

## Analysis Of Construction Supervisory Consultant Payment System

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**ABSTRACT:** The most pivotally important role of construction supervisor consultants is to guard contractor compliance to follow the rules on contract including the planning pictures, technical specifications and work methodologies. In this case, frequently, there is a practical problem on supervisory consultant payment. If the contractor could settle their work faster than the employment contract and submit these work before the deadline, whether the supervisory consultant be paid fully as the contract value? In the real implementation, the delivery result of work which is faster than the agreed time is used as an excuse to decrease the supervisory consultant payment. Nevertheless, the acceleration of project time lead to the difficulties and complexities of field management. The number of equipment and labor increases, however the work space remains the same. Extended work time might effect on Individual pressure at the work-field. A stressful work situation may more susceptible cause in accident which could have a fata; consequences or a death. The policy of accelerating the work completion would result in the increasing of supervisory consultant's working hours or overtime work. A salient example, from a shift to three work shift. In stark contrast however, this additional work hours are not included on supervisor's salary. By continuing to supervise the work during additional working hours, the supervisory consultant is harmed. Meanwhile, if they do not supervise during additional working hours, there might is a risk of failure and construction accidents. Based on this major problems, this is pivotally important to identify the factors which may influence the decreasing in payment of supervisory consultant so that the best solution could be found regarding with the payment method for construction supervisor service. This research is located in Tapin district. The analytical method used is weighting method of respondent's response on several factors that affect the declining value of construction supervisor consultant payment. By way of conclusion, this may be concluded that factor which has a dominant influence on decreasing value of supervisory consultant payment is a unit orice contract oriented to the volume of work that has actually been done by the supervisory consultant, the completion time of physical work is faster the time specified on the contract and supervisory consultants are paid monthly. As a result, an alternative of payment method for both the project owners and supervisory consultant is a payment system based on the completion of duties and supervisory obligations.

**KEYWORDS:** payment, contract, supervisory consultant

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### I. INTRODUCTION

Construction project is one of activity that lasts for a limited period of time, with certain resources, to achieve great results in a building or infrastructure. The construction project involves the project owners, planner consultants, contractor and supervisory consultants who are interrelated in a work agreement called a contract. The success of a construction project is determined by the punctual time, cost and quality specified in the contract document. Reg No. 2 of 2017, this defines the construction work as an activity of building, operating, maintaining, dismantling, and rebuilding. Therefore, the construction project is an activity to build, operate, maintain, dismantle and rebuild a building with limited time to implement and certain resources.

Each construction project has an implementation planning and implementation schedule. Hansen (2015) attitude that a construction project has three aspects of the time frame, namely the duration of the implementation time, the duration of the maintenance time and the specific duration of time. The execution time duration is the time limit for implementation, when the work must starts and when the work must end. In a contract there must be a special clause which clearly states that the project is carried out in a period of months

from the beginning and end dates. This is the contractor responsibility to undergo its work from the time specified and to complete it at the agreed time.

Tomigulung, et al. (2013) states that construction supervisors are as individuals or business entities that are declared experts and professionals in the field of construction service supervision who are able to carry out construction supervision work until it is completed and handed over. The supervisory consultant is a representative of the project owner in the field. The important role of construction supervisor consultants is to guard contractor compliance to follow the rules on contract including the planning pictures, technical specifications and work methodologies. Deviations that occur may affect the construction life or even building failure. So the supervisory consultant plays an important and strategic role in controlling the implementation of the project to meet the requirements on time, cost and quality. The more extensive and complex buildings that would be monitored, the more difficult the supervision might be.

Nowadays, frequently, in the implementation of consultancy service contracts there are numerous problems that are related to the payment of the supervisory consultant. If the contractor could settle their work faster than the employment contract and submit these works before the deadline, does the supervisory consultant be paid fully as the contract value? In the real implementation, the delivery result of work which are faster than the agreed time is used as an excuse to decrease the supervisory consultant payment. Even though the acceleration carried out by contractors makes supervision more difficult. For an illustration, the types of construction projects which often experience these problems are buildings (offices), water structures (sluice gates), roads and bridges. The acceleration of time projects lead to the complexities and difficulties of field management. Also, the increasing of equipment and labor are opposite of the work space which this remains the same. In addition, the underpressure working-circumstances might be susceptible for causing the working-accident.

The policy of accelerating the completion of work could result in the inclining of additional time of working hours for the supervisory consultant, for a salient example, from a shift to three work shifts. Mangitung (2008) stated that the rising in supervisory costs as one of the dominant impact of the velocity of construction project schedule. In stark contrast however, the oversight consultant's overtime service might not be included as the payment for supervisory consultant. This might be harmed for the supervisory consultant since they are still continuing to supervise the work during the additional working hours. Meanwhile, if they do not supervise during this time, there would be a risk of failure and construction accidents. In fact, frequently, the conditions that occurred in the field while there is an acceleration of work, the delivery result of work have to be submitted on deadline, therefore that the supervisory consultant would be paid fully as the contract value.

From this background research, this study is needed to identify and analyze the factors that may affect the declining in payment value of the supervisory consultant. The aims of this study is to identify the factors which have dominant influence on the decreasing of supervisory consultant payment value and to analyze the alternative payment method which might not be harmed for the project owners and the supervisory consultant. This research is expected to provide merits that could be used as a reference for local governments in implementing work contracts with supervisory consultants.

## II. THEORETICAL REVIEW

According to Mujisantosa & Rachman (2014) supervisory consultants are business entities or individuals whose business activities provide professional expertise services in the field of construction supervision, in order to achieve certain targets based on the terms of reference defined by service users.

The supervisory consultant begins his assignment since the Surat Perintah Mulai Kerja (SPMK) is signed by the PPK until the temporary handover time of the work (PHO). The execution time of the supervisory consultant's work follows the physical construction time. If the physical work has been completed, the supervisory consultant work would be also complete. Azis, et al. (2016) explained that the scope of the supervisory consultant's task was to provide expertise services to project owners and the Development Technical Team in carrying out the tasks of coordination and control of all technical development activities from the first designing to the maintaining, as well as the management, technology and engineering. Ibrahim (2016) argues that the construction supervision consultant responsibilities are including three things, namely in preparation work, field supervision and consultation with PPK, planner and construction implementer.

Supervision consulting services costs consist of two components, namely direct personnel costs and direct non-personnel costs. Personnel direct costs are calculated by considering and based on the applicable and fair market prices and supported by comparative studies, comprehensive research and accountable documents. Whereas Non Personnel Direct Costs are direct costs needed to support the implementation of project activities that are made by considering and based on fair and accountable Market Prices and in accordance with estimated activities (Inkindo, 2017).

According to Syakma (2012) consultancy service contracts, namely contracts or agreements made between service users and consultancy service providers, where the consultancy service providers provide

professional expertise services in various fields, whose output is a software form, while service users are obliged to fulfill performance in accordance with agreed between the two. Pepres 4/2015 has arranged the type of contract based on the payment method, which are lump sum, unit price, combined lump sum and unit price, percentage and received. In Presidential decree 16/2018, the type of consultancy service contract is divided into the three parts, that are lump sum, time of assignment and umbrella contract.

The payment procedure of supervisory consultancy services follows the provisions for disbursement of funds allocated from the APBD. This disbursement of fund allocations sourced from the APBD, it is guided by the Minister of Home Affairs Regulation No. 13 of 2006 concerning Guidelines for Regional Financial Management as amended by the Minister of Home Affairs Regulation No. 21 of 2011 concerning the Second Amendment to the Minister of Home Affairs Regulation on Guidelines for Regional Financial Management.

According to the Minister of Public Works Regulation No. 45 / PRT / M / 2007 concerning on Technical Guidelines for Building State, the supervision payment fees could be paid in three ways, there are on a monthly basis, based on certain stages based on the physical construction progress on work and based on the completion of supervision duties and responsibilities. Budianto (2018) explained that there are three alternative ways of payment that may be selected in contracting; direct payment, on terms payment and monthly certificates payment.

### III. RESEARCH METHODS

This study uses a primary data collection through questionnaires. Questionnaires are arranged on a five-point Likert scale and distributed to project owners and supervisory consultants. The results of the respondents' answers are placed in a frequency distribution table in accordance with the respondent's answer category information and given a scoring. To obtain the interpretation of the total responses respondent result, this used interpretation guidelines as shown in Table 1 and Table 2.

**Table 1.** Guidelines for Interpreting Responses of Total Respondents

Interval (percentage)	Respondent Response Rate
0 – 19	Very Not Influential
20 – 39	No Effect
40 – 59	Pretty Influential
60 – 79	Make effect
80 – 100	Very Influential

**Table 2.** Guidelines for Interpretation of Total Respondents' Responses to alternative payment methods

Interval (percentage)	Respondent Response Rate
0 – 19	Strongly Disagree
20 – 39	Disagree
40 – 59	Doubt
60 – 79	Agree
80 – 100	Strongly Agree

Based on the calculation results of respondents' responses, it may be concluded that the respondent's statement regarding the dominant factors influences the declining in the payment value of the supervisor consultant and the payment method of the supervisory consultant which does not harm the project owner and supervisory consultant.

### IV. RESULTS AND DISCUSSION

Validity test was conducted with the help of SPSS Statistics 17.0 program. Validity test results could be seen in Table 3.

**Table 3.** Validity Test Results

Number of Question	Question	Correlation Coefficient	Informations
	Contract Value Factor		
1	The contract value of the supervisory consultant	0,221	Invalid
	Physical Work Settlement Time Factor		
2	Convenient time of contract	0,509	Valid
3	Faster than the contract time	0,436	Valid
4	Late from the execution contract time	0,815	Valid
	Achievement of work factor		
5	The achievement of physical work progress	0,448	Valid
	The usage of nature contract factor		
6	Unit Price	0,434	Valid
7	Lumpsum	0,419	Valid
	Payment System Factor		
8	Monthly	0,627	Valid

9	Paid according to the percentage of physical achievement	0,626	Valid
10	Paid after the supervisory work is completed	0,753	Valid

From the validity test result above shows that item 1 has r-count smaller than r-table 0,364 therefore this is declared invalid. Meanwhile, the other nine questions have a r-value greater than 0.364 so that they could be declared valid.

Reliability testing was conducted with the help of the SPSS Statistics 17.0 program. Reliability test results could be seen in Table 4.

**Table 4.** Reliability Test Result  
Reliability Statistics

Cronbach's Alpha	N of Items
.735	10

From the test results contained in the table above, the cronbach alpha value is 0.735. The cronbach alpha value is between 0.61 - 0.80 which means reliable instrument. Then this might be concluded that the results of the tests that have been conducted might be relied upon for further analysis.

Analysis of respondent answers regarding with the factors that influence the reduction in payment value of supervisory consultants is conducted by providing scoring. The results of the respondents' answers to the 2-factors of completion time are shown in Table 5.

**Table 5.** Respondent Distribution Based on Physical Settlement on Time Factors

Rating	Weight	Amount	percentage(%)	Score
Very Not Influential	1	30	61,22	30
No Effect	2	11	22,45	22
Pretty Influential	3	6	12,24	18
Make effect	4	2	4,08	8
Very Influential	5	0	0,00	0
In Total		49	100,00	78

From the recapitulation results above, it might be seen that for question 2, where respondents were asked to respond how influential the physical completion time factor was on time to reduce the supervisory consultant payment value. From the 49 respondents, 30 respondents or 61.22% of respondents answered 1 (Very Not Influential), 11 respondents or 22.45% of respondents answered 2 (Not Influential), 6 respondents or 12.24% of respondents answered 3 (Sufficiently Influential), 2 respondents or 4.08% of respondents who answered 4 (Influential) and no respondents answered 5 (Very Influential).

$$\text{Total Respondents Response} = \frac{(\text{Total Respondent Answers Results})}{\text{Highest Respondent Score} \times \text{Number of respondents}} \times 100\%$$

$$\begin{aligned} \text{Total Respondents Response} &= \frac{70}{5 \times 49} \times 100 \\ &= 31,84\% \end{aligned}$$

From the calculation results, the respondent's total response was 31.84%. Based on Table 1 the results of these calculations are at intervals of 20% - 39% in the category of no effect. Based on the responses of respondents, this may be concluded that the respondent stated that the completion of physical work on time did not affect the decreasing of the supervisory consultant payment value.

Similarly, other factors also take the same method then the interpretation result of the total responses are obtained. As shown in Table 6.

**Table 6.** Tabulation and Weighting of Questionnaire Results Factors Affecting the Reduction of Supervisory Consultants Payment Value

Question	Category Factor	The Affecting Factor	Based on the Weighting Value
2	Time to complete physical work.	In accordance with the execution time in contract.	No Effect (31,84)
3	Time to complete physical work.	Faster than the execution time on contract.	Very Influential (88,98 %)
4	Time to complete physical work.	Late from the execution time on contract.	Pretty Influential (48,16%)
5	Work-Achievement Progress	Work physical achievement progress	Take Effect (70,61%)
6	The nature of the contract used	A unit price contract which is oriented to the volume of work that has actually been conducted by the supervisory consultant.	Very Influential (93,06 %)
7	The nature of the contract used	This is a lump sum contract oriented to the completion of all work within a certain time limit as specified in the contract	No Effect (35,92%)
8	Payment System	Supervisory consultants are paid monthly.	Very Influential (86,94 %)
9	Payment System	The supervisory consultant is paid according to the percentage of physical work achievement / term.	Take Effect (70,20)
10	Payment System	The supervisory consultant is paid after the supervisory work is finished at once	No Effect (33,47%)

From Table 6 it could be seen that there are three dominant factors that affect the reduction of supervisory consultant payment value. The highest weight is the unit price contract factor with a weight of 93.06%, the second order is the completion time of the physical work which is faster than the contract with a weight of 88.98% and the third order of the supervisory consultant is paid monthly with a weight of 86.94%. These three factors are assessed as very influential

Unit price contract is a procurement of goods/services contract for the all work within a certain limit that has been determined with the payment condition based on measurement result of the work volume which beedn actually conducted by the service provider. When the supervision contract is appointed for three months, while in its completion within two months the supervisory consultant is only paid for two months. Therefore, the supervisory consultant's payment would be reduced from the contract value.

The completion time of physical work is the time carried out by the service provider in conducting a project. The completion time might be late, faster and on time. The faster physical settlement time would affect the execution time of the supervisory consultant. The Faster execution times may lead the supervisory consultant receive payments which are lower than the contract value.

The payment method of the supervisory consultant is regulated in the terms of the contract. Monthly payment is a supervisory consultant paid according to the length of supervision time. There are two elements of costs in consulting services, which are personnel and non-personnel costs. Direct personnel costs contain salaries of expert supervisors who are paid based on a certain number of time units (months, weeks, days or hours). While the direct costs of non-personnel are related to the costs that support the implementation of supervision activities. Payment of personnel costs is a unit of cost of each personnel multiplied by the length of time for carrying out supervision. While non-personnel costs are adjusted to the volume unit, as an illustration vehicle rental per month, then the payment is adjusted to the number of use in month. In contrast ATK, for a salient example, the lump sum unit may be paid fully according to the unit volume. Monthly payments would greatly affect the reduction in payment of supervisory consultants because the supervisory consultant is paid according to the time of his supervision

Analysis of the respondents' answers result for the second questionnaire; an alternative payment method of the supervisory consultant was also carried out in the same way as above, therefore the total respondents' answers were generated such as Table 7.

**Table 7.** Tabulation and Weighting of Payment Method Questionnaire

No	The Choice of Payment Method	respondent's assessment
1	Monthly	Disagree (28,16%)
2	Based on certain stages on physical achievement. Based on the completion of duties and supervisory obligations.	Agree (69,39%)
3	Based on the completion of duties and supervisory obligations.	Strongly Agree (92,24%)

From Table 7 it might be seen that the highest weight as an alternative method of payment supervision is the payment method based on the completion of the task and the supervisory obligation with a weight of 92.24%. The principle of this payment method is the duty of the supervisory consultant to be considered as a certain unit of output which must be achieved without depending on the work of the other view. However, it could be paid if the supervisory task is completed, both faster and late since this may not be affected by the implementation of the supervision work.

The principle of the payment method based on the completion of the task and the obligation of supervision is the duty of the supervisory consultant to be considered as a certain unit of output that must be achieved without depending on the work of the other view. However, it can be paid if the supervisory task is completed, faster, on time or late, because it is not affected by the implementation of the supervision work. This type of payment has the nature of a lump sum contract which is the nature of work on output (output based). Then, this type of payment could not reduce the payment value of the supervisory consultant even though the physical execution time is faster. However the usage of the payment method choice is more appropriate for standard/simple work, small risk and does not require a huge time to complete the work.

## V. CONCLUSIONS

By way of Conclusion, there are several points concluded from this study

1. Factors which have a dominant influence on decreasing value of the supervisory consultants payment are unit price contracts which are oriented to the volume of work which actually conducted by the supervisory consultant, the completion time of physical work is faster than the implementation time specified in the contract and the supervisory consultant is paid monthly.
2. Alternative settlement of the payment method supervision that does not harm the project owners and supervisory consultants in the event of acceleration of work is a payment system based on the completion of duties and supervision obligations.

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