Post-project reviews in Nigerian construction industry: the barriers and benefits

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ABSTRACT

Purpose of this paper

Post-Project Reviews (PPRs) are a rich source of knowledge transfer and provide useful insights and opportunities to learn from what previous projects missed. The paper aims at evaluating the benefits of post project review within the Nigerian construction industry with an attempt to reducing the barriers hindering the implementation of such review.

Design/methodology/approach

Primary data were collected using survey approach through well-structured questionnaire which were administered to the stakeholders' involved on M I Wushishi 500 housing units in Minna, to elicit information as regards their perception of PPRs. After transcribing their opinions, the data was subjected to analysis using descriptive statistics.

Findings

The result of the analysis showed that time and budget restrictions, organizational culture and lack of management support are the major barriers to the PPRs. The research also indicated that PPRs improves quality of work, facilitates collective learning and avoid repeating same mistake in future projects.

Originality/value of paper

It was indicated that PPR should be made a requirement by educating on the potential benefits of the review in mitigating the potential drawbacks and making it a required document during prequalification and selection of contractors. This will assist Government, clients, contractors and public procurements

officers in appreciating and have full understanding of PPRs in enhancing project performance.

Keywords: Post-Project Review, Nigeria, Construction Industry, Benefits, Barriers

1.0 INTRODUCTION

The Nigerian Construction industry (NCI) plays an important and dynamic role in the process of sustainable economic growth and development of the country as revealed by statistics and more than 50% of the gross fixed capital budget in Nigeria normally takes the form of construction output which conforms to 35% to 40% of capital formation that is typical of a developed economy (Wase, 2004; Saka and Lowe, 2010). Saka and Lowe (2010) reported that the Nigerian Construction Industry contribution to Gross Domestic Product grow steadily from1960s to late 1970s where highest contribution (20%) was experienced. They argued further that contribution of construction sector to the GDP however significantly declined to an average of 4% in the late 1980s and 1990s. The GDP has decreased to 1.27% in 2007 according to Federal Bureau of Statistics as cited in Oyewobi and Ogunsemi (2010). The trend over the years is as shown in Figure 1.
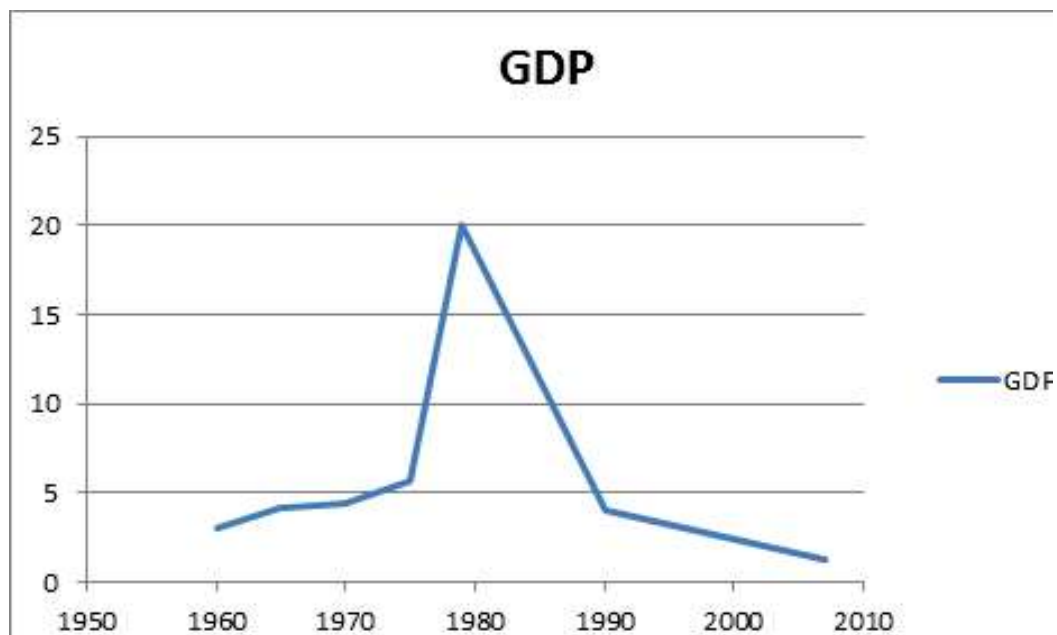

Figure 1: Shows the contribution of Nigerian construction industry to GDP over the years

Building industry (a sub-sector of the NCI) is the most complex of all the industries in Nigeria economy today (Akindoyeni, 2002). The basis of its complexity is not only on the fact that all other industries (whether small scale or large scale) and sectors of the social-economy depend on it for the environment in which they operate but also as a result of its operational requirements. Over the last two decades, the performance of the industry has been dwindling owing to many factors chief among this is the inability to learn from mistakes committed from previously executed projects to better future projects.

On few occasions when PPRs are conducted, the reports are kept in the archive if it is drafted at all, not

accessed by many who could benefit from them. PPRs are meant to reveal the mistakes and how to remedy these mishaps through the reports which attempt to document the project experience both good and bad. It is a truism that collective analysis of the reports may expose important detail, such as recurring problems and good practice on many previously executed projects. Choudhary et al. (2009) submitted further that, most companies or construction firms do not have the resources to thoroughly examine PPR reports, either individually or collectively, important insights and opportunities to learn from previous projects are missed.

Zhang and Iyer (2007) explained that the concept of a Post-Project Reviews analysis is not very straightforward this is because it seems to be a fairly versatile tool but can be put into use to improve the end product of the project. Many authors have come into general agreement about the essentials of PPRs most especially in the software industry (Glass, 2001; Birk et al., 2002; Ewusi- Mensah, 2003; Verner and Evanco, 2005), but still they are given required attention (Verner and Evanco, 2005). Choudhary et al. (2009) viewed Post-Project Reviews (PPRs) to be a rich source of knowledge and data for organisations to learn lessons to improve their future projects but submitted that only if organisations have the time and resources to analyse them.

Due to huge infrastructure deficit the country has experienced, to bridge this gap, it is commissioning new projects. Whenever a new project is commissioned, it would be very helpful if lessons learned from previous but similar projects could be quickly identified to reduce the chances of the same errors or mistakes being repeated and thus, increase the potential for savings in time, cost and improve the quality. To achieve these, it becomes necessary to appraise the PPRs concept in NCI to make known the benefits that could be derived from it, the potential barriers and how it could be made a requirement during prequalification of contractors to reduce the sorry situation the industry is tilting towards.

2.0 WHY PPRs

PPRs could be seen as a formal arrangement to evaluate projects either during the execution phase (interim evaluation) or after projects' completion to thoroughly examine and identify errors or mistakes that make projects fail, so that lessons learned or experienced gathered is made beneficial to future projects. PPRs remained the most widely adopted approach most especially in the industry to transfer knowledge from one project team to another teams and also, Orange et al. (1999) and Kamara et al. (2003) recognised that PPRs have massive potential for much more thorough abuse. PPRs is done for so many reasons amongst which are: to enhance clarity of the collective goals; to identify those inhibitors or barriers that prevent them from reaching their goals and possibly militate against or remove them; to put in place enablers that assist them in attaining the projects goal; to measure and monitor progress, to ensure the goals are achieved through identification of errors or mistakes with appropriate remedial actions.

3.0 STAGES OF PPRs

Anbari et al. (2008) explained PPR process by leaning on the (Project Management Institute, 2004) PMBOK Guide using project management process. Their explanations depict that PPR teams should be formed at the commencement of construction projects but this study identified five stages of team building as postulated by (Tuckman, 1965; Tuckman & Jensen, 1977) and these were adapted to develop

lessons learned process of projects in progress or completed, they are tailored towards Tuckman's famed five-stage schema (1965):

Forming

As in the first stages of team building, the forming of the PPR team takes place. This stage is referred to as dialectic argument stage by Busby (1999), the PPR team meets to evaluate either projects in progress (interim evaluation) or completed projects and learns about the errors and problems, and then agrees on how to proffer solution to remedy the situation so that the same mistakes are not repeated in another future projects. Teams members tend to behave quite independently as there are arguments and complain about timing and magnitude of information available to work with. The participants may be encouraged by the fact that they want to solve problems to ensure better performance in future but are normally somewhat uninformed of the issues and objectives of the team. PPR participants are normally at their best behaviour but very focused on themselves as arguments may for or against as there are several stories to why an event went wrong or right (Busby, 1999). Anbari *et al.* (2008) referred to this stage as 'the initiating process group' during which the project team is formed to highlights the project charter that will provide the platform for the project to start. Their PPR process models therefore, viewed the stage as where the criteria for measuring project success or failure are identified. Their argument was based on triple constraint theory developed by (Project Management Institute, 2004) and the underling variables were divided into explicit and implicit constraints.

Storming

During storming stage, every team member enters the storming stage, in which different ideas compete for consideration. A lot of retrospection takes place here, a true reflection on the past projects or decision means success. Every team member recall their interactions either with the project manager or the client, and try to address issues such as, identifying the challenges that inhibited successful deliveries of projects, what problems they are really supposed to solve, how they will function independently as an individual and collectively as a group. Team members open up to each other and confront each other's ideas and perspectives with objectivity.

Norming

At some point, the team may enter the norming stage. PPR members adjust their behaviour, drop egoism and appreciate individual differences so that they can develop work habits that make teamwork seems more natural and fluid. Team members often work through this stage by agreeing on terms of reference, rules, values, professional behaviour, shared methods and working tools. During this phase, team members begin to trust each other. Motivation increases as the team gets more acquainted with the projects but involve some simulations as to what happens if A is employed and not B and vice versa. This stage witnesses both diagnostic and causal reasoning as some participants may prefer working through documents available to arrive at results while many, may be of the opinion that getting problems solved through what was responsible for it is the best option (Busby, 1999).

Performing

Unlike team building, this is the most crucial stage in PPR, the participants who are high-performing teams are able to function as a unit as they find ways to remedy or proffer adequate solutions to the identified challenges to ensure that future projects that are similar in character and approach are done smoothly and effectively without inappropriate conflict of interest. Team members have become inter-dependent and therefore, can carry out individual assessment of themselves and the projects as a whole. By this time they are more motivated and have adequate knowledge of the task saddled with, the participant are much more competent, granted autonomy and able to handle the decision-making process in future projects with reference to the evaluation report. It is expected that all necessary information required to put evaluation reports are harnessed, though dissention is expected and allowed as long as it is channelled through means acceptable to the team and it does not have malicious intent but to have a comprehensive report that is revealing and workable.

Future Developments

(a) Adjourning and Transforming

Adjourning stage involves completing the task and breaking up the team after the submission of the report. Others call it the phase for mourning. A team that lasts may transcend to a transforming phase of achievement. Transformational management can produce major changes in performance through synergy and is considered to be more far-reaching than transactional management

(b) Norming and Re-Norming

An additional stage was added to Norming after Forming and renaming the traditional norming stage re-norming. This addition is designed to reflect that there is a period after Forming where the performance of a team gradually improves and the interference of either the client or other intruders content with that level of performance will prevent a team progressing through the Storming stage to true performance. This puts the emphasis back on the team and leader as the Storming stage must be actively engaged in to succeed – too many 'diplomats' or 'peacemakers' especially in a leadership role may prevent the team from reaching their full potential.

4.0 BENEFITS OF PPR

Post-Project Reviews (PPRs) are one of the most important and common approaches for the capture of errors committed in projects execution and also to transfer project knowledge. Therefore, benefits derived from conducting PPRs have been highlighted by Busby (1999); Carrillo (2005); Tan *et al.* (2006) as submitted by Choudhary *et al.* (2009) and include:

- **Enhancing team learning**: PPRs provide an opportunity for people involved in the project to come together and examine what went right or wrong during the project. The forum for the PPR should provide an atmosphere for knowledge sharing, exchange of ideas, brainstorming, identifying good and bad practices and contributions which will lead to learning.

- **Ensure transferable knowledge**: The outcome of a good PPR process should be knowledge that can be utilised for future projects, but it is often tacit knowledge and therefore can be difficult to reuse.

- **Benefit client organisations**: Review processes should aim to provide greater insight into how assets are managed, and this should help the project organisation to improve its processes and manage its assets better.

- **Better project phase management:** Reviewing each phase of a project provides opportunities for better project management at the phase level, rather than carrying out a single review at the end. Hence, mistakes might be corrected earlier at the phase level perhaps benefiting the remaining project phases (Von Zedtwits, 2002).

- **Prevent knowledge loss**: When a project team disbands, the knowledge carried by the team members can be lost. A PPR process should capture their project related knowledge and make it explicit for others to utilize.

- **Promotes quality:** PPR encourages improved quality and effective decision making process most especially when adopted during the construction phase to reduce reworks or failure of any components of the projects as it gives a clear warning of the effects.

- **Encourages transparency**: It eliminates bottleneck and lack of transparency in the award or acquisition of contracts. When PPR is honesty pursued or executed it enhances the procurement process most importantly in Nigeria where traditional procurement is still much in practice by eliminating the stages that may lead to acrimonious relationship among the stakeholders.

- **Project Success Factors Identification:** Critical success factors and criteria are identified and stated to improve future projects success, if what went right could to success and what went wrong could to failure, then project success should be hinged on what went right.

- **Make Lessons Learned Beneficial** : Lessons Learned from previously executed projects such as identified problems, proffered solutions and experience gained becomes instrument for future projects

- **Enhances brainstorming:** It enhances brainstorming and trading of ideas coming from different projects since no two projects are entirely the same. Therefore, arguments could be aligned to better future projects execution.

- **Identification of root cause of errors:** It uncovers the main causes of mistakes that probably lead to failure to ensure that the same errors are not committed over and over again.

- **Encourages Participants Assessment:** It gingers individualistic assessment of the project participants rather than apportioning blames as good practice mechanism to promote social relationship.

5.0 BARRIERS TO PPRs

Busby (1999) reiterated what could be drawbacks to successful implementation of PPRs as follows:

- **It is time consuming: this is a critical problem in the implementation of projects post-mortem reports as many complain of time constraints and many clients' are of the opinion that the essence of the PPRs are to ensure that the same mistakes committed in previously executed projects does not raise its ugly face again. Therefore, they find it difficult to allocate cost and appropriate enough time**

as it tends to solve future problems and not the immediate challenges except in the case of interim evaluation of projects in progress. Keegan and Turner (2001), Disterer (2008) and Williams (2008) explain that lack of adequate employee time to record the experience gained becomes a major obstacles to inter and intra project learning process

- **Lack of continuity:** it is widely accepted that lessons learned are only beneficial to future projects and not the one under evaluation, thus encourage the disuse of the reports. Williams (2008) reiterated that there are inherent features within projects that hinders lesson learned chief among these are temporary nature of project (that is having time frame) and projects complexity. It was nonetheless, suggested that this does not connote that all projects are entirely the same or different. Newell et al. (2006) in their research carried out on sharing knowledge across projects with focus on the limits to ICT-led project review practices asserted that though, some projects exhibit certain uniqueness that make them look different from others but method of execution across projects may likely share some feature much in common. This argument was supported by Cooper et al. (2002) in their research which was titled learning to learn, from past to future that this wrong information that projects are unique in its entirety hinders learning rather than the nature of projects itself.

- **Mirror the past:** many viewed PPRs as backward looking exercise since it involves retrospection of all activities carried out during the execution of the projects in question and the people involved feel bad and get disenchanted about it. This is because it has been seen as a way of apportioning blames and an avenue of pointing accusing fingers at the participants. It becomes interesting when it's forward looking and meant to solve future problems.

- **Maintenance of social relationships:** maintenance of social cohesion means a lot to people better than analysis of isolated events that may involve allotting blames, criticism and unhealthy reproach which can make participants unwilling to do or partake in the exercise.

- **Counting on experience:** Many people viewed experience as the best teacher forgetting the fact that without work or lessons learned nothing is experienced. Other includes;

- **Lack of technical know-how in carrying out the PPRs**

- **Lack and inadequacy of reference data** which may act as the benchmarks at the project inception phase in relation to the project goals to establish criteria of assessment in a post project review.

- **Lack of adequate record of cost** and other relevant data required for the exercise during project execution stage.

- **Political sponsorship or "godfatherism"** to cover up inefficiencies and corruption on the part of the people involved by their refusal to submit required data that can promote smooth evaluations.

- **Lack of interim reviews** makes the final post review impossible depending on the issues that are characterized the project.

6.0 RESEACH METHODOLOGY

The research employed survey method in its approach using questionnaire to elicit information as the main tool for collating the opinions of the sample of the professionals who have responsibilities on the target projects based in Minna-Nigeria, the study area. Structured questionnaires were administered to the participants on the projects and the sampling frame was limited to those constructors on the M I

Wushishi Housing estate in Minna-Nigeria. The choice of the project was informed because of the difficulties encountered during the execution phase through to completion and even at post occupancy stage. The project was a laudable project to the Government of the State and it was meant to be the benchmark or standard against which others will be evaluated. The goals were partially achieved in term of cost, time and quality because the buildings were erected but consumed more resources than envisaged. This research becomes necessary when lesson learnt on the project was not captured before the commencement of another 500 housing unit which suffered similar problems and have excess re-work which should have been avoided had lessons learnt were documented. The target population for the research included Government workers who have supervisory roles, the policy makers and professionals handling projects (Consultants and contractors) that were duly registered with the State Government and participated in different projects in the State. Non- probabilistic sample of sixty (60) construction professionals, fifteen (15) policy makers, five (5) from the financier side and twenty (20) government workers who are professionals were administered with the questionnaires. Seventy five (75) numbers of the questionnaires returned by the respondents were considered viable for analysis. The data sourced were analysed using basic descriptive statistics; Mean score, standard deviation, skewness and kurtosis were used to rank the Barriers and Benefits of post project reviews using Statistical Package for Social Sciences (SPSS) and Microsoft Excel 2007.

7.0 RESULTS

The Tables 1-3 showed the mean value, standard deviation as well as skewness and kurtosis results. Curran, West, and Finch (1995) as cited in Bright (2008) suggested that data could be said to be in excellent condition if skewness ranges is fewer than 2 and kurtosis ranges fewer than 7.

Table 1, contains factors relating to barriers to PPRs, time and budget restriction is the most important barrier and was ranked first with mean value 3.940, organizational culture is another barrier with mean value of 3.952 and was ranked second, lack of management support was ranked third with mean value of 3.862, the fourth ranked barrier was expensive in terms of company overhead with mean value of 3.749 and the fifth was lack of maintenance of data during project progress with mean value of 3.692. It was shown in the table that the sixth barrier to post project review was manpower intensive with mean value of 3.583. It was shown in the table that the least barrier to post project review was project inability to reflect on past experiences with the mean value of 2.960 and was ranked twentieth and so other barriers are available with their rankings and mean values in the table.

Table1: Barriers of PPR

S/NO	Barriers of PPR	MEAN	Rank	SE	SD	SKEWNESS	KURTOSIS
1	Time and budget restriction	3.940	1	0.155	1.061	-0.716	-0.174
2	Manpower intensive	3.583	6	0.155	1.280	0.221	-1.550
3	Expensive in terms of company overhead	3.749	4	0.750	0.218	-0.251	0.750
4	Poor-team internal communication	3.611	15	1.008	0.981	0.152	1.008
5	Lack of resources to act on the outcome of the review	2.950	16	1.057	0.752	0.225	1.057
6	The beneficiaries are future projects	3.990	17	0.750	0.218	-0.251	0.750
7	Lack of maintenance of data during project progress	3.692	5	0.512	0.981	0.152	0.512
8	Political patronage to cover up inefficiency and corruption	3.550	18	0.781	0.752	0.225	-0.781
9	Lack of interim reviews	2.916	14	0.512	0.633	0.750	-0.512
10	Fast track procurement basis of many construction projects	3.500	7	0.152	0.712	0.108	0.152
11	Lack of expertise in the subject matter (incompetence to carry out reviews)	3.850	8	0.225	0.456	0-.057	0.225
12	Inability to reflect on past experiences	2.960	20	0.750	0.218	-0.251	0.750
13	Reluctance to blame	3.510	9	0.512	0.981	0.152	0.512
14	It involves looking back at problems and critical event in the past	3.062	19	0.781	0.752	0.225	-0.781
15	Lack of resources to analyze them	3.558	10	0.750	0.218	-0.251	0.750
16	Poor organizational culture	3.952	2	0.145	1.330	-0.493	-0.815
17	Lack of management support	3.952	3	0.750	0.218	-0.251	0.750
18	Immaturity of project management system	3.368	11	1.008	0.981	0.152	1.008
19	Lack of incentives	3.155	12	0.193	1.250	-0.074	-1.386
20	Project base nature	3.168	13	0.850	0.110	-0.251	0.751

Table 2, also shows the benefits derivable from PPRs, improvement of quality of work is the most important benefit and was ranked first with mean value 3.990, seconded in ranking is facilitating of collective learning with mean value of 3.891, it also improves utilizable knowledge and this was ranked third with mean value of 3.846. It was revealed in the table that the root cause of errors are identified so they are not repeated is another benefit of post project review which is ranked fourth with mean value of 3.872 and ranked fifth is that it is a powerful way of adding continuous improvement mechanism. Also shown in the table is that post project review help reduce project failure which was ranked sixth and with mean value of 6.762. Other benefits of post project review and their rankings are as shown the table below.

Table 2: Benefits of PPRs

S/NO	Benefits of PPR	MEAN	Rank	SE	SD	SKEWNESS	KURTOSIS
1	Improves quality of work	3.990	1	0.145	0.161	-0.814	-0.184
2	Facilitating collective learning	3.891	2	0.135	1.230	-0.592	-0.725
3	It improves utilizable knowledge	3.846	3	0.769	0.378	-0.971	0.169
4	Benefits client organization	2.895	18	0.630	1.618	1.464	0.546
5	Cross fertilization of ideas between projects is encouraged	2.990	16	0.811	0.023	-.0657	0.811
6	Self-assessment by project staff and wider use of good practice is encouraged	2.941	17	1.258	0.512	0.981	0.152
7	The accrued past experiences, problems and remedies of others are made readily available to others	3.051	15	1.051	0.781	0.752	0.225
8	Proposals and strategies are better planned	2.550	20	0.253	0.512	0.633	0.750
9	The root cause of errors are identified so they are not repeated	3.782	4	0.981	0.152	0.712	0.108
10	The quality of decision making is enhanced	3.005	14	0.752	0.225	0.456	0-.057
11	It is used to access what went through a project	3.245	13	0.633	0.750	0.218	-0.251
12	It is a powerful way of adding continuous improvement scheme	3.895	5	0.712	1.008	0.981	0.152
13	It help improve project success	3.599	7	0.456	1.057	0.752	0.225
14	It can help reduce project failure	3.762	6	0.218	1.251	0.108	0.152
15	Better project face management	3.680	9	0.374	1.026	0.057	0.225
16	Prevents knowledge loss	3.521	8	0.941	-0.510	-0.251	0.750

S/NO		MEAN	Rank	SE	SD	SKEWNESS	KURTOSIS
17	It provides feedback to development staff and stakeholders	3.881	19	0.700	-0.238	0.152	0.512
18	They are rich source of knowledge and data for organization	3.355	12	0.284	1.098	0.225	-0.781
19	Provides opportunities for team members to share and explain experiences before project closure	3.580	11	0.562	1.800	-0.251	0.750
20	It helps to avoid repeating the same mistake in the future project	3.390	10	0.125	1.180	0.322	-1.430

Table 3, shows the identified concepts of making PPRs a requirement to enhance future performance of projects, educating potential benefits of the review is the most important concept and was ranked first with mean value 3.972. Through legal means post project review can be made mandatory and this was ranked second with mean value of 3.820, making the review cost and resource it as part of the project was ranked third with mean value of 3.782. By mitigating potential drawbacks of post project review, the review can be implemented and was ranked fourth with mean value of 3.585 and also by corporate means which was ranked fifth and mean value of 3.290, the review can be made a requirement and lastly by encouraging interim valuation of the review, the review can be made compulsory.

Table 3: Concept of making PPRs a requirement

S/NO	Concept of making PPR a requirement	MEAN	Rank	SE	SD	SKEWNESS	KURTOSIS
1	By educating potential benefits	3.972	1	0.145	1.161	-0.814	-0.418
2	By mitigating potential drawbacks	3.585	4	0.199	1.050	-0.173	-1.266
3	By making it a compulsory document	3.820	2	0.135	1.230	-0.592	-0.725
4	By corporate means	3.290	5	0.995	0.950	1.225	0.892
5	By encouraging interim valuation	3.155	6	0.021	0.999	0.895	0.115
6	The review should be cost and resourced as part of the project	3.782	3	0.295	0.952	1.180	-1.430

8.0 DISCUSSION OF RESULTS

The research revealed that time and budget restriction was a major barrier to PPRs implementation in the Nigerian construction industry. This was in tune with the findings of Fong and Yip (2006) which reported the main reason why PPRs is not recommended by practitioners was lack of resource and time. Organizational culture is another barrier identified by research which Nelson (2003) regarded as significant predictor of the adoption of PPRs most essentially organization learning orientation. Lack of management support was also precipitated by the study and these may be as a result of so many corrupt practices ranging from usage of inferior materials, collection of kickbacks (Sohail and Cavill, 2009) to 'god fatherism' in contract award processes. There is also difficulties transferring and using of valuable knowledge gained within particular projects by subsequent projects and/or the project-based organiza-

tion as a whole this is because no two projects are entire the same in characteristics (Bartsch, Ebers, and Maurer, 2012).

Anbari *et al.* (2008) contended that the belief amongst researchers that PPRs are beneficial is general and as such the benefits of PPRs include but not limited to running low-cost experiments, enhancing organizational change and innovation, and integrating resources across internal organizational boundaries (DeFillippi, 2002). Thus, the research revealed that PPRs leads to an improvement of quality of work which was in line with the opinion of Liu and Yetton (2007) by controlling quality standard, progress and cost. Facilitating of collective learning as viewed by Nelson (2003) and Choudhary (2009) that PPRs provide opportunities for project teams to share and discuss or explains their personal experiences which facilitate interactions before a project is closed and the team is dissolved on one-on-one basis. It also improves utilizable knowledge and revealed that the root causes of errors are identified so that they are not repeated in future (Carrillo, 2005; Tan *et al.*, 2006).

9.0 Conclusion

It is not exaggerating to say that a major problem in the Nigerian construction industry is that lessons are not learned from previous mistakes committed from previously executed projects due to inability to set up meaningful and reasonable post- project review process despite its urgent need. Mistakes are only worthwhile making if you can learn from the experience. The great majority of projects in Nigerian construction industry appear not to be post-reviewed at all, and there are good indications that most post-project reviews are considered as a necessary but not critical exercise.

The research thus concluded; that major barriers to PPRs are time and budget restrictions, poor organizational culture and lack of management support. The benefits of PPRs includes improved quality of work and ability to facilitate collective learning while educating potential beneficiaries of the PPRs was revealed as the most important concept of making post- project review a requirement and also by making it a compulsory document during prequalification.

10.0 Recommendations

The following are the recommendations put forward by the study:

- PPRs should not be conducted for their own sake and that any outcome of post-project review must be an input to a subsequent project

- PPR should be made a requirement by educating on the potential benefits of the review and making it a compulsory document during prequalification and selection of contractors.

- Participants should encourage interim evaluations. Lessons can be learned prior to the completion of a project. Delaying evaluations to the end of the project makes the gathering of information more difficult, particularly for projects of long duration. The lessons learned from interim evaluations may provide an input to the planning of the next phase of the project being reviewed.

- Those who generally participate in the post-project review process should also include "users" of the project deliverables. An objective facilitator should run the process and the review should be cost

and resourced as part of the project. Post project review should be viewed as an integral part of the project and it should be planned for at the outset to ensure maximum pay-off from the review

- Post project reviews should be made a strict policy of organizations in such a way that post project review becomes a norm compulsory within the firm that yields continuous feedback of project efforts on a regular interim basis.

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