG + 0.274INM + 0.382MAM + 0.312IDP + 0.620ENE + 0.143ISM + 0.123BAA + 0.658RUS + \epsilon \dots\dots\dots equation 3$$

Equation 3 depicts that only AGF and IMG which belongs to the less common sectors of agriculture and environmental asset have no direct (positive) contribution. From the figures in Table 2, we realise that MAM, ENE, ISM and BAA are significant courses that improve techniques and knowledge required for asset valuation. This result is in line with the theory that education contributes significantly to knowledge required for any profession.

Table 2: Inferential Statistics (Variables in the Equation)

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)	Prob.	95% C. I. for EXP(B)	
								Lower	Upper
AGF	-.254	.337	.569	1	.451	.776	22.4	.401	1.501
IMG	-.080	.316	.063	1	.001	.923	7.7	.497	1.716
INM	.274	.458	.359	1	.549	1.316	31.6	.536	3.228
MAM	.382	.372	1.056	1	.004	1.465	46.5	.707	3.035
IDP	.312	.350	.793	1	.373	1.366	36.6	.688	2.712
ENE	.620	.607	1.044	1	.000	.538	46.2	.164	1.767
ISM	.143	.393	.132	1	.016	1.154	15.4	.534	2.491
BAA	.123	.504	.059	1	.007	1.131	13.1	.421	3.034
RUS	.658	.502	1.723	1	.189	1.932	93.2	.723	5.163
Constant	3.238	5.032	.414	1	.520	.039			

a. Variable(s) entered on step 1: AGF, IMG, INM, MAM, IDP, ENE, ISM, BAA, RUS.

The result in Table 3 shows that the model formulated for the study is best fit and from Table 4, 10.6% (Cox and Snell) and 14.2% (Nagelkerke) variation in competence is statistically caused by level of knowledge acquired in MAM, ENE, ISM and BAA.

Table 3: Hosmer and Lemeshow Test

Step	Chi-square	Df	Sig.
1	8.701	8	.368

Table 4: Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	55.258 ^a	.106	.142

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

The apparently low values of R square are to be expected in this type of model that attempts to predict human behavior but more important are the significant coefficients in Table 2 that respectively represents the mean change in the response for one unit of change in the predictor while holding other predictors in the model constant (Frost, 2013).

5.0 Conclusion

This study indicates that valuers are conscious of the relevance of appropriate knowledge of the assets at hand in any given exercise, as inputs to methodological analysis. Common methods of valuation comprise comparison, income and cost. Many of the variables to guide proper comparative analysis are often asset-specific features. Income approach to asset valuation requires in-depth understanding of the forces (often related to the nature of asset) that influence income stream together with its attendant risk elements. Also, due to composition of assets, cost method is perhaps, the method most commonly used in this field of valuation and the key variables at play – current cost and depreciation measurement – rely substantially on appropriate knowledge

of the nature and use of the assets. While prevailing education of valuers leans much towards real estate assets, the fact that several other assets which differ in nature and use and are often within the ambit of his professional services necessitates the extension of his pursuit of general knowledge (or adaptive) knowledge. Thus, the experience of Nigerian estate surveyors and valuers under assignments involving non-real estate assets have necessitated their call for inclusion in the regular valuation curriculum, of courses on machinery maintenance, environmental economics, introduction to structures and business accounting with asset analysis while introduction to machines and basics of industrial production were also found essential. This study is significant to guide key stakeholders in valuation education - Nigerian Institution of Estate Surveyors and Valuers, the Nigerian Universities Commission and the National Board for Technical Education – on appropriate frameworks for curriculum upgrades given the emerging demand for valuation of various assets within increasingly competitive and globalised market settings.

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