

Profiling Project Management Skills Of Construction Industry Workers

Baba, Dorothy Ladi

*Department of Project Management Technology,
Federal University of Technology, Minna, Niger
State, Nigeria*

Makinde, Kolawole Joseph

*Department of Project Management Technology,
Federal University of Technology, Minna, Niger
State, Nigeria*

Bima, Abubakar Muhammad

*Department of Project Management Technology,
Federal University of Technology, Minna, Niger
State, Nigeria*

Ahmed, Rukayat

*Department of Project Management Technology,
Federal University of Technology, Minna, Niger
State, Nigeria*

ABSTRACT

This paper sought to analyse the level of integration of project management skills in construction activities in Minna, Niger State, Nigeria. Both descriptive and inferential analyses of responses from questionnaires distributed were carried out. The result reveals a relative involvement of professionals in the supervision of construction activities. Not only do these professionals have the minimum level of education to enable work in the industry. However, while 93% of the respondents claimed awareness of the existence of project management skills, about 69% claimed to have acquired the project management skills in addition to their initial degree of study. This notwithstanding, the 91% of the professionals who said they could not deliver the projects at the due date showed inadequate application of these the project management skills so acquired. It was further shown that for better project delivery (especially in government funded projects), respondents felt that proper supervision of construction work in government agencies was very essential in addition to the possession of adequate project management skills needed to bring about this level of supervision. It was therefore concluded that in view of the importance of project management skills in the delivery of construction projects, relevant stakeholders should consider making the acquisition of project management skills a pre-requisite to working in the industry

Keywords: Construction, Project, Management, Skills

1. INTRODUCTION

There are evidences increasing rate of poor project delivery in the construction industry. This has undoubtedly affected the contribution of the construction industry, which is acknowledged as not only playing an important role in the economy, such as in the achievement of socio-economic development goals of nations (Oladinrin, Ogunsemi, & Aje, 2012). Along this line of thought, it could be argued that the workers in building and construction are the backbone of activities in the industry, and are therefore regarded playing crucial roles in the economy. Every project needs a certain skills requirement to ensure its successful completion (Kumar, 2007). And considering the specialized nature of construction projects, the professionals handling these projects should strive to acquire further skills which could the efficiency and effectiveness in project delivery. Rogers and Duffy (2012) opine that the planning and execution of a project is a rational process that involves acting or deciding rationally in an attempt to reach some goals that cannot be attained without some actions. With technological advancements ordinary actions are no longer enough to handle project execution; the professionals in charge of projects require skills that will improve not only productivity, but also the delivery of projects within time, budget and quality constraints. The negative impact of failed building construction projects (including abandonment and collapse) to the economy is highlighted in (Nwachukwu, Ibeawuchi, & Okoli, 2010). In line with the views expressed in (Ahadzie & Amoah-Mensah,

2010), Nigeria as a developing country needs to imbibe certain management principles such as project management, wherein an independent entity is appointed alongside the design team to take responsibility for the management of design and construction of a project from conception to completion.

2. LITERATURE REVIEW

2.1 PROJECT MANAGEMENT SKILLS

The study carried out by Posner (1987) shows that the execution of project could be impeded by inadequate resources, setting unrealistic schedules, having unclear goals as well as ambiguity in senior executive direction, poor commitment by team members, inadequate planning, poor communication, occasional changes in goals and resources, as well as interdepartmental rivalry or clashes. To be able to navigate through these challenges and deliver the project on time and budget, there are specific skills that the manager(s) of the project must possess. The possession of requisite skills, especially in the enhancement of the competitive advantage of organisations has been highlighted in earlier studies. It is important to properly set the context within which the discussion in this paper would be anchored on. We shall rely on the observation by Jha (2011) that the project manager is responsible for coordinating all project activities ranging from making recommendations, fixing design and preparing drawings, to contract management and other functions.

To be able to achieve carry out the responsibilities creditably, Byrd, Lewis, and Turner (2005) note that in addition to the need to possess adequate technical skills, it is equally important to possess skills in organisational, functional, and managerial skills. This view is also shared reiterated by (Taylor, 2006) who also established a link between the possession of relevant skills and successful project implementation by noting that apart from technical and organisational skills, a project manager must have strong interpersonal characteristics (aggressiveness, versatility, and decisiveness), as well as the ability to motivate and lead the team throughout the life of the project. For Meredith and Mantel (2009) list the skills needed as including communications, organisational, team building, leadership, coping, and technical skills. Other sources such as (Jha, 2013) note that in addition to team building skills, contract implementation and project organisation are equally important. These skills needed for successful project management has been categorised by Murch (2001) into personal skills (needed to motivate and sustain people), technical skills, management skills (including organisations, communication, finance, and human resources), coping skills (the ability to cope with different situations, conflicts, uncertainty, and doubt).

2.2 CONSTRUCTION PROJECT MANAGEMENT

Construction project management (CPM) is often used synonymously with the term construction management (CM). Construction management has been described variously. One source describes it as the process of coordinating, monitoring, evaluating, and controlling a construction project (Dykstra, 2011). The Chattered Institute of Building's (CIOB) adopted definition is (Bale, 2010)

the management of the development, conservation and improvement of the built environment; exercised at a variety of levels from the site and project, through the corporate organisations of the industry and its clients, to society as a whole; embracing the entire construction value stream from inception to recycling, and focusing upon a commitment to sustainable construction; incorporating a wide range of specialist services; guided by a system of values demonstrating to humanity and to the future of our planet; and informed supported and challenged by an independent academic discipline.

It does appear that the construction industry stakeholders have realized that a continuous improvement on the performance of the industry and its ability to deliver better quality services and innovative products can only be achieved through a proper understanding of the dynamic role of its main resources namely materials, human and machinery. Consequently, project management concept has now found great use in the construction industry, necessitating possession of a broad base of knowledge and skills which encompasses a set of objectives to be accomplished by implementing series of operations subject to resource constraints. In view of this some have described CPM as concerning the planning, co-ordination and control of a project from beginning to the end with and aim to satisfying the customer (Walker, 2007).

3. MATERIALS AND METHODS

A mixed method approach, integrating both the qualitative and quantitative research approaches was adopted in this research. A survey questionnaire was used as a data collection tool. Sixty (60) questionnaires were distributed to construction industry workers in Minna-Niger State, Nigeria. A sample size of 60 was fixed for the study. Sampling was through a probability sampling techniques as way of reducing the level of bias and increase representativeness. Both descriptive and inferential statistical analysis were used in the analysis and interpretation of the results.

4. DATA PRESENTATION AND DISCUSSION OF RESULTS

Table 1 below shows the distribution of the responses, detailing the number of questionnaires returned by various professionals. Out of a total of 60 questionnaires distributed, 45 were returned. This gives a 75% response rate, which is adjudged reasonable of for this study. It is equally reasonable to assume that any generalization made from such a response would be representative of the construction industry sector.

Table 1: Rate of return of questionnaires

Profession	Questionnaire	No. Returned	Percentage
Architect	10	8	18%
Builder	10	8	18%
Quantity surveyor	10	6	13%
Project manager	10	8	18%
Civil engineers	10	10	22%

Mechanical engineers	10	5	11%
Total	60	45	100%

Table 2 below shows the distribution of respondents according to the sector (public or private) that they work in. It could be seen that about 42% of the respondents work with the public sector of the economy, 56% in the private sector, while 2% specified they are from “others”. This observation can very well mean that the professionals are involved in construction project execution in all the aspects of the economy, which indicates that they are also major players in the decision making of these sectors.

Table 2: Distribution of respondents along public-private sectors line

Sector	Frequency	Percent
Public	19	42%
Private	25	55%
Others	1	2%
Total	45	100%

Table 3 shows , thirty six (36%) of the respondent hold Bachelor Degree of Science and Higher National diploma degrees, (22%) hold post graduate certificate while (42%) were seen to hold other qualifications. This shows that there is an initial knowledge in acquiring the various degrees that qualify the professionals to supervise construction projects. Meaning that with this knowledge the various projects should be done with all professionalism, since the principles of handling such project is supposed to have been acquired at the completion of such degrees.

Table 3: Qualification of respondents

Professional qualifications	Frequency	Percent
Higher National Degree/ Bachelor of Science degrees	16	36%
Post graduate degrees	10	22%
Other degrees	19	42%
Total	45	100%

Table 4: Showing the awareness of the existence of project management skills

Answer	Frequency	Percent
Yes	42	93%
No	3	7%
Total	45	100%

From table 4 above, 93% of the respondents were aware of the existence of project management skills which is higher than the non – awareness which is (3%). Since the table has shown this awareness, it is required that the principles of project management skills be applied for every project supervised in other to achieve the objectives of project management.

Table 5: Showing the acquisition of project management skills apart from original discipline

Answer	Frequency	Percent
Yes	31	69%
No	14	31%
Total	45	100%

Sixty nine per cent (69%) of the respondents claimed to have acquired project management skills, while (31%) said otherwise, this indicates that the projects supervised by the professionals should not suffer any non-performance in application of the skills in project management. The acquisition of these skills will help in adequate supervision of the project and the performances of the professionals will be clearly evident in project delivery.

Table 6: showing completion of project at expected date

Answer	Frequency	Percent
Yes	3	7%
No	41	91%
Total	45	100%

Ninety-one (91%) of the respondents said the various projects supervised by them were not handed to the clients at the duration date recorded at the beginning of the project, while (3%) handed over at the right time, this is quiet high and indicates negativity. One major setback in handling projects is time overrun which is not favourable to the client, if these professionals claim to have had knowledge of project management skills, the knowledge should be applied in the course of supervision, and in turn make the execution of such projects smooth with no hitches.

Table 7: Showing the suggestion as to what is required for supervision by government agencies

Supervision by government agency	Rank	Mean	S.E	Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
Adequate project management skills to carry out construction work supervision	1	3.18	0.181	0.837
Adequate resources to carry out the inspection	2	3.02	0.164	1.097
Adequate laws, regulation or codes	3	2.93	0.160	1.074
Adequate knowledge on construction site visits	4	2.71	0.203	1.359
Appropriate inspection services to enforce the laws	5	2.40	0.125	1.211

The respondents were asked in order of preference which method best fits project supervision .Adequate project management skills to carry out construction ranked first with mean value of 3.18 and statistical value of 0.837. Adequate resources to carry out the inspection for enforcement of the law ranked second with mean value of

3.02 and statistical value of 1.097, Adequate law regulations or codes ranked third with mean value of 2.93 and statistical value of 1.359, while last on the table is appropriate inspection services to enforce the laws with mean value of 2.40 and statistical value of 1.211. This result implies there is an effort by government to provide adequate supervision to oversee the construction process in the state, ranking of the adequate project management skills to carry out construction had a statistical value of 0.837 though it ranked first but not a good indication as it is the lowest, meaning adequate measures must be taken to ensure that all professionals involved in supervision of construction projects are monitored to ensure that certificates displayed for the skills acquired and also that the various agencies encourage all professionals to acquire extra skills in various aspects of project management. Adequate resources to carry out supervision

5. CONCLUSION

The result of the study shows that the educational attainment of building industry professionals is high, adequate and regular training in project management is very absolute. The availability of a well-trained project manager is therefore an essential ingredient for the successful operation of many construction industries. Nonetheless, greater efforts should be put into creating awareness by those involved in policy making to ensure that all those involved in project supervision acquire the right project management skills to undertake any construction project in their care.

There are certain levels of competence and skills that a project manager needs to understand in order to operate in the environment effectively. But from the survey carried out though it was evident that there is the existence of project management but its application to the construction industries is not effective and efficient, leading to poor management of project, high cost of construction, longer construction period leading to abandoned project. It was further seen that many projects were supervised majorly by Architects whose main duty is to prepare Architectural design of a particular project. This is so because of the low level of importance attached to the application of project management/ project management skill.

The importance of project management skills in ensuring the success of construction projects cannot be overlooked. For instance, it could be a good check against the tendency of clients as well as workers rushing to complete a project while paying little or no attention to quality. Considering all these, it is of importance to the owner of the project to use construction project managers for quality of project delivery on time, within budget and without compromise, from the determination of the need for the new facility to the turnover of the completed project. Quality, cost and time are important to the project manager and the client during the construction of the project and the proper application of project management skills could be used at various stages of the project life cycle to achieve the goal of delivering the project at the economically optimal time.

6. RECOMMENDATION

From the study, the following were recommended:

- Construction industries should adopt the use of project management skills for effective project delivery.
- This should be adopted to avoid premium been paid to client by contractor when delay sets in.
- This study recommends the use of project managers and that each professional should be used to deliver its service.

7. REFERENCES

- [1] T.O. Oladinrin, D.R. Ogunsemi, I.O. Aje, Role of Construction Sector in Economic Growth: Empirical Evidence from Nigeria, *FUTY Journal of the Environment*, 7 (2012).
- [2] M. Kumar, (2007).
- [3] M.G. Rogers, A. Duffy, *Engineering Project Appraisal*, 2 ed., John Wiley & Sons, Oxford, 2012.
- [4] C.C. Nwachukwu, E. Ibeawuchi, M.N. Okoli, Project Management Factor Indexes; a Constraint to Project Implementation Success in the Construction Sector of a Developing Economy, *European Journal of Scientific Research*, 43 (2010) 392-405
- [5] D.K. Ahadzie, K. Amoah-Mensah, Management Practices in the Construction Ghanaian House Building Industry, *Journal of Science and Technology*, 30 (2010) 62-75.
- [6] B.Z. Posner, What it Takes to be a Good Project Manager, *Project Management Journal*, 18 (1987) 32-46.
- [7] K.N. Jha, *Construction Project Management: Theory and Practice*, Pearson Education, India, 2011.
- [8] T.A. Byrd, B.R. Lewis, D.E. Turner, The Impact of IT Personnel Skills on IS Infrastructure and Competitive IS, in: M. Khosrow-Pour (Ed.) *Advanced Topics in Information Resources Management*, Idea Group Inc (IGI), Hershey (USA) and London (UK), 2005, pp. 63-91.
- [9] J. Taylor, *A Survival Guide for Project Managers*, 2 ed., AMACOM Div., American Management Association, New York, 2006.
- [10] J.R. Meredith, S.J. Mantel, Jr., *Project Management: A Managerial Approach*, 7 ed., John Wiley & Sons, Inc., United States of America, 2009.
- [11] K.N. Jha, Determinants of Construction Project Success in India, in: *Topics in Safety, Risk, Reliability and Quality*, Springer Science & Business Media, 2013, pp. 241.
- [12] R. Murch, *Project Management: Best Practices for IT Professionals*, illustrated ed., Prentice Hall, 2001.
- [13] A. Dykstra, *Construction Project Management: A Complete Introduction*, illustrated ed., Kirshner Publishing Company, San Francisco & Santa Rosa, 2011.
- [14] J. Bale, CIOB's Professionalism: An Inclusive Definition of Construction Management, in, *The Chartered Institute of Building*, Berkshir, 2010.
- [15] A. Walker, *Project Management in Construction*, Wiley-Blackwell, 2007.