



(RESEARCH ARTICLE)



THE IMPACT OF INTERIM VALUATION CERTIFICATE ON CONSTRUCTION PROJECT DELIVERY IN EBONYI STATE

AGHA KALU AGWU *

Department of Quantity Surveying, Akanu Ibiam Federal Polytechnic, Unwana, Ebonyi State. Nigeria.

* Corresponding Author

World Journal of Advanced Research and Reviews, 2026, 31(03), 1414–1429

Publication history: Received on 10 August 2026; revised on 19 September 2026; accepted on 21 September 2026

Article DOI: <https://doi.org/10.30574/wjarr.2026.31.3.2436>

Copyright © 2026 Author(s) retain the copyright of this article. This article is published under the terms of the Creative Commons Attribution License 4.0

ABSTRACT

The impact of interim valuation certificate on construction project delivery is as a result of the successful implementation and execution of the various constructional activities and the subsequent competition of the work therefore planned by the construction team; ie the civil, mechanical, structural, electrical engineering, the builder, the Quantity Surveyor (cost engineer), The Architect. The aim of the study is to assess the impact of the interim valuation certificate in the construction project delivery. Construction project is a complex project unlike other project; it involves a lot of professionals to bring it to erection. It is good practice to carryout interim valuation certificate preparation and issues it out when valued by the Quantity Surveyor. In this research, questionnaires used was for seventy firms only, which encompasses of registered consultants (Which comprises of Quantity Surveyors, Architects and Builders present) and are above 10 years in practice both in the public and private sectors of the construction industry. The data collected from the field of the survey will be analyzed using Relative importance index. Before carrying out any valuation, the contractor must have completed some percentage of the work and the Architect must have issued out a variation order. To make a successful interim valuation, certain constituents has to be known like preliminaries, main contractors work, variation, unfixed materials and goods, statutory fees and charges, nominated sub-contractors work, fluctuation in costs of labour, materials on site, taxes and retention fee etc. These are the ingredient of interim valuation to issue a certificate showing or confirming that such work has been done and completed as planned. Therefore, this study contribute to knowledge by providing a deeper understanding on how to make a successful interim valuation certificate, which is an utmost priority for a construction project because it present a good avenue for the contractor to receive payment for work and it also give room for proper evaluation of all variation carried out on site by the Quantity surveyor.

Keywords: Certificate, Construction, Interim, Project, Valuation

1 INTRODUCTION

The construction industry is a vast and a highly technical aspect of the economy which includes; activities ranging from, pre-contract stage to post contract stage (According to Seley (2015)). Nwachuwu (2010), refer construction as an organized economic activities involving assembling materials, labour and other resources (such as money and machine) and managing all these inputs, towards achieving a desired goal which usually is the realization of a permanent structure (project) to serve not only individuals but also public infrastructural interest at large in a societal group".

Therefore, construction involves so many activities carried out by different professionals towards a single goal which is project delivery.

Consequently, project delivery is as a result of the successful implementation and execution of the various constructional activities and the subsequent competition of the work as planned by the construction team; ie the civil, mechanical, structural, electrical engineering, the builder, the quantity survey (cost engineer), The Architect etc.

However, construction project is a complex network of program involving the building or assembling of infrastructure. Far from being a single activity. Normally, such job is managed by a project manager, and supervised by a construction manager, construction engineer or the project Architect.

Ontamare, (2011) states that “a project is a discrete package of investment or endeavor, policy measures, institutional and other activities designed to achieve a specific objective or set of objectives within a designated period and involving the commitment of resources” considering the above definition project tends to attract including man-power; skilled and unskilled, and most importantly, project has this uniqueness of having a specific time commencement and the time end of such. Furthermore, Lewis (2016) tagged project “as a one-time multi-task job with a definite starting point, definite ending point, a clearly defined scope of work, a budget and usually a temporary team”. Looking at the definition above, Lewis was able to pin-point each factor that could possibly embark on a project and also finish it.

The collaboration of all the activities; be it building, civil and industrial or heavy construction projects are handed all misconstruction industry.

Nwachukwu (2016), saw construction industry as a sector of a given economy made up of a collection of clients, professionals/consultants and contractors, sub-contractors and suppliers, who team up in making architectural and Engineering design and specification and transformation turn into real structures (projects) with some kinds of technological expertise’s”.

Omole (2012), further classified construction industry/products in four segments which are as follows:

- Building construction projects
- Civil engineering construction projects.
- (C) Mechanical/Electrical engineering projects
- Industrial/Heavy engineering construction projects

From the above list, irrespective of the technique, skill, materials, plants, mode of construction, time span and the capital involved, the successfully finishing/execution of such project and the tangible outcome of the project is known as construction product.

Although, these projects are designed and handled by skilled personnel’s and professionals, mistakes and possible changes from the original plan which leads to variation are by the Architect and the quantity surveyor or when variation occurs, the quantity surveyor as carried upon to carry out a valuation of variation; this is to aid in carrying out in term valuation preparation which is done whenever the Architect considers them to be necessary. Interim valuation therefore is the periodic statement of valued work normally carried out by a quantity surveyor.

When this is done, Interim certificate is then issued out by the Architect to the contractor confirming the completion of a stated part of work, and binding the client to pay the contractor on the completed work. So therefore, Interim certificate is document confirming that the constructor has completed a stated work within a time frame; normally monthly.

1.1 STATEMENT OF PROBLEM

One of the main problems of smooth construction project is variation which causes delay in construction project delivery. When a project is valued and certificate of payment issued, but if the client refuse to release the cash for the contractor to continue work, it can lead to project abandonment. Variation is the major problem this research intends to tackle as it will present the Quantity Surveyor the opportunity of carrying out valuation of variations and prepare the valuation for payment. Late payment and nonpayment are of the most significant concern. Studies have explored the potential causes and counter measures for late payment and nonpayment from the project or industry levels. Causes from the owner are often ranked top. The identified important reasons include insufficient funds to make payments, poor financial management, the lack of financial resources, delay in evaluation and certification of interim and final payment and controlling payments to reserve the bargaining power to ensure that the contractor completes a project with due diligence. Finally, it will impact positively into the problem uncertified work that has been completed by the

contractor, this research will critically reduce both delay caused by the client and that caused by others by valuing each work done in the Nigerian construction industry.

OBJECTIVE OF THE STUDY

The followings are the objectives of the study; to

- To aid the contractor in financing the project till completion and at the actual cost without causing variation.
- To ascertain the quality of the work already done by the contractor and to the satisfaction of the client without delay.
- To ease the client of Lump sum of cash payment at the end of the project and also help in the preparation of the final account.
- It Present a platform on which the contractor is made to work on the program and specification.
- To ensure that the contract conditions and delivery time do not exceed the maximum time provided.

2 LITERATURE REVIEW

“A project is a one-time multi-task job with a definite starting point, a clearly defined scope of work, a budget and usually a temporary team. The NIQS in conditions of engagement and consultancy service agreement defines project as the building and/or the other construction works including civil engineering, petrochemical, etc which the employer wishes to undertake. From the above definition of project, it is then necessary to present specifically on construction project, the concept shall then narrate on how valuation will be carry out.

(Nwachukwu, 2010) captured construction project as the organized economic activities involving assembling materials, labour and other resources (such as money and machine) and managing all these inputs towards achieving a desired goal which usually is the realization of a permanent structure (project) to serve not only individual but also public infrastructural and the interest at large in a societal group.

It is worthy of note that the construction industry is an umbrella that covers the vast aspect of construction projects in a given society. Seley (2015), stated that construction industry is technical aspect of the economy; that ranges from pre-contract stage to post-contract stage. In the modern industrialized world, construction usually involves the translation of designs into reality which a formal design team may assemble, to plan the physical proceeding, and to integrate those proceedings with the other parts. The design team including surveyors, civil Engineers, cost Engineers (Quantity Surveyors), Mechanical Engineers, Electrical Engineers, structural Engineers, and fire protection engineers. The design team is mostly employed by client and the design is completed by the team in which a number of construction companies or construction management companies may then be asked to make a bid for the work, either directly on the design, or the basis of drawings and a bill of quantities provided by a Quantity Surveyor, following evaluation of bids, the owner will typically award the contract to the most cost deficient bidder.

Far from being a single activity, large scale construction is a feat of human multitasking. Normally, the job is managed by a project manager, and supervised by a construction manager, design engineer, construction engineer or project architect. For the successful execution of a project, effective planning is essential. Involved with the design and execution of the infrastructure in question must consider the environmental impact of the job, the successful scheduling, budgeting, construction site safety, availability to the public caused by construction delays and bidding, etc.

2.1 Types of Construction Projects

In general, there are two types of constructions. Each type of construction project requires a unique team to plan, design construct and maintain the project.

2.2 Building and Civil Engineering Construction

Building construction is the process of adding structure to real property. The vast majority of building construction jobs is small renovations, such as addition of a room, or renovation of a bathroom, often, the owner of the property acts as laborer, paymaster, and design team for the entire project. However, all building construction projects include same elements in common design, financial, estimating and legal considerations. Many projects of varying sizes reach undesirable and results. Such as structural collapse, cost overruns, and/or litigation reason, those with experience in the field make detailed plans and maintain careful oversight during the project to ensure a positive outcome. The causes of these deficiencies can be complex. Commercial building construction is procured privately or publicly utilizing various delivery methodologies, including estimating, hard bid, negotiated price, traditional, management contracting, construction design-build bridging. Residential construction practices, technologies, and resources must conform to local building authority regulations and codes of practice. Material readily available in the area generally dictates the

construction materials used (e.g. brick versus stone, versus timber). Cost of construction per square meter varies dramatically based on site conditions, Local regulations, economics of scale (customer to build) and the availability of skilled trader. As residential construction can generate a lot of waste, careful planning again is needed here. The most popular method of residential construction in the United States is wood frame construction. As efficiency codes have come into effect in recent years, new construction technologies and methods have emerged. University construction management departments are on the cutting edge of the newest methods of construction intended to improve efficiency, performance and reduce construction waste.

2.3 Industrial Construction

Industrial construction, through a relatively small part of the entire construction industry, is a very important component. Owners of these projects are usually large, for-profit, industrial in such industries as infrastructure, power transmission and distribution, metallurgical and material handling, medicine, petroleum, chemical, power generation, manufacturing etc. processes in these industries requires highly specialized expertise in planning, cost estimating, design, and construction. As in building and heavy/highway construction, this types of construction requires a team of highly skilled individuals to ensure or successful project often undertaken by big construction and civil engineering, construction is a process that consist of the building is a process that consists of the building or being a single activity, large scale construction is a feat of human multitasking manager, design engineer, construction manager, design engineer, construction engineer or project architect.

For the successful execution of a project, effective planning is essential involved with the design and execution of the infrastructure in question must consider the environmental impact of the job, the successful scheduling, budgeting, construction site safety, availability of building materials, logistics, inconvenience to the public caused by construction delays and bidding etc (construction Handbook RICS) (2016) these construction can't be complete without a proper payment schedule.

According to Jackson, (2009), Interim valuation is the periodic statement of valued work done on sites which are normally prepared by a quantity surveyor.

This process provides that all construction contracts should have a compliant payment mechanism that allows the party receiving money (payment) to know in advance when and how much they will be paid. Jackson (2009); described interim certificate as a certificate issued by the supervisor officer binding the client to pay the fitting-out constructor an agreed amount for work that has been completed.

This implies that a certificate can only be issued on completion.

2.4 Variation and Its Valuation

The quantities set out in the Bill of Quantities of the tender shall be treated as estimated quantities of the work and shall never be defined as actual or correct quantities of the works to be executed by the contractor in fulfillment of his obligation under the contract.

2.5 Engineer's Power to Vary the Works.

The engineer shall have the power to order the constructor in writing to make any variation of the Quantity, quality or form of the worked be necessary and the contractor upon receipt of such and order shall act as follows:

- Increase or decrease the quantity of any work included in the contract.
- Omit any work included in the contract
- Change the character or quality or kind of any work included in the contract.
- Change the levels, lines, position and dimensions of any part of the work, and
- Execute extra and additional work of any kind necessary for completion of works (Construction practice for surveyors – RICS)

2.6 Variation by Engineer Do Not Vitate the Contract

No such variation shall in any way vitiate or invalidate the contract or be treated as revocation of the contract, but the value (if any) of all such variations evaluated in accordance with the Engineer's sole decision shall be taken into account and the contract price shall be varied accordingly.

2.7 Where Written Order For Variation Is Not Needed.

Provided always that written order of the Engineer shall not be required for increase or decrease in the quantity of any work up to 15%, where such increase or decrease is not the result of any variation order given under this clause but is

the result of the quantities exceeding or being less than those stated in the bill of quantities from the Engineer shall be complied with by the contractor and the Engineer's subsequent written confirmation of such verbal order shall be deemed to be an order in writing within the meaning of this clause.

2.8 Payment for Extra, Additional or Omitted Work or Substituted Works

- Contractor shall not be entitled to any claim of extra or additional work unless they have been carried out under the written order of the Engineer.
- The Engineer shall solely determine the amount (if any) to be added to or deducted from the sum named in the tender in respect of any extra work done or work omitted by his order.
- All extra, additional or substituted done or work omitted by order of the Engineer shall be valued on the basis contract, if in the opinion of the engineer the same shall be applicable, if the contract applicable to the extra, additional or substituted work, then the engineer may decide of Rates (including surcharge in force at the time of acceptance of tender), if any, adopted by the trustees with due regard to accepted contractual percentage, if any there on, in all other cases the engineer shall solely determine suitable rate in the manner deemed by him as fair and reasonable, and his decision shall be final, binding and conclusive.
- If the nature or amount of any omission or addition relative to the nature or amount of the whole of the contract work or to any part thereof shall be such that, in the opinion of the engineer, the rate of prices contained in the contract for any item of the works or the rate as evaluated under sub-clauses (b) and (c) of this clause, is by reason of such omission or addition rendered unreasonable or in applicable Engineer shall fix such other rate or price as he deems proper and the engineer shall fix such other rate or price as he deems proper and conclusive. (Construction practice for surveyor-RICS) 2014.

2.9 Interim Valuation Certificates

These are certificates prepared for interim payments, it is a certificate issued by the supervising officer binding the client to pay the fitting out contractor an agreed amounts for work that has been completed.

Many construction projects require interim payments to be paid to a contractor. This is in order to relieve the contractor of the burden of financing the whole of the work until completion; works which many take many months or years to complete. Within each contract there will be clauses which set out the criteria under which interim payments will be made, the timing of their payments and the administrative rules under which quantity surveyors, Architects, employers and contractors must operate. In many contracts, whilst the completion and calculation of the value is important, the method and procedure of the interim payment which the contractor receives is equally as important.

The valuation of variation is a near daily task on large construction contracts. (Henry Boot, 2015) cited that the standard form of building and civil engineering contracts contains a variety of complex mechanisms for valuing variation.

The conditions of contract (based up on the ICE 6th edition) provided: "The rates and price in the Bill of quantities shall be used as the basis for valuation so far as may be reasonable failing a fair valuation shall be preparing interim valuations.

Prior payment is a key issue within the construction industry and the widespread abuse of the payment process led to the government providing rules and remedies through the housing grants, construction and Regeneration Act 2011 (the Act). The Act provides that all construction contracts should have a complaints payment mechanism that allows the party receiving payment to know in advance when and how much they will be paid it also provides for a formal notice procedure if proper payment is not made and also to refer any amount that is in dispute to adjudication. Adjudication is a form of dispute resolution in which a nominated third party (the adjudicator) decides the matter referred within 28 days subject to any extension to this time that the parties might allow in accordance with the adjudicating rules.

It is important, therefore, that proper payment is made in accordance with the contractual payment provisions. The provision of most standard forms of construction contract now incorporate complaint payment mechanisms in accordance with the Act.

2.10 Procedure of Interim Valuation

In preparing the interim valuation procedures must be followed:

- Contractors submit the progress payment claims including nominated subcontractors and nominated suppliers claims to Architect and consultant's Quantity Surveyor to consider amount in this interim certificate.
- When consultant quantity surveyor ensure by the client, contractors submit a copy of progress payment claims to consultant quantity surveyors, and the consultant Quantity Surveyor prepare a quantity surveyor's valuation certificate and forward to the Architect.

- When the Architect receive the quantity surveyors valuation certificate from the consultant quantity surveyor, Architect shall issues the Architect interim certificate to contractors with copy to the client, consultant quantity surveyors and Engineers.
- Contractors shall present interim valuation certificate issued by the Architect to employers and entitled payment when honoring of interim certificate. If not state on appendix, the interim certificate shall be issued in 21 (twenty one) day often presentation of the contractors.
- **Interim Valuations for Site Managers**
- Most contracts have a value in excess of a few thousand pounds, under these circumstances as contractors are usually paid as the construction work proceeds. It would be unreasonable to expect the contractor to provide funding for the whole many millions of pounds. The tender price would be inflated by the cost of borrowing large sums of money to fund the contract. The standard JCT forms of contract include clause for periods or interim' payments to be made.

2.11 Valuation Data and Frequency

The JCT form provides for the client to pay the contractor sums stated to be due in the interim certificate at the provides stated in the Appendix to the conditions of contract that payments are month after the date on which the contractor takes possession of the site, with subsequent payment in accordance with the form of contract agreement. The clients is responsible for payment via the Architect but in reality the quantity surveyor appointed by the Architect will normally complete the valuation and advise the Architect of the amounts to be certified and paid.

Some contractors will make payment at certain pre-agreed stages in place of interim valuation. This form is usually in house building where the first payment may be due when the substructure is finished, the second. When superstructure walls including upper floor are constructed, the third when the roof is finished, and so on. It is usual for the PQS and contractors QS to meet on site to agree the valuation though this is not strictly necessary under the terms of the contract. It is usual for these individual to meet each month on a fixed date; agree at the start of the contract to complete the valuation process.

2.12 Interim Valuation and its Certificates

Monthly, valuations of work-in-progress are carried out in order to make stage payments to the contractors. This includes the physical measurement of the work on the site and material delivered. The valuation for interim certificates possible and the contractor is entitled under the terms of the contract to the full value of work executed on site less a specified retention sum.

One of the main functions of the contractor's quantity surveyor is to ensure timely and full payment for work carried out on site. For most contractors interim valuation and certificates form their only source of income, from which they fund their building operation.

Interim valuations are prepared by the Quantity surveyor whenever the architect considers them to be necessary for the purpose of as due in an interim certificate, the architect is contractually bound to issue interim certificate at the period stated within the conditions of contract. The Quantity Surveyor will assess the value of nay variations and extras and these value costs will be included in interim valuations. The valuation of variations involves the omission of work originally included in the bill of quantities and the addition of work as executed its place. Each variation is considered separately and their net values carried forward to a general summary. The total value of omissions and the total value of additions are computed to arrive at a net balance which is added to or deducted from the interim valuation. Nominate sub-contractors and suppliers accounts are also included in interim valuations as and when the work has been executed on site or materials supplied. The elements to be included within an interim certificate can therefore be summarized as:

- Preliminaries
- Measured works
- Valuation of architect instructions or variations
- Re-measurement of provisional items prime cost valuation of nominated subcontractor and suppliers
- Unfixed materials on site and where allowable materials off-site fluctuations, where they are allowed within the contract provisions.

Despite the obligation on the Architect and the Quantity Surveyor to produce interim certificates and valuations, interim valuations are generally carried out together, i.e. between Quantity Surveyors, so that agreement can be reached between parties before certification.

3 METHODOLOGY

In this research, decision were made to send the Questionnaires to seventy firms only which encompasses of registered consultants (Which comprises of Quantity Surveyors, Architects and Builders present) and were above 10 years in practice both in the public and private sectors of the construction industry.

They were chosen because of their vast level of experience and they're responsible for big portions of the construction industry outputs.

The sampling technique adopted was simple random sampling technique which makes use of a simple method of analyzing percentage factor as expressed below.

$$\% = X \times \frac{100}{1}$$

Data collection use was primary and secondary source which questionnaire was administered to the consultants and professional in the construction industry as regard to the impact of the interim valuation certificate in the construction project delivery.

The data collected from the field of the survey were analyzed using Relative importance index and its calculated using this formula;

Relative importance index = $RII = W - (HXN)$

OR $RII = W / (HXN)$

Where;

W= the weighting to numerical score on the

likert scale

H=Highest Ranking point

N=Total number of Respondents

4 ANALYSIS AND DISCUSSION OF RESULTS

Table 1: Demographic Profile of Respondents

	Variables	Frequency	Percentage	Cumulative %
Professional Affiliation	Quantity surveyor	15	32.50	32.50
	Architect	6	16.25	48.78
	Civil Engineers	4	4.45	53.20
	Builder	10	25.40	78.60
	Mech. Engineering	6	7.46	86.00
	Electrical Engineering	10	14.00	100.00
	Total	50	100	
Academic Qualifications	WAEC	5	11.08	11.08
	HND	10	22.15	33.23
	B.Sc. /B.Tech.	9	19.42	100.00
	M.Sc/M. Tech	16	25.15	58.43
	PhD	10	22.15	33.23
	Total	50	100	

Working Experience	0 – 10yrs	22	50.8	50.8
	10 –20yrs	14	27.22	78.02
	20 – 30yrs	9	12.98	92.00
	Above 30yrs	5	9.00	100.00
	Total	50	100	

From table 1, the professional affiliation of the respondents showed that Quantity Surveyors are (32.50%), Architect (16.25%), Civil Engr. (4.45%), Builders (25.40%), Mech. Engineers (7.46%), and Elect.Engrs (14.40%). The academic qualification of the participants indicates that those with WAEC are (11.08%) HND (22.15%) B.Sc./B.Tech.(19.45%), M.Sc./M.Tech. (25.15%) and Ph.D. holders are (22.15%). In terms of years of working experience, it can be seen 50.9% have spent between 0 – 10years in the industry, 27.22% have spent 10 – 20years, 12.98% have spent 20 – 30years, and those who have spent above 30 years at 9.00%.

It is evident that the respondents were proportionally spread among the professionals in the construction industry. They are academically qualified and have the requisite experience to give information that will aid in meeting the subject of the study.

Table 2: Why firm involves the practice /use of interim valuation.

Variable		Response							
NO	REASONS	SA	A	D	SD	W	HXN	RII	Rank
1	Accuracy	28	15	-	9	185	220	0.84	3 rd
2	Easy to use	30	10	-	-	160	220	0.72	6 th
3	Cost saving	45	19	11	-	167	220	0.75	5 th
4	Controversial	15	-	12	8	187	220	0.85	2 nd
5	Dis regard to sub		11	-	10	140	220	0.63	7 th
6	Time savings	33	13	17	13	178	220	0.80	4 th
7	Unbiased	17	-	12	17	190	220	0.86	1 st

Table 2: Above delivers an appropriate report of firms that are involve in the use of interim valuation and their differences and similarities in reasons why; their responses clearly shows that interim valuation as a method of accuracy in project delivery is not 100% trusted by firms, Ranking at Number 1 with RII 0.86 is that interim valuation is unbiased when applied, followed by that is that majority of the people believes that its controversial since this pattern is not frequently used in construction ,with RII 0.85 ,accuracy was ranked as 3rd with RII 0.84 and the 4th rank is that majority believe that interim valuation saves time with RII 0.80 followed closely behind is that interim valuation saves cost as believed by many, with RII 0.75 and is ranked number 5th ,number 6th as ranked is that interim valuation is easy to use with RII 0.72,last but not the least Ranked at number 7th is that interim valuation disregards subcontractors opinion .In most cases, this is how most firms views the practice of interim valuation in a construction project.

Below table shows the components of interim valuation, rank at 1st is measured work with RII 0.96 ,followed behind as change orders at 2nd with RII 0.88,the 3rd on this list is Retention with RII 0.84 ,and the 4th is sub-contractor work, the 5th 6th 7th 8th 9th are, value of work ,claims, fluctuation, preliminaries &measured works with RII 0.80,0.76,0.74, 0.69 ,0.63.

Table 3: What are the Components of interim valuation?

Variables		Response							
NO	COMPONENT	SA	A	D	SD	W	HXN	RII	RANK
1	Preliminaries	30	-	14	11	162	220	0.69	8 th
2	Measured work	22	10	8	-	213	220	0.96	1 st

3	Change orders	25	8	6	8	194	220	0.88	2 nd
4	Value of day	31	5	-	6	177	220	0.80	5 th
5	Contractual claims	48	-	7	10	169	220	0.76	6 th
6	Price fluctuations	19	7	5	14	164	220	0.74	7 th
7	Retention	20	6	9	-	185	220	0.84	3 rd
8	VAT(value added tax)	35	-	11	9	140	220	0.63	9 th
9	Sub contract work	27	9	10	-	184	220	0.83	4 th

This table shows the components of interim valuation, rank at 1st is measured work with RII 0.96 ,followed behind as change orders at 2nd with RII 0.88,the 3rd on this list is Retention with RII 0.84 ,and the 4th is sub-contractor work, the 5th 6th 7th 8th 9th are, value of work ,claims, fluctuation, preliminaries &measured works with RII 0.80,0.76,0.74, 0.69 ,0.63.

Table 4: What triggers the use of interim valuation?

No	USES	SA	A	D	SD	W	HXN	RII	RANK
1	Time delivery	31	11	-	12	209	220	0.95	1 st
2	Accuracy	25	7	-	9	200	220	0.90	2 ND
3	Change in value	19	-	8	10	149	220	0.67	5 th
4	Performance tracking	22	14	11	11	150	220	0.68	4 th
5	Strategic decision making	20	9	13	-	167	220	0.75	3 rd

Table 4 reveals that time delivery is the main trigger in interim valuation, Ranked 1st with RII 0.95 ,followed by accuracy, strategic decision, performance tracking , and changes in value as 2nd 3rd 4th and 5th with RII 0.90 ,RII 0.75 ,RII 0.68 ,RII 0.67 ,respectively .

Table 5: Roles Played By Interim Valuation in Construction Project Delivery

Variables		Response							
NO	ROLES	SA	A	D	SD	W	HXN	RII	RANK
1	Provide value for cost	20	13	-	10	198	220	0.90	2 nd
2	Helps in contract sum Analysis	25	11	-	13	197	220	0.89	3 rd
3	Time delivery as due	29	8	12	9	180	220	0.81	5 th
4	Enhance project speed	30	10	9	-	193	220	0.87	4 TH
5	Issuance payment notice	33	9	-	5	203	220	0.92	1 st

On this table are ranked the roles played by interim valuation in construction project delivery , Respondents ranked 1st as issuance of payment notice with RII 0.92 ,the 2nd on this list is that it provides value for cost with RII of 0.90 ,moving further to the 3rd we have it helps in contract sum Analysis with RII of 0.89, Next in line as the 4th ,we have Enhances project speed with RII of 0.87 and the last but not the least ,we have time delivery as at when due with RII of 0.81 as the 5th one.

Table 6: Aspects of Construction Projects That Adopts/Employs the Use of Interim Valuation Certificate.

Variables		Response							
NO		SA	A	D	SD	W	HXN	RII	RANK
1	Preliminaries	37	9	-	13	201	220	0.91	3 rd
2	Provisional sums	19	-	15	-	199	220	0.90	4 th
3	Acceleration cost	25	-	10	12	198	220	0.88	5 th
4	Extension of time	38	8	11	-	216	220	0.98	1 st
5	Valuations payments	22	12	-	9	210	220	0.95	2 nd

This table clearly reveals the aspects of construction project that adopts/employs the use of interim valuation certificate with Extension of time ranked 1st with RII of 0.98, next in line, is valuation payments with RII 0.95 as the 2nd ranked, the 3rd ranked on the table is preliminaries with RII of 0.91, Acceleration cost comes next as the 5th ranked on the table with RII 0.88.

Table 7: How does the use of interim valuation saves time in construction project

Variables		Response							
NO		SA	A	D	SD	W	HXN	RII	RANK
1	Timing of payment	27	-	11	13	198	220	0.90	3 rd
2	Standard procedure	40	14	-	8	189	220	0.88	5 th
3	Method of valuation	25	9	-	10	199	220	0.91	2 nd
4	Criteria under which payment are made	43	12	12	9	210	220	0.95	1 st
5	Detailed and specific instructions.	30	-	5	5	193	220	0.87	4 th

This table relates on how the use of interim valuation saves time in construction project, Ranked at 1st are the criteria under which payments are made with RII 0.95, followed closed behind is the method of valuation with RII of 0.91 ranked as 2nd, on the 3rd with RII of 0.90, we have timing of payment and the 4th is detailed and specific instruction with RII 0.87, standard procedure comes next with RII of 0.86.

Table 8: Major delay that shows down in construction project delivery speed.

Variables		Response							
No		SA	A	D	SD	W	HXN	RII	RANK
1	Project management problem	19	21	8	7	188	220	0.85	2 nd
2	Increased cost	38	10	9	-	137	220	0.68	6 th
3	Labor shortage	40	-	-	11	120	220	0.54	8 th
4	Incorrect data	29	18	12	-	179	220	0.81	3 rd
5	Equipment failure	25	14	11	10	169	220	0.76	4 th
6	Bad weather	35	11	-	8	150	220	0.69	5 th
7	Time overrun	22	10	7	5	197	220	0.89	1 st
8	Loss in productivity	32	17	6	-	136	220	0.61	7 th

This table ranks the major delay that slows down construction project delivery speed, Ranked at 1st, we have time overrun with RII of 0.89, following it is project management problems as the 2nd with RII of 0.85 and incorrect data comes as the 3rd with RII 0.81, as the 4th rank, we have Equipment failure with RII of 0.76, bad weather comes as the 5th

rank with RII of 0.69, the 6th and 7th ranked here are increased cost and loss I productivity with RII 0.68 and RII 0.61 respectively

Table 9: Solutions to the delays caused in construction project delivery

Variable		Response							
No	Solution	SA	A	D	SD	W	HXN	RII	RANK
1	wages and price control	35	15	-	9	188	220	0.85	2 nd
2	Readjustments if need arises	30	10	12	-	180	220	0.81	3 rd
3	Fluctuation Adjustment	23	13	-	8	155	220	0.70	4 th
4	Provision of Standard	20	11	12	-	198	220	0.90	1 st

The above table indicates the solutions to the delays caused in construction project delivery, ranking 1st is the provision of standard form of contract with RII 0.90, ranking 2nd and 3rd respectively with RII 0.85 and 0.81 is wages and price control and readjustment if need arises respectively, ranked 4th with RII 0.70 is fluctuation Adjustment.

Table 10: Remedies of challenges faced by a contractor when using interim valuation in a construction project.

Variable		Responses							
No	Remedies	SA	A	D	SD	W	HXN	Rii	Rank
1	Reschedule of work	30	12	5	13	188	220	0.85	3 rd
2	Financial management	35	-	10	-	198	220	0.90	2 nd
3	Summit complete document	20	24	8	10	179	20	0.80	5 th
4	Payment bond	25	19	-	5	180	220	0.81	4 th
5	Contractor rights should be respected	33	22	-	10	211	220	0.95	1 st

The ranking order as indicated above are the remedies to challenges face by contractors when using interim valuation, ranking 1st on the list is that contractor rights should be respected with RII 0.95 and 2nd is financial management with RII 0.90, Ranking 3rd is reschedule of work with RII 0.85 and 4th with RII 0.81 is payment bond and the 5th on the list with RII 0.80 is summit complete document.

Table 11: Major advantage when using interim valuation certificate?

Variable		Response							
No		SA	A	D	SD	W	HXM	RII	RANK
1	It saves time	27	14	11	10	169	220	0.78	2 nd
2	Defined contract forms	39	11			185	220	0.84	1 st
3	Cost saving	41		10	11	165	220	0.75	5 th
4	Insurance against variations	35	10			188	220	0.76	4 th
5	Accepted method of payment	15	16	12	10	170	220	0.77	3 rd
6	Guarantees project speed	18	12	10	13	152	220	0.69	6 th

Table 11 reveals the major advantage when using interim valuation certificate ranking 1st 10th RII 0.84 is defined contract terms follow by it saves time with RII 0.78 with the 2nd rank, ranked 3rd here is accepted method of payment with RII 0.77 and the 4th with one on this rank is cost saving with RII 0.75, and the 6th with RII 0.69 is guarantees project speed.

Table 12: Quantity surveyors role in interim valuation

Variable		Response							
No		SA	A	D	SD	W	HXN	RII	RANK
1	Accurate cost prediction	22	18	7	10	172	220	0.78	4 th
2	Access value as distrust from cost	38	12	-	-	177	220	0.80	3 rd
3	Reference to price	20	11	-	-	164	220	0.74	6 th
4	Provide advice to certificate	21		-	13	169	220	0.77	5 th
5	Issues payment certificate	30	09	16	6	190	220	0.86	1 st
6	Ensure completion of work	25	11	10	5	184	220	0.83	2 nd

From the above question 12, the role of quantity surveyor plays in an interim valuation are ranked with the lead and 1st rank going to the issuance of payment certificate with RII 0.86, as suggested by the respondent, followed at the 2nd rank with RII 0.83 is that the quantity surveyor ensure completion of work at the due time provided, it is followed closed by access value as distinct from cost accurate cost prediction and provision of advice to certifier with RII 0.78 and 0.77 respectively, ranking 6th on this list with RII 0.74 is reference to prices.

Table 13: Why does interim valuation needs insurance?

Variable		Response							
No		SA	A	D	SD	W	HXN	Rii	RANK
1	Interests and inflation rate	22	17	7	-	165	220	0.75	4 th
2	Monetary policy	28	12	-	18	188	220	0.85	1 st
3	Increase in the control of a project	24	-	15	-	182	220	0.82	3 rd
4	Indexation	33	11	5	12	152	220	0.69	5 th
5	Claims in contract	22	15	10	-	185	220	0.84	2 nd
6	For variation of valuation	20	12	-	6	140	220	0.63	6 th

From the above table, it is disclosed by the respondents that the major reasons why interim valuation needs insurance is because of monetary policy which is ranked 1st on this list with RII 0.85, followed closely behind with RII 0.84 is claims in contract ranked 2nd. The 3rd rank in this list with RII 0.82 is increase in the control sum of a project, interest and inflation rate comes up next as the 4th on the list with RII 0.75, lastly are indexation which is the 5th and variation of valuation which is 6th with RII 0.69 and RII 0.63 respectively.

Table 14: Effect of delay in interim payment

Variable		Response							
No	Effect	SA	A	D	SD	W	HXN	Rii	Rank
1	Negative chain effect	30	-	6	5	211	220	0.95	2 nd
2	Cash flow problem	35	15	-	-	193	220	0.87	3 rd
3	Delay in completion	22	16	-	7	173	220	0.79	4 th
4	Liquidation	25	20	8	12	156	220	0.70	5 th
5	Conflicts	32	19	5	-	140	220	0.63	6 th
6	Negative social impact	25	20	11	10	217	220	0.99	1 st

Items enlisted on this table are based on the effect of delay in the interim payment, leading this at the 1st Rank is negative social impact with RII 0.99, followed at 2nd with RII 0.95 is negative chain effect, at 3rd rank, we have cash flow problems

with RII 0.87, next on the rank occupying 4th rank is delay in completion with RII 0.79, ranked at 5th is liquidation with RII 0.70 and followed at 6th rank is conflict with RII 0.63.

Table 15: Why interim valuation is used for issuance of payment notice.

Variable		Response							
NO		SA	A	D	SD	W	HXN	RII	RANK
1	Time saving	15	16	9	-	189	220	0.85	4 th
2	Protection against non-payment	29	15	-	11	155	220	0.70	5 th
3	Cost savings	20	-	16	-	195	220	0.88	3 rd
4	Proper management	16	12	1	7	209	220	0.95	1 st
5	Enhance client value for money	11	8	-	9	200	220	0.91	2 nd

On this table, the respondents shared the reasons why interim valuation is used for the issuance of payment notice at the 1st rank, we have proper management with RII 0.95 followed by enhance client for money at 2nd rank with RII 0.91, at the 3rd rank, we have cost saving with an RII of 0.88, 4th on the list we have time saving with RII of 0.85, to take us further, we have protecting against non-payment at the 5th rank with RII 0.70.

Table 16: Services rendered by the quantity surveyor during interim valuation

Variable		Response							
NO		SA	A	D	SD	W	HXN	RII	RANK
1	Issuance of payment certificate	25	15	10	-	212	220	0.96	1 st
2	Valuation	36	-	9	8	193	220	0.87	2 nd
3	Works directly with clients	18	-	-	20	181	220	0.86	3 rd
4	Retention services	29	9	11	-	177	220	0.80	5 th
5	Ensure project delivery	20	14	17	12	190	220	0.84	4 th

Table 16 reveals that issuance of payment certificate has the 1st ranked spot with RII 0.96 is the major service rendered by a quantity surveyor during interim valuation closely followed by valuation at 2nd rank with RII 0.87, the 3rd service ranked here is works directly with client with RII 0.84 and the 4th is ensures project delivery with RII 0.86, the 5th on the list with RII as 0.80 is retention services.

Table 17: Which aspects contract condition of a project does interim valuation affects directly.

Variable		Response							
NO	EFFECT	SA	A	D	SD	W	HXN	RII	RANK
1	Payment time line	22	8	-	6	139	220	0.63	6 th
2	Work schedules	20	11	-	16	191	220	0.86	4 th
3	Reduction in Expense	12	-	15	11	170	220	0.87	3 rd
4	Omission & Addition	16	19	8	-	217	220	0.98	1 st
5	Overhead and profit	11	16	-	13	156	220	0.70	5 th
6	Payment notices	18	-	17	20	198	220	0.90	2 nd

This table shows the effect of interim valuation on contract conditions of a project, ranked as the 1st on this list with RII 0.98, we have omission & addition as the major aspect, and ranking at the 2nd we have payment notice with RII of 0.93, at the 3rd on this list is reduction in expenses with RII of 0.87. Next we have work schedules ranked as 4th with RII 0.86,

the effect that came as 5th on this list with RII 0.70 is overhead and profit, while coming next is the payment timeline with RII of 0.63.

Table 18: Alternative uses of interim valuation

Variables		Response							
NO		SA	A	D	SD	W	HXN	RII	RANK
1	Valuation of variations	33	13	-	-	197	220	0.89	1 st
2	Accurate details	39	-	8	9	181	220	0.82	2 nd
3	Payment notice	40	-	14	11	177	220	0.80	4 th
4	Used as evidence for non-payment claims	31	10	-	16	179	220	0.81	3 rd

The ranking order revealed on this table shows the alternative uses of interim valuation, ranking 1st and 2nd we have valuation of variation and accurate details with RII 0.89 and RII 0.82 respectively, coming next, we have used as evidence for nonpayment claims as the 3rd on this order with RII 0.81 and 4th we have payment notice with RII 0.80.

Table 19: What can be done to ensure that project delivery time does not exceed maximum time provided?

Variable		Response							
NO		SA	A	D	SD	W	HXN	RII	RANK
1	Increase man power	37	30	-	7	199	220	0.90	2 nd
2	Forecasting	27	31	16	-	202	220	0.91	1 st
3	Work directly with client	46	27	20	8	193	220	0.87	3 rd
4	Simplify project layout	39	15	-	-	183	220	0.83	5 th
5	Digital technology	31	44	-	11	191	220	0.86	4 th
6	Track and measure progress	23	17	10	-	152	220	0.69	6 th
7	Incorporate design engineer	16	22	11	9	137	220	0.62	9 th
8	Using high quality material	22	19	17	-	149	220	0.67	7 th
9	Pay attention to schedule	21	25	21	8	139	220	0.63	8 th

Table 19 disclosed what can be done to ensure that project delivery does not exceed maximum time provided. Ranked first on the list, we have Forecasting with RII 0.91 and 2nd with RII 0.90 we have Increased Manpower, the 3rd on the list, we have Work Directly with Client with RII 0.87 and at 4th, we have Use of Digital Technology with RII 0.86, Simplifying Project Layout comes next with RII 0.83 as 5th, the 6th rank here with RII 0.69 is Tracks and Measures Progress, on the 7th here with RII 0.67 is Using High Quality Materials, Lastly ranked as 8th and 9th, we have Pay Attention to Schedule and Incorporate Design Engineers with RII 0.63, 0.62 respectively.

Table 20: Who prepares interim valuation certificate?

Variable		Response							
No		SA	A	D	SD	W	H×N	RII	Rank
1	Architect	22	15	-	8	171	220	0.77	2 nd
2	Quantity Surveyors	18	10	-	-	193	220	0.87	1 st
3	Engineers	15	7	10	-	134	220	0.60	5 th
4	Project Managers	9	-	3	9	155	220	0.70	4 th
5	Consultants	11	12	-	-	169	220	0.76	3 rd

The ranking order in Table 20 above the Quantity Surveyors as noted by the respondents, ranking 1st with RII 0.87 is the Architect followed closely behind are Consultants with RII 0.77 and ranked 2nd on the table, No. 3rd on the table is Project Managers with RII 0.76 and No. 4th which is Engineers with RII 0.70.

Table 21: In the Nigerian construction industry at large, when is the use of interim valuation effective?

Variable		Response							
No		SA	A	D	SD	W	H×N	RII	Rank
1	In construction project	26	19	8	-	210	220	0.95	1 st
2	Issuance of payment notice	36	15	-	-	167	220	0.76	4 th
3	Time delivery	27	-	-	13	159	220	0.73	5 th
4	Variation claims	33	11	16	6	187	220	0.85	2 nd
5	Issuance of certificates	36	14	12	11	180	220	0.81	3 rd

The table above vividly shows the effect of Interim Valuation Certificate in the Nigerian construction industry. Using the rating order of relative importance index, it is obviously clear that the variable with RII 0.95 ranked 1st followed by Variation Claims with RII 0.85, ranking 2nd, followed behind is Issuance of Payment Certificates with RII 0.81 ranking 3rd on the table, ranked at 4th is Issuance of Payment Certificate with RII 0.76 and lastly followed by Time Delivery with RII 0.73 ranking 5th and last on the table.

5 CONCLUSION

In modern construction framework, interim valuation is of utmost priority because it present a good avenue for the contractor to receive payment for work and it also give room for proper evaluation of all variation carried out on site by the Quantity surveyor. Without interim valuation, it will be difficult for the contractor to be paid; thus crumbling the progress of the project. The interim certificate issued by the Architect indicating that the work has been executed as specified in the contract documents.

Therefore, interim certificate should always be issued to contractors that has completed a stated level of work

The research finding shows that interim valuation plays important role on construction project objective, efficiency and quality assurance and also gives a good value for the clients' money.

Also from the analysis of the data duly show the duty of the Quantity Surveyor on the issuance of interim certificate and as well as payment notices which have been analyzed based on the respondents point of view. It critically review that the contract condition and delivery time does not exceed maximum time.

RECOMMENDATIONS

- Interim valuation/certificate should be use/adopted as a good practice in construction projects.
- Interim valuation should be done periodically during construction projects; weekly, monthly or as arranged in the contract documents.
- That after interim valuation has been carried out, an interim payment certificate (IPC) should be issued to ascertain or confirm the valuation done.
- There should be no valuation on a varied item or element without the prior order (usually written) from the Architect.
- If project delay, abandonment or variation is the cause for carrying out interim valuation then it should be well documented to avoid losses on the side of the contractor.
- Interim valuation/certificate should be carried out in accordance with clauses, agreement and conditions of contract.
- That interim valuation/certificate should be carried out by the professional meant to do so, to avoid errors.
- Adequate care should be taken while carryout interim valuation to avoid the problem of over-valuation or under-valuation.
- Site meeting should be the point or medium in which interim valuation/certificate should be decided to avoid dissonancy should any party feel cheated.
- Interim valuation/certificate should not be influenced. It should be done in favour of both the contractor and the client while considering their financial flow.

STATEMENTS ON COMPLIANCE WITH ETHICAL STANDARDS

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

REFERENCES

- [1] Conditions of Contract and Forms of Tender, Agreement and Bond for Use in Connection with Works of Civil Engineering (2010)
- [2] Conditions of Engagement and Consultancy Service Agreement (2009) by association of consulting Architects Nigeria, Second Edition Issued On December 2012
- [3] Contract practice for quantity surveyors 2014 by Jack Ramus fourth edition
- [4] Henry Boot W and Jurs, S.G (2010): Applied Statistics for the Behavioral Sciences. Houghton, Mifflin, Boston
- [5] Housing Grants, Construction and Regeneration Act 1996 and Construction regeneration act 2011
- [6] Institute of Quantity Surveyors Sri Lanka [IQSSL]. (2016, August 12). Code of Professional Conduct and Ethics – Principles. Retrieved from Institute of Quantity Surveyors. Lanka Web site: <http://www.iqssl.lk/index.php/code-of-professional-conduct>
- [7] Institute of Quantity Surveyors Sri Lanka [IQSSL]. (2011). Assessment of Professional competence. Retrieved from Institute of Quantity Surveyors Sri Lanka Website: <http://www.iqssl.lk/index.php/code-of-professional-conduct>.
- [8] Jackson, S.F. & Anumba, C.J. (2009). Potential for improving payment management practices through knowledge management, Construction Innovation: Information, Process, and Management.
- [9] JCT (1980). Standard form of building Contract, Joint Contract tribunal: a commentary for students and practitioners
- [10] Nwachukwu, G. O. C (2010). Proactive Project Management and Capital Construction Projects Delivery in an Economic Meltdown Environment.
- [11] Nwachukwu, C. (2016). The Impact of Performance Management and Employee Empowerment on Organizational Culture of Selected Banks in Nigeria. *Ekonomika a Management*, (2).
- [12] Omole ikenna(2012) Construction management on project sites, The Surveyors' Construction Handbook
- [13] Ontamare milestone. (2011). Methods for valuation in the Building Industry. Conference proceedings organized by International Group for Lean Construction (IGLC) 26- 28 July, California.
- [14] Quantity Surveying and Construction Pathway guide. London: Royal Institution of Chartered surveyors RICS and Professional Construction Group (2016). The Surveyors' Construction Handbook
- [15] Royal Institution of Chartered Surveyors [RICS]. (2015). Ethics & professional standards. Retrieved November 28, 2015, from Royal Institution of Chartered Surveyors: <http://www.rics.org/lk/regulation1/compliance1/ethics--professional-standard>.
- [16] Seeley, I.H. (2015). Quantity Surveying Practice. London: Macmillan Press Ltd. the University of California