West Africa Built Environment Research (WABER) Conference
10th Anniversary Conference, 5-7 August 2019, Accra, Ghana
Proceedings Edited by Laryea, S. and Essah, E.
ISBN: 978 – 9988 – 2– 6010 – 1
DOI: https://doi.org/10.33796/waberconference2019.02

AN APPRAISAL OF EFFECTIVE ORGANIZATION PROCESSES IN INTEGRATED CHANGE CONTROL PERFORMANCE FOR PUBLIC CONSTRUCTION PROJECT

Abdullateef Abdulkarim Jimoh[1], Ilias Said[2], Adegboyega Adesoji Anthony[3], Muhammed Ebayawo Abdullahi[4] and Inuwa Buba[5]
[1,3,4]Department of Quantity Surveying, Waziri Umaru Federal Polytechnic Birnin Kebbi, Nigeria
[2]School of Housing, Building and Planning, University Sains Malaysia, Pulau Pinang, Malaysia
[5]Department of Architecture, Waziri Umaru Federal Polytechnic Birnin Kebbi, Nigeria

The rate at which changes happen due to additional works, modifications, improvements, and amendments to project works and its designs at various stages is not new to construction professionals. A lot of inherent challenges characterize the changes in projects delivery in construction. Change request require an organizational design to ensures efforts are coordinated. Virtually all project works are not change-free. The aim of this study is to explore the significance of perform integrated change control to organization processes for public project delivery. The main objectives for this study are to characterize the level an organizations has attend of knowledge in integrated change control performance and to determine the importance of integrated change control performance to organizations. The primary data collected using questionnaire were analysed using descriptive statistics, including likert scale and relative importance index and ranking. It was found out that the level of knowledge on perform integrated change control of construction professionals and even the various organizations is at an "entry level". It was also found out that the integrated change control per factors is "high" for one out of the three factors is "very high" (RII > 0.80). It is "high" for the remaining two RII <0.80 it is "very important" for any organization to operate and apply a change control process. Conclusively, for effective control of changes, the construction industry need to operate integrated change control performance particularly in the public projects.It is recommended that construction professionals should seek knowledge of integrated change control, also, a dedicated change control should be used for costs saving and quality delivery benefits.

Key words: construction, integrated change control, organization, process, public projects

[1] ajabdoul16@yahoo.com
[2] ilias@usm.my
[3] adegboyegaadesoji@gmail.com
[4] manchimohd@yahoo.com
[5] inuwabuba50@gmail.com

Abdullateef Abdulkarim Jimoh, Ilias Said, Adegboyega Adesoji Anthony, Muhammed Ebayawo Abdullahi and Inuwa Buba (2019) An appraisal of effective organization processes in integrated change control performance for public construction project In: Laryea, S. and Essah, E. (Eds) Procs West Africa Built Environment Research (WABER) Conference, 5-7 August 2019, Accra, Ghana, 41-56

INTRODUCTION

It is obvious that changes to a project just must occur; one can term it as a necessity, particularly in complex projects. It is quite possible for change to spring up as a result of the incompetency of the personnel handling the project, poor scope definition of the work or probably a major corrective measure considered to require a complete overhaul of the work while the project is going on. Several of these factors lead to changes in the project delivery process. It was stated by Darter (2014) that there are chances that if change of any magnitude is allowed in a project it could disrupt the smooth sailing of such a project in terms of the established plan and scope, the team doing the work, for these reasons he believed changes should not be for mere changing sake, for definitely it will be a bad idea. He is of the view that any change should be thought through thoroughly if at all it is considered as warranted in a project, the entire project stakeholder should be consulted before any decision is taken. The biggest concerns for any construction project are cost and schedule, though, unfortunately, the most vulnerable to project changes. Change on the schedule of project consumes floats if related to the critical paths chart and the total duration of the project changes. It can be viewed as additive nature, how the overall costs of the project are significantly impacted by changes (Zou and Lee, 2008). One may be tempeted to ask what is the level of knowledge of project stakeholders and the importance of perform integrated change control to organizations?

Therefore, the aim of the study is to explore the significance of perform integrated change control to organization processes for public project delivery. The objectives of this study is to characterize the level organizations has attended in term of knowledge of perform integrated change control and to determine the importance of integrated change control performance to organizations, professionals and other project stakeholders.

According to Markus and Hajo (2013), several organizations has now decided to be process-oriented. They explained process orientation (PO) as a focus being placed on the business processes, and this range from customer to customer, instead of emphasizing an organization's functional and hierarchical structures (McCormack and Johnson, 2001). A process-oriented organization can also be referred to as a "horizontal organization" (Ostroff, 1999), "process centered organization" (Hammer, 1996), "process enterprise" (Hammer and Stanton, 1999), "process focused organization" (Gardner, 2004) or simply "process organization" (Osterloh and Frost, 2006; Gaitanides, 2007). Markus and Hajo (2013) while citing Armistead and Machin (1998) postulated further that a firm that is process-oriented is duly concerned with the management of its cross-functional business processes regardless of whether it has already run through business process reengineering and/or process improvement projects or not. Business process management incorporates the discovery, design, deployment and execution of business processes on the one hand, and the interaction, control, analysis and optimization of these processes on the other (Smith and Fingar, 2003).

The study focuses on the significance of organization process assets in performing integrated change control on public construction projects in Nigeria. Some Tertiary Education Trust Fund (TetFund) construction projects were selected as case study

from five selected Federal Universities, State Universities and Polytechnics in the northwest states of Nigeria. The construction projects are specifically those executed between years 2011 to 2016.

TETFUND PROJECTS AND CRITERIA FOR INTERVENTIONS

Tertiary Education Trust Fund (TetFund) as a project sponsor is an organization of the federal legislature of Nigeria, it was built up as a mediation office under the TetFund ACT - Tertiary Education Trust Fund (Establishment, and so forth.) Act, 2011; entrusted with the duty regarding overseeing, dispensing and observing the education tax to open tertiary foundations in Nigeria. To empower the TetFund accomplish the above destinations, TetFund ACT, 2011 forces a 2 percent (2%) Education Tax on the assessable benefit of all enrolled companies in Nigeria. The Federal Inland Revenue Service (FIRS) is engaged by the Act to evaluate and gather Education Tax. The Fund oversees the tax forced by the Act and dispenses the add up to tertiary educational foundations at Federal and State levels. It additionally screens the project executed with the funds designated to the recipients (TetFund Guideline, 2015). According to Thomson (2011), the role of the 'project sponsor' is "to synthesize the client requirements and reflections on the emerging solution". Therefore, it can be established that the project sponsor is the person or group who provides resources and support for the project and is accountable for enabling success.

Rules and requirements for accessing funds for physical infrastructure and provision of equipment

To get to allocated resources for the system/adapt based intervention, two (2) essential stages are incorporated: a) Obtaining Approval-in-Principle (AIP) for endeavors, and b) Post AIP sort out, that is, encountering the Due Process of vender engagement as per the Public Procurement Act 2007, provoking access of benefits (TetFund Guideline, 2015):

For infrastructural (construction-related) projects:

a) Soil Test result, especially for difficult consistently wet terrain. b) Detailed Architectural Working Drawings, with seal of Architect and signed, including evidence of Practice License. c) Detailed Engineering Design Drawings (Structural, Electrical and Mechanical), sealed and signed by the Design Engineer. d) Detailed Bills of Quantities (BOQ), devoid of Prime Cost (PC) items and Provisional sums, especially of works measurable from the drawings. e) Where Consultants are engaged, submission to TetFund must include copies of letters of commissioning of the consultants and their acceptance. The details of consultancy fees in line with the Public Procurement Act must be included. f) The project must be fully functional – built, finished, furnished and equipped/installed in the case of equipment. g) For Rehabilitation Projects, the following shall be required for vetting:

i) Photographs showing the current state of the facility to be rehabilitated/renovated ii) Schedule of Dilapidation iii) For projects that involve conversion, submission of the as-built drawings and Structural integrity report signed and sealed by Registered Structural Engineer iv) Submission of the drawing showing the new proposed layout iv) Bill of Quantities.

For procurement-related Projects:
a) Inventory of items to be procured should be submitted and it should contain quantity of items to be purchased, unit rate and total cost b) Genuine Proforma Invoice, with cost submission quoted in the Nigerian c) Submission of Manufacturer's Catalogue/Brochure of technical specifications d) Sample Photographs of the items to be purchased e) Inclusion of VAT where applicable. Withholding Tax (WHT) inclusion is not acceptable f) Installation requirements with cost (where applicable) g) Non-inclusion of consumables

Post AIP stage and requirements for disbursement of funds
Holds installment is done after the AIP has been permitted and the Due Process necessities have elegantly happened. For Construction-related endeavors, conveyances are in three (3) tranches of half, 35% and 15%; while for Procurement-related endeavors, installment are in two tranches of 85% and 15%. The Due Process prompts getting to the (main) Tranche of advantages and should be finished as per the plans of the Public Procurement Act 2007.

Due Process Requirements for Accessing the (first) Tranche of Funds are as Follows: A) Advertisement B) Pre-Qualification C) Tender Action D) Bid Evaluation E) Letter of Commitment.

Interventions involving projects with construction and procurement components:
Keeping in mind the end goal to facilitate the issue of non-arrival of assets at the last tranche arrange due to issues related with respectful fruition periods on a given intercession where construction and procurement are included, such mediation might be part into two (2) – Construction on one hand and Procurement on the other, so they keep running as parallel intercessions inside a similar mediation. The accommodation on such intercession will never again be as a solitary accommodation, however as two (2) and not more than two (2) batches, which would be accommodated and processed thusly. This is to take out the long-standing issue of contractors who have possessed the capacity to completely entire their fragment of the mediation yet can't get to the last tranche in light of the fact that the construction/procurement part inside a similar intercession is still on-going (TetFund Guideline, 2015).

CHANGE AND ORGANIZATION'S PROJECT DELIVERY PROCESS

Project control in an organization
Spring (2016) stated that project controls are important to the project delivery process because they ensure that work progresses on time as well as on budget. Project controls also help to ensure that the design of project is according to the need; constructed as provided in the drawings, plans and specifications; and the required quality standards is met. A review of the change request is carried out at this stage of the process, by an approved authority using the information provided by the project manager and the person to request for consideration. The decision will either be:

a) Accepted
b) Accepted with comments and special conditions

c) Rejected
d) Deferred (left for consideration later)
e) Implement a Change

In a situation where the change is approved, then it will be agreed with the stakeholders how to plan, schedule and execute at a time.

A post-implementation review is usual to carry out as part of the planning, where regression test plan would be carried out in case the change needs to be backed out after implementation.

Causes of change

Major causes and sources of change in projects have been identified (Ezenta, 2015; Moghaddam, 2012; Arain, 2011; Lu and Issa, 2005; Hsieh et al., 2004; Awad, 2001). Ezenta (2015) went further to argue that "some of the reasons for change are internal, while others are external to the project and believed that those (external) are the most challenging to control or manage on the delivery process". Other sources of changes are stated in Administration Manual of Defense Construction Canada (DCC) (Cariappa,2000), which presented a classification of changes based on the nature and origin of the change and another set of changes arise from Oracle White Paper (2009). Some of these causes of change are: 1) Design change 2) Site Conditions 3) Scope Change 4) Regulations 5) Change in Technology 6) Market Condition 7) Management Decision 8) Environmental Conditions 9) Materials and Equipment 10) Fast Track. It was noted further, that this is not an exhaustive list of causes, instead, should be considered to be the causes that are frequently identified by many literatures reviewed.

While suggesting how changes and risks can be managed properly and in an effective way while minimizing the number of changes to the scope of a project, Horine (2005), stated that it would be expedient to start from trying to understand the causes of such scope change on the project. He gave the following as the causes of unplanned changes that are related to the scope in any project: a) Shift in business drivers b) Shift in project acceptance criteria c) Shift in technology d) Poor scope statement e) Poor requirements definition.

Rashid et al. (2012) as cited in Ezenta (2015) classified the causes of changes as follows: (a) Changes attributed to the owner (b) Changes as a resulting consultant's or designer's services (c) Changes that occur due to contractor's service (d) Changes that emanated from Project Management (e) Changes related to the Local Authorities (f) Changes Initiated by Project Stakeholders (g) Force Majeure.

PMBOK (2013) identified various reasons which makes a project get a change request are: (i) Preventive action (ii) Corrective action (iii) Defect repairs (iv) An update.

Change control

Haughey (2011) believes that one of the important part of the processes in project management is the change control. Considering the rate at which thing change today, he believes it is almost certain that demand for change is a thing that every project will face during their life. Even as much as, the project's alignment with business needs may be helped by change, it is expedient upon all project experts

to consider and approve each change with utmost care and diligence. The project management uses change control process to ensures that very change initiated in a project is adequately defined, expertly reviewed, then approved before implementation. Haughey (2011) affirmed that the change control process can be used to avoid unnecessary changes that might at the long run disrupt services and also ensures the efficient in the use of resources for successful project delivery. According to Cantarello, Martini and Nosella (2012), nowadays, firms are strongly challenged by global competitive pressures in a context that often becomes unstable as a result of changes that are difficult to foresee.

As discusssed in the PMBOK (2013), any party to a development at any time has the right to request for change. This do not neccessarily have to be in written form, we do find some issue of change initiated verbally, the only necessary thing is, it should be recorded in a written form and entered the change into the change Log. Change requests has to be set down in an acceptable change control and configuration control systems. Time and estimated cost impacts are essential information the change request processes may require.

There are some contrary views to the importance of, or even the existence of the concept of change control. Among the notable opinions are that of the Kelvin Aguanno (Vice President and the Project Management Director of Professional Development for Association of Canada) where he believed that “there is no such thing as change control” and the idea that change can be controlled is a mere myth (Aguanno, 2010). He argues further that, the project manager and also the project client have little control over any kind of change that can occur in the project, believing changes just happens therefore all we can do is to learn to adapt to it quickly. But most importantly he acknowledged that perhaps the most important difference to be noted in the industry between "change management" and "change control" is one of attitude. "Change control" is usually the method found on projects being managed using models of deterministic planning such as the ubiquitous "Waterfall Method”.

Usmani (2012), on the contrary, stated that performance reports are an output of the Monitor & Control Project Work process, and input to various managing and controlling processes.

Impact of project change on project constraints

Haughey (2011) while summarizing the impact of change control stated that, the project manager is saddled with the responsibility at certain stage of the process, where he would be expected to consider the overall effect the change request will have on the project, this is done through considering the following items: a) Extra resources needed b) New risks and issues c) Legal, regulatory or other unquantifiable reason for change d) Estimated cost of the change e) Quantifiable cost savings and benefits f) Impact on timescales g) Impact on business activities and other projects. The project manager is expected to recommend or otherwise, to carryout the changes(s) after this assessment.

There would certainly be a direct impact of the changes made in a construction projects on the project constraints, and these includes cost, time and scope. It is also further emphasized that project change cost performance is one of the most essential metrics in project delivery, and this is so because they are used as a

measure for project success (Khodier, 2015; Williams, 2000; Eden, Williams and Ackermann 2005). It is not always easy to handle the aspect of quantifying the impact certain changes have on project performance this is due to the integrated nature of construction operations, considering the fact that, several attempts have been made in measuring the impact of change (Khodier, 2015; Finke, 1998). Khodier (2015) while citing Nassar, Nassar, and Hegab (2005) and Serag, et al. (2010) argue further that changes can have certain significant negative impacts on the projects costs, point at the statement in Kaming et al, (1997) that there is the impact of changes on schedule and the increased re-work of the project.

Integrated Change Control is a component of Project Integration Management (PMBOK, 2013), which is that of describing and organizing all "processes and activities needed to identify, combine, unify, and coordinate the various process and project management activities within the Project Management Process Groups". It tries to bring all aspects of the process together and integrate them into a big picture. The most crucial to controlled project execution are the characteristics of unification, communication, consolidation, and any needed efforts for the integrative actions on how best to meet the completion, expectations, successfully managing stakeholder and meeting requirements" (Sharma, 2014; PMBOK, 2013).

Integrated change control and "perform integrated change control"

Integrated Change Control is a process in project management where all change requests are strategically reviewed; changes approved by way of managing changes to deliverables; project management plan; project documents; the organizational process assets; and communicating their disposition (PMBOK, 2013).

Horine (2005) recommended some six key management principles which could be effective for any form of project change control measure on a project, this include: plan for changes, educate stakeholders, set up change control system, apply the designed system, reduce, by any means, the scope changes and be sure to over-communicate.

Figure 1 shows to what extent an integrated change control impacts on the entire performance of a project and players involved in the delivery process (Haughey, 2011). Worth mentioning here is the fact that the process is however, not the only process needed in the projects, but undoubtedly is a process required to be followed consistently whenever there is a change in the project. Sharma (2014) also, stressed that "unnecessary risks can be prevented through the change control process to ensure success of the project."

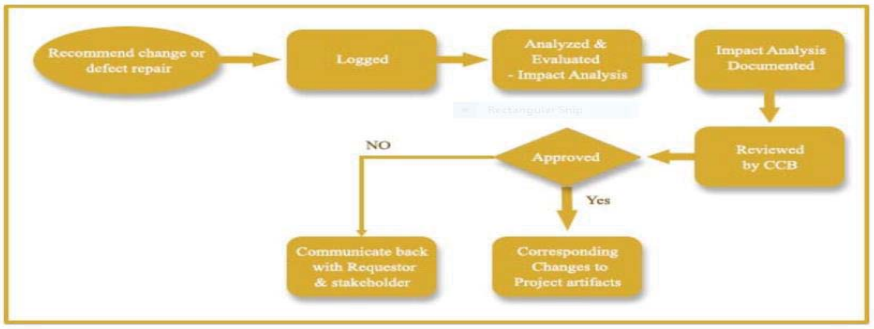

Fig. 1: Integrated Change Control. Source: Haughey (2011).

Perform Integrated Change Control according to PMBOK (2013) is a formulated process that specifically has an Input, Tool and Technique and output to review all the various submitted requests for changes or modifications to the work at hand, as stated earlier for approval or rejection. Among the many benefits is that this process makes the work of documented changes in an integrated and coordinated fashion and tends to reduce the project risk, which are fond of popping up due to any form of changes made in the overall project without any due consideration to objectives or plans. Stackpole (2013) postulated that treating all change requests, considerations for necessary approvals of changes and managing changes to deliverables by the project experts and other related aspects to project delivery are all the activity in this process. The Fig. 2 depicts the process of inputs, tools and techniques, and outputs.

Fig. 2: Inputs, Tools & Techniques, and Outputs of Perform Integrated Change Control: (PMBOK, 2013)

It is best to prevent changes as much as possible, where it is not possible to prevent it, then make those changes as soon as possible. If one cannot avoid making the change, then a need for analyzing what impact the whole changes is expected to bring is the next line of action on the project.

Integrated change control and organization process assets

The Perform Integrated Change Control process has identified benefits, like allowing for documentation of changes which is already considered in an integrated fashion, project risk reduction, which are common with changes devoid of attention to the overall project objectives or plans.

Greco et al. (2013) stated that achieving competitive advantage (CA) by organizations requires that they try to ensure they gain market shares, make more profits, and as well as boost their success in the business. They stated further that it is necessary for an organization to identify what influences the sustainability of CA, out of the available tangible assets (TA) and intangible assets (IA). The PMBOK (2013) describes organizational process assets (OPAs) are "the plans, processes, policies, procedures, and knowledge bases specific to and used by the performing organization". These include all artifact, practice, or knowledge at the disposal of an organization which are used to execute projects. The components of organizations' process assets include any formal and informal plans, processes, policies, procedures, and knowledge bases, usually deployed into use in a performing organization. The process assets also include the organization's knowledge bases such as lessons learned and historical information. It is firmly affirmed that Firms' organizational designs is a tool which can significantly facilitate the interactions a firm with external knowledge sources which would serve as a means for opportunity exploitation (Teece, 1998). In Foss, Lyngsie and Zahra (2013),

while citing Denrell, Fang, and Winter (2003); Zahra and George (2002) it was stated that the highlights from the knowledge-based view (KBV) signifies the central role of knowledge to an organization when trying to create a strategic opportunity which supports emerging potential means of revenue.

Processes and procedures

The two elements of management that constitutes the way organization carry out various task are the processes and procedures. The mission and vision of organization are meet through updating process and procedure frequently thereby, the those with the most corporate and articulate result oriented process and procedure,best organizations today in the world.

METHODOLOGY

According to Naoum (2007) research strategy can be defined as the way in which the research objectives can be questioned. He believes there are two research strategies namely: qualitative and qualitative. Deciding on the type of strategy to use according to him depends on the purpose of the study and the type and availability of the information which is required. Alburt (n.d.) stated that the qualitative method permits a flexible and iterative approach, while the quantitativeresearch method permits specification of dependent and independent variables and allows for longitudinal measures of subsequent performance of the research subject. Quantitative research method was adopted for this study to determine the significance of organization process assets in the process of performing integrated change control. The quantitative method is a method which involves the collection of quantitative data in a research study. The questionnaire for data collections was designed to satisfy an inferential and a descriptive statistical analysis.

A total of 150 questionnaires were sent using Google form via emails, and other internet communication accounts of the identified participants. Respondents to link others to the research using a Snowball approach. A response rate of 111 questionnaires out of the 126 (established sample size) questionnaires were received, representing 88.1% of the administered questionnaires.

Simple descriptive statistical tools for analysis were adopted for this research study using the Statistical Package for the Social Sciences SPSS.

The research data was collected through a questionnaire in the TetFund head office in Abuja, Nigeria and some personnel of the beneficiary institutions, contractors in the selected areas and the professionals in those places. Survey approach could mare the whole process of research if the population is not correctly targeted (Sekerang, 2003).

The targeted population for this study, as mentioned earlier are the TetFund organizations, selected higher Institutions in the north west Nigeria and the Contractors organization. During the pilot study, it was revealed that all the three organizations are usually actively involved form the tender stage to the project design stage through to the construction completion stage. This was planned to ensure adequate provision of feedbacks on the project. Furthermore, a majority of the category of people involved mostly possess technical background required for

project executions and are well versed with design and construction issues. Therefore, each and every organization is able to respond to the questionnaire by participating in the study.

From the data collected, 5 institutions were identified as case study, having fulfilled the potentials of meeting the requirement for TetFund interventions, therefore, suitable for the research. Therefore, 31 (institutions and company organizations) personnel from 5 case studies implies 155 respondents. While, the TetFund organization have 15 respondents sampled.

Using the formula:

$$n = N/1+N(e2)$$

Where n= Sample size

N = Population size (155)

1 = constant

e = desired confidence level of 0.05 (@95% accuracy)

Therefore, n = 111

The research arrived at a sample size of 126 (111+15) as target respondents identified and sent an online questionnaire accompanied with a letter explaining the authenticity, details and purpose of the research. Out of the responses, 109 responses were selected representing 86.5% response rate.

Data analysis procedure

Some of the questions in the questionnaire are analyzed using simple descriptive statistics by percentages of responses in a table and chart. Analysis used also involved assessing the importance of perform integrated change control on a five (5) point Likert's scale. The data analysis therefore employed the following steps.

a. Computation of the mean using the weighted average formula

$$\text{Mean } (\bar{x}) = \frac{\Sigma fx}{\Sigma f}$$

Where:

x = points on the Likert's scale (1, 2, 3, 4 and 5)

f = frequency of respondents' choice of each point on the scale

b. Computation of the relative importance index (RII) for each item of interest, using the formula

$$RII = \frac{\Sigma fx}{\Sigma f} \cdot k^{-1}$$

$$= \frac{\bar{x}}{k}$$

Where k= maximum point on the Likert's scale (in this case, k= 5)

c. Ranking of the items under consideration based on their RII values. The item with the highest RII value is ranked first (1) the next (2) and so on.
d. Interpretation of the RII values as follows:
RII < 0.60, item is assessed to have low rating
0.60 ≤ RII <0.80, item assessed to have high rating.
RII ≥ 0.80, item assessed to have very high rating.

Data presentation and analysis

Data from the questionnaire survey are presented in tables 1 to 3 and figure 3.

Table 1: Role of respondent in organization

	Frequency	Percent	Valid Percent	Cumulative Percent
Adm. Head/Staff	10	9.2	9.2	9.2
Project Manager	12	11.0	11.0	20.2
Construction Manager	4	3.7	3.7	23.9
Architect	28	25.7	25.7	49.5
Quantity Surveyor	45	41.3	41.3	90.8
Consultant	3	2.8	2.8	93.6
Other	7	6.4	6.4	100.0
Total	109	100.0	100.0	

Source: Researcher's Field Survey (2017).

Above table reveals that Quantity surveyors and Architects are the dominant professionals that participates in the TetFund projects with the response rates 45 and 28 which amount to about 41% and 26% respectively. Among the respondents, 10 respondents happened to be either an administrative head or staff involved with the administrative aspects of the TetFund projects. The project managers represent 11% of the respondents, this is not too surprising as there are still few project management competencies (by profession) in Nigeria today (Okoye et al., 2015).

Depending on the size and complexity of the project, other professionals not listed in the table may be present.

Table 2: Respondent's working experience in organization

	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 5 years	21	19.3	19.3	19.3
5-10 years	45	41.3	41.3	60.6
10-15 years	18	16.5	16.5	77.1
15-20 years	25	22.9	22.9	100.0
20-30 years	0	0.0	0.0	100.0
Total	109	100.0	100.0	

Source: Researcher's Field Survey (2017).

Table 2 shows that 5-10 years working experience happened to be the dominant response with 45 respondents representing about 41.3% of the total respondents. This is an indication that younger and more energetic professionals, though might be less experienced, are involved in the TetFund projects. Where only 0.0% of the respondents have working experience of between 20-30 years, indicating lower number of older professionals or personnel involvement with the TetFund projects.

Level of Knowledge of organization on integrated change control

Figure 3 shows the level of knowledge of organizations of the respondents in perform integrated change control process. The result of the survey shows that most the organizations are at the entry level with 60%. 32% of the respondents' organizations are at proficient level, 8% at novice, while only 9% are at an advanced level of knowledge of the integrated change control process. This implies that presently the organization's knowledge is at a very low level.

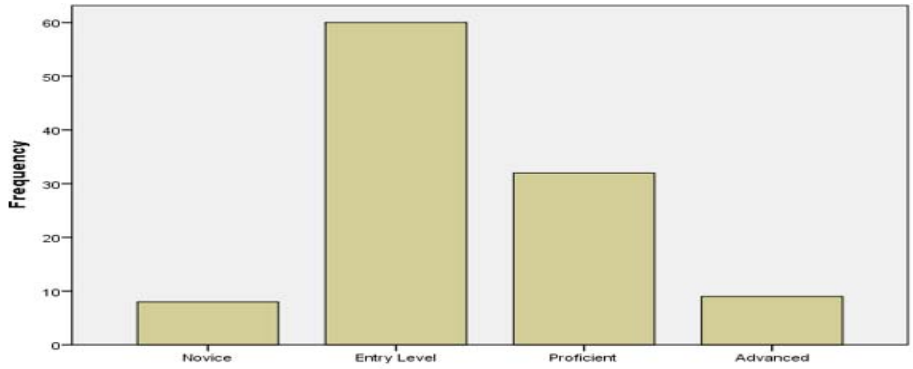

Figure 1: Level of Knowledge of organizations in Integrated Change Control Process

Table 3: Importance of Integrated Change Control Performance for Costs Saving and Quality Delivery Benefits to an Organization

S/nc	Importance indices	Weighting (x)/Response Frequency (f)								
		1	2	3	4	5	Σf	$\bar{x}$	RII	Rank
1	Change control process and/or procedure to an organization	2	10	17	21	59	109	4.15	0.83	1st
2	Having a change control unit wthin an organization	2	7	28	34	38	109	3.91	0.78	2nd
3	Consistent use of a change control process in acceptance and implementation of all change(s)	5	15	36	28	25	109	3.49	0.70	3rd

Source: Researcher's Field Survey (2017)
1 = very unimportant; 2 = unimportant; 3 = fairly important; 4 = important; 5= very important

Table 3 shows the respondents' opinion on the the importance of a change control process and/or procedure to an organization, importance of having a change control unit wthin an organization, importance of frequent use of a change control process in acceptance and implementation of all change(s). The results from collected responses shows that it is "Very important" for an organization to have a change control process and/or procedure with RII value at 0.83 ranked 1st on the ranking. Also, having a change control unit is considered to be "important" (0.78), while on if it is important to use change control in the acceptance and implementation of all change(s) the result was predominantly "Important".

DISCUSSION OF RESULTS

Level of knowledge of the organizations in perform integrated change control

The study revealed that the level of knowledge of the organizations in perform integrated change control process was still, mostly, at "Entry level" only a few of

the respondents thinks they are at a "Proficient level" signifying a need to press further on the knowledge acquisition in the perform integrated change control process.

Importance of change control processes to organizations

On the importance of change control processes to organizations, answers were predominantly "Very important" implying that it is very important to have a change control in an organization. The degree importance of the integrated change control per factors is "high" for one out of the three factors is "very high" (RII > 0.80). It is "high" for the remaining two RII <0.80, (Table 3). The importance of a change control process and/or procedure to an organization however ranked first by the level of relevance, with RII = 0.83. Furthermore, on if it is important to use change control in the acceptance and implementation of change(s) the result shows that respondents rather feels it is less Important. This is an indication that the organizations might believe it is very important to have a change control unit but feel somewhat reluctant to frequently use it for acceptance and implementation of every change. Though, interestingly, an overwhelming majority of the collected result shows that it is "Very important" for an organization to have a change control process and/or procedure.

Additional works, modifications, improvements, amendments to design, changes in cost and construction works at various stages of project development tends to be a natural component of the projects. It is a part of the project professionals' responsibility to ensure the success of the project endeavour as an end product. How these inevitable situations are managed in every project are not a mere mystery. The concept of integrated change control performance in a project still appeared to be in the pipeline, even though, many of the construction professionals today are either not aware of it or not conversant with its necessary tools and techniques or worst still not interested in its use and application for project delivery. The TetFund project was considered to be a suitable choice project for this kind of research because of its procurement processes which allow for adequate administrative and professional inputs. It is considered to have provided a lot of useful data which facilitated the study. The study was a short-term research work which would have provided a lot more precise result under different circumstance.

CONCLUSION AND RECOMMENDATION

Conclusion

Integrated change control performance is an important process needed in the construction industry for effective control of changes and successful project delivery particularly in the public projects. The collected result shows that it is "very important" for an organization to have a change control process and/or procedure. Unfortunately, at present the level of knowledge of construction professional is at an entry level.

Organizations should adopt the use of a formal change control process or procedures for any aspect related to acceptance and implementation of change. Construction professionals, most especially project managers should seek to acquire and develop their knowledge of integrated change control. The use of a

dedicated change control unit by organizations would yield several costs saving and quality delivery benefits.

Recommendation

The study, haven explored several aspects of the integrated change control performance recommends that construction professionals, most especially project managers should seek to acquire and develop their knowledge of integrated change control. The use of a dedicated change control unit by organizations would yield several costs saving and quality delivery benefits. Organizations should adopt the use of a formal change control process or procedures for any aspect of related to acceptance and implementation of change.

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