



Contractor's Performance Appraisal System in the Malaysian Construction Industry: Current Practice, Perception and Understanding

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Abstract

Performance appraisal system is a common practice in any organisation to appraise performance of workers. In the Malaysian construction industry, performance appraisal system is applied to appraise contractor's performance in many angles including: quality performance; time performance; cost performance; environmental performance; health and safety performance; productivity performance; and human resources performance. This is where the Construction Industry Development Board (CIDB) established three guidelines in strengthening the Construction Industry Transformation Programme (CITP) by appraising the contractor's performance through identification of their weaknesses as well as drafting and offering suitable trainings in enhancing their performance. This paper is therefore undertaken with the objectives of: (1) determining the current practice of contractor's performance appraisal system in the Malaysian construction industry; and (2) examining the construction players' perception and understanding on the existing contractor's performance appraisal system in the Malaysian construction industry. A set of questionnaires is designed and distributed to 157 contractors from G1 to G7 class. The paper finds that: (1) contractor's performance appraisal system is benefiting the contractors yet should be improved for its efficiency; and (2) construction players have sufficient understanding on contractor's performance appraisal system. It is expected that the improvement of contractor's performance appraisal system via the findings of this paper would assist in achieving the three focuses of Transformasi Nasional 2050 (TN50), namely science and technology, urban prosperity as well as environment.

Keywords: *Contractor; Performance Appraisal System; Malaysian Construction Industry; Perception and Understanding.*

1. Introduction

Transformasi Nasional 2050 (TN50) focuses on ten main topics, which are science and technology, living cost, education, sport and culture, foreign relationship, politics, religion and unity, urban prosperity, environment and micro-economy [1]. Construction industry falls under the three main topics discussed in TN50, which are science and technology, urban prosperity as well as environment. Construction is the application of science and technology that will affect the environment either in a good way or oppositely, thus quality construction offers urban prosperity to public with the existence of complete and well working hospitality.

A good construction project needs a good project management practice, which will assist those parties, especially contractors to manage not only peoples involved in the industry, but also the proper utilisation of resources. Project management refers to the application of knowledge, skill, tools and techniques to project activities to meet a relatively short-term objective that has been established to complete specific goals and objectives [2] which is

accomplished through the application and integration of initiating, planning, executing, monitoring, controlling and closing processes [3].

Yet, lack of awareness of this part has made copious construction projects not meet their objectives. Hence, to produce a good outcome, contractors have to come up with a good plan. As the construction project involves more than one party, thus, a comprehensive project management is very essential. As a matter of fact, to make the project management becomes more effective, an observation, or to be more specific, an appraisal, could be implemented to assess the performance of construction project players, particularly the contractors as they are the major player involved directly in constructing a particular project.

Performance appraisal system is a normal practice in any organisation and is not a new implementation to appraise workers with the quality of work so as in construction industry. In the Malaysian construction industry, a few guidelines are established to ensure the works done by the contractors are not just evaluated for the contractor performance, but also to enhance their ability and capa-

bility by offering a suitable solution, such as training as provided by Construction Industry Development Board (CIDB).

2. Literature Review

Construction industry involves a few main parties: project owner, consultants, contractors and authorities. Project owner will provide the financial supports, consultants will play their role in design stage, whilst contractors are the key player in construction stage. In addition, the authorities will make sure that the construction process will follow the local and national standard to ensure that the construction project is safe to be used and in accordance with the expected quality.

2.1 Malaysian Construction Industry

Generally, contractor is a builder for a construction project [4]. According to Public Works Department (PWD) 203a (Rev.1/2010), a contractor's responsibility is to construct and complete the construction works, including repairing the construction work based on the specification contained in the agreement signed with the client [4]. This is supported by [5], who states that contractor is someone who enters into a binding agreement to perform a certain service or product for a client. The successful of the construction project is determined by its players, high commitment from the main contractors and sub-contractors, as well as project manager is crucial for the completion of a construction project [6]. Contractors must play their roles efficiently and at least have some knowledge in performing their project as being claimed by [7], who counter claims that a good contractor understands that the success of the construction project is depending on their ability in performing the tasks by the client. Therefore, the authority must always appraise their performance.

Construction industry in Malaysia consists of both public and construction projects as well as private construction project. However, since public construction project interests the members of the public as the tax-payers at large, thus public construction project is selected as the scope of this paper. [8] has strengthened this statement with the current statistic on number and value of project awarded in terms of the status of contractor, which shows that the budget or cost of construction project increases year by year, with RM 140,732.98 million was spent in 2015 and rise up to RM176 263.36 million in 2016, approximately at 25 percent of annual increment. This undeniably shows the commitment of the government in providing the public construction projects that are benefiting the nation.

As its players, high commitment from main contractor and sub-contractors, determine the success of the construction project as well as project manager is crucial for the successful completion of a construction project [6]. A contractor must play their roles efficiently and at least have some knowledge in performing their project as being claimed by [7] that a good contractor understands that the success of the construction project depends on their ability in performing the tasks by the client. Therefore, the authority must always appraise their performance.

2.2 Characteristic of Performed Contractor

Contractors play an important role in construction industry, where their performance can be evaluated based on their ability to complete a project on time, within budgeted cost and to expected quality standards as claimed by [9] and [10]. [11] further claimed that contractors demonstrate this important role by turning the drawing into reality structure. This is further supported by [12], who state that performed contractor would offer reasonable cost, work within schedule and offer high labour productivity if they were ap-

pointed to deliver a construction project, which again portrays how important their role is in the industry.

[11] also stated that performed contractor should embrace the cost of construction, time of construction without ignoring the quality and the sustainability of the project. Also, [11] claim that skilled workforce should be well maintained, where [12] found that 51 percent workers in construction industry, who are unskilled worker, can lead to lower labour productivity. Therefore, good contractors should have skilled labour. On top of that, client satisfaction, competitiveness and notoriety can also be enhanced by improving contractor's performance [10]. The summary of the characteristics of the performed contractors is shown in Table 1.

Table 1: Characteristics of performed contractor

| No | Characteristics | Authors | | | | Time Quot |
|----|----------------------------------|---------|-----|------|------|-----------|
| | | [12] | [9] | [10] | [11] | |
| 1 | Finish on time | / | / | / | | 3 |
| 2 | Cost efficiency | / | / | / | | 3 |
| 3 | Good quality of project/services | / | / | / | | 3 |
| 4 | High labour productivity | | | | / | 2 |
| 5 | Project sustainability | / | | | | 1 |
| 6 | Skilled worker | | | | / | 1 |

Source: Adopted from [12], [9], [10] and [11]

Based on Table 1, it is clear that performed contractors should finish the project as scheduled, ensure the cost effective of project and produce a high-quality project. Although high labour productivity and skilled worker seem to have less important in this case, but it still leads to time efficiency and quality of the project. Contractors that offer sustainable project would give extra advantage as their value added not only for their performance so as for environment. Therefore, in ensuring the best performance, contractors should be appraised during and after completing each construction project by the clients or authorities. For the concern of this paper, authority will be the appraiser since this paper focuses only on the public construction project.

2.3 Problems in Construction Industry

[14] states that there are three common problems in direct labour project, particularly the construction projects, which are observed by this paper as related to the triple bottom line of a successful construction project, namely time overrun, cost overrun and quality defect. Time overrun or delay can be defined as an extension of time of event in completing a whole or some parts of a construction project [15]. Cost overrun as defined by [16] is the expansion cost deviation between needed and estimated costs. On the other hand, quality defects are defined as non-attendance of assuming the qualities or performance of an object [17]. [18] mentions that the quality problem comes from two main causes: moderate progress and limited capacity, as well as poor project management.

Thus, it is observed by this paper that construction industry faces a lot of high-profile problems, such as cost overrun, time overrun, poor quality and even cause of death. In order to solve these problems, authorities to ensure that their performance can be sustained should appraise contractors. On top of that, it will also help the authorities or clients in selecting the performed contractors for the next construction project. The appraisal also helps the contractors in determining their weaknesses for further improvement.

2.4 Appraisal Guidelines Established by Construction Industry Development Board (CIDB)

In 2012, the Construction Industry Development Board (CIDB) has launched several appraisal guidelines with the aim to appraise the construction contractor's capacity and capability and it turns out that the system is very helpful in selecting the right contractor

for the right project [8]. CIDB runs three appraisal systems focusing on the contractor's capability and capacity appraisal, known as Contractor's Capability and Capacity (SCORE), safety and health appraisal, Safety and Health Assessment System in Construction (SHASSIC) and quality appraisal, known as Quality Assessment System in Construction (QLASSIC) [8]. Based on these three appraisal systems, SCORE and SHASSIC are seen as the combination of evaluative and development types of appraisal systems, where QLASSIC is a type of evaluative appraisal system. It is observed by this paper that CIDB is using result-oriented approach. One popular method of results-oriented approach is Management by Objectives (MBO). MBO was first widely advocated in 1950s by Peter Drucker [19]. This method is often associated with motivation and more specifically as a motivational method [20].

This paper also perceives the implementation of SCORE, which is developed via the collaboration between the Ministry of Work and CIDB, as a method that permits the contractor's rating of each class to be based on the basic information of the contractor itself. The programme also enables contractors to identify their weaknesses and helps the ministry in drafting to programme that can enhance the capability and skill of the contractors. This will direct to fill off the competitiveness gap amongst contractors, who are registered primarily as the Bumiputera-status contractors.

QLASSIC is an independent method to assess and evaluate primarily on the quality of workmanship of building projects undertaken by contractors. The components that will be assessed in this appraisal system are structural works, architectural works, mechanical and electrical (M&E) works as well as external works.

There are three main components of contractor's assessment in SHASSIC, namely document check, workplace inspection and employees interview. It covers all the components, such as occupational safety and health policy, occupational safety and organisation, hazard identification, risk assessment and risk control (HIRARC), occupational safety and training and promotion, machinery and equipment management, materials management, emergency preparedness, accident investigation and reporting as well as records management and performance monitoring.

3. Methodology

This paper adopts a questionnaire survey technique in investigating the efficiency of the construction performance appraisal system amongst the contractors in Malaysia. According to [21] and [22], questionnaire survey is one of the most cost-effective ways to involve a large number of people in order to achieve better results. The questionnaire design is intended to be as simple as possible yet full with comprehensive questions to be answered by the respondents. The questionnaire is conducted in two phases – pilot study and upgraded questionnaire.

10 percent of expected sample was distributed as a pilot study following [23]. A pilot study is conducted on 15 respondents via the web-based survey before the real questionnaire survey is undertaken, where the purpose of this pilot study is to examine the respondents' understanding of the questionnaire apart from determining whether the questionnaire is comprehensive enough in obtaining the information for this paper. This is supported by [24], who claimed that pilot study is conducted prior to the distribution of questionnaire to test the feasibility of intended questionnaire to be undertaken as well as to perfect the questionnaire concepts and wording.

Nevertheless, to determine the reliability of the data, the Cronbach alpha method is used, where the Cronbach's alpha coefficient of minimum 0.6 is expected for the reliability of the questionnaire to avoid correction or elimination of some variables in the contents [25]. The questionnaire is then upgraded based on the respondents' feedbacks and comments. Table 2 demonstrates the range of coefficient of Cronbach's alpha and its reliability level.

Table 2: Range of reliability and its coefficient of Cronbach's alpha

| No | Coefficient of Cronbach's Alpha | Reliability Level |
|----|---------------------------------|-------------------|
| 1 | More than 0.90 | Excellent |
| 2 | 0.80-0.89 | Good |
| 3 | 0.70-0.79 | Acceptable |
| 4 | 0.6-.69 | Questionable |
| 5 | 0.5-0.59 | Poor |
| 6 | Less than 0.59 | Unacceptable |

Source: Adopted from [26]

In this paper, the questionnaire is distributed through two ways – on site distribution and web-based survey. The questionnaire consists of three sections, where the first section is about the demographic questions, the second section is about the current extent of performance appraisal system and the third section enquires the perception of the performance appraisal system.

4. Finding and Discussion

4.1 Reliability Test

The results of the pilot study are shown in Table 3, where the overall value of Cronbach's alpha higher than 0.6 indicates the high internal consistency in the questionnaire's set of data. Based on [27], if the Cronbach's alpha value is more than 0.9, the reliability level is at the excellent level. Therefore, data gained from the pilot study indicates that it is reliable to be tested and the set question is to be retained in continuing this study.

Table 3: Reliability test results

| Number of question | Number of respondents | Cronbach's alpha |
|--------------------|-----------------------|------------------|
| 70 | 15 | 0.98 |

4.2 Current Practice of Contractor's Performance Appraisal System

Section II from the questionnaire as mentioned earlier will fulfill objective 1 of this paper, which is to determine the current practice of contractor's performance appraisal system in the Malaysian construction industry. Table 4 shows the frequency, mean and standard deviation (SD) for each element, where 4 all the mean values for each question are above three, which is considered as in high level according to [28]. Also, it can be observed that the SD is in between 0.70 to 0.84, which is in the small distribution of responses. This indicates that the respondents answered the questions with a small range of 3 Likert scale to 5 Likert scale as observed in Table 4. None of the respondents answered 1 or 2 Likert scale.

Table 4: Current practice of contractor’s performance appraisal system

| No | Current practice of contractor’s performance appraisal system | Frequency | | | | | Mean | SD |
|----|--|-----------|----|----|---|---|------|------|
| | | 5 | 4 | 3 | 2 | 1 | | |
| 1 | Performance appraisal system on contractors is practised in Malaysia | 33 | 64 | 60 | 0 | 0 | 3.83 | 0.75 |
| 2 | My organisation implements contractor’s performance appraisal system | 26 | 68 | 63 | 0 | 0 | 3.76 | 0.72 |
| 3 | I am satisfied with current contractor’s performance appraisal system | 27 | 75 | 55 | 0 | 0 | 3.82 | 0.70 |
| 4 | Current contractor’s performance appraisal system enhances my organisation’s competency | 40 | 56 | 61 | 0 | 0 | 3.87 | 0.79 |
| 5 | Current contractor’s performance appraisal system increases my organisation’s capability | 41 | 63 | 53 | 0 | 0 | 3.92 | 0.77 |
| 6 | Current contractor’s performance appraisal system increases my organisation’s capacity | 31 | 71 | 55 | 0 | 0 | 3.85 | 0.73 |
| 7 | Current contractor’s performance appraisal system is sufficient | 36 | 53 | 68 | 0 | 0 | 3.80 | 0.79 |
| 8 | Contractor’s performance appraisal system should be continued | 52 | 47 | 58 | 0 | 0 | 3.96 | 0.84 |
| 9 | Contractor’s performance appraisal system should be improved | 55 | 69 | 33 | 0 | 0 | 4.14 | 0.74 |
| 10 | Contractor’s performance appraisal system is the best tool to evaluate my organisation’s performance | 52 | 51 | 54 | 0 | 0 | 3.99 | 0.82 |

Table 5 shows the type of contractor’s performance appraisal method. From the means calculated, results-oriented approach has the higher number, which indicates that current contractor’s performance appraisal system is applying this method. This method, result-oriented approach, is the best approach since it defined the contractor from Table 4 and Table 5 indicate that objective 1 is fulfilled.

Table 5: Types of contractor’s performance appraisal method

| No | Perception and Understanding on the Existing Contractor’s Performance Appraisal System in the Construction Industry | Frequency | | | | | Mean | SD |
|----|---|-----------|----|----|---|---|------|------|
| | | 5 | 4 | 3 | 2 | 1 | | |
| 1 | Improve contractor’s performance | 61 | 64 | 32 | 0 | 0 | 4.18 | 0.75 |
| 2 | Improve contractor’s integrity | 57 | 60 | 40 | 0 | 0 | 4.11 | 0.78 |
| 3 | Enhance contractor’s knowledge | 53 | 61 | 43 | 0 | 0 | 4.06 | 0.78 |

4.2 Perceptions and Understanding on Existing Contractor’s Performance Appraisal System in Malaysian Construction Industry

Objective 2 of this paper is to investigate the construction player’s perception and understanding on the existing contractor’s performance appraisal system in the construction industry. As per designed, section III of the questionnaire should fulfill objective 2 of this paper. Table 6 shows the data collected on perception and understanding on the existing contractor’s performance appraisal system in the Malaysian construction industry by contractors. All criteria have mean values more than 3, which indicate that respondents have sufficient understanding on this appraisal system and they have good perception towards its implementation in the Malaysian construction industry.

Table 6: Perception and understanding on the existing contractor’s performance appraisal system in the construction industry

| No | Types of contractor’s performance appraisal method | Frequency | | | | | Mean | SD |
|----|---|-----------|----|----|---|---|------|------|
| | | 5 | 4 | 3 | 2 | 1 | | |
| 1 | Judgmental approach (a method that approves or denies of the achievement) | 34 | 66 | 57 | 0 | 0 | 3.85 | 0.75 |
| 2 | Absolute standards approach (a method that compares the performance against standards established by the authorities) | 34 | 64 | 59 | 0 | 0 | 3.84 | 0.76 |
| 3 | Results-oriented ap- | | | | | | | |

| | | | | | | | | |
|----|--|----|----|----|---|---|------|------|
| 4 | Enhance contractor's motivation | 53 | 86 | 18 | 0 | 0 | 4.22 | 0.64 |
| 5 | Enhance contractor's awareness of safety aspects | 64 | 80 | 13 | 0 | 0 | 4.32 | 0.62 |
| 6 | Provide adequate supply of resources | 38 | 70 | 49 | 0 | 0 | 3.93 | 0.74 |
| 7 | Provide suitability of equipment's utilised | 53 | 77 | 27 | 0 | 0 | 4.17 | 0.70 |
| 8 | Provide suitability of technology employed | 43 | 86 | 28 | 0 | 0 | 4.10 | 0.67 |
| 9 | Avoid accidents | 76 | 47 | 34 | 0 | 0 | 4.27 | 0.80 |
| 10 | Avoid destructions to the environment | 55 | 53 | 49 | 0 | 0 | 4.04 | 0.82 |
| 11 | Help in enhancing the quality of the project | 73 | 56 | 28 | 0 | 0 | 4.29 | 0.75 |
| 12 | Make the project more organised in terms of time and cost | 56 | 68 | 33 | 0 | 0 | 4.15 | 0.74 |
| 13 | Discipline the contractor to be more compliant with requirements | 60 | 73 | 24 | 0 | 0 | 4.23 | 0.70 |
| 14 | Give a respectable image to the industry | 60 | 59 | 38 | 0 | 0 | 4.14 | 0.78 |
| 15 | Provide effective communication with client | 65 | 73 | 19 | 0 | 0 | 4.29 | 0.67 |
| 16 | Increase the competencies of the project team | 58 | 75 | 24 | 0 | 0 | 4.22 | 0.69 |
| 17 | Increase the skill of the workforce | 50 | 74 | 33 | 0 | 0 | 4.11 | 0.72 |
| 18 | Increase the experience of the workforce | 54 | 76 | 27 | 0 | 0 | 4.17 | 0.70 |
| 19 | Increase the capability of contractor's site management | 57 | 69 | 31 | 0 | 0 | 4.17 | 0.73 |
| 20 | Increase the client's trust and confidence | 64 | 68 | 25 | 0 | 0 | 4.25 | 0.71 |
| 21 | Educate contractor about safety | 64 | 72 | 21 | 0 | 0 | 4.27 | 0.69 |
| 22 | Practice safety behaviour and environment at site location | 62 | 62 | 33 | 0 | 0 | 4.18 | 0.76 |

5. Conclusions and Recommendation

As the summary, all the first ten criteria have mean values in the range of 3.80 to 3.99 and one criterion is above 4. Most of the respondents suggested that current contractor's performance appraisal system should be improved. This indicates that this paper is highly significant in assessing the efficiency of contractor's

performance appraisal system. The last three elements in this section cover the type of method currently practised for contractor performance appraisal system. Referring to Table 4.3, two types of method with the mean values between 3 and 4 are judgemental approach and absolute standards. This paper recorded highest mean value, which indicates that respondents agreed that the results-oriented approach is the best method.

To sum up, respondents agreed that contractor's performance appraisal system results in good outcome to construction industry. 22 criteria are investigated and analysed, which prove that construction players have a good understanding on contractor's performance appraisal system. In general, construction players agreed that the application of contractor performance appraisal system drives the contractor to provide adequate supply of resources.

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