Do Project Management Determine Successful Completion of Projects? A Study of Indonesian Contractors

Aris Subagio[1], Rachmat Mudiyono[2] and Sumirin [3]
Civil Engineering Master Program, Universitas Islam Sultan Agung, Semarang, Indonesia
Corresponding author: arissaja@ymail.com

Abstract

For a successful execution of construction projects, project owners and contractors need for a good management system capable of monitoring and evaluating progress of the project. By employing a descriptive quantitative method, this study aimed to explore project management components used by contractors in the city of Kudus, Central Java Indonesia and to find out its relation to successful completion of their projects and determine the most dominant component in the management. Data for the study were in the form of numbers collected from 100 respondents through survey. Finding of the study were then quantitatively analyzed based on our pre-determined criteria. Our findings showed successful completion of projects was very much determined by the quality of project management, including planning, organizing, actuating and controlling. Among those four components of management, organization was the most dominant aspect to influence successful execution of a project. Role of organization in the project was critical to coordinate parties by which they were enabled to supervise, optimize specialization, efficiently use the budget and build harmonious relationship among parties.

Keyword: Management, Contractor, Work Quality

1. INTRODUCTION

Construction service industry has experienced rapid progress, marked by the existence of an unavoidable cross-border construction markets (Iyer et al. 2019; Nguyen, et al. 2018). The pace of the global construction market demands a higher level of quality for construction resources, including the need for construction project foreman, which is also developing in line with the free market. This does not rule out the possibility that some construction works in Indonesia will be completed by workers from other countries. Therefore, Indonesian contractors must be professional and capable of meeting the quality standards as required by national and international markets (Mulyadi et al., 2014). For this reason, knowledge in management is critically needed by the contractors to successfully execute a project (Widiastuti and Lenggogini, 2013). Despite management is one of the major degrees of service parameter for a successful completion of a project (Iyer et.al. 2019), research on construction project management has gained academically less attention. Some studies on construction project management had been conducted (Iyer et al. 2019; Saurin et al. 2004; Radosavljevic & Horner, 2007), but a study to explore the management components used by contractors remain under-researched.

Project Management Components

Quality Assurance provides certainty of the execution of a job, while quality control provides certainty regarding the expected results (Iyer et al. 2019). Quality control performance can be measured by calculating the compliance of the work implementation on quality assurance products including; 1) compliance of field supervisors of the service provider to the administrative documents related to quality, drawings and technical specifications, 2) compliance with Contract Quality Plan documents and 3) compliance of work implementation on product quality assurance.

Like computers, management in construction projects acts as an operating procedure or software, while managers act as hardware or the brainware or HR tool. Management functions consist of planning, organizing, actuating, controlling (Terry & Rue, 1999).

Planning is a necessary step in decision making (Rotimi & Ramanayaka, 2015; Zafira & Puspitasari, 2022; Larasati dkk, 2022; Primastuti & Puspitasari) where this requires information, data, assumptions and facts related to the activities to be carried out. The steps needed in planning include determining the objectives and the objectives of the activity, structuring the short-term and long-term master plans, determining the contribution of operating procedures and strategies, and preparing related funds and desired quality standards (Chen, et al. 2015). On the other hand, planning also has benefits as a means of controlling and supervising activities, as a reference for the implementation of activities, and as a facility for selecting and determining the required activities (Saurin et al. 2004).

Organizing is defined as a step to unite human activities in which each activity has its own duties and responsibilities, although they are still interconnected. Organizing in an activity can be done by; separating work items into operational responsibilities and obligations; unifying positions into related unit divisions; performing the selection and placement of human resources on the right work items; and aligning the responsibilities and authorities of each personnel (Terry & Rue, 1999). The organization is useful as a guide for the implementation of functions, task division and responsibilities as well as real delegation of authority project (Widiastuti and Lenggogini, 2013).

Actuating refers to all the implementation of management methods. Implementation is the most important part of all existing functions. Actuating emphasizes

the activities and direct relationships of agency personnel, while planning and organizing are more indirect and/or abstract (Terry & Rue, 1999). In its implementation, actuating has the following stages; carrying out coordination of activities; performing effective communication; performing the distribution of authority, duties and responsibilities; providing direction, and task and motivating; and making efforts to improve the direction in accordance with the direction of the supervisor (Humphreys & Thomas, 1991; Nguyen, et al. 2018). Good implementation can be a balance between duties, obligations and the rights of each unit in the agency, can be able to motivate achievement efficiently, and can encourage cooperation in the work to achieve targets (Nguyen, et al. 2018). By having the confidence to carry out the work, believing that the work implementation o can increase the potential value for themselves, and believing that the relationship among fellow workers can run in harmony, the workers will be motivated to carry out their work better (Terry & Rue, 1999).

Controlling is a systematic effort carried out to achieve goals by comparing between the working performance and the planning, in addition to making appropriate steps to mitigate the main differences. Control is a necessary step to measure quality and evaluate performance (Egbu, et al., 1998). Corrective steps are also included in this step, in order to correct deviations, especially those exceeding tolerance limits. The controlling step can be implemented by; calculating the quality of the results; comparing results with quality standards; evaluating the existing difference; making suggestions for improvement; carrying out the preparation of activity reports. Controlling has a function which includes minimizing opportunities for errors to occur, especially in aspects of quantity, quality, time, and cost (Rotimi & Ramanayaka, 2015; Saurin et al. 2004).

2. RESEARCH METHOD

This is a descriptive quantitative approach employed to understand the project management strategy used by the contractors. The intention was to explore the relationship among the project management components, such as planning, organizing, actuating, and controlling, in addition to finding out the most influencing aspect in the components. Altogether 100 local contractors in the city of Kudus, central Java Indonesia were purposively selected and involved in the study as sample. From 100 respondents, 86 were male and the rest of 14 respondents were female with an average age of 27 to 47 years old and with educational background ranging from high school to master degree.

Data of the study were collected through survey and analyzed quantitatively using SPSS statistic program SPSS V.21 to generate data for the study. To answer the main objective of the study, the analyses were geared towards finding out correlation between planning, organizing, actuating, controlling and the quality of construction work.

3. FINDING AND DISCUSSION

a. The relationship between planning and quality of construction work

Findings of the study indicated that planning affected the quality of construction work. This statement was confirmed by the value in planning variable which was of 0391 for ttest, and 1.663 for ttable resulted from one-sided test. In addition, the significance value of the variable was of 0.697. Based on the findings, it could be inferred that t test < ttable and had resulted in the value of 0.391 < 1.663 which means positive. The significance in this case was greater than 0.05 (0.697 > 0.05) which means, planning had a less significant effect on the quality of construction work. This statement at the same time strengthened (Rotimi & Ramanayaka, 2015) who earlier found that planning in a construction management influenced the quality of construction work. Planning in the construction management is important to help realize satisfying work results, especially in the quality planning section. Quality planning includes process of identifying quality standards which will later be applied in accordance with the conditions and compliance. This quality plan may consist of a document of quality determination, policies, procedures, and project systems. In addition to a contract between the client and the contractor about an agreement on the results of project implementation as well as procedure guidelines which rule about details of the work method selected for project implementation. Less significant effect of planning, rapid changes in the Policy cause the execution planning less significantly affect the quality of construction work.

b. The Relationship between Organizing and the Quality of Construction Works

Since respondents considered organization be capable of facilitating coordination between parties in the group so as to facilitate supervision, maximize the benefits of specialization, and streamline costs and make relationships between individuals more harmonious, the finding of statistical calculation showed, it had a significant effect on the quality of construction work. This statement was confirmed by the value in organizing

variable which was of 11.129 for ttest, and 1.660 for ttable resulted from one-sided test. In addition, the significance value of the variable was of 0.000. Based on the findings, it could be inferred that t test > t table and had resulted positive in the value (11.129 > 1.660). The significance in this case was smaller than 0.05 (0.000 < 0.05) which means, organizing had a positive effect on the quality of construction work. Organization will be successful if every member work together to achieve a common goal. The process of making organization's life cycle generally comply the following stages: pre-stage, forming, storming, norming, performing, adjoining (Terry & Rue, 1999; Widiastuti and Lenggogini, 2013).

c. The Relationship between Actuating and the Quality of Construction Works

Findings of the study indicated that actuating affected the quality of construction work. This statement was confirmed by the value in actuating variable which was of 2.946 for ttest, and 1.660 for ttable resulted from one-sided test. In addition, the significance value of the variable was of 0.004. Based on the findings, it could be inferred that t test > t table and had resulted positive in the value (2.946 > 1.660). The significance in this case was smaller than 0.05 (0.004 < 0.05), which means, actuating had positively a significant effect on the quality of construction work.

Actuating as a management function plays a role in moving the members of the organization to carry out the activities determined in the planning. Actuating in the study was revealed to be capable of encouraging the creation of a balance of duties, rights and obligations of each part in the organization, as well as encouraging the achievement of efficiency and togetherness in collaboratively working for a common goal. In addition, employees would be motivated if they were confident. As a result, they would do a good job because they believed the work would increase their self-esteem, and would positively strengthen the relationship among employees in the organization. Adding to the above finding, Zachawerus & Soekiman (2018) state 10 (ten) factors such as (1) the technical expertise of the project manager; (2) implementation of an effective quality assurance program; (3) project manager experience; (4) scheduling; (5) communication system; (6) control mechanism; (7) commitment of all parties involved in the project; (8) involvement of the project manager from the beginning to the end of the project; (9) emphasis from officials making commitments to high quality construction; and (10) the ability of

technical expertise by the supervision team were critical for a success of a project execution.

d. The Relationship between Controlling and the Quality of Construction Works

Findings of the study indicated that controlling affected the quality of construction work. This statement was confirmed by the value in controlling variable which was of 2.016 for ttest, and of 1.660 for ttable resulted from one-sided test. Significance value of the variable, in this case, was of 0.047. Based on the findings, it could be inferred that t test > t table and had resulted positive in the value (2.016 > 1.660). The significance was smaller than 0.05 (0.047 < 0.05) which means, controlling had a significant effect on the quality of construction work.

In construction projects, control is needed to keep the implementation from deviating the plan. Each work carried out must be thoroughly inspected and checked by the field supervisor, whether it has been in accordance with the specifications or not (Terry & Rue, 1999). For example, the transportation of materials must be well organized and the ordered raw materials must be tested in advance at each factory, if the control is carried out properly, schedule delays and project cost overruns can be avoided (Saurin et al. 2004). Schedule and cost control are parts of the project management division which includes work progress monitoring, cost reduction, optimization, modeling, and analysis (Terry & Rue, 1999). In addition to controlling time and costs, physical quality control of construction must also be carried out. The physical construction quality control division is separated from the schedule and cost control division. Control of the physical quality of construction is carried out separately by the engineering supervisor through plan drawings and technical specifications.

To add, respondents argued, control was a continuous process, a management process, embedded in every level of the organizational hierarchy, forward-looking, closely related to planning, a tool to achieve organizational activities, and the final process, as well as comparing the actual performance with the planned performance.

Based on the comparative analysis, among the four management components (Planning, organizing, actuating and controlling), organizing in the study appeared to be the most dominant component to affect the quality of construction work. It was confirmed by the significant value with probability value of 0.000 as shown in the analysis result.

Organizing system is very critical in a construction project as it facilitates coordination among parties in a group, ease supervision, optimize specialization, efficiently save cost and build a positive relationship among individuals.

4. CONCLUSION

From the finding, we learned that successful completion of projects was very much determined by quality management, involving planning, organizing, actuating and controlling which at the end, implies to execution, quality, cost and safety. Among those four components of management, organization was revealed to be the most dominant aspect to influence successful execution of a project. Role of organization in the project was critical to coordinate parties by which they were enabled to supervise, optimize specialization, efficiently use to budget and build harmonious relationship among individuals.

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