ASSESSMENT OF THE COST IMPLICATION OF REVIVING ABANDONED PUBLIC PROJECTS IN ABUJA, NIGERIA

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The issue of abandoned projects have remained a teething and perennial problem in most developing countries and Nigeria has not been spared the agony associated with this development. In addition to abandoned project suffering from time and cost overruns, the people are denied the benefits of access to basic services. Thus, this study assessed the cost implication of reviving abandoned public projects with a view to proffering possible solutions towards reducing the issue of project abandonment. The study adopted observation, interview and questionnaire survey approach, in which quantitative data were gathered from in-house construction participants from FCDA and contractors to FCDA within the study area, through the use of structured questionnaire. Percentile, Relative Important Index (RII), Pearson Product-Moment Correlation Coefficient, T-Test and Mann-Whitney U Test were used in the analysis of data gathered. The study reveals that there is a significant statistical relationship between the initial contract sum and the revised contract sum with a mean value of 169,608,856.96, t-value of 2.813, 24, at 95% confidence level. Also, with an effect size of 0.24, it was concluded that there is a larger portion of variance between the initial contract sum and the revised contract sum of abandoned public projects. A significant relationship was observed between the period of project abandonment and the additional cost incurred in reviving them, and average of 50% original contract sum is required depending on the period of abandonment to revive abandoned project. Also, to reduce the incidence of project abandonment; initiating only projects which can be completed with the available resources, ensuring accountability, transparency, honesty and integrity in selecting project participants, creating policies that will ensure continuity of construction works after the exist of one government, and accurate estimation of quantities and cost for projects were considered the most important measures. The study recommended that Government should create policies that will ensure continuity of projects after exit of initiating government; and such policies should be enforceable.

Keywords: *Project abandonment, cost implication, public construction project, Abuja*

INTRODUCTION

The construction industry plays an important role in the economy, and the activities of the industry are also vital to the achievement of national socio-economic development goals of providing shelter, infrastructure and employment. In Nigeria, Aibinu and Jagboro (2002) observed that the construction industry continues to occupy an important position in the nation's economy even though it contributes less than the manufacturing or other service industries. Ayodele and Alabi (2011) opined that a healthy economy usually experiences an increase in construction activities. Therefore, the successful delivery of the products of this industry is crucial for national development. Unfortunately, most construction projects delivered within the construction industry are delivered above budget and behind scheduled, while some are even out rightly abandoned (Ewa, 2013; Ogunsemi and Jagboro, 2006; Olapade and Anthony, 2012). According to Dahlan (2001) an abandoned project refers to a project in which the construction job has been delayed, even though planning consent has been approved. Olapade and Anthony (2012) further stated that an abandoned project is a project in which the client refuses to provide maintenance and working services to a building.

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According to Ubani and Okoroji (2013) the Nigerian landscape is littered with abandoned building projects, roads, rails, ports and other infrastructural projects at all levels of governance from local government through the state government and to the federal. Incessant failure and abandonment of projects by the public sector are continuously posing serious challenges to the stakeholders in the built environment.

This unhealthy situation has its effect especially in the aspect of cost which over the years has become a major criterion for measuring the success of construction projects (Chan, 2001; Ogunsemi and Jagboro, 2006). A similar view was held by Nasir (2012) which stated that there are about eleven thousand, eight hundred and eighty-six abandoned projects scattered along the length and breadth of the country. These projects will cost an expected seven hundred and seventy-eight trillion naira to complete. This invariably implies that if the government does not begin any fresh projects, it will take more than five years, budgeting about N1.5 trillion yearly, to finish them all - and that is assuming no cost-over runs or delays.

According to Olapade and Anthony (2012) effectively combating the menace of project abandonment will go a long way in providing employment opportunity for professionals in the building industry, decreasing the wastage of public funds, human and resources on the aspect of the client, as well as improved physical and socio-economic growth of the nation amid others. This further underscores the fact that abandonment of building projects has resulted in several unfavourable consequences to the economy, the public and environment. According to Yap (2013) with respect to cost, project abandonment is a waste of valuable resources.

Studies abound on the issue of project abandonment focuses on the causes and effects of project abandonment within and around the world (Ayodele and Alabi, 2011), the effects of abandoned projects on real property and its value (Efenudu, 2010, Akindoyeni 1989, Aluko, 2008), reasons for abandoned projects (Ihuah and Fortune, 2013) among others. However, the works of Efenudu, (2010) and Ayodele and Alabi (2011) and some other researchers undertake assessment of causes and effects of abandoned projects in Nigeria but the relationship between the period of abandonment and the revised completion cost of reviving abandoned projects were not considered. Hence, the need to evaluate the cost of reviving abandoned projects.

Th aim of the study is to assess the cost implication of reviving abandoned public projects with a view to proffering possible solutions towards reducing the issue of project abandonment. This study will bring to light the significant effect of these project abandonment. The study also provides empirical evidence as to the cost implication of reviving abandoned public projects. This will go a long way in helping those involved in the delivery of public projects within the country to understand the cost danger of abandoning public projects for considerable period of time. The findings will also assist policy makers in government to draft attainable policy and programmes for eradicating project abandonment in order to cover up the infrastructural gap.

To guide this study, the following hypothesis were formulated:

H_{01}: there is no significant difference between the initial contract sum and the revised contract sum

H_{02}: there is no significant relationship between the period of abandonment and cost of reviving abandoned projects

LITERATURE REVIEW

Construction Project Abandonments

According to Longman (2005), abandonment is the action of suspending activities on something totally, with no definite intention of when to restart. When events and actions on building projects are postponed without any confirmed time of recommencement the projects are said to be abandoned. Therefore, project abandonment can be defined as the unexpected postponement of the work progress particularly at the implementation stage such as inability to complete a contract after the completion period has elapsed. Abandonment and unsuccessful projects which are more widespread in the government sector litter every array of the nation's environment such as government quarters, university campuses, public

schools etc. The occurrence cuts across various financial sectors including the building, manufacturing engineering and service sectors (Chinedu and Fidelis, 2011). According to Makalah (2008) abandonment in buildings occurs at the point whereby levies and mortgages are no longer paid, and those structures for which services are neither paid for nor provided. They are vacant, vandalized, boarded-up, dilapidated or those which have unmaintained basis. According to Olapade and Anthony (2012) abandonment can also be seen as the point where by client refuse to provide maintenance and working services to a building, or the failure of an owner's authoritative right to a building, or the destruction of a building.

Effect of Construction Project Abandonment

The effects of construction project abandonment according to Olusegun and Micheal (2009) are: population of users getting disappointed of the proposed project, lowering of the living standard, wastage of valuable resources, opportunities of employment becomes lower, economic activities decreases, and decrease in the revenue accruing to government. These effects are not much in difference with the effects suffered in Malaysia due to project abandonment, thus, Abdul-Aziz and Umran (2011) elaborated that in Malaysia, the end users suffer in where they are unable to reside in the houses on time as stated in the Sales and Purchase Agreement. Although they have not occupied the houses, yet they are obligated to pay monthly with interests to the banks. Apart from that, it is also common for vandalism of project sites due to project abandonment which have also led to illegal activities to be carried out at these particular places. Abdul-Aziz and Umran (2011) added that the other effects are price of raw materials increasing, building requirements changes, loans that are nonperforming and land being foreclosed. In the meantime, the possibility of non-revival of abandoned projects where it is subjected as not viable, or there are no companies that are interested in investing for the purpose of revival, results to the economy loss. There is no doubt that abandonment of a projects brings great effect to the construction industry which ultimately contributes to the downfall of the economic growth of a country. The causes and effects are not much different and are similarly faced by various countries who go through the issue of abandoned projects.

Also, the issue of project abandonment is more obvious in less developed countries like Nigeria as reported by (Akindele, 2013). Buildings will certainly depreciate and might afterward be abandoned as they mature except they are accurately maintained. Moreover, changes in technology and business development might edge out some structures; making the structure out of date and prone to abandonment. According to Adedibu and Akindele (2007) Building projects abandonment can cause common health problems in the metropolis such as diarrhea, typhoid fever, malaria and other dirt associated health problem;such abandoned sites are also vagrant's enchantment, miscreant's suitable residence and the hideout where criminals plan their activities, conclude or commit immoral acts in the area. For instance, the existence of abandoned structures has been observed to promote arson and other crimes, waste dump, and property value decline where they are present (Adedibu and Akindele, 2007).

Another obvious effect of project abandonment is the associated waste of resources. Olapade and Anthony (2012) pointed out that the misuse of resources here are in the form of capital, material and human authority. Olapade and Anthony (2012) further opined that apart from that abandonment of a building project tends to encourage prohibited activity, which consequently affects the security and comfort of a society. Therefore, when projects are abandoned they becomes an eyesore; damaging the aesthetics and artistic visualization of it and the environment. Olapade and Anthony (2012) also explained that there is an effect on the socio-economic owing to abandoned projects, where it is overwhelming looking at the enormous amount of funds and resources lost on the part of the client who has invested on that particular project.

Measures for Reducing the Occurrence of Project Abandonment

Fisk (1997) states that in order to achieve success in construction, two measures needs to be adopted. The first is the application of value engineering concept, which aims at a careful analysis of each function and the elimination or modification of anything that adds to the project cost without adding to its functional capabilities. It was argued that by carefully investigating costs, availability of materials, construction methods, procurement costs, planning and organizing, cost-benefit values and similar cost influencing items, an improvement in the overall cost of project can be realized. The second is to provide comprehensive and error free designs and specifications to avoid misinterpretations by the

contractor or delay due to missing details. Ashworth (2000) observed that profitable firms may be generating their revenues from the elimination of waste at both professional and trade practice levels. Eshofonie (2008) also stated that establishing firmly the requirements and features of the project at the onset before getting started is an effective cost control measure. Azis *et al.* (2013) also proposed; use of contractors with adequate experience on the job, use of appropriate construction methods, use of up-to-date technology, clear information and communication channels and frequent coordination between the parties.

Olapade and Anthony (2012) also opined that in order for project abandonment to be reduced in the public sector, only new projects, which can be completed with the available resources, should be initiated. Also, accountability, transparency, honesty and integrity should characterise the selection processes of both the consultant and contractors. The use of political undertone rather than economic advantage in sitting of projects should be discouraged. The study further stated that the need to set up a National Construction Industrial Bank is overdue.

Tijani and Ajagbe (2016) also recommended that adequacy of funds and budgetary allocation in compliance with the Public Procurement Act. It was also advised that governments should sustainably promote the convention of providing adequate policies and the continuity of those policies by any incoming government. There should be adequate planning for any given project, while well trained project managers should be used in project supervision. The time and cost estimation of the project should be accurate and all changes should be done before the start of construction and if the construction project has started, it should be completed and the case of abandonment should not be considered (Tijani and Ajagbe, 2016).

RESEARCH METHOD

This study covered the assessment of the cost implication of reviving abandoned public projects in Abuja. The study targeted in-house construction participants in the Federal Capital Development Authority (FCDA) and contractors located in Abuja and that are registered with Nigeria's Federation of Construction Industry (FOCI). The choice of both set of respondents premised on the fact that FCDA is the major body responsible for the delivery of public projects within the Federal Capital Territory, while FOCI is the largest umbrella body of construction contractors (Aje et al., 2015).

According to Kothari (2004), population is a collection of elements being studied and about which conclusions are to be drawn. Since this research sets out to assess the cost implication of reviving abandoned public projects in Abuja, the population of this study includes the in-house construction participants in the Federal Capital Development Authority (FCDA) as this is the major body responsible for the delivery of public projects within the Federal Capital Territory. According to the FCDA, there exist a total of 106 in-house construction professionals. This formed part of the total population of this study. Also, in order to get a balanced view of the subject, contractors within the study area and that have executed projects in the area were also included as part of the population for the study. These contractors selected are those located in Abuja and are registered with Nigeria's Federation of Construction Industry (FOCI). According to the FOCI, there are 31 construction companies in Abuja that are registered with the body (FOCI, 2016). Thus, the total population for this research are the 106 in-house construction professionals in the FCDA and the 31 registered contractors with the FOCI. Hence making the total population for the study amounting to 137 construction participants. Since this number is practically manageable and accessible, the entire 137 participants were adopted for the study.

Census method of sampling, which is a non-probability sampling method, was adopted for this study, since the population for the research falls within a manageable and accessible size; and the researcher is not concern about the representativeness of the sample, and the probability of an element being stated is unknown. Census sampling used in this study is suitable for this study since it involved an extensive field work. Furthermore, The study adopted observation, interview, and questionnaire as data collection instruments. With the observation, the researchers observed the verbal and non-verbal clues of the respondents. This gives an uninterrupted access to information. During the interview, the researchers have to record the verbal and non-verbal responses and asked questions outside the ones already listed by the researcher. The reliability of this method lies in the clarifying questions and

facial expressions which were used toe judged the reaction of the respondents to certain questions. A well-structured questionnaire administered personally to quantity surveying firms in Abuja. According to Blaxter et al. (2001), questionnaire is one of the most used technique for conducting social research, and it involves the formulation of precise written questions for the respondents, whose opinion is being sort.

The questionnaire used was designed in two sections using information derived from related literatures reviewed. Section A of the questionnaire was used to harness data on the background respondent. This was done in order to provide quality check to the data gotten from the other sections of the research instrument. Section B was divided into parts and it addressed the objectives. . Respondents were given adequate of time to reflect and fill in their responses on the questions contained in the research instrument. The Cronbach alpha test (α) was used to measure the reliability and internal consistency of the questionnaire. The normal range of Cronbach coefficient alpha (α) value between 0.0 and + 1.0, and the higher values reflects a higher degree of internal consistency. According to Pallant (2005) ideally, the Cronbach alpha coefficient of a scale should be above 0.7. The closer the alpha (α) is to 1, the greater the internal consistency of items in the instrument being assumed. The Cronbach alpha value for the possible measures of reducing projects abandonment is 0.873. Based on this value, the questionnaire is credible and have high degree of reliability as confirmed by (Pallant, 2005).

A total of 83 questionnaires were retrieved out of the 137 questionnaires administered to sets of respondents. This represents a response rate of 60.5% and were considered suitable for this study following Moser and Kalton (1999) submission. The study employed Percentile, Relative Important Index (RII), Pearson Product-Moment Correlation Coefficient, T-Test and Mann-Whitney U Test in the data analysis. Percentile was employed in analysing the background information of the respondents, Relative Important Index (RII was used in assessing the possible measures for reducing issues of project abandonment, Pearson Product-Moment Correlation Coefficient was used to ascertain if there is a significant difference between initial contract sum and the revised contract sum, T-test was used to determine the relationship between period of abandonment and cost of reviving abandoned projects, and Mann-Whitney U Test was used to confirm if there is disparity in the views of the respondents regarding the measures of reducing project abandonment. Data analysis was done using statistical package for social science (SPSS 17.0).

RESULTS AND DISCUSSION

The analysis of the background information of the respondents shows that most of the respondents sampled are from the FCDA with 67.5% while the remaining 32.5% are registered contractors within Abuja. This confirms that a good number of the respondents are FCDA in-house consultants. In terms of professionals' representation, the result revealed that Quantity Surveyors (34.9%) are more, followed by the Architect (27.7%), then the Engineers (22.9%) and lastly the Builders (14.5%). A look at the year of work experience of the respondents shows that only 9.6% of them have their year of working experience to fall within the 1 to 5 years while 18.1% and 24.1% falls between 6 to 10 and 11 to 15 years respectively. Also 27.7% and 20.5% of the population falls between the ranges of 16 to 20 years and above 20 years respectively. However, the average years of working experience of the respondents is calculated as approximately 14 years. This implies that they are experienced enough to give a valid response.

Academically, 38.5% of the respondents holds a Bachelor's degree, while 24.1%, 20.5% and 16.9% holds a Higher National Diploma, Master degree and a Post Graduate Diploma respectively. In terms of professional qualification, result reveals that most of the respondents (84.3%) are members of their respective professional bodies, except 15.7% that stated that they are not yet members of their professional bodies. Also, 77.1% of the respondents have been involved in abandoned projects while only 22.9% have not. Based on the result on the respondents' background information, it was concluded that the respondents are well equipped both academically and professionally to give reasonable insight on cost implication of reviving abandoned projects and the possible ways of militating projects abandonment. In addition, they can give reliable information since, majority of them have been involved in abandoned project.

Cost Implication of Reviving Abandoned Public Projects

Table 1 shows the result of the evaluation of the cost implication of reviving abandoned public projects. It is obvious from the table that all the identified projects experienced considerable increase in the contract sum after periods of abandonment. Result shows that an average of 49.6% deviation exist between the initial contract sum and the revised contract sum of these projects. This implies that the cost of reviving an abandoned public project is almost plus half of the initially budgeted cost of the projects.

Table 1: Analysis of the cost of reviving abandoned public projects

S/n	Project Type	Year	ICS (₦)	RCS (₦)	Dev.(₦)	% Dev.	ICD (Month)	POA (Month)
1	Building	2013	62,245,213.20	80,161,348.00	17,916,134.80	28.78	6	18
2	Building	2013	210,745,014.97	260,180,980.45	49,435,965.48	23.46	12	12
3	Building	2012	95,525,600.00	125,555,000.00	30,029,400.00	31.44	12	18
4	Building	2012	160,218,471.44	172,664,909.70	12,446,438.26	7.77	12	22
5	Building	2011	115,540,000.00	173,562,000.00	58,022,000.00	50.22	24	24
6	Building	2011	39,684,127.37	50,684,127.37	11,000,000.00	27.72	4	12
7	Culvert	2011	324,125,743.20	524,125,800.30	200,000,057.10	61.70	18	12
8	Building	2010	95,063,953.72	128,399,450.55	33,335,496.83	35.07	18	24
9	Road	2010	484,701,193.16	550,067,841.00	65,366,647.84	13.49	18	12
10	Road	2010	473,427,294.51	610,905,000.50	137,477,705.99	29.04	29	18
11	Building	2009	108,027,172.31	290,142,668.45	182,115,496.14	168.58	6	36
12	Building	2009	133,107,377.40	150,897,086.00	17,789,708.60	13.36	18	24
13	Building	2009	100,161,756.45	290,340,483.02	190,178,726.57	189.87	18	24
14	Road	2009	440,125,528.60	600,125,500.40	159,999,971.80	36.35	12	24
15	Road	2009	500,228,142.53	852,228,150.00	352,000,007.47	70.37	24	36
16	Road	2008	738,000,000.00	980,000,000.00	242,000,000.00	32.79	36	24
17	Building	2007	268,000,898.23	304,546,475.26	36,545,577.03	13.64	18	60
18	Building	2007	122,583,402.45	240,675,924.34	118,092,521.89	96.34	8	29
19	Building	2006	63,833,957.25	87,478,744.70	23,644,787.45	37.04	36	32
20	Building	2006	50,661,045.81	55,363,484.74	4,702,438.93	9.28	4	12
21	Road	2006	687,747,906.15	800,624,072.69	112,876,166.54	16.41	24	12
22	Culvert	2005	445,622,372.60	780,211,783.43	334,589,410.83	75.08	24	36
23	Building	2004	197,840,274.75	305,840,274.75	108,000,000.00	54.59	18	32
24	Building	2003	213,056,668.63	420,678,435.38	207,621,766.75	97.45	24	36
25	Road	2001	7,065,665,742.40	8,600,700,740.00	1,535,034,997.60	21.73	24	48
					169,608,856.96	**49.66**		**25**

Source: Research Analysis, 2017

Note: ICS = Initial Contract Sum, RCS = Revised Contract Sum, Dev. = Deviation, ICD = Initial Contract Duration, POA = Period of Abandonment, TCD = Total Contract

Further analysis was conducted in other to ascertain the statistical significant between the initial contract sum and the revised contract sum using paired samples t-test. Result in Table 2 reveals a mean value of 169,608,856.96, with a t-value of 2.813, 24, and a significant p-value of 0.010. Since this significant p-value derived is lower than the threshold of 0.05, it therefore implies that at 95% confidence level, there is a significant difference between the initial contract sum and the revised contract sum of abandoned public projects. The null hypothesis was therefore, not accepted. In order to ascertain the magnitude of this significant difference, the effect size was calculated using the eta squared formula stated in research method. The eta squared represents the proportion of variance of the dependent variable that is explained by the independent variable. This was further calculated as 0.24 which indicates a large effect size (difference), as it is above the 0.14 figure suggest for a large effect (Cohen, 1988). This means that there is a larger portion of variance between the initial contract sum and the revised contract sum of abandoned public projects.

Table 2: Paired Samples t-test

		Paired Differences							
					95% Confidence Interval of the Difference				Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	df	
Pair 1	Revised - Initial	169,608,856.96	301,509,373.11	60,301,874.62	45,151,904.66	294,065,809.26	2.813	24	0.010

Source: Researchers' analysis, 2017

Figure 1 is a line graph of the cost of reviving the identified abandoned projects (i.e. the cost deviation between the initial contract sum and the revised cost), and the period of project abandonment. It is evident from the graph that public projects with high abandonment period tend to have high cost implication, aside projects 17 and 19 which experienced 60 and 32 months of abandonment but with lesser deviation in cost when compared to other projects. Reason for this could be attributed to other factors.

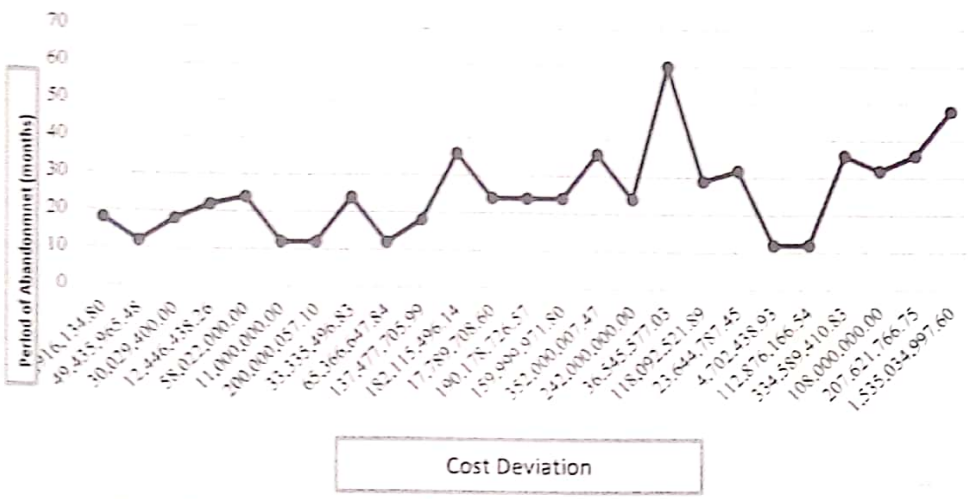

Figure 1: Line graph of period of project abandonment and the cost implication

Table 3 shows the result of the analysis between the period of abandonment and the additional cost of reviving these abandoned projects. Pearson product-moment correlation coefficient was adopted to determine if there is a relationship between the variables. Pearson product-moment correlation coefficient was adopted as it is best suited in ascertaining the relationship that exist between interval level/continuous variables; it can also be applied on one continuous variable, and one dichotomous variable (Pallant, 2005). The analysis revealed r-value of 0.456, and a significant p-value of 0.022. This result implies that at 95% confidence level, there is a positive linear relationship between the period of project abandonment and the cost of reviving such projects. With this, the null hypothesis was rejected. This result further shows that there is a negative implication in abandonment of projects on the cost delivery of projects studied. Therefore, care must be taken when planning for a project as an abandonment may lead to incurring of more cost to complete such project.

Table 3: Correlation between period of abandonment and Cost of Reviving abandoned projects

		Additional cost incurred	period of abandonment
Additional cost incurred	Pearson Correlation	1	0.456*
	Sig. (2-tailed)		0.022
	N	25	25
period of abandonment	Pearson Correlation	0.456*	1
	Sig. (2-tailed)	0.022	
	N	25	25

Source: researchers' Analysis, 2017

Findings from the analysis carried out revealed that there is a significant relationship between the period of project abandonment and the additional cost incurred in reviving them. In reviving abandoned projects, an average of about 50% increment of the initial contract sum was experienced on public abandoned projects in Abuja. This is a significant increase in the initially budgeted cost of these projects. This significant increase was as a result of additional cost of fluctuation of market price which arises due to inflation. Oladipo and Oni (2012) submitted that the issue of abandonment of public construction projects comes with its attributed cost effect, as additional cost due to the period of abandonment is incurred to complete such projects. This additional cost could have been deployed to provide other basic need for the society. Findings of this study further corroborates this assertion as it was discovered that as a result of abandonment, the cost increase in completing of such project tend to be almost half of the initially estimated cost. Such huge cost increase could have been used to serve other pressing societal issues that would have benefited the populace.

Measures for reducing Public Project Abandonment

Result in Table 4 shows the ranking of some identified measures for reducing public project abandonment. Result revealed that the most important strategies according to the in-house professionals are initiating only new projects, which can be completed with the available

resources, accurate estimation of quantities and cost for projects, creating policies that will ensure continuity of construction works after the exist of one government, and use of competent contractors with strong financial stands. However, the most important measures from the contractors' view are accountability, transparency, honesty and integrity in selecting project participants, initiating only new projects, which can be completed with the available resources, creating policies that will ensure continuity of construction works after the exist of one government, and accurate estimation of quantities and cost for projects.

Furthermore, all the assessed measures have a RII of above average of 0.5, which implies that when considered, they all have the tendency of helping in reducing issues of project abandonment in public projects. However, the most important of them all are, initiating only new projects, which can be completed with the available resources, accountability, transparency, honesty and integrity in selecting project participants, creating policies that will ensure continuity of construction works after the exist of one government, and accurate estimation of quantities and cost for projects, with a RII of 0.829, 0.814, 0.810, and 0.805 respectively. The least ranked measure is compliance to building guidelines or requirements when designing and constructing with a RII of 0.682.

Result from Mann-Whitney test conducted shows that there is a convergent view among both set of respondents as regards the identified measures except in terms of use of competent contractors with strong financial stands, as this gave a significant p-value of less than 0.05. While the in-house professionals ranked this measure as the third most important with an RII of 0.807, the contractors ranked it as the eight most important factor with an RII of 0.704. However, the consensus is that all the measures are effective for controlling project abandonment.

In order to reduce the incidence of project abandonment, findings revealed that the most important measures to consider are initiating only new projects, which can be completed with the available resources, accountability, transparency, honesty and integrity in selecting project participants, creating policies that will ensure continuity of construction works after the exist of one government, and accurate estimation of quantities and cost for projects. This finding is in line with the submission of Olapade and Anthony (2012) that only new projects, which can be completed with the available resources, should be initiated, and that the selection processes and consultant should be characterized by accountability, transparency, honesty and integrity. Ojo and Aroge (2016) further suggested that proper funding of proposed projects so as to ensure completion of same.

Table 4: Measures for reducing public project abandonment

Measures	In-House		Contractors		Overall		Mann-Whitney	
	RII	Rk	RII	Rk	RII	Rk	Z- Value	Sig.
Initiating only new projects, which can be completed with the available resources	0.829	1	0.830	2	0.829	1	-0.276	0.782
Accountability, transparency, honesty and integrity in selecting project participants	0.786	5	0.874	1	0.814	2	-1.759	0.079
Creating policies that will ensure continuity of construction works after the exist of one government	0.807	3	0.815	3	0.810	3	-0.256	0.798
Accurate estimation of quantities and cost for projects	0.814	2	0.785	4	0.805	4	-0.561	0.575
Use of competent contractors with strong financial stands	0.807	3	0.704	8	0.773	5	-2.584	0.010**
Discouraging the use of political undertone rather than economic advantage in siting of projects	0.782	6	0.726	5	0.764	6	-1.000	0.317
Use of good and applicable construction methods	0.779	7	0.704	8	0.754	7	-1.662	0.097
Prompt payment for executed works to ensure sufficient cash flow to the contractors	0.764	8	0.704	8	0.745	8	-0.585	0.559
Implementation of Value management at the early stage of the project	0.743	9	0.726	5	0.737	9	-0.410	0.682
Adequate project monitoring and supervision	0.729	10	0.726	5	0.728	10	0.000	1.000
Creation of favourable government policies against project abandonment	0.721	11	0.637	12	0.694	11	-1.547	0.122
Compliance to building guidelines or requirements when designing and constructing	0.696	12	0.652	11	0.682	12	-0.717	0.474

Source: Researchers' analysis, 2017

Note: RII = Relative Importance Index, Rk = Rank, ** Significant at $p < 0.05$

CONCLUSION AND RECOMMENDATIONS

This study assessed the cost implication of reviving abandoned public projects in Abuja, Nigeria, with a view to bringing to light the cost incurred in completing abandoned projects and proffering possible measures towards the reduction of issues of project abandonment within the study area. A survey approach was adopted, in which information was harnessed from in-house professionals in the Federal Capital Development Agency and registered

contractors. The study was able to determine the cost implication of reviving abandoned public projects and the possible measures for reducing issues of project abandonment.

Based on the findings, the study concludes that there is a significant relationship exists between the period of project abandonment and the additional cost incurred in reviving them and about 50% increment of the initial contract sum will be needed depending on the period of abandonment. Also, a larger portion of variance exist between the initial contract sum and the revised contract sum of abandoned public projects. This is attributable to additional cost from market price fluctuation due to inflation.

Based on the findings of the study, it is recommended that; there should be the creation of a separate escrow bank account by the government or the sponsors of public projects dedicated to financing the project to ensure continuous cash flow. Competent consultants should be engaged to ensure realistic estimate and budgeting. The Government should create policies that will ensure continuity of projects after the exit of initiating government; this is necessary since government is a continuum. In addition, policies against indiscriminate abandonment of project should be enacted and enforced.

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