Methodological Lapses in Plant and Equipment Valuation among Lagos Valuers

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Abstract

Valuation methodology deals with the process and standards applied in developing an opinion of value for an asset (plant and equipment). The study is aimed at investigating the level of discrepancy in the valuation process adopted by valuers in the study area (Lagos Nigeria). The study isbe based on both structured questionnaire and content analysis. The questionnaire was randomly distributed amongst 175(41.1%) practicing estate firms out of 450 firms in Lagos. 173 of the questionnaire were retrieved and used for analysis. The content analysis was based on 54 valuation reports on plant and equipment to investigate the extent of compliance to valuation process and standards amongst practitioners in the study area.

Findings from the study show that most of the valuers are not adhering to standards. Majority of the respondents could not apply valuation methods and process appropriately and much important information is omitted during inventory. This could be a source of variance and inaccuracy. There are lapses in the valuation process as evidenced in scarcity data obtained during inventory. The study in consequence recommends specialization and certification of members, production of detailed valuation manual for the plant and equipment valuation and enforcement, and training of members to improve practice standards.

Keywords: Accuracy, Methodology, Lapses, Standards, Standardization, Variance.

Background

Valuation Methodology deals with the processes and standards applied in developing an opinion of value for an asset (plant & equipment). The Valuation process is a systematic procedure used by appraisers (Valuers) to provide answers to the client's question about value and value related issues. It begins

when the appraiser understands and identifies the appraisal problem at hand and concludes when the appraisal report provides or reports the solution to the client. The number and manner of steps taken to resolve the problem depends on the nature of the valuation engagement and data availability. In any appraisal assignment, the goal of the valuation process is to produce a well-supported value opinion which shows that the valuer has considered all material factors that affect the value of the asset being appraised (American Society of Appraisers (ASA) 2011, Ekeocha 2012). This calls for close attention to all steps in the valuation process beginning from inspection, inventorying, survey to report writing that will lead to an unbiased opinion of value.

Valuation standards on the other hand enable us to connect the valuation and valuation purposes following a standard process. These calls for standardization in asset valuation: Generally, standardization helps in achieving uniformity and consistency in valuation practice (IVS 2011&2017). It will also promote reliability, public trust and international acceptability in the valuation process. This is particularly important in the light of globalization and foreign investors' interest. Without reliability valuation will lose its very essence. According to IVS (2017) assets standards include requirements related to specific types of assets. This requirement must be followed in conjunction with the General Standards when performing a valuation of a specific asset type. The assets standards include certain background information on the characteristics of each asset type that influence value. Grant (2016) advancing a case for standardization, argued the need for the entire property industry to speak with one voice by making a declaration of consistent standard. Adhering to standard is the hallmark of professionalism as it will enhance consistency, conformity and reliability.

In this study, we are concerned with methodological lapses in the valuation of plant and equipment (plant and machinery).Plant is defined as an assemblage of assets that may include specialized non-permanent buildings, machinery and equipment (IVSC, 2003). In other words, plant is synonymous with "Plant and Machinery" or "Plant and equipment". Plant and machinery refers to the apparatus, machinery, equipment and fixture etc. used in industrial and manufacturing process or a factory or a place where an industry is conducted inclusive of the machines and instrumentalities therein contained (Ifediora 2009).Investment in plant and machinery is not limited to the manufacturing sector. There is also large investment on machinery and equipment in the

mining, oil and construction industry, in transport undertakings and telecommunication establishment and information system (Otegbulu and Babawale 2011 Derry 1991). Plant and equipment valuation is a generic specialization within the valuation discipline, just as we have specialization in other fields such as Medicine, Engineering, and Pharmacy etc. By implication, the valuation of plant and equipment requires a high level of competency among practitioners in the industry. It is not an all-comers affair. In addition to this, there is need for practice standardization to avoid methodological lapses and subsequent valuation inaccuracy. Looking at the contents of most valuation reports, it is easy to notice high level of inconsistencies in the valuation process and in most cases the necessary information for value determination is lacking. Some of the reports, do not include critical information like purpose and basis of valuation, make and capacity of machines, model and serial numbers etc. (Otegbulu 2017, Nasir 2013 Josiah 2016).

According to Otegbulu and Babawale (2011), the primary guide to a good and appropriate valuation process is reference to purpose of valuation and client's instruction. Most valuation reports on plant and equipment show poor knowledge of details expected during inventory taking. Derry (1991), observed that ensuring that the exact content of an appraisal is right and proper inventoried is not always given the deserved attention and errors in compiling it or establishing a schedule of assets can lead to far greater inaccuracy than mistake made later in the valuation process. In some cases the variance in value obtained by different valuers valuing the same property could be alarming. In a study by Nasir (2013) among Malaysian valuers, it was observed that there are many areas of difference between valuation of plant and machinery and land and buildings particularly in the area of using premises of value, differences in valuation methodology and detailing in valuation process. The study also highlighted the need for education among practitioners and students, an urgent need for guidelines for valuation of plant and machinery to reduce variance and inaccuracy, and the need for attention to be paid to the differences between micro and macro-identification and their relevance to valuation. Findings from a similar study in Tanzania by Josiah (2016) are similar to that of Nasir (2013). Details of this study (Josiah 2016) are reported elsewhere in this paper. Iroham, Oluwatobi, and Oloke(2015)worked on the internal estimate in plant and machinery valuation as a guide against variance for capacity development in Nigeria. The study observed that most valuations fall out of the margin of ± 10%. This study is aimed at investigating the level of discrepancy in the valuation processes adopted by valuers in the study area (Lagos Nigeria) in the

context of universally accepted valuation standards. The above will be addressed based on the following objectives:

- Determine how the practitioners acquire expertise in plant and machinery valuation
- Investigate Practitioners understanding of the level of information required in plant and machinery valuation
- To determine their ranking of the importance of various information required in plant and machinery valuation
- To find out the level of compliance to valuation standards amongst practitioners in the study area
- To find out the methods used for various valuation purpose
- To determine the availability of relevant library (books) in practitioners offices for competence enhancement in plant and equipment valuation.

Reliable valuation and standardization in reporting are essential as a result of growing concern from auditors, bankers, financial analyst and company directors that a consistent basis of valuation is used, to enable valid comparisons to be drawn for the valuation of fixed assets worldwide (Nasir 2013). Valuation Standards at National, and International levels will play development roles in the promotion of ethics, integrity and impartiality amongst valuers (Niyan, Biwas and Shahib 2017, Adair, Crosby and Mcgreal 2014).

The growing need for plant and equipment valuation calls for its standardization in line with global best practices. It has become a constant feature in companies annual financial reporting and reported under the non-current asset section by accountants relying on valuation reports from professional Estate Valuers. In addition to this, the valuation of plant and equipment is required for other purposes like secured lending, insurance, taxation, merger and takeover bid etc. The application of 2005 international financial reporting standards (IFRS) has a subsequent impact in the financial sector as a whole (NASIR 2013). In the light of the above, the general public who rely on the services of professional estate valuers expects consistency, transparency and reliability in the valuation process.

Review of Related Literature

The central theme of this literature review is on issues related methodological gap in the valuation of plant and equipment that would lead to valuation variances or inaccuracy.

Other issues to be discussed include valuation process, inventory (macro and micro identification), standardization and standards, valuers competence, specialization, and continuous training and capacity enhancement. Some of these may be merged during review for easy flow and consistency.

Valuation Variance and Inaccuracy

Valuation accuracy deals with the discrepancy between previous independent valuation and transaction price of property, in effect is the ability of a valuation to correctly identify the target (Crosby and Matysiak 2002, Nasir 2006). Where the basis of valuation is the market value, as is often the case, valuation accuracy is the measure of the ability of valuation to identify subsequent sale price transacted in the market place. Valuation accuracy is therefore the measure of proximity of the valuation to actual transaction prices. Valuation variance on the other hand, refers to the difference between the valuations produced by different valuers working in the same asset at the same time. It is essentially a theoretically measure used to indicate the reliability of a valuation or the robustness and potential accuracy of the valuation (Bowles, McAllister and Turbert 2001).While inaccuracy in valuation may be commonly accepted as inevitable, the repercussions are nonetheless extensive and fraught with danger. Inaccurate valuation could be or is a threat to the credibility and relevance of the valuation profession as the whole basis of professional advice relies on the assumption that valuations are good proxies for prices (Waldy 1997 cited in parker 1998). In effect, if valuations have only a limited likelihood of accuracy, clients may begin to question the need for expert valuation opinion and could imply that performance measurements for investment assets would be a fruitless exercise (Brown 1991 cited in Otegbulu & Babawale 2011). Valuation variance and valuation accuracy are the known errors in contemporary asset valuation parlance. While the former deals with the disparities in values obtained from asset valuation from two or more independent values the later deals with the inability of the property valuation to represent the outcome in the property market. These errors might be attributed to differences in valuation methods adopted, the efficiency of the property market, availability of transaction data, valuers behavior and bias (Iroham,

Oluwatobi, Oloke 2015).Obviously the apparent lack of coherent and consistent results from the valuation process has brought great damage to the reputation of the valuation profession. The validity of any valuation report or advise depends on the integrity and reliability of the process. Valuers by virtue of their professional qualification are liable to carryout valuations and arrive at value estimates that are concise, precise objective and credible (Bello, Thomas 2015).

Valuation Process

Valuation Process is a Systematic procedure used by valuers to provide answers to the clients question about value and value related issues. It begins when the valuer understands and concludes when the appraisal (valuation) report provides or reports the solution to the client. The number and manner of steps taken to resolve the problem depends on the nature of valuation engagement and data availability. This is why IFRS 13 provides three levels of value hierarchy in asset measurement depending in the type and quality of available data.

In any appraisal assignment, the goal of the valuation process is to produce a well-supported value opinion which shows that the valuer has considered all material facts that affect the value of the asset being appraised (American Society of Appraisal (ASA) 2011, Ekeocha 2012). In summary, valuation process is how valuation is carried out. It is the same sequence of procedures adopted for all categories of valuation. This includes:

- Establish the instruction, the scope and basis of valuation
- Compile a schedule of assets to be valued through a survey and inspection of the plant and machinery, for identification of the assets condition, particulars and production capacity
- Carryout a market survey for the prices of new and used machinery and equipment and other socio- economic and environmental factors that may have influence on the asset value
- Value the asset on the appropriate basis and method and produce a report for the client(Otegbulu & Babawale 2011, Ifediora 2009)

Following the valuation process logically is critical to the reliability of asset valuations. Asset valuation is a central tenet for all businesses. Plant and machinery are factors of production and as with any other asset, the value of plant and machinery flows from the use for which it is put.

Inventory

Inventory taking is a critical aspect of the valuation process. It needs special attention because of its importance in the valuation process. The degree of detail required during inventory depends in the complexity of the asset under consideration. According to Derry 1991, the greatest potential for error in a plant valuation is in the initial stage of identifying and listing the items which form the basis of the valuation and even experienced valuers occasionally overlook substantial items. The author stated that errors in compiling or establishing a schedule of assets can lead to far greater inaccuracies than mistakes made later in the valuation process. Wyatt (2003) observed that inaccuracy can enter the valuation process at any stage from the inception up to the final report. According to ASA (2011 and Budhbhatti 2015) there are two major procedures in the identification and listing of machinery: macro and micro identification. Macro-identification studies the entire manufacturing process by identifying major components contributing to design capacity of the plant. Budhbhatti (2015) further stated that in order to estimate sound value, a machine should be properly identified and described. The description should be so precise that the reader can properly identify, and supplier can quote the price without further question, it is important that the valuers takes proper details during inventory either during macro or micro-identification to avoid foundational error.

Macro- identification is used by the appraiser to answer the following questions

- What does the plant produce?
- How the product is produced (manufacturing process)?
- What is the capacity of the plant?

Micro identification on the other hand is the process of indicating the individual characteristics of the equipment; it focuses on listing of a single machine and identifies the specifics of the equipment. Of significance in micro-identification is the brand name, model number, serial number, type of power and dimension (if practical), age and condition. The details contained in both macro and micro identification are very useful in the determination of value particularly capacity, model-number, age, and condition .Both IVS (2011 and 2017) provided for information required during inventory.

Standards and Standardization

A valuation standard enables us to connect the valuation and valuation purposes following a standard process. It provides a guide for uniformity in valuation practice. According Pearce (2007), valuation standard should address four key requirements:

- Set out the principles for governing the guidelines and the approach to valuation. For instance the standard should layout the correct treatment of valuation within the company's balance sheet
- Cover ethical considerations, that is they should define the best practice dealing with such matters as conflict of interest in terms of engagements
- Cover technical considerations including, for instance, points for the valuation of plant and machinery and the calculation of provision for depreciations
- Ensure that the mechanism for proposing, formulating and modifying standards are responsive to pressures and requirements.

Ethical consideration is critical to reliable valuation reports. According to Grant (2016) ethics guide everything we do and foster public trust. To compliment asset measurement standard, we should support ethical principles that guide and unite our international profession.

Valuation standards have a significant role to play in helping to regulate professional practice, at national, regional and global levels, promote professional ethics, integrity and impartiality and trusts in valuation reports (RICS 2014). Absence of standards will be a catalyst for chaos and anarchy in valuation practice in the sense that valuation practice will be subjected and influenced by individual practitioner's standards and perception of valuation process. Many professional bodies and government agencies are under pressure to regulate the valuation profession vides reviewing of regulatory environment, valuers training and compliance with standards. Valuation standards are critical and also the soul of a healthy valuation practice. In the study on valuation accuracy in Nigeria, Ogunba and Ajayi (1998) noted among others that there is a degree of insufficient understanding and wrong application of valuation methods on the part of some Nigerian valuers. This view was also reported in a study carried out in Tanzania (Josiah 2016). The solution to this problem lies in the enthronement and enforcement of the use of valuation standards. Standards have always come as a panacea for challenges in valuation practice (Nasir 2013). For instance, the RICS responded to the 1970 property crash in the

United Kingdom by publishing the red book that set out standards for valuation and professional conduct expected of valuers, while the Federal government in the United States of America (USA) responded to the 'Savings and Loan' crisis of the Lare 1980 by insisting on Uniform Appraisal standards and the licensing of valuers in each state. Uniform Standards of Professional Practice are not only the responsibility of the valuation profession, but also that of the government and other stakeholders. There are various standards in use by Nigeria Valuers. They include; International Financial Reporting Standard (IFRS) and International Accounting Standards (IAS). RICS Red book, Estate Surveyors and Valuers Registration Board is a valuation template. There is also the green book which has just been produced. These documents will be of limited value without compliance and enforcement

The recent edition of the international valuation standard IVS (2017) made comprehensive provisions for the valuation of assets of all categories including plant and equipment .Valuing plant and equipment is different from other types of assets such as real estate and intangibles because the value may be different depending on the premise of the particular valuation depending on whether it is for, liquidation (partial or full), orderly liquidation or forced liquidation ,going concerns ,financial reporting ,secured lending etc. The Valuer has to look at the appropriate standards and guidelines for the particular purpose and premises of valuation**.** Sec 20.5 of the IVS(2017) states that the valuation of plant and equipment's will formally require consideration of a range of factors relating to the asset itself, its environment and physical function and economic potential. Examples of such are factors relating to assets; covering, technical specifications, useful economic life, assets condition and installation cost etc. Environment related which covers location in relation to raw material (including nature of demand e.g. transitory and infinite) impact of environment and legislation that may restrict utilization or imposes additional decommissioning or operating costs, licenses to operate certain machines in some countries may be restricted. Economic related covering the actual or potential profitability of the asset based on comparison of operating costs with earnings, the demand for the product manufactured and the potential of the asset to be put into more valuable use. The provisions of IVS 2017 are very similar to that of 2011 with regards to the valuation of plant and equipment, consideration of these factors and provisions will help in the determination of physical deterioration, economic and functional obsolescence which are key to reliable asset value determination.

In spite of the provisions of the IVS and other local standards, most Valuers in Nigeria rarely comply with the provisions in their valuation. Few of the practitioners will indicate in the opening ambit of their report that reliance is made to the provisions of IVS, the Redbook , Nigeria Institution of Estate surveyors (NIESV) guidance notes and Estate Surveyors and Valuers Registration Board of Nigeria(ESVARBON) valuation template .According to Otegbulu (2017) the only compliance to the mentioned standards in the report is definition of market value. There are no technical details like capacity, Model Number, serial Number, Country of manufacture, existence of special foundation or not, cabling and piping, installation and transportation costs (Otegbulu 2017). They rarely relate their valuation process to IFRS or IVS or any other standard. The critical area of value measurement with regard to IFRS 13 and IAS 16 are ignored. Very few indicated there purpose and basis of valuation. In some cases purpose and basis of valuation are treated as the same. There is no uniformity in manner or format of valuation reporting. Under the section for condition, the machine is just described as good, fair or poor without any remark on the nature of the defect. A study in Tanzania by Josiah (2016) indicated the following shortcomings among valuers; misconception of premise of value, inadequate and theory oriented nature of education, reliable regulatory framework, lack of domestic standards, professional malpractice, improper application of methodology, concealment and inaccuracy of data information for plant, and machinery valuation process.

The green book (valuation standards of NIEVS – need to address the issue of scrap and salvage value in the valuation of plant and equipment. The provision of Economic and functional obsolescence which is often ignored by valuers in Nigeria are however addressed. The Green books also insist on stating the purpose of valuation and identification of asset and liability to be valued. Sec. 6.4 of the green book insist that valuers must need to establish matter such as, type, specification, capacity and purpose (use) of the items, age efficiency, condition, functional and economic obsolescence (Green book 2017).

Competency, Training and Specialisation

Because valuation requires the exercise of skill and judgement, it is a fundamental expectation that valuation are prepared by an individual or firm having appropriate technical skills, experience and knowledge of the subject of valuation. The problem of variation in value estimates among Valuers lie in the

very heart of the set of skills assembled by the valuer as well as the Valuers experience and judgment (Aluko, 1998, Ajayi 1998, Baum and Crosby 1998). Findings from a study undertaken by Otegbulu and Babawale (2011) report the following as sources of inaccuracy in the valuation of plant and equipment:

- Experience in the field of endeavor will help in the acquisition of competencies. Lack of experience leads to substandard valuation advice and valuation inaccuracy

- Poor technical knowledge of plant and equipment valuation on the part of the valuer results in poor and faulty valuation report. Good technical knowledge is a major pre-requisite for a successful professional career

- Applying the wrong information due incompetence and lack of experience is a pitfall that could be a potential source of valuation inaccuracy.

It is believed that proper training and skill acquisition will reduce the problem of incompetency among some Valuers. The Nigerian institution of Estate Surveyors and Valuers also identified that inadequate training and lack of professionalism amongst its members is responsible for increasing credibility problems (NIESV 1998). The introduction of areas of specialization by the Nigerian Institution of Estate Surveyors and Valuers is a timely decision. The plant and machinery Business Division now organises competency training for its members in various aspects of machinery and equipment valuation.

Methodology

The study is based on structured questionnaire-based survey and content analysis of valuation reports on plant and equipment to determine the level of compliance to valuation standards and appropriate process. The question is designed to elicit information relating to the objectives of the study covering; respondents' characteristics, means of acquiring expertise in plant and machinery valuation, important details considered while collecting data/information for plant and machinery valuation, relevant documents that aids valuers in valuation of plant and machinery methods of valuation adopted for various purpose. Random sampling was used because every registered

estate valuer can carry out valuation for all purpose including plant and machinery, the issue of specialization is yet to be enforced as the faculties and business divisions are just created a few years ago. For the same reason, the samples of valuation report were also collected randomly from firms. 185 structured questionnaires were randomly distributed using random sampling to practicing estate surveying firms in Lagos out of a total of 450 firms which translates to 41%. 173 questionnaires were found useful for analysis. The questionnaires were addressed to the heads of firms or practice. In addition to the use of questionnaire, a content analysis of 54 relevant valuation reports was conducted to establish the compliance to standards and applicable valuation process by practitioners in the study area. The content analysis is also used to corroborate the responses obtained from the questionnaire. It is designed to verify the extent of compliance to valuation process and standards. Thirty eight (38) areas of compliance were listed for verification. Some of these include if the reports include purpose, basis and method of valuation, type, model and serial number of machines. Others include; capacity make of machine, effective date of valuation, details of cabling and piping, provision for physical deterioration, economic and functional obsolescence, compliance to valuation standards etc. Analysis was carried out using simple percentages and Mean Item Score (MIS).

Data Analysis and Presentation: Respondents Characteristics

Majority of the respondents have been in practice for over 11 years. 11 -15 years, 46 (26.6%) 16 – 20 yrs, 25 (14.5%), above 20 yrs 23 (13.3%). This means that 94(54.33%) of the respondents have been practicing for over 10 years. By implication, the respondents are experienced enough. 136 (78.9%) claimed that they are experts in plant and equipment valuation but only 44 (25.4%) are members of the Plant and Equipment Business Division of the national professional today. This where those interested in the practice of Plant and Machinery Valuation should belong.

Table 1: Distribution of Respondents by Career Characteristics

	Frequency	Percentage
Firm in Existence		
1-5yrs	41	23.7
6-10yrs	38	22
11-15yrs	46	26.6
16-20yrs	25	14.5
Above 20yrs	23	13.3
Expert in P and M Valuation		
Yes	136	78.9
No	37	21.4
Membership of P and M Division		
Yes	44	25.4
No	129	74.6
Total	**173**	**100**

Table 2 provides the manner of acquiring expertise by practitioners. 150(86.7%) claims that by virtue of their degree in Estate Management, they are expert in plant and equipment valuation. This could be faulted on the ground that you must be registered by the Estate Surveyors and valuers registration board of Nigeria (ESVARBON) before you can practice any aspect of valuation. 117(67.63%) claimed that they are experts by virtue of their registration with ESVARBON. Others gave different reasons 137 (78.03) because they are members of the Nigerian Institution of Estate Surveyors and Valuers (NIESV). NIESV is the professional association which examines their members as a prerequisite to their interview and registration by ESVARBON.

93(75.76%) claimed they became experts by working with experts in plant and equipment valuation. Other acquired expertise by attending Seminars and Conferences 118(68.2%), by reading books and journals on plant and equipment. 93 (53.76%), by interaction with professional collegues.115 (66.47%, and by frequent participation in plant and equipment valuation 107 (61.85%).

Table 2: Means of Acquire Expertise in Plant and Machinery

	Frequency	Percentage
By virtue of B.Sc or HND qualification	150	86.7%
Because you are registered as an estate Surveyors and ESVARBON	117	67.63%
Because you are a member of the Nigerian Institution of Estate Surveyors and Valuers	135	78.03%
Because you worked with an expert who Trained you in the valuation of P and M	93	75.76%
By attending seminars and conferences	118	68.2%
By reading book and journal papers on P and M	93	53.76%
By interaction with professional colleague	115	66.47%
By frequently participation in the valuation of P and M	107	61.85%
Total		

The major problem here is that in Nigeria, members are registered as general practitioners without specialization and this creates a major problem. All reasons given above for acquiring expertise are not full proof. There is no doubt that there are a few who has acquired expertise butthere is need for certification, to separate the grain from the chaff. Enforcement of Practice Standards will also help in regulating the practice keeping out those without the required skill.

Table 3 ranked the importance placed by practitioners on the details or information during inventory. Machine condition, capacity of machine and maintenance history came topmost being first, second and third respectively, while machine arrangement and pictures of machines are at the bottom of the ranking. All the items listed in the table are important considerations in the

Valuation process and omission of any of them would lead to inaccuracy in valuation (except pictures).

Table 3: Important Details Considered During Machine Inventory

	MIS	Rank
Condition of Machine	4.57	1
Capacity of Machine	4.56	2
Maintenance History	4.51	3
Use of Machine	4.42	4
Machine Model	4.40	5
Year of Installation	4.35	6
Maintenance History	4.27	7
Nature of Defect if any	4.12	8
Machine Compatibility	4.09	9
Serial No	4.01	10
Country of Origin	4.00	11
Machine Accessories	3.96	12
Production Process	3.88	13
Picture	3.79	14
Machine Arrangement	3.58	15

Results from table 4 shows that majority of the respondents rated the International Valuation Standard as the most important document in plant and equipment valuation. This is followed by Standard text on plant and equipment valuation, ESVARBON Valuation template and NIESV green book, Experience and TERGOVA in that order. The result of the content analysis will show if they truly make use of Valuation Standards. The green book has just been introduced and yet to be fully in use.

Table 4: Important Materials to guide Estate Surveyors and Valuers in Valuing P and M

	MIS	Rank
International Valuation Standard (IVS)	4.57	1
Standard texts on P and M Valuation	4.08	2
ESVARBON valuation template	4.05	3
RICS Redbook	4.04	4
NIESV Green Book	4.02	5
International Accounting Standard	3.88	6
Experience	3.76	7
TEGOVA valuation Standard	3.25	8

Results from table 5 indicates the various methods used in the valuation of machinery and equipment for various purposes. Some of the responses show that the valuers have no idea of the appropriate method to use particularly those that suggested the use of residual valuation method for different purposes. They are quite few in this category, but such response gives cause for worry. Majority responded correctly on the method for insurance and mortgage valuation. It is obvious that majority don't understand valuation for financial reporting, they may be confusing it with business valuation as majority (62.4%) indicated investment method of valuation as the appropriate method of valuation (see table 5). This discrepancy in valuation method calls for practice Standardization and enforcement coupled with competency training. The findings are in tandem with studies carried out by Nasir (2013), Josiah (2015) and Ogunba and Ajayi (1998)

Table 5: Methods Adopted in the Valuation of Machine Equipment for Different Purpose

RM	SV	CM	IM	MC	Remarks
Insurance Valuation	133(76.9)	16(9.2)	21(12.1)	0(0)	3(1.7)
Mortgage	85(49.1)	48(27.7)	36(20.8)	4(2.3)	0(0)
Probate Valuation	81(46.8)	10(5.8)	62(35.8)	14(8.1)	6(3.5)
Financial Reporting	36(20.8)	108(62.4)	23(13.3)	6(3.5)	0(0)
Sale	25(14.5)	32(18.5)	102(59)	4(2.3)	10(5.8)
Purchase	28(16.2)	23(13.3)	111(64.2)	4(2.3)	7(4)
Balance Sheet	24(13.9)	99(57.2)	30(17.3)	10(5.8)	10(5.8)
Share Floatation	22(12.7)	64(37)	54(31.2)	16(9.2)	17(9.8)
Damaged Equipment	27(15.6)	21(12.1)	37(21.4)	67(38.7)	21(12.1)
Obsolete Equipment	44(25.4)	10(5.8)	22(12.7)	88(50.9)	9(5.2)
Specialized Equipment	116(67.1)	10(5.8)	33(19.1)	11(6.4)	3(1.7)
Privatization	45(26)	67(38.7)	51(29.5)	6(3.5)	4(2.3)
Joint Venture	46(26.6)	71(41)	49(28.3)	7(4%)	0(0)
Nationalization	65(37.6)	46(26.6)	51(29.5)	11(6.4)	0(0)
Market Value Removal	41(23.7)	14(8.1)	63(36.4)	46(26.6)	9(5.2)
Market Value in situ	75(43.4)	26(15)	55(31.8)	13(7.5)	4(2.3)
Orderly Liquidation	43(24.9)	46(26.6)	54(31.2)	23(13.3)	7(4)
Forced Liquidation	54(31.2)	53(30.6)	29(16.8)	23(13.3)	14(8.1)
Liquidation Value in place	49(28.3)	55(31.8)	29(16.8)	30(17.3)	10(5.8)

Note: CM = Cost Method, IM = Income Method, MC = Market Comparable, RM = Residual Method
SV = Spot Value Method

From table 6 majority of the respondents 122(70.5%) claimed to have a library or collection of book on plant and machinery. The major challenge here is on the quality of books and whether the books are read or part of office furniture. This view is based on some of the responses obtained from this study which suggest that many of the "experts" need to do more to prove their expertise.

Table 6: Availability of Library in Office on Plant and Machinery

	Percentage	**Frequency**
Yes	70.5	122
No	29.5	51
Total	**100**	**173**

Content Analysis

Table 7 Content Analysis of Valuation Report

S/N	**Valuation consideration**	**Compliance**	**Non-compliance**	**Percentage for compliance**
1	Purpose, basis and method	14	40	25.92
2	Purpose of valuation	12	42	22.22
3	Basis of valuation	12	42	22.22
4	Method of valuation	5	49	9.25

5	Assumptions	15	39	27.77
6	Production power/ flow chart	3	51	5.55
7	Cabling	_	_	_
8	Piping	2	52	3.70
9	MICRO IDENTIFICATION	_	_	_
10	Model	26	28	48.14
11	Type	28	26	51.85
12	Markers name	24	30	44.44
13	Serial no/identification no	22	32	40.74
14	Size/capacity	11	43	20.37
15	Date of manufacture/installation	7	45	12.96
16	Refurbishment modification renovations carried out after installation	_	54	_
17	Energy consumption	_	54	_
18	Environmental and the legal restriction if any	_	54	_
19	Usage and maintenance history	_	54	_
20	Suppliers name	_	54	_

21	Details of attachment accessories and components	_	54	_
22	Type of drive and control of machine	_	54	_
23	Date of valuation	21	33	38.88
24	Details of products of services	_	54	_
25	Installed capacity of plant	2	54	3.70
26	Availability of raw materials	_	54	_
27	Standard maintenance	_	54	_
28	No of shifts	_	54	_
29	Plant suitability	_	54	_
30	Economic life	1	53	1.85
31	Economic balance life	_	54	_
32	State of Technology/existence of obsolescence	_	54	_
33	Demand for the product	_	54	_
34	Level of defect/damage	_	54	_
35	Chronological/effective age	_	54	_
36	Condition of machine	35	19	64.81

37	Reference to standard -IVS -NIESV -RICS -TERGOVA -Any other	_ 2 4 2 _ 1	_ 52 50 52 _ 53	_ 3.70 7.04 3.70 _ 1.84
38	depreciation -physical deterioration -economic obsolescence -functional obsolescence -lumping of depreciation	_ 5 4 4 3	_ 49 50 50 51	_ 9.54 7.04 7.04 5.55

Results from the content analysis of Valuation reports shows that majority of reports are substandard. From 54 valuation reports analyzed, only 14 (25.92%) included purpose, basis and method of valuation contrary to appropriate valuation process. Only 22% indicated purpose of valuation, while 22.22% and 9.25% included basis and method of valuation respectively. Majority did not indicate model no, serial numbers, size and capacity and date of manufacture/installation of machine. Almost all the reports omitted energy efficiency, environmental and legal restriction, suppliers' name, installed capacity, number of shifts, products or services from the plant etc. More than 95% did not make reference to any Standard used in their valuation 9.5 % provided for physical deterioration, 7.04% provided for economic obsolescence and 7.04% provided for functional obsolescence, while 5.55% lumped depreciation together. Results from the analysis show high level of inconsistency in valuation reporting. No client or user of valuation services with good knowledge of valuation reporting will rely on such valuation reports. The level of scanty information conveys little or nothing to the reader as it provides no guide to opinion of value and constituted veritable source of inaccuracy; see Derry (1991) Nasir(2013). Both the IVS 2011 and 2017 and the green book insist on the determination of all aspects of depreciation in value and this is mostly omitted in the reports. There is need for standardization as a solution to this problem and more training to ensure compliance. See Nasir (2013), Josiah (2015), Otegbulu and Babawale (2011).

Summary of Findings

I. Findings from the study show that most of the respondents don't have clear idea of the meaning of expertise and specialization in plant and equipment valuation. This is based on some of the reasons like the holding of university or polytechnic qualification and, membership of general practice of the professional body as a basis for being an expert.

II. Majority of the respondents that claim to be specialist plant and equipment valuers are not members of plant and equipment business division. Only 24.5% of them are members of the faculty and this shows in their subsequent response in other questions and results from content analysis that they lack good knowledge of plant and equipment valuation.

III. Many of the respondents are not familiar with valuation process in plant and equipment based on some of their responses to various methods applicable to different purposes of valuation.

IV. Plant and machinery valuation is a specialized area of the valuation profession.

V. Most of the respondents responded that machine conditioning capacity and maintenance history, use of machine are important information in plant machinery valuation. This is commendable, but unfortunately, this finding is a variance with the result of the content analysis where these issues are disregarded.

VI. Most of the respondents indicated that valuation standards and relevant text books are useful guides in valuation of plant and machinery. The result from the content analysis does not show adherence to any standard in most cases.

VII. Most valuers are not conversant with the valuation methodology and processes applicable to plant and machinery valuation.

VIII. There is general lack of adherence to valuation standard amongst practitioners.

IX. The current standard of practice amongst valuers in plant and machinery valuation is a recipe for errors of variance and inaccuracy.

X. There are methodological lapses amongst practitioners arising from inconsistencies in practice standards and valuation process (see Otegbulu and Babawale 2011; Derry 1991, Wyatt 2003;Ogunba and Ajayi 1998). Nasir 2013, Josiah 2015) there is also a degree of insufficient understanding and wrong application of valuation methods.

Results from the questionnaire and content of analysis shows lack of standardization in valuation reporting which makes the valuation to be unreliable to investors, lenders, and other users.

Recommendation and Conclusion

Recommendation:

- There is need to encourage specialization in Plant and Machinery (P&M) Valuation to enhance Standard, and expertise in the field.
- The Professional and regulatory body should produce appropriate and detailed manual for P&M valuation to encourage consistency, uniformity and reliability.
- Where Valuation standards and manual are in existence, compliance and enforcement must be seriously addressed to minimize incompetency and shallow valuation reporting.
- The errors of variance and inaccuracy constitute a great danger and time bomb to the valuation profession and should be addressed as a matter of urgency
- The training of valuation practitioners and students should be strategically practical oriental in line with practice standards and needs
- There is need for valuers to update their knowledge through continuous professional development, readings and workshops

Conclusion

Valuation process is a systematic procedure used by valuers to provide answer to the client's questions about value and value related issues when this systematic procedure is abused, the result is valuation variance and Inaccuracy

which are the common errors in contemporary asset valuation. When valuation reports fail to meet the requirements of clients, the need to continue engaging the services of valuers becomes doubtful, there is need to embrace standardization to minimize these errors and enthrone reliability, uniformity and consistency. The goal of the valuation process is to produce unbiased opinion of value showing that the valuers has considered all factors that may affect the value of the asset (plant & machinery) under consideration. The future of the valuation profession depends on these as, the lack of coherent and consistent result from the valuation process constitute a formidable threat to the sustainability and integrity of the valuation profession and must be addressed urgently.

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