

Addressing Challenges in Construction Project Management Process

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Abstract—Construction industry is a very crucial sector which needs application of critical managerial practices, for purposes of improving efficiency, and meeting the ever growing demand for the infrastructural facilities. Even though there are existing outlined principles regarding construction management activities, the industry still faces some sort of challenges which in turn affect the general productivity. The aim of this paper is therefore to evaluate the basic construction management process, pointing out the root-course of the challenges, and further presents the possible solution to the identified challenges. The evaluation is based on the review of the key project management phases, with more emphasis on the practical aspect of the process. The expected outcome of this study is to enhance efficient construction management operations, for purposes of improving quality service delivery, and general productivity as far as constructions industry is concerned.

Index Terms—Challenges, project execution, project phases, possible solutions.

I. INTRODUCTION

With the increasing demand for the infrastructural facilities, to suit the needs of the ever growing population around the globe, construction projects management requires critical application of relevant skills, knowledge, techniques, and the right tools necessary for planning, organizing, coordinating, controlling, and directing various short-term activities of a project, for purposes of achieving the set goal and objective [1]. In normal cases, a project usually have a scheduled timeframe, in which it ought to be completed, hence needs proper coordination and management of the available resources, to ensure successful completion of the task in the right time. Successful management takes care of both the quality and quantity aspect of the project, in line with the available resources, as well as the allotted timeframe. Just like in any other activity, for a project to be successful, there must be a proper management, which therefore illustrates the importance of ensuring application of the necessary relevant management skills, in execution of a construction's project activities [2]. However, the entire process may at times pose some sort of management associated challenges, of which if not addressed properly may lead to failures or delivery of the end results which in one way or the other does not meet the required quality. The aim of this paper is therefore to discuss

the relevant elements of construction project management process, necessary for smooth and successful running of the projectfig's activities, taking into account the key phases of the professional management protocol [3]. Additionally, the paper will farther discuss project management associated challenges, as well as the recommended possible solutions.

A project is normally made up of defined tasks and process, which is set to run for a specific period of time, using the available relevant resources, and stipulated budget. The management basically handles the tracking process of the project, right from the initiation and execution, all through to completion stage of the actual project, from the cost and schedule perspective [4]. The process basically involves creating the maximum project schedule, formulating project's financial projections and model, cost management in line with the budget, tracking the progress made in line with the original plan, as well as reporting the general status of the project as it progresses [5]. Each and every stage of the process requires a special approach, since there is no room for repetition after the project is already completed. The project ought to be done within constraints, with specified resources, at a particular point, and within a given period, regardless of the risks associated [6]. The fact that a project is normally temporary, implies that there is normally a definable and discrete initiation and completion stages of the project, which therefore calls for appropriate measures, to ensure that the expectation is eventually met; therefore the main indicator of a successful project is specifically its performance, in comparison with the schedules. In other words, the timing in regard to the commencement and completion of the project is the key determinant of its success, that is, if it was completed within the timeframe [5]. Every project therefore has common features, which includes: use of constrained resources, Involves interim activities, with a scheduled predetermined commencement and completion dates, normally has a specific single objective, or sets of objectives, has a scheduled budget, the responsibility of coordinating all activities lies in the hands of a project manager [7].

II. MANAGEMENT PHASES

A. Initial Stage

Initiation stage is basically the start of the project, during which the idea about the project is actually explored and examined. The main purpose of this stage is for project feasibility examination and determination. Additionally, at this stage, initial decisions, such as choosing the right person to be in charge of the project, the parties to be included in the process, as well as whether, the involved parties have what it

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takes to provide adequate support necessary for successful execution of the relevant activities is made. At this stage, the probable or already existing leader of the project, drafts a proposal which is eventually submitted to the potential sponsors [8]. The proposal normally outlines the description of the project's whereabouts and the relevant parties behind its execution [9]. The proposal is then evaluated by the prospective sponsors, after which the required financing is therefore released upon approval, which actually signalizes official commencement of the project. However, there are a number of questions which needs to be answered at this particular stage, which include the purpose of the project, its feasibility, the potential partners of the project, the expected results, as well as the scope of the project. Qualities of a project leader are very important as far as success of a project is concerned. The leader ought to be able to focus on the initial plans, and stand firm with the prior decisions, since the project which at time undergo continuous expansion, and individuals involved keep on adding more goals and objectives, are more likely to go off the truck, and therefore the project leader should have the ability to say "no" in case of such events [10]. At the initial stage, project partners come together in an interim relationship, hence for purposes of avoiding emergence of unrealistic expectations regarding the end result of the project, it is very crucial to have a better understanding of the project by all the partners, and make an explicit agreement concerning the project to be initiated.

B. Definition Stage

This phase normally commence after approval of the initial project plan, which paves way for the commencement of the second stage [11]. Definition stage normally involve clear definition and precise specification of the requirements expected as the final results of the project. In other words, at this stage the identification of what all the involved parties expect as the final project result is actually done. The relevant activities and required documentation and data are therefore reviewed, and appropriate execution plans are therefore put in place. It is significant to point out the requirement as early as possible in the course of the process [12]. The project requirements can actually be categorized for easily reference, and better understanding. These categories include: functional requirements, preconditions, design limitations as well as operational requirements [7].

Preconditions provide the framework within which the project ought to be conducted, for instance, the relevant regulations and legislations, approval requirements, and working condition regulations. Such requirements cannot be affected from within the project [13]. *Functional requirements* basically involve activities which touches on the quality of the end result of the project, for instance, how spacious the rooms of a given building should be. *Operational requirements* on the other hand basically involve the efficiency of the final product of the project, especially about efficiency maximization. Additionally, *design limitations* normally involve the actual project realization in terms of the general legitimate design.

It is very crucial that all the involved parties participate during definition stage, especially the final user for whom the project is meant. However, at time the end users tend to be ignored, since they in most cases not the exact individuals ordering for the projects, but the customer, who is directly

involved with the project, should indeed be invited to participate during the definition stage. However, the project can be more effective if even the future users are as well called upon for collaboration [14]. The bottom line is that it is significant to always involve all relevant stakeholders during the definition stage, just to ensure that the needs of the end users are well covered, and to avoid a situation in which the end result fails to meet the expectation of the users, which in turn may lead to additional work, and extension of the scheduled time.

C. Design Phase

The design choices are made based on the list of requirements which are outlined in the definition phase. During this phase, a single or more designed are formulated, which are considered to have the possibility of making a suitable end results. In regard with the project's subject, the design phase may entail, sketches, dioramas, flowcharts, construction plans, and photo impressions as the products. Out of the designs made, the project supervisor therefore select the definitive design, of which will be developed to a final results. The selection of the design should be done more carefully, since there is normally no room for changing the design at later stages [15]. The head of the design team should actually ensure that the entire relevant features expected as part of the final result of the project is taken good care of, before proceeding to the next level of the project [5]. In case the mistake is done at this particular stage, there can be serious consequences at the final stage, which may lead to the project being rendered irrelevant, and therefore demands to be conducted a fresh, perhaps when the budget is almost exhausted, which may therefore cause a lot of inconvenient. The entire process therefore needs to be conducted carefully.

D. Development and Implementation Stage

At this level, everything required for project implementation is arranged ready for the implementation process. Prospective contractors as well as suppliers are therefore brought in at this particular level, followed by scheduling activities and ordering of the relevant materials. The relevant personnel are therefore given the relevant instructions to be ready for the kick off of the project. The implementation phase is what marks the beginning of actual commencement of the structural aspect of the project. The development or construction process kicks off at this particular stage.

E. Performance and Control Stage

At this particular phase, the project manager weighs project progress and status against the actual plan, in regard to the resources and the initial budgeting, as well as the allotted timeframe. At this point, the manager may opt for adjustments if necessary, in order to keep the progress of the project on truck as planned before, or the manager may do any necessary activity deemed fit for ensuring success of the project [16].

After completion of the project's tasks, the client is therefore invited for approval of the final outcome, after which the project is evaluated for purposes of highlighting the project success, as well as learning from the projects progress history, after which it is brought to an end and officially

closed [17].

III. CHALLENGES

Undefined goals are part of the challenges associated with project management process. In case the objective of the project is not clearly recognized, the project management team can land into problems, since the high level management may disagree with the proposed goals of the project, which in turn can reduce chances of project success in that case [4]. Lack of clear goals, is one of the root causes of misunderstanding in the process of executing a project, and can possibly lead to failure at the end. Additionally, scope creep issues are as well another sensitive challenge all together. This can happen in case the project manager does not strictly adhere to the initial objective of the project, hence allowing for extension of the project scope beyond the initially intended goal, therefore creating confusion. As a matter of facts, supervisors as well as clients can possible ask for changes in the course of project execution, but it is upon strong and firm project manager to evaluate each and every changes requested, and decide whether they are indeed necessary for implementation. In case the changes do not appear to be necessary, the manager should be bold enough to provide the relevant advice [13].

In most cases, projects normally have the associated risks, and rarely go smoothly as per the initial plans. It is therefore important for the project managers to equip themselves with the relevant risk management skills, and to inculcate risk tolerance attitude, and learn appropriate ways of handling risks whenever they strike in the process of project execution. Moreover, poor communication is another factor which can actually present a serious challenge as far as success of a project is concerned. The project managers is normally responsible for giving directions at each and every step along the way, in order to keep team leaders well informed about the status of the project. Effective communication is therefore crucial in every aspect of the management process, and should be observed closely by the managers in that case. Poor communication can at times lead to lack of stakeholders engagements, which can eventually lead to failure of the project. Additionally, it is very crucial for the managers to identify the exact directions to be taken, especially in predefined situations, in order to avoid unclear plans which may possibly lead to confusions. If there is lack of clear contingencies identification, the project may basically land into a series of unexpected problems [5].

Project development is normally characterized by constrained resources. However, the resources availed for purposes of project execution should be sufficient for efficient and effective running of the project [6]. At times allocation of sufficient resources normally poses some sort of challenges, since the managers may order insufficient resources, which in turn acts as a hindrance to the execution process [3]. On the same note, at times the clients may suggest deadlines which appear to be impossible in a practical sense. This may as well create a challenge, since it can push the project team to the extent of losing morale, leading to decline in productivity generally [17]. Such unnecessary pressure

should therefore be avoided for purpose of effective execution of the duties, as far as success of a project is concerned.

IV. POSSIBLE SOLUTIONS

- 1) All stakeholders should agree on a single precise objective of the project, in order to avoid disagreement at later stages, which at times calls for project adjustments and extension of the initially schedule timeframe.
- 2) Project managers should actually adhere to the initial project goals, and should not extend the scope of the project without a thorough evaluation of the adjustment requests. In other words, the project manager should only apply the critical and necessary adjustment, instead of responding to each and every adjustment call, during project execution process [7].
- 3) Managers should have firm decisions, and be able to disregard impossible recommendations, given by other stakeholders or clients.
- 4) With the current more advanced technology, communication among the relevant stakeholders, the end users of the project's end results, as well as team leaders, can actually be improved, and each and every stakeholder should therefore be engaged throughout the project execution process, through the available communication platforms, such as social media or personal emails among others [17].
- 5) The project completion timeframe should actually be scheduled in such a way that is flexible and realistic, in order to avoid pressurizing the personnel involved, hence enables efficient service delivery, as far as the success of the project is concerned.
- 6) Even though the resources required for the project must be within limits, it is important to provide sufficient resources, for purposes of ensuring efficient and quality end product, as there will be enough and reliable materials necessary for quality service delivery [18].

V. CONCLUSION

In conclusion, Project management entails critical application of relevant skills, knowledge, techniques, and the right tools necessary for planning, organizing, coordinating, controlling, and directing various short-term activities of a project, for purposes of achieving the set goal and objective. Successful management takes care of both the quality and quantity aspect of the project, in line with the available resources, as well as the allotted timeframe. However, the entire process may at times pose some sort of management associated challenges, of which if not addressed properly, may lead to failures or delivery of the end results which in one way or the other does not meet the required quality. The management basically handles the tracking process of the project's an activities, right from the initiation and execution stages, all through to completion phases of the actual project, from the cost and schedules perspective. Each and every stage of the process requires a special approach, since there is no room for repetition after the project is already completed. The

project ought to be done within constraints, with specified resources, at a particular point, and within a given period, regardless of the risks associated. The timing in regard to the commencement and completion of the project is the key determinant of its success, that is, if it was completed within the timeframe. It is therefore important for proper handling of each and every step of the project in order ensure smooth operations, and quality end results.

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