

Importance and Performance Analysis of Construction Management Activities in Construction Projects in Pulang Pisau Regency Based on Contractor Perceptions

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Abstract:

Construction is a system that always involves many parties from the planning, implementation (doing), until controlling which in the process can cause problems that will affect project performance. In the implementation of construction projects, problems often occur, including the extension of work execution time, delays, additional project costs and work results that are not in accordance with the planned quality. This study aims to identify and make instruments measuring the effect of management activities on the performance of construction projects in Pulang Pisau Regency. There are 120 variables used to measure project management performance from two viewpoints of the level of satisfaction/perception and interests/expectations. Then an evaluation using the Importance Performance Analysis (IPA) method is performed. From the results of the analysis by the Importance Performance Analysis (IPA) method it can be seen that project management activity variables are the top priority that need to be improved in order to improve construction project performance, including 12 variables which are divided into 4 variables each at the planning stage, 3 variables at the implementation stage, and 5 variables at the control stage.

Keywords: Perception, Project Management, Performance of contractors, Building buildings

INTRODUCTION

Often encountered various obstacles in the management of construction projects such as low performance or labor productivity and also the project planning is not mature enough. Other constraints are design changes, project cost overruns, work accidents and decreased quality of work. These constraints in management can result in delays in implementation time, design changes, project cost overruns, work accidents or a reduction in the quality of work.

Construction projects in Pulang Pisau Regency often experience changes in implementation time and changes in certain items in the construction. This is thought to be related to management activities put forward by several experts. Thus, it needs to be studied further to what extent the influence of management activities on the performance of construction projects.

For example, the activity package in the Maluku-Bantanan region for the 2018 budget year will be in the form of building 2 slab file bridges with a period of 180 calendar days. With this period of time the construction of the slab file bridge construction could not be completed in a timely manner so that it would incur a 1/1000 fine from the contract value. This problem is due to inadequate management performance, the activities should be carried out simultaneously but not carried out, so that the contractor experienced additional costs to complete the activity. If project management is carried out in this project as needed, problems that may arise can be identified first such as identifying the function of responsibilities, minimizing the demands of routine reports, identifying deadlines for scheduling, measuring achievement of plans, identifying early problems and corrective actions, increasing capability estimation for the plan to be carried out and find out if the target cannot be achieved.

With the various constraints above, it is expected that the contractor can anticipate these things so as not to interfere with the performance of the project being worked on. Based on the above considerations, through this research a study was carried out on the analysis of the importance and performance of the implementation of construction management activities in the construction project in Pulau Pisau based on the contractor's perception.

LITERATURE REVIEW

Key Success Factors for Housing Contractors in Real Estate

According to Setyadarma et al (2007), there are four aspects that must be considered by housing contractors in order to be able to build houses of good quality, on time, and within budget.

Project Success Factors Based on Project Management Opinions

According to Gunawan and Soegianto (2009), it is said that many factors support the success of a project. However, there is no specific study to explain how the opinion of a project manager on the success of a construction project, because studies on this subject are still rarely constructed.

Components of a Success Factor for a Construction Project

According to Sidwell (Fick, 1998) this includes a combination of payment method and contract selection, to describe the route. Cleland (1983) extends this classification to include costing, selection of contractors, the role of specialists, forming structures and contract conditions so that five components are formed namely the selection of building groups, payment procedures, the framework of the law, the stages of the building and the group of development organizations.

Analysis of Determinants of Success of Housing Projects in Special Region of Yogyakarta (DIY)

According to Antononi (2012), there are three factors that must be considered by developers or housing developers in order to succeed in housing projects of good quality, on time, and within budget. These factors are planning, implementing, and controlling. This research was conducted through a questionnaire distributed to developers/housing developers in the Special Region of Yogyakarta.

Success Factors for contractors

Determinants of project success according to Syah (2004) are also strongly influenced by the management function or management process, namely: 1) Planning; 2) Doing; and 3) Controlling.

The management function works not financially, but simultaneously complement each other. So, in each company the priority of the implementation of its management function is highly dependent on the conditions, needs, and problems of each company. This is in accordance with the company's strategy in achieving its goals.

RESEARCH METHOD

This study uses a combination of qualitative and quantitative methods by conducting questionnaires, interviews and observations. These methods are combined to describe all facts related to the factors that cause losses from the contractor in achieving the quality and quantity specified in the contract due to cost and time inefficiency.

While the instruments used in this study are indicators of each variable. These indicators will be used as questions that will be asked to respondents through a questionnaire. The questionnaire in this study was designed into several sections, including:

1. The first part contains an explanation of the purpose of the study, the biodata of the researcher, and the guarantee of confidentiality.
2. The second part consists of the respondent's personal profile and company profile.
3. The third part is a question questionnaire containing the variable perceptions and expectations of the contractor regarding the influence of management activities on the performance of construction projects in Pulang Pisau.

The scale used in this study is the Semantic Differential scale, which is a measurement instrument in the form of a scale, developed by Osgood, Suci, and Tannenbaum. This instrument is also used to measure reactions to stimuli, words, concepts and can be adapted for adults or children from culture as well. Likert scale research uses the numbers 1 to 5. There are 2 categories of index values used, namely:

Table 1. Contractor Perception Index Value

Assessment of the Contractor's Perception Indicator	Value /Score
1. Very Low Influence (VLI)	1
2. Low Influence (LI)	2
3. Simply Influential (SI)	3
4. High Influence (HI)	4
5. Very High Influence (VHI))	5

Table 2. Contractor's Expectation Index Value

Assessment of the Contractor's Expectation Indicator	Value /Score
1. Very Unimportant (VU)	1
2. Unimportant (U)	2

3. Quite Important (QI)	3
4. Important (I)	4
5. Very Important (VI)	5

Note: Variable (X) is Contractor's Perception and Variable (Y) is Contractor's Expectation.

Furthermore, to make data interpretation easier, all variables were analyzed using Importance Performance Analysis (IPA) which was translated into two-dimensional quadrants which are graphic and easy to interpret. As in Figure 1.

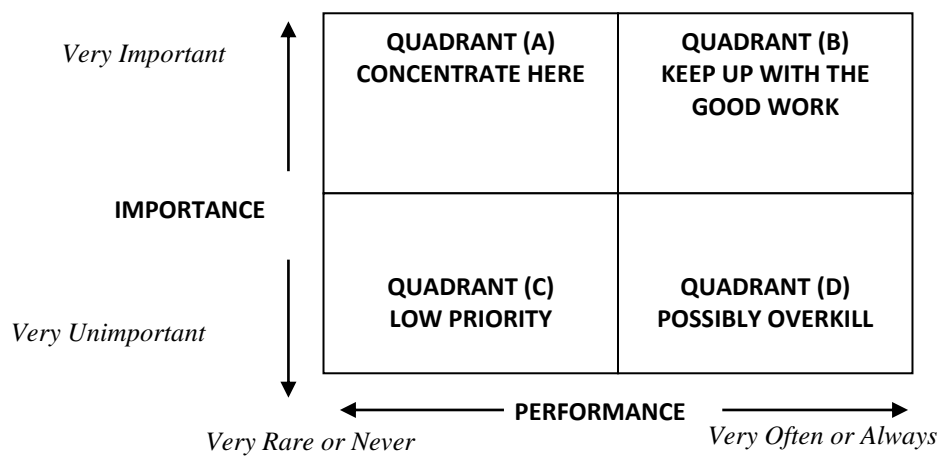


Fig 1. Importance Performance Analysis Quadrant

RESULT AND DISCUSSION

Questionnaire Survey Results

The sampling technique chosen in this study is a non-probability sampling technique with purposive sampling, in which the sample is the Project Management and Management of the Service Provider/Contractor Company that is carrying out the construction project in Pulang Pisau Regency 2017 Budget Year.

Based on the questionnaire distributed data obtained, which will then be analyzed and discussed. Descriptive analysis is presented as additional information to understand the results of the research being carried out and describe the condition of the respondents' answers to the questions presented in the questionnaire.

The number of research respondents in this study using a maximum sample of 20 respondents and a questionnaire consisting of 120 statements divided into 2 parts, each of which is divided into 3 parts questions. The first part consists of 60 statements regarding the performance of project management according to respondents' perceptions during the planning of 20 statements, at the implementation stage of 21 statements and at the control stage of 19 statements. While in the second part consists of 60 statements regarding the importance of project management according to respondents' perceptions

starting from the planning stage as many as 20 statements, at the implementation / doing stage as many as 21 statements and at the controlling stage 19 statements.

Validity and Reliability Test

The three groups of questions, namely for planning, implementation, and control, obtained the number of answer scores. The correlation between each of these total scores and the total score is a measure of the validity of the questions. This correlation measurement uses the Spearman (R) rank correlation coefficient. For $n = 20$, the critical R value used is 0.380. If $R > 0.380$, the group of questions in question is valid. The results of this validity test are shown in the following table.

Table 3. Variable Correlation Validity Test Results

STEP	ASPECT		RESULT
	IMPORTANCE	PERFORMANCE	
Planning	0,646	0,731	Valid
Doing	0,324*	0,534	Valid
Controlling	0,774	0,964	Vald

* Koefisien Value < 0,380

Meanwhile, the reliability test is used with the aim of understanding and knowing the nature of the measuring instrument used, in the sense of whether the measuring instrument is accurate, stable and consistent. The instrument used in this study is said to be reliable if it has a Croanbach Alpha (α) greater than 0.6 so it can be concluded that the results of the tests that have been carried out are reliable for further analysis.

Table 4. Interval Testing Consistency Result

STEP	VALUE	RESULT
Planning	0,875	Reliable
Doing	0,739	Reliable
Controlling	0,770	Reliable

Importance Performance Analysis with Mean Scores (Mean)

Referring to the distribution of the Importance Performance Analysis (IPA) quadrant by using this Mean Score, it can be concluded that there are several variables that are low priority (low priority) that need handling to improve performance, the variables located in this quadrant are very important factors to immediately overcome. Although the current conditions, at the time of the study, had not had an effect on improving the performance of construction projects in Pulang Pisau Regency, project management had to work on adequate resources to improve performance on various factors as recommended in all quadrants.

Variables located in quadrant A are priorities that must be improved in order to improve the performance of construction project management and encourage improvement in construction project performance. The variables in this quadrant are as follows: a. At the planning stage, (6) What do you think about planning for vulnerabilities and obstacles from weather, season, age of certain jobs for demolition, etc. (12) How do you think about work planning using the latest observational data, (13) How do you think you about the main stakeholders (all parties involved in the project) agree and commit to the project objectives and project management process, and (14) what do you think about planning, organizing and controlling company resources in the form of human, funds and material needed and ready to used; b. At the Implementation Stage, namely (4) What do you think about the task is the direct responsibility of one person, (7) How do you think about understanding the interests of the company and the strategies that must be implemented, and (20) What do you think about taking into account the supporting factors cost estimates, including data and information, methods used, experience fiber skills of estimators, materials and equipment, employment, transportation, administration, overhead, subcontracting; c. At the control stage (1) What do you think about the limitations on work success must be made very clear in terms of cost, quality, and time, (10) How do you think about monitoring means being alert at all times to know and immediately prepare and take corrective and preventive actions on changes and deviations that occur or will occur so that the objectives are achieved according to plan, (12) How do you think about controlling with anticipatory steps to avoid changes that have a negative impact, (13) What is your opinion about doing a review of the project operational situation, and (19) What is your opinion on quality testing and material certificate issuance.

Importance Performance Analysis with Median Value

In the distribution of the Importance Performance Analysis quadrant using this median, it can be concluded that there are a number of factors that become the top priority that require handling and improving performance. The factors located in quadrant A are very important factors, but the current conditions have not improved the performance of construction projects in Pulang Pisau Regency, so the management must seek sufficient resources to improve performance on these factors.

The factors located in this quadrant are priorities for improvement that can have an influence on management activities and encourage improvement in the performance of construction projects in Pulang Pisau Regency. And the variables in this quadrant are as follows: a. At the planning stage (12) How do you think about work planning using the latest observational data. b. At the Implementation Stage, namely (3) How do you think about the personal responsibilities and tasks of the project organizational structure is closely related to the work plan that must be carried out, (16) How do you think about controlling material from suppliers, and (20) What do you think about taking into account factors that support cost estimates, including data and information, methods used, expertise in fiber experience from estimators, materials and equipment, employment, transportation, administration, overhead, subcontracting; c. In the Controlling Stage, namely (1) How do you think about the limitations on work success must be made very clear in terms of cost, quality, and time, (10) How do you think about monitoring means being alert at all times to know and immediately prepare and take corrective actions and prevention of changes and deviations that occur or will occur so that the objectives are achieved according to plan, (12) How do you think about controlling with anticipatory steps to avoid

changes that have a negative impact and (19) What is your opinion about quality testing and certificate issuance.

Based on the results of the IPA quadrant analysis using the Mean and Median scores above, it can be concluded that there are some differences in the results of the quadrant distribution. Especially in Quadrant A, where there was a significant increase in the number of analyzes using the Median score. There are several variables which were previously analyzed using Mean scores included in quadrants B and C, in the Median score analysis then precisely included in quadrant A.

To determine the strategy for improving the performance of construction projects in Pulang Pisau Regency, the results of the IPA quadrant analysis will be used using the Mean Score while taking into account the results of interviews with project management that have been carried out previously. In the distribution of IPA quadrants using the Mean Score, it was previously concluded that there were a number of factors that became the top priority that needed handling and improved performance. The factors which are located in quadrant A are very important factors. However, the current conditions have not had a significant influence on the performance of construction projects in Pulang Pisau Regency, so the management must make sufficient efforts to increase performance on these factors. The factors located in this quadrant are priorities to be improved in order to provide satisfaction for residents and encourage improvement in the performance of construction projects in the future.

Repair Priorities

In the previous discussion it has been explained that there are several variables of importance and performance, both based on average scores (Mean) and median values (Median) starting from the planning stage to the control stage.

Based on the mean score (Mean) of variables located in quadrant C (*low priority quadrant*) is a priority that must be improved in order to improve the performance of construction project management and encourage improvement in construction project performance. The variables in this quadrant are as follows:

- A. At the Planning Stage:** (1) Improving planning is closely related to the selection of the right type of project organization and functional. (2) Determine someone who meets the requirements or needs, in order to effectively support the implementation of the project plan, (3) Make and prepare data, documents, completeness of work aids, and project work facilities in the framework of preparing for project implementation, (4) Plan actions anticipation (preventive action) of problems or obstacles, (7) Making estimates / estimates of detailed calculations, and (16) Providing functional plans (in the event of a sudden change in the construction process) and a complete and clear design (architectural and structural drawings).
- B. In the Implementation Stage:** (1) Describe the size of the task or the requirements must be clearly understood and the size is certain (measurable), (3) Arranging the sequence of responsibilities and personal tasks of the project organizational structure is closely related to the work plan that must be implemented, (5) Fostering 'contact persons' and informants both formally between project participants and informally with workers in the field who are able to provide support in achieving targets, (8) Coordinating in order to improve work effort, expedite, or eliminating barriers and

dependence on work, (10) Making work plans that are closer to reality from their implementation (data on work field conditions, situations, and work environment can be directly observed), (11) Providing report data on the realization and progress of activities more clearly by comparing it with the original plan to the senior manager who examined, (16) Controlling material from suppliers, and (17) assessing the quality and quantity of personnel and equipment used and testing the performance of project operations.

- C. In the Control Stage:** (3) Identifying indications of irregularities, which are easily found when controlling is a mismatch between time and quality, (4) Ensuring and ensuring that project implementers are able to handle and resolve themselves together with the project management success team, (8) Ensuring whether the project objectives for cost, quality, and time are achieved, (9) Control through the media of the latest project reports on costs, schedules and physical progress or by periodically reviewing them directly or as often as possible, (16) Following up on deviations that occur as soon as possible to overcome obstacles so that the work in question can be completed.

Meanwhile, based on the median score (variable) variable located in quadrant C (*low priority quadrant*) is a priority that must be improved in order to improve construction project management performance and encourage improvement in construction project performance. The variables in this quadrant are as follows:

- A. In the Planning Stage:** (1) Understanding the challenges in planning are closely related to the selection of the right type of project organization and functional, (2) Determine someone who meets the requirements or needs, to support the implementation of the project plan effectively, (3) Make and prepare need for data, documents, completeness of work aids infrastructure, and project work facilities in the context of preparing for project implementation, (4) planning preventive actions against problems or obstacles, (7) Making more detailed estimates/estimates of calculations, (9) Evaluate and refine project work plans, (14) Plan, organize, lead and control company resources in the form of human, funds and materials needed and ready to be used, and (16) Provide functional plans (in case of sudden changes in the construction process) and Complete and clear design (architectural and structural drawings).
- B. At the Implementation Stage:** (1) Give clear limits on the success of the work both in terms of cost, quality, and time, (5) Complete the project according to plan, (8) Ensure whether the project objectives for cost, quality, and time are achieved, (11) Ensuring that monitoring efforts really provide true and timely information and indications regarding project operations, (17) Establish benchmarks of deviations from what has been planned.
- C. At the Control Stage:** (3) Identifying indications of irregularities, which are easily found when controlling is a mismatch between time and quality, (4) Ensuring and ensuring that project implementers are able to handle and resolve themselves together with the project management success team, (8) Ensuring whether the project objectives for cost, quality, and time are achieved, (16) Follow up as soon as possible deviations and obstacles that occur so that the work in question can be completed within the allotted time.

CONCLUSION AND SUGGESTIONS

Researcher Conclusion

Based on the analysis carried out in this study it can be concluded that the project management activities in Pulang Pisau Regency have various influences on the performance of construction projects, so the conclusions that can be drawn are as follows:

1. There are 12 activities with a high level of importance (Concentrate Here) and 17 activities with a level of low performance importance (Low Priority).
2. This research has succeeded in finding prioritized activities to improve its implementation, which are a minimum of 17 and a maximum of 19 units.

Researcher Suggestion

Based on the research conclusions as described above, there are a number of recommendations that need to be made: 1) The need for further study of the impacts that arise on the performance of construction projects because they are influenced by project management activities, both from an economic and social standpoint, as well as financial and environmental aspects; 2) The Importance Performance Analysis (IPA) method applied in this study uses an average score (Mean) and a median score (Median). For further research, it is expected that the research can consider using the median score as a support in using the Importance Performance Analysis (IPA).

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