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Research paper



The Identification of Effect on Training, Competency and Building Quality in Malaysian Construction Project

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Abstract

Competency has been recognized as one of the critical factors that affected the building quality in a construction project. Furthermore, one of the methods to develop and enhance the competency of the employees is through training. However, training has to meet the knowledge and skills that required by the employees to ensure the training does enhance the employee's competency level. This study aims to investigate the training problem and effect toward the building quality of construction project. The data were obtained from literature reviews, focus groups, and a semi-structured interview. Focus groups and semi-structured interviews had been held involving 20 site supervisor and 5 site supervisor from the Selangor State Development Corporation. The results show that the training affects the competency in producing a high quality of building construction project. However, there is a problem in training such as the incompetence of the trainer, mismatches between the training offered and the organization failed to identify the training needs of the workers. Thus, future study is suggested for identifying training needs by the construction practitioner in construction quality training.

Keywords: *Training, construction industry, competency, building quality*

1. Introduction

In Malaysia, the construction industry plays an essential role in generating wealth and improving the quality of life for Malaysians through the translation of government's socio-economic policies into social and economic infrastructures and buildings [26]. The construction industry plays a crucial role in national employment. The construction industry has been viewed as a labor-intensive industry in developing countries because it involved a large number of parties and workers than other industries [21]. Employees' performance is the critical success factor for any construction company. Construction companies having skilled human resources are more likely to be successful in their projects [9]. Therefore, investment in workplace training that allows employees to develop and upgrade their skills systematically is essential for the enduring and sustainable success of any construction company.

2. Literature Reviews

2.1Construction Building Quality

The quality is one of the criteria that have long been used to evaluate the performance and success of construction projects [10]. Building quality has become one of an essential aspect for construction project success. Building defects can be resulted from the design error by the architect, a manufacturing flaw, defective materials, improper use or installation of materials, lack of adherence to the design by the contractor, equipment, subcontractors, site layout, systems, site staff, and execution [3&1]. However, one of the problems that affected the quality of building construction is human, which is the competency of the worker. Moreover, standard reduction, unskilled worker, and less qualified construction technologist are elements that contribute to the building quality problem [27]. Furthermore, the incompetent supervisors and lack of skills among the workers is one of the factors affecting quality in building construction [5]. Competency is one of the essential criteria that need by the workers to ensure the success of the project. However, in the construction industry, the most significant factor contributing to poor workmanship is lack of experience and competency of labors [6].

2.1 Competency

Competency is one of the essential criteria that need by the workers to ensure the success of the project. However, in the construction industry, the most significant factor contributing to poor workmanship is lack of experience and competency of labors

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[6]. Moreover, the shortage of skills of the workforce, inadequate supervision and poor site management, shoddy quality, the incompetence of contractors, unsuitable leadership, shortage and breakdown of equipment among others contribute to construction delays and client dissatisfaction [13&19]. A competent contractor and subcontractor can ensure the project to be completed on time as planned. However, if the contractors have poor workmanship and incompetence and the subcontractor is inexperienced or incapable, the success of the construction project can be put at risk and causes of client dissatisfaction [19&39]. In [22] study, engineer's competency was questioned by many respondents who cited instances where engineers did not "Take responsibility to come up with a fix," 90 percent of the errors" of incorrect prefabricated materials resulted from engineers' design mistakes and most projects experienced the problem of incompetent craft workers. Several factors, such as knowledge, skill, experience, training, etc., build the level of competency in the construction supervisor [20].

2.2 Training

One of the methods to improve the competency is through training. It is because, training is referred to a planned effort by a company to facilitate employees' learning of job-related competencies; these competencies include knowledge, skills, or behaviors' that are critical for successful job performance [32]. Several factors, such as knowledge, skill, experience, training, etc., build the level of competency in the construction supervisor [20]. However, there is a problem in training that become a barrier in improving the competency example the capability of the trainer, the training process, and training delivery style. A trainer is one of the most critical elements in any training program, and the key attribute of a trainer must be the knowledge he/she possesses on the subject of the program [16]. The trainer himself must possess two essential characteristics which are reliable and effective [30]. Training transfer also plays a significant role in the training process. There is a problem which is high failure rates on training transfer [7&15].

The intensity of training varies depending on the complexity of the work environment, the rapid pace of organizational and technological change, and the growing number of jobs in fields that constantly generate new knowledge, and thus, require new skills [25]. However, the magnitude of the workload and the complexity of workplace environments that exist within the construction industry mean that there may be insufficient time and space available for effective training to take place to meet the demand for training within the industry [11]. Lack of training, caused workers to generally learn by doing the job with their experienced fellows [36]. The organization also face a problem to identify the match or suitable training for their workers. The training program must be relevant to the job to achieve successful training transfer.[8,24&35].

In job practice, organizations tend to solve all types of performance problems by training without prior analysis of what causes the problems, which employees' performances are affected and what kinds of training interventions would provide the best solution for training [34].

The failure to contend with the fragmented nature of construction lead to mismatches between the training offered and the workforces training needs[41]. Therefore, training design is vital in designing the proper training that needs by the workers. Training design plays a very vital role in the employee as well as organizational performance [17]. It was significant for the organization to identify the training needs of the workers before design the training [28]. The design of the training should be according to the needs of the employees [18].

3. Methodology

The research design for this study is a case study that is analyzed through qualitative method. The focus group and interview had been held involving 20 site supervisors and 5 site supervisors from Selangor State Development Corporation. Focus groups were conducted by divided 20 site supervisors into 5 small group, and semi-structured interview session was taking one to a one-and-a-half hour. Also, an extensive literature review also was conducted to gather information on the construction building quality, competency, and training. The results from focus groups and a semi-structured interview were analyzed using Nvivo software.

4. Results and Discussion

A. Focus Group Analysis

The result from the focus group shows six problems confronted by the construction site supervisor; which are:

1. The course or workshop that they attend doesn't include practical training in construction work.
2. Lack of training in quality control for staff or the team that handles a project
3. The contractor that chose was lack of experience and incompetence
4. The contractor failed to finish their job
5. The consultant has low competency
6. Incompetence site supervisor in evaluating the quality of construction work

Competency problem was frequently cited in the focus groups, followed by lack of training especially, in quality and construction work for the site supervisor.

B. Interview Sessions Analysis

The result from the interview sessions shows the problems that confronted by the site supervisor are:

1. There is not enough training and need more training in quality and training in every aspect of construction work
2. Lack of skill and knowledge in construction work and assessing quality.

The interviewees stated that "some of the problems in construction work or building quality have been detected and solve based on their experience and refer to the senior which have faced that problem before because they lack knowledge and skill."

This problem is supported by [37] that stated due to lack of the training, workers generally learn by doing a job from their experienced fellows. In this session, the respondents frequently cited, the problem is a lack of skilled or incompetence in construction works and assessing quality. The other problem that frequently cited is lack of training in technical and quality assessment. In construction projects, the producing a good quality in construction heavily relies on supervisor's knowledge and their attitude towards quality [31]. Thus, training is important to enhance the knowledge and skills of the workers. Several factors, such as knowledge, skill, experience, training, etc., build the level of competency in the construction supervisor [20].

C. Problem Identification

Figure 1 shows the key theme from the focus group, interview, and literature review analysis that lead to the research problem framework. From the Figure 1, it shows that there is a relationship between training, competency, and quality. Human or workers is

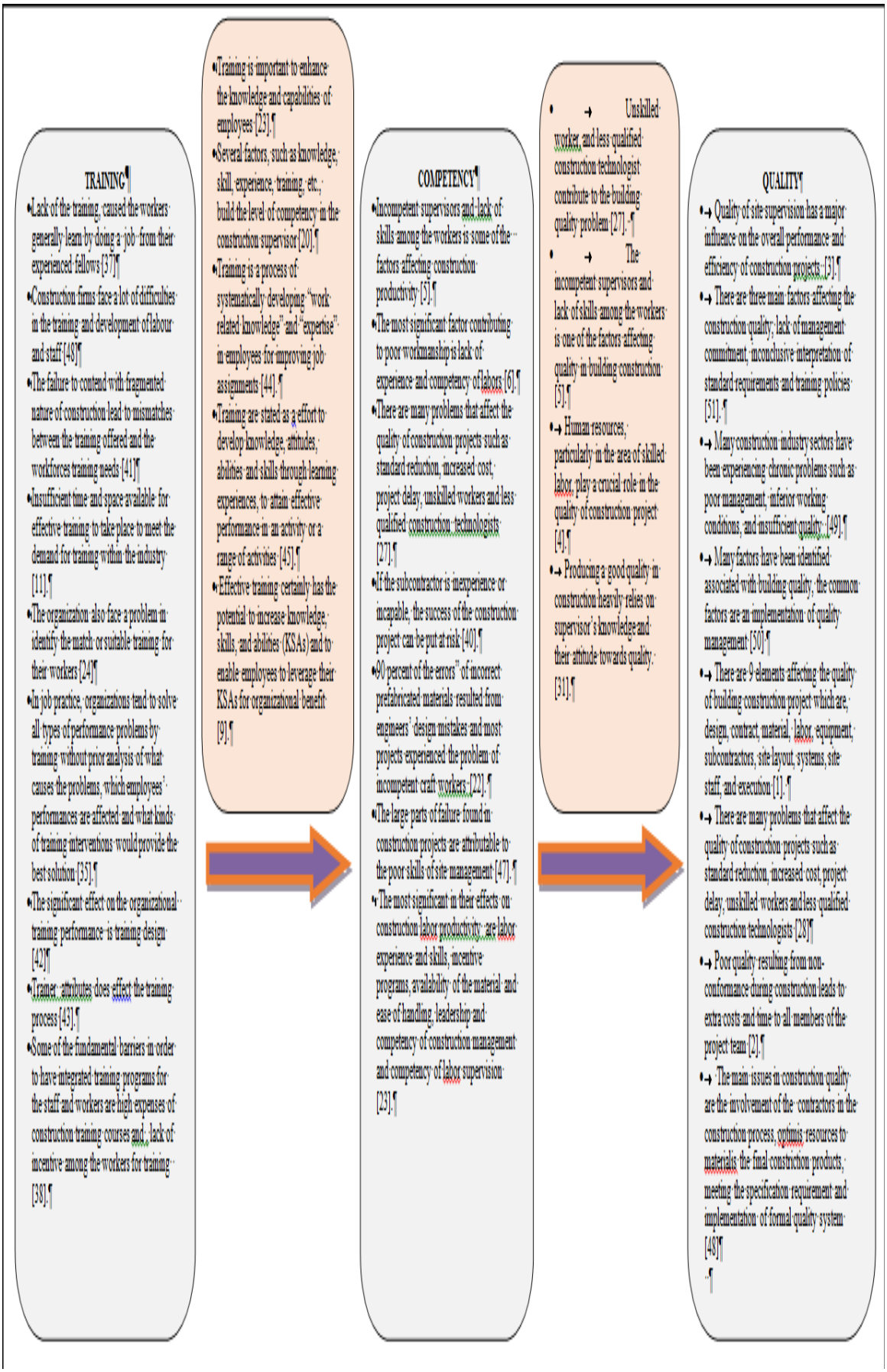

Fig. 1: Research problem framework

One of the primary factor that leads to the success of the quality in building construction project. Human resources, particularly in the area of skilled labor, play a crucial role in the quality of construction project [4]. The incompetence worker has a potential to cause a problem to the construction project. The incompetent supervisors and lack of skills among the workers is one of the factors affecting quality in building construction [5]. Also, supervisor competency is a key to broader construction industry impact [14].

Meanwhile, competency also has a relationship with training because training is one of the methods for improving the competency. Several factors, such as knowledge, skill, experience, training, etc., build the level of competency in the construction supervisor [20]. Training is vital to enhance the knowledge and capabilities of employees [23]. Training is usually instructor-led and aimed at developing a particular skill or changing behavior and gaining specific knowledge [29].

Therefore, to increase the building quality, it is essential to have a competence worker, and through training, the competency level can be increased. So, it is essential to have training that meets the construction industry needs. The failure to contend with the fragmented nature of construction lead to mismatches between the training offered and the workforces training needs [41]. The organization also face a problem in identify the match or suitable training for their workers [24]. In job practice, organizations tend to solve all types of performance problems by training without prior analysis of what causes the problems, which employees' performances are affected and what kinds of training interventions would provide the best solution [35]. Thus, the competency, training and building quality are the essential factor that can affect the construction project.

5. Conclusion

Quality is essential to ensure the success of the construction project. However, quality of construction project can be affected by the worker competency level in finishing the project, and it is essential for the worker to join training to enhance their knowledge and skills because training is one of the methods to enhance the worker competency level. The results show that there is a relationship between training, competency, and quality. Training was identified as one of the methods to increase the worker's competency level in producing a high quality of building construction. However, there is a problem in training such as incompetence of the trainer, mismatches between the training offered and the workforces training needs and organization failed to identify the training needs of the workers. Thus, the future study is suggested for identifying training needs by the construction practitioner in construction quality training.

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